

Future of Mobility in Counties

Smart Mobility Roundtables 11 June 2020

Demand Responsive Transport

This report documents the eighth 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 120 minute virtual meeting via WebEx due to Covid-19 social distancing restrictions.

1.0 Participants

There were 31 participants in total. Sectors represented were: national, sub-regional and local government, innovation, mobility provider, transport consultancy, academic research, and non-governmental organisations. Stephen Joseph chaired the discussion.

2.0 Aim

Demand responsive transport 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?"

3.0 Papers and links circulated in advance

Presentations

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

Papers

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.tra2019.09.038>

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

4.0 Presentations

4.1 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 be another "three year wonder".

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 (eg 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.

[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.

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 Consultation¹ 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.

Patrizia Franco: Demonstration from Connected Places Catapult

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.

5.0 Overview of discussion

Detailed comments from the spoken dialogue and the live chat are recorded in section 6.

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.

¹ <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 from discussion and presentations

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.

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

DEV Developer

REGG Regional transport body

GOV National government.

INNOV Innovation sector

MOB Mobility services

BUSOP Bus operator

[CHAT] denotes written contributions made in real time during the spoken dialogue.

6.1 Funding

Commissioning DRT vs Fixed Route Bus

BUSOP1: In many places DRT will never be a commercial proposition.

GOV:[CHAT] If we accept that DRT services in rural areas are unlikely to be commercially viable (as traditional fixed route bus services are) and therefore likely be tendered for by the local authority as a 'socially necessary' service, do local authorities feel they are able/comfortable tendering for these services given the slightly open ended nature of the service costs e.g. not knowing mileage. What are the barriers? Inertia, novel nature of the services, local authority resourcing, regulations, etc.

CC1:[CHAT] I think the differing models are a barrier in some ways, it's difficult to ascertain which model is most applicable to an area. From my local authority perspective, it's difficult to be able to demonstrate that a DRT scheme would be more successful and crucially more cost effective than the existing provision.

INNOV1:[CHAT] But as long as DRT is better for the same or reduced subsidy should be the criterion.

CONS5:[CHAT] And could "better" also be measured in different ways, £, social outcomes etc.?

NGO:[CHAT] If we accept DRT requires some level of subsidy, it comes down to what's the best thing to invest in. We'd say better to strengthen and sustain existing community-owned provision by broadening their user groups.

MOB3: On commercial viability, not all public transport in the UK operates without subsidy and it is not fair to expect all DRT to do the same.

INNOV1:[CHAT] DRT brings the opportunity of delivering a wider number of benefits in rural areas that you could not translate into revenue (health, loneliness etc...) - so why would we want it to be commercial? Would we expect the London Underground to run a profit and return on its capital - of course not - everyone knows the wider benefit that the tube delivers for London...

Wider benefits of DRT

CC2: All urban centres are at capacity in terms of traffic congestion, so we need more sustainable models.

CC2: Young people are stranded in rural areas and their education is suffering. They have restricted choice of college courses because of transport constraints.

CC2: The quality of transport services has an important effect on the vibrancy of communities.

Self-supporting DRT

CC2:[CHAT] We have a commercial DRT. In the right situation they work well. They offer significantly improved service levels. We currently have 6 supported schemes and 12 Community Transport schemes.

NGO:[CHAT] Community Transport has been made viable in many rural areas, because they are not aiming to generate profits and can mobilize assets and resources not available to commercial alternatives, such as volunteer time.

INNOV2:[CHAT] DRT is actually cheaper than running a fixed scheduled bus service. During the MODLE project, the Severnet Flyer, run by Esoterix, substituted the bus service with an on demand fixed route bus. This was a newly regenerated area with really poor bus services. The service continues to operate after the end of the project but fully subsidised by private companies in the area (not the council anymore).

Total Transport

BUSOP2:[CHAT] I agree entirely with comments on the need for integration with public transport and clarity of objective. The economics always will 'drive' DRT (excuse the pun). It costs £90k plus to keep a single DRT bus on the road for a year and thus on a 6 day a week operation you have to earn well over £300 a day. To get reasonable coverage across an area you need to create revenue of several hundred thousand a year. So where it can be funded by say joint commissioning eg total transport - it stands much more of a chance - particularly in a rural area.

6.2 How can national government Help?

CC1: Hard to see how any County Council could possibly cover the costs of a new DRT service under the current situation of dwindling budgets.

CC2:[CHAT] Picking up the funding point, if we were able to charge for home to school (protecting the low income and vulnerable) that would make a huge difference. So a statutory requirement retaining the current distance criteria but enabling charging for those e.g. not receiving child benefit. People really fight for home to school transport. It's one of our most controversial services. If DfT are genuinely interested in sustainable travel they need to reform statutory home to school. Otherwise I'm afraid we just don't believe it's genuine. We could spend £14m a year much, much more effectively to do that. It's a huge sum.

CC2: Government could help by addressing the regulatory framework for taxis and buses. The traffic commissioners are "huge fungi in the rainforest ecosystem of transport" but they are such an outmoded method of regulation. LAs need more funding. Staff are a huge issue. Essex maintained its bus budget (£8m) because of the large rural population but we struggle. We need partnership working and lots of resource. We need DfT and DfE to collaborate more. Home to school transport budget in county is £28m of which half is transporting children of wealthy children in rural areas going to mainstream school. SEN is different. This is a hangover from the 1940s and it's crazy. This funding could be reinvested to benefit everyone. We need to re-examine the statutory framework for home to school transport.

CC4: Echo the above. We have the same challenges and issues with £13m on travel to school and only £3m on public transport. Health sector transport budget is even higher than education. We aim to combine these budgets through collaboration to deliver better services for less money.

GOV:[CHAT] The perennial problem of charging people for something that they have had for free for some time! Free TV licences, winter fuel allowance, (full fare) concessionary bus passes spring to mind. See what happens when you start talking about road user charging.

GOV:[CHAT] I guess one of the issues (among many) is that we don't want to drive people from the bus to the car and generate lots more vehicle movements. Agree though that school transport is ripe for reform.

CC1:[CHAT] Equally it would be good to be able to charge people for making a journey with their concessionary bus pass, just 50p per journey would generate significant income that we could use to fund a better, more integrated public transport network generating growth. Yes but either politicians want good decision making and services or they want an easy ride.

CONS5:[CHAT] And do people value free things? Sadly, maybe not?

CHAIR:[CHAT] In the decarbonisation roundtable there was discussion about making all local bus services free with funding from road charging, so much more of a radical approach.

MOB2: Concerned that with the DfT's Rural Mobility Fund we will be reinventing the wheel and we need to look carefully at operations which are still refining DRT to make it more successful. DfT should positively concentrate investment in places like Sevenoaks where there has been such a successful service established. For example DfT could invest here to add in integrated ticketing.

6.3 DRT Operational Models

BUSOP1: The Bedford HomeHoppa was successful because the hourly departure was reliable and easy to understand. Wigglybus, Moors Bus, Go SouthCoast have all been successful with a fixed timetable and a flex option to access isolated locations off the main route, either by pre-booking or asking on board for a detour. By contrast, the TeesFlex service (no fixed route or timetable) serving a deep rural area, looked very attractive but the passenger experience did not live up to expectations ("no vehicle available" for a journey in an hour's time). This is not the level of service required for medical appointments.

MOB3: In defence of TeesFlex, the problems were in the early weeks of operation and passenger satisfaction is much higher now. A typical wait for a service is now 20-30 minutes which is more reliable and predictable than the previous infrequent bus service.

BUSOP1:[CHAT] In a rural area, from a passenger perspective, the certainty of a (albeit limited) fixed timetable/fixed route service is often more attractive than an uncertain facility not knowing when the bus might be available and therefore potentially less convenient for the passenger's needs. Experience in Devizes/Pewsey where the former 'Wigglybus' still runs, this seems to be the most successful - combining a fixed route/timetable with the option of 'wigglying' off route to serve isolated hamlets. This operates on a low tech basis too ie the phone.

CC1:[CHAT] We had schemes with fixed routes that could flex on demand. They were popular with passengers but far more expensive than a conventional bus to provide.

6.4 Community Transport

NGO: DRT is very well established in the community transport sector with minibuses and cars serving people on low incomes, with disabilities and people without access to a car or public transport. Demand skews largely rural. Community transport's future role might lie mostly in areas which will never be commercially viable. Is it better for local government to invest in existing provision by growing community transport so that it can be extended to commuters in rural areas? Or could community transport be made viable by handing it over to commercial operators? Some community transport is only viable because it can access volunteer time, donations and other community assets which aren't available to the commercial sector. However, community transport does suffer a deficit in terms of technology. In terms of public policy, transport commissioning bodies need to determine how to deliver best social value and whether community transport has a part to play.

CC2: In our county we allocate £1M for twelve fiercely independent community transport providers, all using very different models. A loose network of small providers doesn't help you scale up provision quickly in an emergency like Covid-19 and some standardisation of approach and technology would be helpful.

CC1:[CHAT] Similar in our county to CC2. Our schemes generally operate using very similar models delivering to the same market. They are a vital part of the transport mix.

6.5 Understanding and widening the market for rural DRT

INNOV3: Rural settings are completely different to London or New York. Public transport can always succeed in demand rich settings.

INNOV3: To entice rural public transport users back after Covid-19 we need to look at what passengers want and provide some certainties around that.

CC4:[CHAT] From our perspective, many areas with no or little services. What do the passengers want, those that use public transport and those that don't, who for many reasons that have been mentioned we would like to attract. We are looking at a total transport model, fully integrated with the existing public transport network, schools, health sector and community transport.

CC5:[CHAT] I agree, as a local authority we might know the needs and expectations from a certain demographic of residents, however this is not representative of the target audience for a DRT scheme. Designing and planning a DRT scheme without this information is not really feasible.

CC2: There are important differences between demographics that must be understood in order to expand interest in DRT. A digital platform will attract commuters and young people alike, but young people want a 'street corner'/'landmark' pick up point whereas older people want a doorstep service.

CC2: The big data gap is suppressed demand, i.e. journeys people want to make but can't.

CONS5:[CHAT] Suggest it is important to consider the needs and expectations of customers now and in the future, especially across all socio-economic groups. I'm not for one minute saying that is the 'magic bullet' but considering a wider cohort in the objectives / offer could be helpful. We are taking this approach in a lot of our work on Future Mobility work - including as looking at first/middle/last mile.

CONS5: England's Economic Heartland has taken a commercial approach to market analysis to develop a new tool to supplement the traditional transport modelling approach. The approach uses the Mosaic segmentation tool to understand the different transport needs of the population for first, middle and last mile and willingness to change travel behaviour and in turn illustrate the market potential of different mobility solutions across the sub-region. The tool can predict propensity to change transport behaviour and predict the best match of interventions by location. DRT is included in the range of mobility solutions. Specifically in rural areas, agglomerating demand via a Total Transport approach, and using commercial tools like Mosaic, makes it possible to tailor a transport offer to suit different cohorts. However it's important to take care about the technology involved because of the variability of broadband speeds in different locations.

CC2: People will say they don't like changing from car to another mode on a journey, but in park and ride if the price of parking and the frequency and confidence in the bus service is good, then people will opt to split modes. People like fast main corridor bus services, so we need to be able to scoop up demand for these from natural hubs like airports, hospitals, Park and Rides or rail stations. Lessons from successful park and rides show how to ensure passenger confidence. In our county, home to school trips feed into commercial services by existing DRT.

CC2:[CHAT] We've put in two EXCELLENT (hint) bids in to the Rural Mobility Fund. Both include DRT as feeder. We've cracked the 'change' issue with Park and Ride. You just need the right model.

6.6 Case Studies Past & Present

NGO:[CHAT] We're talking about DRT as if it's year zero. DRT has been functioning well in both London and rural areas for many years.

BUSOP1: Agrees that the key for DRT is to have a clear objective.

County Case Study 1

CC2: It is very challenging to deliver transport services in a very large county with diverse geography (coastal settlements, market towns, roman town, new towns). In 2011 we began experiments with DRT to meet unmet demand to travel. The scheme is now fully commercial with no subsidy, operating 8am to 6pm six days a week, replacing a twice weekly bus service. Passenger levels rose 115% in the first six months. Initially communities were vehemently opposed to conventional services being replaced with DRT. After a huge amount of up front work, the DRT services are now very much loved by their users who are mostly elderly and book by phone. This limits options to scale up the services. We are now trialling a bookable platform for college students in the south of the county. We have put in place the ability to track vehicles on council 'home to school' services so parents can cancel a pickup if children are unwell. It might be possible to manage spare capacity on vehicles for non-entitled children. Successful DRT has required a great deal of community engagement and supporting resources. But a measure of success is that the DRT service allowed a 86 year old woman to travel independently for the first time in over 4 years.

CONS5:[CHAT] So inspiring - tackling loneliness, isolation, fantastic!!

County Case Study 2

CC1: We have had a mix of experiences with DRT. In the early 2000s we operated six schemes under the Rural Bus Challenge Fund, operating on fixed timetables with roaming routes. We also found lots of opposition to change. People were incredibly loyal to their previous conventional bus services. Only one service survived due to the costs involved in the booking system which had to handle calls, track vehicles and schedule services. The technology would be easier now. We couldn't shut down the final surviving service because it is so well loved by the passengers and they prefer it to any other operation.

Bedford HomeHoppa

CONS1:[CHAT] Bedford HomeHoppa² was designed to try and reduce costs of financial support, at a time when the authority needed to make savings. It was a way of ensuring that the area of rural north Bedfordshire still had the benefit of evening public transport. It offered regular timed departures from Bedford to any of the parishes north of Bedford, with taxis brought into service according to demand. People turned up and drivers distributed passengers between the vehicles. If no one turned up, the taxi returned to the taxi rank. As well as the lower contract costs of using taxis, the popularity of the service boosted fares income, which was credited to the authority (as it was a cost-based contract), therefore lowering net costs even further.

CONS1:[CHAT] HomeHoppa started about 1988/9 and lasted until about 2008/9. It was almost forced to end in 2004 when the DfT introduced its new requirements for flexible bus services, particularly the need for advance booking. However, it was given special dispensation to continue for the duration of the local bus registration being in place without variation.

Sevenoaks Go-Coach

MOB1: The Sevenoaks DRT service is currently meeting 99% of demand in an area 10x20 miles. The town is very rural even though close to London. Before Covid-19 there were three existing commercial bus services and one tendered service. Passenger numbers fell to 10% when the virus hit and ViaVan suggested delivering food or working with local charities. The council decided to remove all fixed route services and go fully DRT. This was a resounding success from the public's perspective. The service is currently carrying 110-130 rides per day in six vehicles. The average wait time is 12 minutes and 60% book via phone and 40% by app. The average ride satisfaction rating is 4.9/5. The service is subsidised; anyone would be deluded to think it wouldn't need to be.

² See Section 7 for image of the HomeHoppa leaflet

However, the objective is to use the existing subsidy better. In future the plan is to integrate DRT with existing public transport services in a seamless way and look at including specialist transport services such as special education and AgeUK. The needs of rural commuters might be better served with DRT.

Other key building blocks are good customer service and a small strong team. In Sevenoaks there are seven staff in total including two from ViaVan. This enabled a completely new service to be designed and delivered in two weeks.

From day one people were able to do in one trip what would have only been possible with changes before, which suggests that the existing services were not meeting people's travel needs.

BUSOP1: [CHAT] The exciting thing about the long term vision in Sevenoaks is the combination of appealing to commuters for trains early in the morning and early evening; SEN travel to school at school times; a social objective at lunch time with AgeUK and mid morning and mid afternoon available for the public for rural routes. As well as combining it with fixed timetables. And it includes phone booking (60% users) and booking via a friendly travel shop in the bus station for a return journey. And there is a passionate person based on the spot advocating for it.

CHAIR: The Sevenoaks DRT project is a Kent County Council partnership so it could potentially be replicable in other counties.

GOV: How will Sevenoaks project combine fixed route/fixed timetable services in future with DRT? Will this be with hubs or trip chaining? Will people have to change vehicle and will they be reluctant? We know that once people are in a car for part of a journey they are reluctant to interchange onto another mode to complete a journey. Will Covid-19 change this?

MOB1: We are not looking to change people's travel behaviour, simply meet demand. When fixed route buses return, we may be able to offer passengers the option of booking a DRT whilst on the bus. In phase 3 we will offer a choice of parallel services, so you can either use DRT for the whole journey or a bus with a short walk on the same route.

GOV: So post Covid-19 you can use DRT to build up demand to return to more conventional bus services? Could we run DRT into hubs in the rural hinterland to scoop up demand and run conventional services into town centres?

Shared Taxi

CONS2: We operate a semi-fixed route shared taxi service, partnering with local taxi companies focussing on shuttles to major industrial estates for the major shift handovers. Since the service uses existing local taxis, there are no costs if no-one books. It is an efficient way to use excess local supply. Users are mainly young blue collar workers. A small DfT grant has been used to adapt the service for older clients so they can book by text rather than smart phone app. There are no call centre costs. There is a guaranteed service, even if only one person is booked. This is possible because of the limited geography and cross-subsidising the less profitable routes from the more profitable ones.

BUSOP1:[CHAT] There's an issue with taxi-sharing during Covid.

CONS2: Ridership grew under Covid-19 because buses were suspended and people had no other choice to get to work. As per government guidance, people are sharing with the same people every day wherever possible and masks and hand sanitising are compulsory.

CC1:[CHAT] We have the same taxi model in our county: Taxishares. They are small scale but very successful. They are excellent value for money simply because you don't pay if the service is not used. COVID-19 has been a challenge for us, we have limited the capacity to 1 person per vehicle.

CONS2:[CHAT] Agree the core advantage from a local authority perspective is zero costs if the service isn't being used. Our initial services have been in partnership with private sector partners, but we're keen to explore potential partnerships with local authorities.

Other examples

MOB2: A new DRT service will start in Watford³ in July, which will have a completely different demographic and commuting profile to New Lubbesthorpe.

BUSOP1:[CHAT] There are some great examples in the Scottish Islands of flexi-type small buses connecting with fixed route timetables on trunk roads to serve isolated hamlets off route. They all seem to work very well. Mostly phone booked, but I guess app based could be an option in the future.

INNOV1:[CHAT] Did I hear that Lincolnshire has a well developed feeder/main route system?

BUSOP1:[CHAT] Yes; Lincolnshire has CallConnect which also works well.

6.7 Freight

CONS5:[CHAT] Can DRT be used for other functions, logistics, healthcare supplies etc. in "reverse" flows (none time critical) - Total Transport++?

GOV:[CHAT] Do we think there is any value in looking at whether, if the rules allowed, we should be mixing (light) freight e.g. some online deliveries, with passengers? Could we reduce overall vehicle movements, find cost efficiencies, etc.? Is UoH SMU doing any work on freight in rural areas?

CHAIR:[CHAT] Freight came up in short journeys on e-cargo bikes. We have identified this as an issue for future discussion.

CONS5:[CHAT] Good - freight gets forgotten generally and super important for rural - we've done some work on segmenting rural freight flows.

BUSOP2:[CHAT] 'Post' buses presumably came under the mixed freight/passenger model? Shame they are not as widespread as they were.

INNOV2:[CHAT] New Mobility service for goods and people will be investigated by AsSeTS for rural mobility. We have identified freight trips in our early analysis of rural communities.

MOB3:[CHAT] Our technology is now supporting people and goods deliveries - at the moment though it is doing so in separate projects. Combining the two we think is really interesting but not something we are working with a partner on yet.

INNOV1:[CHAT] There is room for bringing freight and deliveries into the picture - not just for the hubs but also the vehicles - is it in Finland where the MaaS is including freight? not just for the Hubs...

INNOV2:[CHAT] VTT, the tech research centre of Finland, run some pilot last year where buses were also delivering freight to a village hub.

CONS5:[CHAT] As an aside - there are also some very weird hybrid "DRT" solutions - we have a community pharmacy vehicle that delivers prescriptions here in the Exe Valley.

6.8 Covid-19 Opportunity

BUSOP1: Uniquely, due to Covid-19, the Sevenoaks service started in the context of having no existing services for passengers. This allowed a completely fresh start without incurring passenger opposition.

³ <https://www.arrivabus.co.uk/arrivaclick/about-arrivaclick/where-you-can-go/where-you-can-go-watford/>

MOB2: We accept that Covid-19 is an opportunity to look at networks afresh, firstly we can be sure that transport networks will not be the same again for at least 18 months (possibly ever) and secondly they weren't perfect before the crisis. It's unclear yet whether the future will be entirely DRT or part DRT and part fixed route services.

CC2: Small market towns are potentially more resilient to Covid-19 because the population densities are more manageable than cities. We need DRT to support these settlements. DRT can be flexed to meet latent demand - including people living in areas outside cities and large towns. We mustn't give up. It's the right thing to solve these problems. These are difficult but they are soluble problems.

CONS3:[CHAT] Like others have said, we certainly believe a positive out of the Covid-19, is potentially better integrated bus networks that mix DRT with traditional bus. Networks that provide a more complete service for the customer.

CONS5:[CHAT] Which fits with the aims of the DfT Future of Mobility: Urban Strategy - but still applies to rural - "Mass transit must remain fundamental to an efficient transport system."

6.9 Other

Hubs

CC2: Agree with the concept of rural hubs to sustain local communities and aggregate travel demand as per the Midlands Connect model.

CC3: The Midlands Connect project is still in its early phases. A supplier has been appointed to write guidance on developing rural mobility hubs to bundle transport and deliver local services. The tool will enable LAs to identify hub locations based on community need, demographics geography. It should also help identify where partnerships might lead to commercial opportunities.

CHAIR: Accessibility hubs is a better term according to England's Economic Heartland.

Need For More Expertise Sharing

MOB2: No single model of DRT can fit all situations. Many can work. There is a great deal of expertise to draw upon. It is valuable to have forums where people can pool their knowledge and experience. This could be developed into an industry network to share skills and design better solutions.

Technology and Rural Broadband

CONS5:[CHAT] Key point about digital paucity in rural areas - hindrance to digitally enabled DRT

MOB1: Technology is an enabler, but is not everything.

New Out Of Town Housing Developments

CONS5:[CHAT] We are seeing developer interest in New/Future Mobility interventions at other major sites (urban extensions, garden villages) and 'baking' interventions in from day one.

INNOV1:[CHAT] that day one provision is so important!

7.0 References

Please see section 4, footnotes and Appendix showing Bedford HomeHoppa leaflet.