CoP Public Infrastructure and Social Services

Example of Good Practice

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Demand Responsive Transport in rural areas

Carmarthenshire, Ceredigion, Monmouthshire & Pembrokeshire, Wales

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1. Introduction

Dealing with a dispersed population is a major challenge for rural transport – could demand responsive services, rather than regular routes, be part of the answer?

Unlike cities, where the population clusters in neighbourhoods and high rises, rural dwellers are spread among small villages and outlying farms. Keeping everyone connected to a regular bus route and for their 'first and last mile' is often simply not viable. But, this can make it difficult for rural people to access the services they need – especially when health and social services are increasingly centralised in

*The Bwcabus in Ceredigion. Photo © john bristow (cc-by-sa/2.0)*

larger towns and cities. Demand responsive transport (DRT) models can help get people where they need to go, by **responsively designing daily routes** around those destinations, rather than maintaining costly, inflexible timetables.

2. Project Intention / Background information

A recent report from the Campaign for Better Transport reminds us that, "The problems of providing sustainable public transport in rural areas have been around for a long time." (Tracks 2018: 13). It is clearly a challenge to link dispersed people to key services, central places, and to one another. Travelling the 'first and last mile' can be especially challenging in rural areas, where that mile may be along routes that are difficult to access and potentially unsafe (for example, due to a lack of pavements and poor visibility).

In Wales over the past decade, austerity budgets and falling patronage have seen considerable decline in rural buses. Between 2010 and 2016, funding for buses in Wales fell by 20% (Wood & Abrams 2016). Cut routes and timetables can disproportionately affect rural areas, where there are few alternative options. Higher levels of car ownership in rural compared to urban Wales (Systa 2018; Tracks 2018) suggest that most rural dwellers depend on driving. However, both older and younger people are less likely to have access to a car (Powell et al. 2018) – and more likely to need to get to distant schools and health services.

Effective rural transport solutions are crucial to avoid 'poverty of access' (Powell et al. 2018, Tracks 2018). The map below shows that there are high levels of service deprivation in rural Wales – this means rural residents have long distances to travel to access shops, schools, healthcare and pharmacies, post offices and so forth. The geographical scale of access deprived rural areas makes it virtually impossible, both logistically and financially, to operate a regularly timetabled bus network that links outlying places to service centres. This is the challenge that Demand Responsive Transport aims to address.
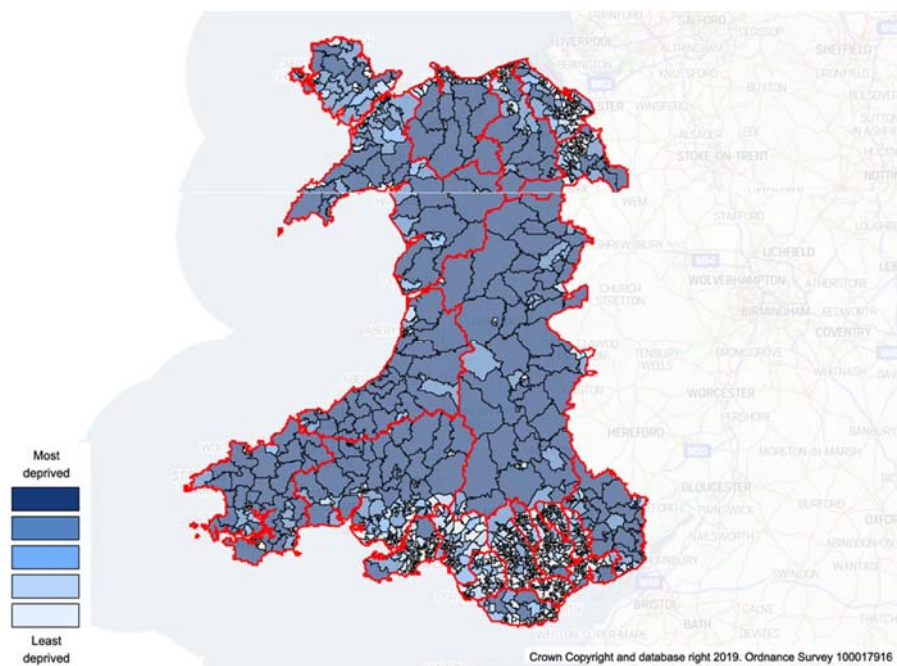
Local level deprivation in service access, from the Welsh Index of Multiple Deprivation 2019.

3. Main Description

The Community Transport Association defines Demand Responsive Transport as "a user-oriented form of passenger transport characterised by flexible routes and smaller vehicles operating in shared-ride mode between pick-up and drop-off locations according to passengers' needs" (2017:4). Essentially, DRT combines the advantages of public transport with the flexibility of ride-sharing (CTA 2017). In Wales, two successful examples of DRT in action are Bwcabus (Carmarthen, Ceredigion, Pembrokeshire) and Grass Routes (Monmouthshire).

Bwcabus is a public DRT service which is run as a partnership between participating local authorities and the Welsh Government. The service was introduced in 2009 and has variously received funding from the European Regional Development Fund (ERDF), European Agricultural Fund for Rural Development (EAFRD), the Welsh Government, local authorities, and the University of South Wales. The service runs a fleet of mobility-accessible buses in specific travel zones within three predominantly rural counties. Each day's routes and stops are dynamically planned according to users' needs, using mapping, routing and GPS technologies. To book a place on the bus, users call a helpline number (open 7am to 7pm, 7 days a week); bookings must be made before 7pm for travel the next morning, and before 11.30am for travel the same afternoon. Advance registration is required, which is free, and the cost of a journey is calculated according to the distance travelled. Most passengers will be picked up at their local bus stop, but it is possible for those with reduced mobility, or who live in very isolated locations, to be collected at their door. An evaluation has shown that Bwcabus has reduced calls for home visits by doctors, and also cut average journey times to the nearest employment centre from 52 to 27 minutes (Tracks 2018). Bwcabus can also connect to interchanges for the long-distance TrawsCymru bus routes, which link cities and larger towns.

Grass Routes is also a public DRT service, operated by Monmouthshire County Council using an in-house fleet since 2004. The service has grown over time, replacing regularly timetabled routes, and the Welsh Government recently provided further funding to expand the fleet. Grass Routes costs approximately £530,000 per year to operate, and provides 58,000 annual passenger journeys (Systa 2018). Like Bwcabus, journeys on Grass Routes are planned according to passengers' needs. There is a one-off membership fee of £5 per household, and a flat rate fare system. Journeys must be booked at least 24 hours in advance, by calling a free phone number (open 9am-4.30pm, 5 days a week). Due to limited budgets and capacity, and the community rather than commuter focus of the service, the buses do not operate after 4.30pm, or on weekends. Many journeys connect people to healthcare or to towns within the county.

Both Bwcabus and Grass Routes demonstrate that DRT can be successfully implemented in rural areas where regularly timetabled buses are not viable, or where there are gaps between routes. There are further advantages:

- DRT allows for journeys that could not previously have been made without a car (Tracks 2018).
- Local DRT can be integrated with regional and national buses and trains (Cole n.d., Tracks 2018), and used as a first/last mile solution (Interreg Europe 2018).
- By running only where and when needed, DRT can help reduce costs and emissions (CTA 2017, Interreg Europe 2018).

A further benefit of DRT in rural areas is the potential for reducing loneliness and social isolation, which is of considerable concern in Wales (National Assembly for Wales 2017). DRT can help ensure that people are not 'stuck' at home, and can get to social meeting places. Experience from Grass Routes has also shown that the service itself offers a 'friendly face' – many passengers are regular users, and enjoy interacting with drivers and fellow passengers.

However, DRT also has challenges and limitations. For both Grass Routes and Bwcabus, the major limitations are service availability, accessibility, and technology.

Service availability is limited in terms of current fleet capacity and hours of operation. The Grass Routes fleet, for example, is also used for school transport, sharing resources, but reducing availability at certain times. The service only operates between 9am and 4.30pm, rendering it unavailable to commuter demand. Additionally, although there is a will to expand the fleet and replace ageing vehicles with more sustainable Ultra Low Emissions Vehicles (ULEVs), Grass Routes has limited resources to invest in the fleet. Both Bwcabus and Grass Routes require advance booking by phone, which is only available to registered members. Ad hoc or unplanned journeys cannot be accommodated, and the services are less likely to be used by groups like tourists (who are not members) or younger people (accustomed to apps rather than phone lines).

Accessibility poses particular challenges, especially for those with physical disabilities. People need to be physically able to use DRT services, from making a booking, to meeting the bus, to getting onboard. At the same time, *perceived* accessibility can be challenging, too: a recent transport review in Monmouthshire found that many local residents were not aware of Grass Routes, or did not believe that the buses were available for their destinations (Systa 2018). Without fixed routes and obvious infrastructure like branded bus stops, DRT services can be invisible to many local residents (Tracks 2018), who may only hear about them by word of mouth (Systa 2018). Elsewhere, evidence suggests that DRT schemes can struggle with public perceptions that they are only for certain groups, such as older people or people with disabilities (Tracks 2018). DRT can be adversely seen as a necessity for some rather than a choice for all (Interreg 2018).

Technology for rural DRT in Wales has not yet been digitalised, in contrast to many urban transport solutions. As Lou Downe cautions in *Good Services: How to Design Services that Work*, "The internet has changed the way that we access and use services, and our expectations around doing so, even if that service is not actually used online." (2020: 24). Both Bwcabus and Grass Routes use phone lines for advance booking.

There is evidence from elsewhere that using call centres for DRT actually increases overall operating costs (Tracks 2018). Digital technology could make the services more responsive, increasing accessibility and improving customer service; there are also opportunities to use automation, such as journey reminders to reduce missed bookings. However, it is also important to recognise that current rural DRT users are typically from demographics less likely to use digital technology.

As the points above begin to suggest, the key challenges for rural DRT can also be viewed as opportunities for future expansion and development. This is certainly the case for **integration**. DRT has the ability to integrate with regional and national buses and trains. However, scaling services from a local to a regional level requires coordinating stakeholders, ICT and finances, which can be very challenging (Interreg 2018). Timetabling, for example, can mean that DRT passengers have long waits before their onward bus or train journeys. These are difficult logistical challenges to solve, but they equally point towards future solutions that may move DRT closer to Mobility as a Service.

4. References

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