Compendium of Practice in Rural Mobility

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Key Takeaways

In this compendium, we have covered a number of ideas for improving transport in rural areas. This section summarises the key takeaways from each of these ideas into a couple of handy pages. More details on each idea can be found in the respective sections of the compendium.

In addition to the detailed takeaways for each idea, in undertaking this work the authors have identified a number of general observations that it is worthwhile Transport East considering as it develops its capability in rural transport:

- Rural transport objectives were found to be poorly defined across the Transport East area outside of a general policy objective of 'improving accessibility.' This means two things. On the one hand, rural matters are not considered more specifically in transport policy making. On the other, policy objectives in related areas can have a more direct impact on transport in a way that is often not seen by transport planners. For example, moving public services out into communities is not a transport intervention, but it has a transport impact;

- Accordingly, as the compendium is developed over time, it is highly recommended that Transport East and its partners consider both transport and non-transport interventions. This is so long as a clear, demonstrable link can be given between non-transport interventions and a transport outcome;

- Transport East has, within its area, at least one example of practice for each solution type, with the exception of Mobility-as-a-Service (MaaS) for which there are no examples of rural MaaS schemes anywhere in the Transport East area. But with a few exceptions, there is little by way of best practice;

- There is a lot of evidence of *activity* in rural transport across the Transport East area, with many projects being delivered. But there is much less evidence of *impact*, and where evidence is collected it is difficult to make like-for-like comparisons due to data collection methods used. Success on the majority of projects has often proved difficult to judge, and is often reported in a qualitative manner;

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- Similarly, there is little evidence of how projects are achieving wider policy goals and objectives, with no clear logic provided between the interventions and the policy outcomes sought. This is particularly the case in rural areas, where multiple policy objectives from different sectors may need to be achieved.

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Introduction

Background

The Department of Environment, Food, and Rural Affairs (DEFRA) defines rural as areas that fall outside settlements of more than 10,000 in population. However, the experience of those who live in rural areas, and those who provide transport services within them, often does not adhere to such strict definitions. Thus there is significant scope in how mobility solutions are delivered for a wide variety of non-urban situations with common challenges.

Transport East recognises the challenge of catering for the third of residents across the East of England who live in rural areas, with a further 21% of residents living on the coast. Transport East's Transport Strategy notes that two-thirds of rural residents live in transport deserts where there is no realistic alternative to the private car, and these deserts vary from the deep rural areas of Norfolk to places on the edge of London.

Transport East aspires to deliver a Rural Centre of Excellence which will strive to achieve Goal 8 of the Transport Strategy - increasing access for rural areas and communities. The strategy states:

"We propose to build on this to establish a Centre of Excellence for Rural Mobility, bringing together our partners, academia and interest groups to drive forward transport innovation in our rural region, to benefit the whole of the UK.
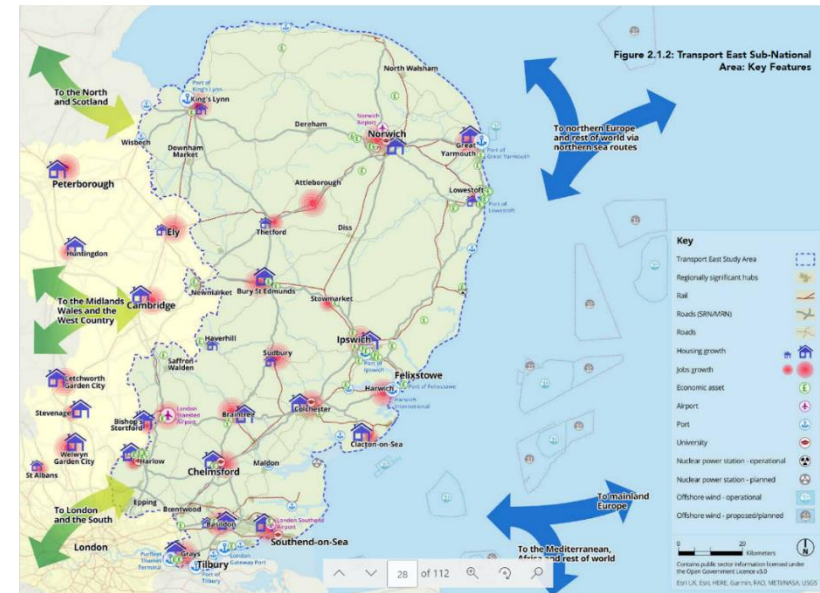
Figure 1-1 Transport East Area (Source: Transport East)

The Methodology

As part of this work, Transport East has commissioned Mobility Lab and Jenny Milne to develop a compendium of practice on different rural mobility matters and solutions. This is not just to map what is being done across the Transport East area, but to learn from best practice elsewhere and give guidance on how best practice examples can be applied in the Transport East region.

When exploring literature, it is important to consider all the stakeholders involved in the provision and delivery of transport and mobility services. A stakeholder map is a good starting point when considering the services and users in the Transport East area.

This compendium of practices provides the knowledge base required to develop the capability in a manner that is relevant to Transport East's significant variety of stakeholders, and the rural communities of the East of England. This is based upon a review of practices from leading industry experts in rural mobility, and from a variety of sources and circumstances. Whilst the case studies provided attempt to best reflect the situation of the East of England, the overriding criteria for including case studies relates to the ability to highlight evidence of success and impact. Accordingly, this compendium also contains case studies from International areas.

Figure 2 The different stakeholders of rural transport (Source: Jenny Milne)

When identifying the relevant case studies, our first preference was to identify case studies in the Transport East area (Norfolk, Suffolk, Essex, Southend-on-Sea, and Thurrock) which have a strong rural element to them. If none were identified, we then researched best practice examples of relevance in the rest of the UK, before expanding internationally so long as the case study gave lessons for the UK context. Whether or not a case study was included was determined based upon whether they could identify either qualitative or quantitative impacts.

It is intended that this compendium becomes a living resource for Transport East, that is added to and changed over time with extensive involvement from a variety of stakeholders. Each of the ideas and subject matters reported follow a common structure: key takeaways, a summary of the concept, current practice in the Transport East area, and best practice case studies

1.　Demand Responsive Transport (DRT)

Key Takeaways

- Servicing low-density areas which have either experienced cuts to services or no previous services;
- Some dial-a-rides are increasingly using apps to book services, but all maintain some telephone service;
- Community Transport services are often undertaken using a dial-a-ride;
- Lack of society benefit business case, although there is some evidence that they are valued where provided

Summary of the concept

Demand Response Transport (DRT) has been a staple service in rural communities for decades and encompasses patient transport, community transport, private hire vehicles and more recently the digitalisation of the service to Digital Demand Response Transport (DDRT). The most commonly known until recently is that of Community Transport, but the concept of DRT covers a much broader definition of services, including:

- Licenced taxis or private hire vehicles;
- Social services transport;
- Non-emergency patient transport (e.g. outpatient appointments);
- Flexible bus services (registered bus services that are able to deviate from routes on demand).

Each of these types of operation are subject to different regulatory mechanisms. This includes taxi and private hire vehicle legislation, Section 19 and 22 permits, and being registered as a local bus service depending on the type of operation.

DRT services can achieve a wide variety of policy objectives, though they are most likely to have the strongest impacts on social inclusion and accessibility objectives. Accordingly, DRT can be found in countries throughout the world providing a service in low density areas as a form of shared transport. Traditionally a customer would telephone to book the service from a predetermined point, usually supporting a fixed route service and operation weekdays during 9-5pm. In 2013 the European project SMARTA, operated several DRT operations and have produced a

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good practice guide. The name 'Dial a Bus' is also synonymous with DRT although some areas are keen to hold onto the term when introducing new services so in some circumstances users interchange the terms.

Over the last few years there has been significant growth not only in the UK but overseas in the digitalisation of flexible small accessible bus services, known as Digital Demand Response Transport (DDRT). These services operate similar to that of traditional DRT but provide online facilities, namely an Application, to interact with the customer. The DDRT is often more flexible with routing and can offer 'virtual stops' for those in more rural areas where a traditional bus stop with NAPATAN code would be available. A global map showcasing all the available DDRT pilots has been created by Lucas Foljanty.

Current situation across the Transport East Area

Across the Transport East area there are a variety of DRT services, with all constituent authorities offering some variation of DRT services within all or part of their authority areas. The dial-a-ride, patient transport services, number of taxi licences issued, and flexible bus services within each district of the Transport East area are summarised in Table 1. Community Transport services are covered in more detail in the section on Community Transport.

Whilst dial-a-ride and patient transport is ubiquitous across the Transport East area, flexible buses are generally confined to a few areas. It is noticeable that dial-a-ride services are often undertaken by Community Transport organisations, and vice-versa to some degree. The operational and vehicle requirements of running a dial-a-ride and community transport service are similar, even if the licencing regime between the two types of operations are slightly different.

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Table 1 – Demand Responsive Transport Services across the Transport East area

Area	District	Dial A ride	Patient Transport	Taxis and Private Hire Vehicles	Flexible Buses
Norfolk	*Rural Districts*				
	Breckland	Transport Plus	ERS Medical	118 taxis 72 PHVs	Harling flexibus Swaffham flexibus Wayland flexibus
	Broadland	Transport Plus	ERS Medical	0 taxis 401 PHvs	
	Kings Lynn and West Norfolk	Swaffham Community Transport Transport Plus	ERS Medical	88 taxis 143 PHVs	Swaffham flexibus
	North Norfolk	North Norfolk Community Transport Transport Plus	ERS Medical	144 taxis 85 PHVs	
	South Norfolk	Boardhoppa South Norfolk Dial-a-Ride Transport Plus	NHS East of England Patient Transport	119 taxis 74 PHVs	Harling flexibus Wymondham flexibus
	Urban Districts				
	Great Yarmouth	Transport Plus	NHS East of England Patient Transport	190 taxis 160 PHVs	
	Norwich	Norwich Door-to-Door Transport Plus	ERS Medical	220 taxis 389 PHVs	
Suffolk	*Rural Districts*				

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	Babergh		E-Zec NHS East of England Patient Transport	79 Taxis 96 PHVs	
	East Suffolk	Suffolk Waveney Door-to-Door Coastal Area Transport Dial-a-Ride	E-Zec NHS East of England Patient Transport	71 taxis 355 PHVs	Katch
	Mid Suffolk	Boardhoppa	E-Zec NHS East of England Patient Transport	56 taxis 40 PHVs	
	West Suffolk	Boardhoppa Haverhill Dial-a-Ride	E-Zec NHS East of England Patient Transport	181 taxis 327 PHVs	
	Urban Districts				
	Ipswich		E-Zec NHS East of England Patient Transport	157 taxis 425 PHVs	
Essex	*Rural Districts*				
	Braintree	Braintree Community Transport	Health Transport Group NHS East of England Patient Transport	83 taxis 227 PHVs	Essex DaRT
	Epping Forest	Epping Forest Community Transport	NHS East of England Patient Transport	216 taxis 42 PHVs	
	Maldon	Community 360	NHS East of England Patient Transport	83 taxis 20 PHVs	Essex DaRT

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Rochford	Wyvern Community Transport	NHS East of England Patient Transport	185 taxis 89 PHVs	
Tendring	Tendring Dial-a-Ride	Colchester Hospital Hopper NHS East of England Patient Transport	230 taxis 27 PHVs	
Uttlesford	Uttlesford Community Travel	NHS East of England Patient Transport	47 taxis 1961 PHVs	Essex DaRT
Urban Districts				
Basildon	Basildon Community Transport	Health Transport Group NHS East of England Patient Transport	137 taxis 199 PHVs	
Brentwood	Brentwood Community Transport	Health Transport Group NHS East of England Patient Transport	172 taxis 27 PHVs	
Castle Point	Castle Point Community Transport Wyvern Community Transport	NHS East of England Patient Transport	117 taxis 341 PHVs	
Chelmsford	Chelmsford Community Transport	Health Transport Group NHS East of England Patient Transport	166 taxis 84 PHVs	
Colchester	Community 360	NHS East of England Patient Transport	131 taxis 408 PHVs	

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	Harlow	Epping Forest Community Transport	NHS East of England Patient Transport	47 taxis 195 PHVs	
Southend-on-Sea		Age Concern Southend Southend-on-Sea Dial-a-Ride	Health Transport Group	269 taxis 136 PHVs	
Thurrock		Trans-Vol	Health Transport Group	72 taxis Vs	

Case Studies

Connecting Communities, Suffolk

Key takeaway
Service design can be used to re-imagine the experience of booking Community Transport Services.

Description
Connecting Communities is a transport service provided by Suffolk County Council designed to help people travel around the county of Suffolk who might not have access to a regular bus service.

Suffolk County Council works in partnership with Suffolk Community Transport Operators under the Connecting Communities. Separate community transport operators effectively operate under a single banner, and offer trips to those communities for which buses and other forms of public transport may not be feasible.

For the user, the process for booking a trip is as so:

Call the local area operator up to a week before travel to book the journey and ask questions - all details are found on a single website
Book a journey through the Connecting Communities online portal
Travel on the day

Community Transport Operators have a service obligation to ensure that they satisfy the trips booked but are able to also use their fleets elsewhere.

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Outcomes

No details have been released of the impact on passenger numbers or operational savings to the Council. But the initial research to inform the development of the service applied principles of extensive engagement with communities and service design.

Further Information

Connecting Communities

Katch, East Suffolk

Key takeaway

A self-financing model for Demand Responsive Transport is challenging to achieve in a rural context.

Description

The demand-responsive service, which ran in east Suffolk, and formally ceased operation on its scheduled end-date of 23 December. Katch started running in May 2021 and was extended by six months to December 2022 to encourage passenger usage and for the council to be able to establish a truer picture of demand as bus services recovered following the lifting of Covid-19 restrictions.

In February 2023, a new new demand responsive bus was launched, which will run for an initial 12 month period, will cover a similar route to Katch, including Wickham Market, Framlingham, Campsea Ashe and Snape, but with additional stops in Hacheston and Parham A number of agencies have worked together to develop the new service, including East Suffolk Council, Coastal Accessible Transport Services (CATS) and the Framlingham and Wickham Market Community Partnership.

Figure 3 – Katch Buses (Source: Katch)

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The original service was funded largely by Suffolk County Council, but
with support from East Suffolk Council and East Suffolk Line
Community Rail Partnership. It operated as an on-demand service,
with users able to book via a mobile phone app or a phone-line.

Outcomes
Katch used two Renault ZE electric minibuses on a fixed-route link between Framlingham, Wickham Market and Wickham Market railway station (at Campsea Ashe). The six-month extension saw the route expanded to Snape and Blaxhall.
On average, 100 people used the service a week, but the revenue raised was insufficient to cover the operating costs.

Further Information
Katch

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Bwcabus, Wales

Key takeaway

Demand Responsive Transport can be used to integrate with scheduled bus services through co-ordinated timetables and stop infrastructure.

Description

Bwcabus is a fully accessible local bus service, which operates within a specific area providing a mixture of both fixed route services and bookable journeys. Bwcabus is designed to help people make local journeys and connections to main line bus services.

It was originally introduced to replace an existing bus service that had become unviable as traditional fixed route timetable based operations.

Since then, it has evolved to provide a feeder service to 3 Trawscymru strategic services as well as a zone of DRT provision within rural mid Wales. It has now expanded to two operational zones: North Pembrokeshire and Camarthenshire.

It provides both fixed route and demand responsive bus routes that can be booked up to a month in advance. Fares are based on journey distance but can connect to other bus operators. Discounted tickets are also available, as are bus passes and some

Figure 4 - Bwcabus Bus driving through rural Wales (Source: Bwcabus)

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'rover' tickets are valid on most bus services across 3 counties in Wales.

Outcomes
The service has extended from a direct replacement of existing services to expanding services. The most significant being the creation of two new fixed-schedule routes.

Further Information
Bwcabus

Hertslynx, Hertfordshire

Key takeaway

The Rural Mobility Fund can be used to pump-prime Demand Responsive Transport Services in rural areas

Description

HertsLynx launched on 19th September 2021. This service is designed to serve residents in the designated operating zone covering villages in North and East Herts, as well as providing transport links to fixed destinations in Key Hub Towns: Stevenage, Letchworth, Hitchin, Baldock, Royston and Bishop's Stortford.
The service seeks to improve connections between rural areas and town centres, as well as expand access to employment, education, healthcare and shopping.

Figure 5 - The Hertslynx operating zone (Source: Intalink)

Outcomes
The HertsLynx fleet has state-of-the-art Mercedes Sprinter minibuses, purchased from EVM Ltd, which include a specification of USB charging ports, free customer Wi-Fi, luxury seating and are all wheelchair accessible. The service launched with three vehicles in operation; however, two additional vehicles will be introduced to the scheme in Summer 2022, totalling a fleet of five vehicles

Further Information
[Hertslynx](#)

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2. Community Transport

Key takeaways

- Community Transport services are strictly defined under Section 18 of the Transport Act 1985;
- Community Transport Operators often run a variety of services, including dial-a-ride, school buses, and community car schemes. This is to maximise the utilisation of the vehicles;
- Services rely on volunteer drivers, which can be tricky to recruit;
- Often delivered by communities to fill gaps in public transport service provision, especially to nearby service centres.

Summary of the concept

Some would argue that Community Transport (CT) was established by communities to help 'fill the gap' in services either withdrawn or not operational in rural areas. Often CT involves community organisations and is very reliant on volunteers. Similar to that of DRT, operational hours are generally weekdays and 9-5pm. The services offer a small mini bus, often a lifeline, to citizens who can't access regular transport be that for a medical appointment or a social occasion. CT provision has a strong social value offering services to aid with isolation, exclusion and general loneliness not age related.

Whilst CT can be wide-ranging in its approach and method of delivery, it is well defined under Section 18 of the Transport Act 1985. Under this Act, Community Transport Operators can be exempt from many of the requirements relating to public service vehicles (PSVs) and driving licences, through the issuing of either a Section 19 or Section 22 permit:

- Section 19 permits allow community-based organisations to operate small buses (9-16 passenger seats) and charge a fare without the need for PSV licensing, provided they run on a not-for-profit basis and carry restricted groups of passengers;
- Section 22 permits allow community-based groups to operate small buses which are available to the general public (9-16 passenger seats) and charge a fare without the need for PSV licensing, providing volunteer drivers are used and the operation is run on a not-for-profit basis.

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The impacts of CT schemes are often difficult to measure as they are primarily social in nature. Those who use community transport schemes tend to more limited in their mobility, and so the social impact can be observed in terms of impacts on isolation and loneliness, with more traditional impacts such as improved accessibility being supportive of that. Where the impact has been measured, it is estimated that for every pound invested in community transport by the local council, almost £9 was spent in the local economy.

Current situation in the Transport East Area

Community Transport services operate all across the Transport East area. They are typically characterised as providing regular services into nearby towns and service centres, as well as providing door-to-door transport within a set geographical area - often the County or District Boundary. In Suffolk, many of the operators have come together under the Connecting Communities brand, which is coordinated by Suffolk County Council. There are no other known examples of such a 'brokerage' scheme operating across the Transport East Area.

Table 2 – Operators of Community Transport Services across the Transport East area

Area	District	Operator	Operational Area
Norfolk	*Rural Districts*		
	Breckland	Transport Plus	Door-to-door service across Norfolk
	Broadland	Transport Plus	Door-to-door service across Norfolk
	Kings Lynn and West Norfolk	Transport Plus	Door-to-door service across Norfolk
		West Norfolk Community Transport Project	A variety of routes across West Norfolk
	North Norfolk	Transport Plus	Door-to-door service across Norfolk
		North Norfolk Community Transport	A variety of routes across North Norfolk

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	District	Service	Coverage
	South Norfolk	Transport Plus	Door-to-door service across Norfolk
	Urban Districts		
	Great Yarmouth	Transport Plus	Door-to-door service across Norfolk
	Norwich	Norwich Door-to-Door	A variety of services across Norwich
Suffolk	*Rural Districts*		
	Babergh	Connecting Communities	Operates a variety of routes across Suffolk
	East Suffolk	Felixstowe Area Community Transport	Felixstowe and immediate surrounding areas
	Mid Suffolk	Connecting Communities	Operates a variety of routes across Suffolk
	West Suffolk	Connecting Communities	Operates a variety of routes across Suffolk
	Urban Districts		
	Ipswich	Connecting Communities	Operates a variety of routes across Suffolk
Essex	*Rural Districts*		
	Braintree	Braintree Community Transport	All across Braintree District
	Epping Forest	Epping Forest Community Transport	All across Epping Forest and Harlow Districts
	Maldon	Community 360	All across Maldon and Colchester Districts
	Rochford	Wyvern Community Transport	All across Castle Point and Rochford Districts

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	Tendring	Harwich Connexions	Harwich
		Tendring Dial-a-Ride	All across Tendring District
	Uttlesford	Uttlesford Community Travel	All across Uttlesford District
	Urban Districts		
	Basildon	Basildon Community Transport	Basildon, Billericay and Wickford
	Brentwood	Brentwood Community Transport	All across Brentwood District
	Castle Point	Castle Point Community Transport	All across Castle Point District
		Wyvern Community Transport	All across Castle Point and Rochford Districts
	Chelmsford	Chelmsford Community Transport	All across Chelmsford District
	Colchester	Community 360	All across Maldon and Colchester Districts
	Harlow	Epping Forest Community Transport	All across Epping Forest and Harlow Districts
Southend-on-sea	Southend-on-Sea	Southend Dial-a-Ride	Anywhere in Southend
		Age Concern Southend	Anywhere in Southend
Thurrock	Thurrock	Trans-Vol	Anywhere in Thurrock

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Case Studies

TotalConnect, Lincolnshire

Key takeaway
There is a significant opportunity to link Community Transport Services with other forms of transport and different service types to deliver improved accessibility and reduced costs of operating services.

Description
Lincolnshire County Council's project, TotalConnect, focuses on integrating the organisation and delivery of demand responsive transport services through the development of a "one stop shop" approach. This covers demand-responsive local bus services, non-emergency patient transport services (NEPTS), community transport, home to school and adult social care transport.

The initial feasibility studies aimed to identify the degree of potential integration by looking at the associated benefits, costs and implementation issues. The second phase aimed to carry out a TotalConnect pilot scheme in selected areas which could then potentially be scaled up to a countywide scheme if successful.

Figure 5 – Go-Coach operating as part of the Total Connect network in Lincolnshire (Source: Lincolnshire County Council)

Outcomes
During the pilot, it was found that a sizeable proportion (16.3%) of non-emergency patient journeys were for patients registered with CallConnect and actively using the service for other journey purposes.

A number of barriers to integration were identified:

- In order to create a 'one-stop shop', the service would need to be disaggregated into its component elements, allowing the removal of unnecessary duplication of functions such as scheduling and dispatch.
- Decisions around procurement were led by personnel separate to the Total Transport project and therefore made with a more general procurement strategy in mind.
- To allow integration of patient transport and council demand responsive transport services, financial and delivery risks would need to be accepted by the transport authority
- Transport matters in the NHS can sometimes be regarded as a lower priority with the role forming only one part of a hospital administrator's wider role. Access to meaningful address data for planning services was difficult.
- Integration of DRT and non-emergency patient journeys would be eased if all journeys were on a single planning and scheduling system.
- The legal frameworks around passenger transport do not readily lend themselves to a new 'hybrid' service potentially providing for multiple clients and multiple purposes (including local bus) in one.

Further Information
Total Transport

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Making the Arts Accessible, Pembrokeshire

Key takeaway
Non-essential services and facilities can also be accessed using Community Transport with the right community connections

Description
As part of a Wales-wide project to engage socially isolated older people in arts learning projects, Engage Cymru worked with Oriel y Parc, St Davids, Pembrokeshire; Pembrokeshire 50+ Forum; Bws y Bobl (The Peoples' Bus); Ysgol Dewi Sant; Pembrokeshire Coast National Park Authority and artist Helen Astley.

The project was Lottery funded, through the Arts Council of Wales. It aimed to strengthen links between younger people and older people, contribute to the Pembrokeshire Health Wellbeing & Social Care Strategy and strengthen the position of the park and the gallery as an integral part of the community.

Participants attended 12 sessions – a mix of gallery based activity and trips using Bws y Bobl. Trips included an exhibition at Oriel y Parc, 'Changing Landscapes' with work by Graham Sutherland, Brendan Burns and Alfred Sisley, and visits to inspire appreciation of the landscape and the paintings themselves. Transport was provided free of charge by Bws y Bobl and organised by the National Park.

Outcomes
Outcomes included improved social interaction between different generations, enhanced appreciation of what the gallery and landscape could offer and greater involvement by older people in physical activity by exploring the landscape. All participants intended to return to the gallery with family and friends.

Further Information
[Community Transport Case Study](#)

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Hayfield Community Transport, Peak District National Park

Key takeaway

The availability of Community Transport services could be integrated into Mobility-as-a-Service style applications.

Description

Case study provided from CoMo UK

Community transport operator Hayfield Sustainable Transport Limited (HSTL) provides community groups with access to minibuses without each group needing to own one themselves. This reduces the expenditure on transport for these groups and makes more efficient use of the shared asset. HSTL has two 17-seater minibuses.

The community groups that use HSTL's minibuses are primarily from Hayfield and New Mills but they are also used by groups from across the High Peak including Glossop, Chinley and Whaley Bridge. Altogether, 73 different local community groups and schools have made use of HSTL's minibuses over its 6 years of operation including: primary and secondary schools, guide and scout groups, disability groups, Women's Institutes, sheltered housing groups, sports teams, football supporters, cinema groups and shuttles to country fares and other local events. A group of Manchester United fans living in the locality hire a minibus to travel to Old Trafford on Saturdays, they previously drove in 12 separate cars. This uses a minibus at a time when it would not otherwise be used by other groups. Some community groups make trips several times per week and others use a minibus on a one-off basis.

Figure 6 – Hayfield Community Minibus (Source: Hayfield Sustainable Transport Limited)

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To use the minibuses, a group must register with HSTL and be a not-for-profit group or organisation. The groups provide their own drivers. Some drivers are happy to drive for other groups but that is arranged between them.

Bookings are made and paid for via a simple on-line calendar on the HSTL website.

This has recently changed to use the SuperSaaS scheduling system because it provides an API (Application Programming Interface) that enables the availability of the community minibus service and availability to be shared with other journey planning systems. This means that any future Mobility as a Service (MaaS) platform will be able to incorporate the community minibuses into their subscription service.

Outcomes

In 2018, 300 separate vehicle bookings were made. With an average occupancy of 14, this provided 4,200 passenger round-trips during the year.

The service has enabled much higher team participation in sports events for the schools. A pupil who uses a wheelchair is now able to take part in field trips. A range of groups with disabled members have been able to organise excursions, and a cinema group has been created to travel to a cinema in a neighbouring village. Many of the groups using the minibus previously made their journeys in multiple private cars, such as sports teams and cinema group.

Further Information

CoMo UK

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3. School Buses and Transport

Key Takeaways

- Provision of Home to School Transport up to the age of 16 years old (Year 11) is a statutory requirement on Local Education Authorities, so long as the children meet set minimum criteria;
- Provision of Home to School Transport post-16 is not a statutory requirement, but local authorities must 'act reasonably, taking account all relevant matters;'
- School buses can be combined with other service offerings to offer a public transport service, but only at set times

Summary of the concept

Under the law, every child has the right to be provided free Home to School transport between the ages of 5 and 16 (or Year 11), so long as they meet criteria set out in legislation. According to official Department for Education guidance, Local Education Authorities must provide free Home to School Transport to their nearest qualifying school if any of the following criteria are met:

- if their nearest suitable school is beyond 2 miles (if below the age of 8), or beyond 3 miles (if aged between 8 and 16);
- children who cannot reasonably be expected to walk to school because of their mobility problems or because of associated health and safety issues related to their special educational needs (SEN) or disability10. Eligibility, for such children should be assessed on an individual basis to identify their particular transport requirements;
- children who cannot reasonably be expected to walk to nearest suitable school because the nature of the route is deemed unsafe to walk;
- where pupils are entitled to free school meals or their parents are in receipt of maximum Working Tax Credit if the nearest suitable school is beyond 2 miles (for children over the age of 8 and under 11), the school is between 2 and 6 miles (if aged 11-16 and there are not three or more suitable nearer schools), or the school is between 2 and 15 miles and is the nearest school preferred on the grounds of religion or belief (aged 11-16).

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At their own discretion, Local Education Authorities can exceed these requirements. Nor does the guidance or legislation state what type of services are provided. In rural areas, this is often a dedicated school bus or taxi service, but can also include free bus passes for local bus services paid for by the Local Education Authority, or subsidised rides with parents.

Young people are required by law to be in education or training until the age of 18. All Local Education Authorities must do is prepare an annual statement which sets out how they will provide any free transport for young people. But they are not required by law to provide this transport. Government guidance states that Local Education Authorities "must act reasonably, taking into account all relevant matters, such as the needs of their population, the local transport infrastructure and the resources available."

Compared to other areas, children who live in rural areas are more likely to travel to school by school bus and local buses, as well as being much more likely to have been driven by their parents. They are also much less likely to walk and cycle to school.
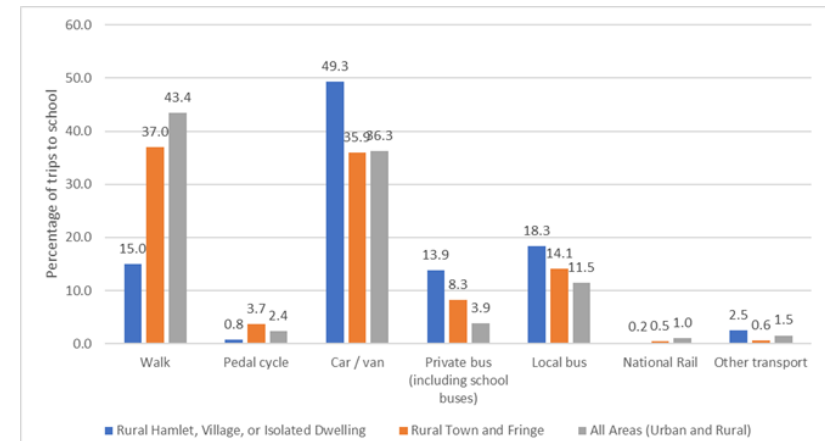
Figure 7 – Percentage of school aged children (5 to 16 years old) who travelled to school by each mode and rural-urban area classification in 2018

This means that, in many instances, the school bus network can act as the main rural public transport network. On some occasions, school buses can be made available for use by the general public, with the Local Education Authority subsidising services at school pick up and drop-off time. This poses a challenge, in that buses dedicated to school transport are unavailable for other duties at peak times. In Sweden, for example, the school bus is a separate vehicle to the public transport network, although this is currently under review. In the Netherlands there are no school buses as it's expected that pupils walk or cycle to school, although when there is poor weather, the public transport network is available.

School transport can also include a minibus or taxi for dedicated routes. Subject to successful tendering, these vehicles may start from a depot some miles away from their route, thus during that period they aren't licensed to provide transport. Subsequently their emission level for the routes can be significant and it's a lost opportunity to rural dwellers.

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In Scotland, the Scottish Government introduced in January 2021, the Young Persons (U22) Free Bus Travel card, which allows those in full time education, free access to public buses. The card can be integrated with the Young Scot card which is used for school meals through to discounts at retailers.

Current situation in the Transport East Area

Each Local Education Authority has their own rules for Home to School Transport, which generally accord with the statutory minimum guidance. The respective Home to School Transport policies can be found here:

- Essex County Council;
- Norfolk County Council;
- Southend-on-Sea City Council;
- Suffolk County Council;
- Thurrock Council.

Additionally, both Norfolk and Suffolk County Councils provide route maps and/or timetables of all of their Home to School Transport services. It should be noted that these routes can vary from school year to school year, and even from term-to-term:

- Norfolk Home to School Transport Routes and Times;
- Suffolk County Council School Bus Timetables.

All Councils offer to pay for local bus passes or rail season tickets should local buses or rail services provide a cheaper option that is accessible.

When assessing spend for the most recent year (2020/21), all of the most rural counties in the Transport East area (Norfolk, Suffolk, and Essex) both spent the most on home to school transport, and spent more per head of population.

Table 3 – Gross and per pupil net expenditure on home to school transport services across the Transport East area

Spend on Homes to School Transport by local authority		Gross expenditure (2020/21)	Per pupil net expenditure (2020/21)
Home to school transport (pre 16): Special Educational Needs transport expenditure	Essex	£17,978,735	£75
	Norfolk	£26,610,741	£207
	Southend-on-Sea	£1,993,933	£62
	Suffolk	£13,795,118	£126
	Thurrock	£1,807,345	£58
Home to school transport (pre 16): mainstream home to school transport expenditure	Essex	£11,990,999	£52
	Norfolk	£17,398,265	£126
	Southend-on-Sea	£57,306	£1
	Suffolk	£14,516,192	£133

	Thurrock	£1,043,813	£33
Home to post-16 provision: Special Educational Needs/ Learner with Learning Difficulties or Disabilities transport expenditure (aged 16-18)	Essex	£1,780,007	£7
	Norfolk	£4,884,854	£36
	Southend-on-Sea	£101,534	£3
	Suffolk	-	-
	Thurrock	£813,575	£26
Home to post-16 provision transport: mainstream home to post-16 transport expenditure	Essex	£119,402	-
	Norfolk	£1,524,409	£8
	Southend-on-Sea	£19,102	-
	Suffolk	£667,407	£6
	Thurrock	-	-

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Case Studies

Smartcards for School Transport, Cambridgeshire

Key takeaway

The use of Smartcard technology can monitor usage in real time, and so the types and operations of services can be more easily varied over the course of the school year. This can also lead to operational savings.

Description

Work on reviewing the school bus networks to Ely College, Soham Village College and Witchford Village College was undertaken during spring/summer 2016. Once formal approval for the pilot was received, arrangements were put in place to introduce the revised routes from September 2016.

In order to mitigate the risk of there being insufficient space for pupils on any given bus, it was proposed to replace standard printed tickets with smartcards. Pupils would touch in on boarding, in a similar way to Oyster in London or a contactless payment card. The readers fitted to each vehicle would record and transmit the number of pupils travelling on each trip, providing data that would allow trends and potential overloads to be identified.

Outcomes

As of autumn 2016, the project was assessed to be delivering a saving of more than 15% in the pilot area. This was achieved without removing any student's entitlement to transport, or any fundamental change in policy. The focus was instead on removing capacity that was, in reality, unused.

The potential to apply this approach on a county-wide basis was considered by members and senior officers, and a business case was produced during the autumn of 2016. This recognised that increased staff time had been key in reviewing networks in the pilot area and managing the

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change process. The resultant transformation bid therefore included a budget for two additional staff from April 2017 and the extension of the fixed term Project Manager role.

Further Information

[Mainstream School Transport: Case Study](#)

Endeavourcard, Suffolk

Key takeaway

Targeted discounts and youth fares are available to young people, so long as they are supported by the local transport authority.

Description

The Endeavour Card is a smartcard for 16 to 19 year olds for whom travel may be a barrier to get to work, training or education. The Endeavour Card contributes to Suffolk County Council's Raising the Bar initiative, to raise the attainment and aspiration of young people in Suffolk, and better match their skills with future jobs.

16 to 19 year old Endeavour Card holders are entitled to a minimum 25% discount off the price of a full adult fare on all participating services. Endeavour Card holders can make cashless payments on public transport services that accept the card. The card has a stored cash value and online top-up ability. This enables parents and others to ensure young people can pay for their transport.

Outcomes

Two cards have so far been launched. The 16-19 card is for 16-19 year olds across Suffolk. The Park and Ride Card is for users of the Ipswich Park and Ride service. There has been no assessment of its impact to date.

Further Information

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[Endeavourcard](#)

TRANSPORT**EAST**

4. Shared ownership of vehicles

Key Takeaways

- Shared ownership of vehicles is where vehicles are collectively owned by their local community, in a way that is beneficial to the community at large;
- A common example of this is community car clubs, where community organisations share ownership of vehicles to undertake their normal business.

Summary of the concept

Shared ownership is often considered as part of the sharing economy, which focuses on the sharing of under-utilised assets that are often privately owned, in a way that can be monetised. When in fact shared ownership refers to a collective ownership of assets by communities, and often in a way that is beneficial to the community at large, with community organisations and members being able to utilise the assets when needed.

In transport, the most obvious example of this shared ownership is the collective ownership of vehicles. Through local authorities, community interest companies, or local voluntary groups, vehicles such as minibuses can be made available for people within that community to use whenever they need it. This can be made available to members of the public, but are primarily made available to local voluntary organisations. This gives the advantage of pooling the capital and operational costs of vehicles, and enhancing the utilisation of those vehicles by making them freely available.

Whilst in practice this may seem simple, there are legal issues associated with this. Different uses of vehicles are subject to different vehicle and driver licensing requirements, which may act as a barrier to vehicles being used for multiple purposes. For example, a community bus may be utilised for home to school transport services during the morning and late afternoon, but be used for community transport services during daytime, all of which require different operational and driving licences.

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Communities may also band together to establish shared community resources that can minimise trips through providing localised resources in rural areas. Examples of such resources include community shops, community post offices, Libraries of Things, and community banking facilities. This often requires partnering with larger organisations, such as banks or the Post Office, to help deliver such services.

It is well known that in rural areas, informal car journeys regularly take place. Neighbours or friends ask or offer for a lift to a destination be that the shops, doctor or work. One type of mobility often overlooked is that of Hitchhiking. Traditionally this form of travel was viewed as a method which required the passenger not to pay and 'thumb it' to a destination. What was once a popular mode of transport, declined due to perceived risk travelling with strangers. In recent years there has been a return to the idea with the use of technology. In the early 2010's CarPLus, now CoMo UK, shared projects which utilised facebook to check and link the passenger/driver. This has been taken forward by a SMARTA case study based in France which used the platform Rezo Pounce.

A related concept is volunteer car sharing, sometimes called community car sharing. This is where volunteers, who have successfully passed an Enhanced Criminal Record check, are able to drive people to and from their destination as an informal taxi service. Sometimes, these drivers are compensated for their time and effort, often at the existing tax rate per mile (45p).

Current situation in the Transport East Area

Shared ownership of vehicles is relatively sparse across the Transport East Area in comparison to the likes of Community Transport. Where community car schemes have been put in place, they are typically to serve a small village or confined area. Many of the services also offer a volunteer driver scheme.

Table 4 – Community Car Schemes across the Transport East area

Area	District	Operator	Type
Norfolk	*Rural Districts*		
	Breckland	**Beetley Parish Council Community Car Share**	Community car share

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Area	District	Operator	Type
		Dereham Town Council Community Car Scheme	Community car share scheme serving the residents of Dereham
		Greater Hockham Parish Council Community Car Share Scheme	Community car share scheme for Greater Hockham residents to medical appointments only.
		Swaffham Community Car Share Scheme	Community car share serving the residents of Swaffham
	Broadland	**Castle Acre Community Car Share Scheme**	Community car share scheme serving Castle Acre Parish
	Kings Lynn and West Norfolk	**Great Massingham Community Car Share**	Community car share covering the Great Massingham area
		West Norfolk Community Transport	Community car share with volunteer drivers
	Urban Districts		
	Great Yarmouth	**5 Villages Community Car Scheme**	Community car share scheme
Suffolk	*Rural Districts*		
	East Suffolk	**Coastal Accessible Transport**	Community car share scheme across East Suffolk
		Felixstowe Area Community Car	Community car share, primarily for medical and shopping trips around Felixstowe
		Suffolk Waveney Community Car	Community car share scheme covering the Waveney Valley

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Area	District	Operator	Type
Essex	*Rural Districts*		
	Tendring	**Social Car Scheme**	Community car clubs operating throughout Tendring
	Urban Districts		
	Castle Point	**Castle Point Social Car Scheme**	Community car scheme that provides accessible transport

There are no standards adopted regionally or at the Council level in relation to community car schemes. Although there is national guidance from CoMo UK, including a **Community Car Club Handbook** that covers most of the basics of operating a service.

Case Studies

Speyside Community Car Share, Scotland
Key takeaway
Community car schemes focus a lot on the most essential trips, notably for health.

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Description

The Speyside Community Car Share Scheme aims to promote the welfare and relieve the needs of those in the community who are socially isolated by reasons of age, infirmity or disability through the provision of a volunteer-based transport service. The service relies on donations, sponsorship and grant funding to operate the phone lines and volunteer car mileage.

Figure 8 Operational area of the Speyside Car Sharing Scheme (Source: Speyside Community Car Sharing Scheme)

Outcomes

There are currently over 20 volunteer drivers who support members within a c.600 square mile area, and over 60% of journeys are to medical appointments. Before joining, some of the members had not been to a social gathering, community event or even a local shop for some time, but with the aid of the Speyside Community Car Sharing Scheme they are once again able to take a more active part in their community.

Further Information

Speyside Community Car Share Scheme

Car Bute, Scotland

Key takeaway

Car share schemes in rural areas are likely to be low utilisation but give significant community benefits.

Description

Car Bute is operated by Fyne Futures, a charity and not-for-profit on the Isle of Bute. It has one Toyota Yaris situated in the main town of Rothesay on the island. The car club has been operating since 2011. Over the nine years of operation, it has been reviewed and developed to ensure it serves the main objectives of Fyne Futures: to reduce carbon emissions and support the community.

The initial idea for a car club resulted from a study undertaken with Caledonian University to establish Bute's carbon footprint and seek input from residents on options to reduce emissions. Using the outputs from this study, they tested and trialled different options in feasibility studies and pilots. The initial proposal to run the car club was led by a separate organisation, which then handed the project over to Fyne Futures. They secured more funding to ensure the car club was properly resourced with a part-time member of staff and created a marketing plan and brand for 'Car Bute'. The plan was to run

Figure 9 – Car Bute (Source: Car Bute)

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the scheme for six months and then evaluate progress and determine
if the car club was viable.

Outcomes

In the first six months the car club recruited 40 members, of whom 10 disposed of their car due to the car club. The marketing of the scheme focuses on the potential financial savings for people who drive fewer than 3,000 miles per year. Whilst usage was low (especially compared to those who reported they would use it) they found that people were walking and cycling more, delivering greater reductions in emissions.

Since February 2019 134 people have used the shared car scheme, covering nearly 14,000 miles, and providing a revenue of nearly £10,000. Fyne Futures see that the primary reasons for operating the car club are environmental and community improvement, not financial

Further Information

CoMo UK

TRANSPORTEAST

Rezopouce, France

Key takeaway

Hitchhiking can be used as a means of encouraging the use of sustainable transport in rural areas.

Description

Rezo Pouce, daily hitchhiking is an association and a cooperative society of collective interest (SCIC). The association Covoiturons sur le Pouce is helped create the solution. Since 2010, it has been developing, experimenting, correcting, so that each territory that joins benefits from its expertise.

Since 2015, SCIC have been working to make hitchhiking a mode of travel like any other. So that everyone can move when they want, where they want. The way it works is that a driver or passenger sign up on the app or website. Those with a car are provided with a sticker as a form of identity for the passenger. Once your trip is registered the software matches the 'ride' and the passenger is collected from a predetermined collection point. Usually these are small green signs, but in some areas, village benches have been used as predetermined points. Similar to DDRT or taxi applications, the passenger is also provided with live tracking and a number plate.

Outcomes

Over 1500 municipalities in France have been using the platform. Average wait times are between 5-10 minutes in a rural area. 75% of the trips are below 10 km and young people who haven't a driving licence benefit the most.

Further Information

Rezopouce

TRANSPORTEAST

5 Car sharing and car clubs

Key Takeaways

- There are several car sharing and car club offerings across the Transport East area, but they are primarily focussed on urban areas where the number of trips make such operations commercially viable;
- In rural areas, community car share and volunteer drivers are much more prevalent, focussed on providing access for essential trips

Summary of the concept

Car sharing, ride sharing, ride-pooling, and car clubs are often used interchangeably as terms. In this context, we refer to car sharing and car clubs as that of a car being available to pay per trip as you go, rather than 'hire' a car for a full day. These club's can be organised in a variety of ways, for example through the private sector with Co-wheels, Zipcar or Enterprise or owned by the community. There are over 78,000 car club members in the UK and around 5000 vehicles.

Within rural areas, there are a number of models that tend to operate, but are usually grouped under 4 key headings. These are

- Arranged car pooling - trips to a workplace or over long distances where people make arrangements prior to undertaking the trip, including times and days of pick up and potentially sharing of costs (e.g. fuel)
- Closed network carpooling - trips to and from a workplace, school, or other destination that are administered on a closed platform that is only available to people who are members
- Ad-hoc ride sharing and hitchhiking - less common, but not unheard of in the UK, and in Europe some countries have sought to formalise hitchhiking through the provision of stops
- Car clubs - whereby one or a number of vehicles are made available for a community to use in an accessible location, and can be hired by registering and booking in advance.

The most common method by which the above is facilitated is through a platform such as Liftshare. Indeed, key to their success is a registration platform for both passengers and drivers, ideally with a method of verification of identity, and a marketing campaign to encourage sign ups and trips. Registrations are usually handled by the platform, but can also be handled by local organisations.

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A necessary prerequisite is having a 'network effect' that provides the density of trips to make for an active ridesharing community, and in the case of car clubs provide the necessary number of trips to make the car club financially viable. Costs can be shared by organisations pooling resources to purchase single platforms or technologies that serve a number of locations.

It also needs to be remembered that ride sharing often takes place in an informal and unstructured way. The National Travel Survey estimated that in 2021, the average person in the East of England made 181 trips as a passenger in a car, only behind driving a car (357 trips) and walking (248 trips). Many of these trips are informally arranged through friends, family, and even co-workers.

In rural areas, the commercial model of car sharing is often difficult to achieve because of the lack of necessary scale of trips for the services to work economically. Within a rural context, car clubs typically work in one of two instances. The first is where there is a significant trip generator or attractor that provides the critical mass of trips necessary to commercially support a car club, for example an employer or a new development.

The second, and more established, is focussing on social value social value, as opposed to getting a financial return. Such clubs often have greater involvement of councils and associations, involve volunteer drivers, and are sometimes topped up with subsidies and voluntary contributions.

Cultural acceptance of carsharing services plays an important role in generating sufficient demand. For those driving and owning a car, a switch to carsharing may break current social norms and may be associated with a certain degree of dependence, uncertainty or insecurity. Lack of public awareness and familiarity also affects acceptance and use, as people often do not fully understand the function and benefits of carsharing.

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Current situation in the Transport East Area

Car sharing services range from small informal arrangements, for example at workplaces, to larger platforms delivering car sharing services at scale. One platform is ubiquitous across the region: Liftshare. Liftshare communities have been established for **Norfolk**, **Suffolk**, and **Essex**. The current membership of each is as so:

Peer-to-peer car sharing platforms are present in the Transport East area, and from a search of their websites some cars were available in rural areas. However, the true number of these is unknown. These peer-to-peer platforms are **Hiyacar** and **Getaround**.

A number of car clubs are established across the Transport East area, with the majority of them established in urban areas. Nearly all of the car clubs offered have been delivered alongside new developments, and there are only two car club operators prevalent in the Transport East area: Co-wheels and Enterprise.

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Table 6 – Car Club operators across the Transport East area

Location	Operator	Area served
Brentwood	**Co-Wheels**	New development in a large town, but open for anyone to join
Bury St Edmunds	**Enterprise Car Club**	New development in a market town (Houghton Way), but open for anyone to join
Chelmsford	**Co-Wheels**	New development in a small city (Hill Court), but open for anyone to join.
	Enterprise Car Club	A variety of locations associated with new development in Chelmsford, but open for anyone to join.
Colchester	**Enterprise Car Club**	A new development in a small city, but open for anyone to join
Dereham	**Enterprise Car Club**	A small town in a largely rural area
Ipswich	**Co-Wheels**	New development in a large town (Stoke Quay), but open for anyone to join.
	Enterprise Car Club	New development in a large town (Ipswich Waterfront), but open for anyone to join
Norwich	**Enterprise Car Club**	A wide variety of locations across Norwich, but open to all Norfolk residents
Southend-on-Sea	**Enterprise Car Club**	Car club serving a small city, that is open to all

In addition to these car clubs, there are a number of community car share schemes operated by volunteer drivers, that offer people lifts to and from critical destinations such as hospitals and for food shopping. This model is much more prevalent in the rural areas of the Transport East area, due to the lower operating costs.

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Table 7 – Community Car Share across the Transport East area

Area	District	Operator	Type
Norfolk	*Rural Districts*		
	Breckland	**Beetley Parish Council Community Car Share**	Community car share
		Dereham Town Council Community Car Scheme	Community car share scheme serving the residents of Dereham
		Greater Hockham Parish Council Community Car Share Scheme	Community car share scheme for Greater Hockham residents to medical appointments only.
		Swaffham Community Car Share Scheme	Community car share serving the residents of Swaffham
	Broadland	**Castle Acre Community Car Share Scheme**	Community car share scheme serving Castle Acre Parish
	Kings Lynn and West Norfolk	**Great Massingham Community Car Share**	Community car share covering the Great Massingham area
		West Norfolk Community Transport	Community car share with volunteer drivers
	Urban Districts		

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Area	District	Operator	Type
	Great Yarmouth	**5 Villages Community Car Scheme**	Community car share scheme
Suffolk	*Rural Districts*		
	East Suffolk	**Coastal Accessible Transport**	Community car share scheme across East Suffolk
		Felixstowe Area Community Car	Community car share, primarily for medical and shopping trips around Felixstowe
		Suffolk Waveney Community Car	Community car share scheme covering the Waveney Valley
Essex	*Rural Districts*		
	Tendring	**Social Car Scheme**	Community car clubs operating throughout Tendring
	Urban Districts		
	Castle Point	**Castle Point Social Car Scheme**	Community car scheme that provides accessible transport

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Case Studies

Huntley Green Travel Hub

Key takeaway

Car clubs can be provided as part of a comprehensive mobility hub and improving access to transport

Description

Huntly and District Development Trust run the Huntly Green Travel Hub (HGTH) which includes three low emissions cars, 24 e-bikes and a community mini bus. The organisation has a broader green initiative, including a farm and eco-bothy, sustainable regeneration, and work on active travel routes.

The group developed HGTH to provide more sustainable travel options for the local community. The cars are located in Huntly: one at the train station, one in the town square, and one at the Market Muir Car Park near a major road into the town. The e-bikes are kept in a building that is in the process of being redeveloped. The e-bikes are rented out on weekly or monthly contracts, rather than on a short-term (hourly or daily) basis.

Outcomes

The scheme was launched in 2015 and the vehicles were replaced in early 2018. Since then they have driven 23,500 miles, which equates to around 783 miles per month travelled by car club users. The car club has 70 members, with 10 core users from whom the car club has replaced their vehicles, meaning 10 cars removed from the road. There are around 20 members who use a car once a month, and the remaining members use the car on a one-off basis.

Further Information

TRANSPORTEAST

CoMo UK

Mull and Iona Lift-share, Scotland

Key takeaway

Community-based car sharing can be developed and become sustainable, so long as the solution is community based/

Description

Information from **CoMo UK**

Mull and Iona Lift-share was set up in July 2015 to encourage residents of the island to share car journeys, as an outcome of the Mull and Iona Sustainable Transport (MIST) project which explored a number of opportunities for promoting sustainable transport on the island.

Having examined the appropriateness of existing commercial ride share solutions, it was felt that these were either too impersonal or too expensive to deploy and so it was decided to develop the platform themselves using Facebook. Another community group had reported great success at using Facebook and it was known that the platform was well-used by islanders.

"Teamup" – a free to use online group calendar is used for offering, requesting and matching lifts, accessible via a direct link from the Facebook group. The group is 'closed' meaning it is not visible to the public and requires approval to join. Members have to be residents of Mull and Iona and over 18 to qualify. A code of conduct was developed and distributed to all members.

Outcomes

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The membership grew to 455 over its first 7 months of operation. By the latter half of this period an average of 50 lifts were being offered or requested each month. During this time, a total of 37,640 km were offered, with 14,622 km taken.

The MIST project calculated that this generated a carbon saving of 3,404kg over the first 7 months of operation.

Membership of the group is skewed towards women (69%). Whilst usage is strongest amongst the 25-34 age range, it has good levels of usage amongst all age groups.

Further Information

CoMo UK

Teviot Electric Car Club (TECC)

Key takeaway

Need a core team of committed staff to make a rural car club work

Description

There are 2 EV in this car club, which formed in 2020 and can be found in Hawick in the Scottish Borders. As a new car club, the case study has been included for three reasons 1. the cars are solely electric 2. The launch timing clashed with the start of the COVID-19 pandemic and 3. It is run by a group, not a commercial organisation.

Outcomes

The cars have been located beside other transport infrastructure, such as a bus stop, as a step towards creating a 'hub' and integrated transport. Additional charging points have been installed but challenges faced due to the rural location and lack of address. The group also highlight that 3-4 people and a dedicated manager are required to operate the club.

Further Information

CoMo UK

## Huntley Green Travel Hub

Key takeaway

Decarbonising the commute is vital for enabling large businesses to meet their sustainability goals.

Description

Mobilityways is a climate tech company on a mission to make zero-carbon commuting a reality. It uses its innovative technology to help organisations measure, reduce and report commuter emissions.

London Stansted Airport is the biggest single-site employer in the East of England, with over 10,200 people working for 200 on-airport companies. As such, it is a key catalyst for economic growth and productivity in the region. Stansted intends to be a carbon-neutral business by 2038, and the Liftshare For Work car-sharing solution from Mobilityways is a part of this vision. Commuting is responsible for 5% of the UK's total CO_2e emissions (18 million tonnes a year), meaning it is critical for employers with net-zero goals to decarbonise the commute of their employees.

London Stansted has been successfully using Mobilityways' Liftshare For Work platform to encourage its people to commute more sustainably and travel to work together in the same car. 3,620 employees have become members of the Stansted

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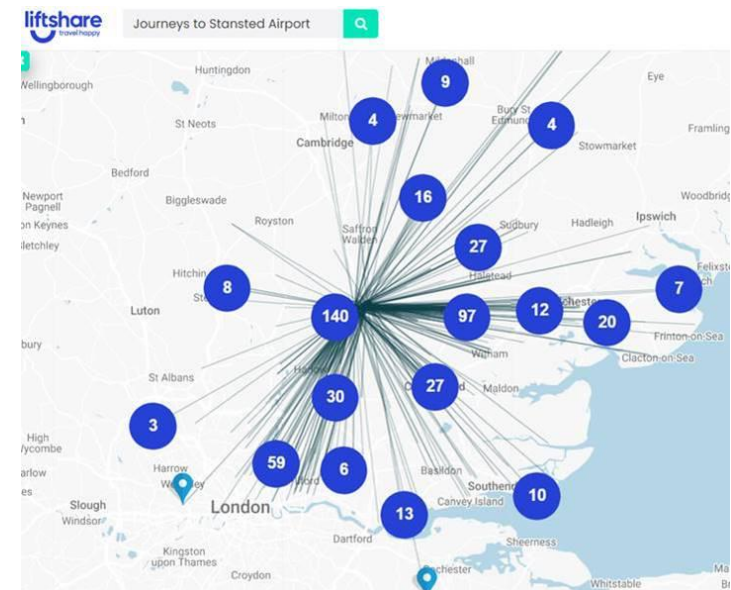
Liftshare community, helping the organisation to develop car sharing as part of its culture.

Once they have become members of the Stansted Liftshare Community, employees can locate colleagues to share their commute with, saving both money and greenhouse gas emissions.

Cassandra Harvey, Stansted Airport Travel Plan Manager, said: "Stansted Liftshare is a great way of our employees being able to utilise closer parking, save money, socialise and reduce stress of driving or travel. This in turn helps offset carbon emissions and has delivered sustainable benefits to our company."

Outcomes

London Stansted Airport's Liftshare community has not only helped the organisation with its net-zero targets, but also saved its employees money.

It is estimated that throughout Mobilityways' partnership with Stansted Airport, 87 million miles have been saved by staff sharing a car, rather than driving to work separately. That has resulted in a total reduction of 19.7 thousand tonnes of CO2e emissions, and £22 million saved on fuel by employees who have chosen to use Liftshare.

Further Information

MobilityWays

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6. Cycling Infrastructure Improvements

Key Takeaways

- The lack of high quality, segregated cycle infrastructure is an issue facing many rural areas, including across the Transport East area;
- Any best practice is usually limited to smaller towns, and some abandoned railway lines, though the National Cycle Network is extensive across the area;
- New guidance in Local Transport Note 1/20 is becoming stronger on ensuring that all transport projects actively consider the needs of cyclists.

Summary of the concept

Cycling in rural areas can play a key role in providing last mile connectivity, especially for trips of up to 5 miles (about 30 minutes at a normal cycling speed of 10mph). This makes cycling ideal for connections within small towns and villages, and to some degree between settlements as well. It is also potentially very useful for accessing mobility hubs at railway stations, in town and village centres, and at bus stops. Data from the National Travel Survey shows that the average person living in a rural area takes slightly less trips by bicycle per annum than a person living in an urban area.

One of the most significant barriers is the lack of safe infrastructure. Research shows that road space reallocation, new cycle tracks, restrictions on car travel and reducing speed limits can have high costs, but have a significant societal and health benefit. What has not assisted is that planning for walking and cycling has typically been done from a focus on urban design, and not planning complete, seamless, and connected networks.

Whilst there is often a focus on significant new infrastructure, such as new cycle tracks, smaller, more tactical interventions can also improve
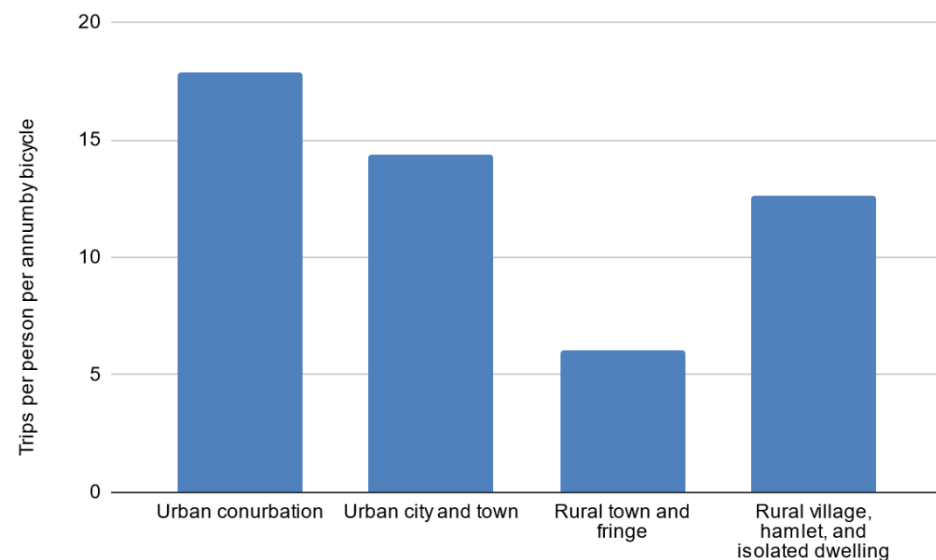
Figure 10 - Average number of trips per person per annum by bicycle and urban-rural classification

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the cycling experience. This can include bollards and tactical road closures to discourage through traffic, junction treatments that prioritise cycling, and pop-up parks that provide cycle parking.

A common tactic in rural areas of the UK is the reuse of abandoned railway alignments for cycle routes. These routes have the advantages of being segregated from traffic, having gentle gradients and good width, and often being in tranquil and attractive landscapes. This makes them attractive for leisure cycling, although in some instances these routes can continue into urban areas, providing a traffic-free route into towns and cities. However, these routes can often be severed by development, and can feel unsafe for many people due to their low use, especially at night.

A key challenge in the UK is the competencies to coordinate action and investment in cycling infrastructure. Active Travel England has been established to improve technical capabilities and designs, as well as to identify which authorities are performing well in terms of active travel. But the delivery of such infrastructure across an area is often a multi-agency affair, including (but not limited to) highway authorities, planning authorities, Sustrans, National Highways, Parish Councils, and local landowners. Additionally, **Local Transport Note 1/20 (Cycle Infrastructure Design)** is setting much stronger standards not just for cycling schemes, but for any transport improvements. To the point where schemes funded by government must demonstrate their compliance with LTN 1/20.

Finally, cycle infrastructure needs to be integrated into mobility hubs. There needs to be sufficient cycle parking and safe storage at mobility hubs to give people confidence to leave their bicycles there for an extended period of time. In some instances - primarily on the rail network - bicycles are allowed on vehicles, and so it needs to be easy to wheel bicycles through the hub and onto the vehicle.

Current practice in the Transport East area

Across the Transport East area, cycle infrastructure is primarily concentrated in the main urban areas, **notably Norwich, Ipswich, and Colchester**. In rural areas, there are a number of sections of the National Cycle Network, local cycle routes, long distance paths, and the rights of way network that make up the majority of rural cycling infrastructure. However, data on the quality and use of this infrastructure is lacking.

The Transport East area is crossed by numerous sections of the National Cycle Network. This includes **Route 1**, **Route 13**, **Route 16**, Route 30, Route 31, Route 50, **Route 51**, and **Route 150**. There are also a number of cycle tracks along old railway lines, notably the **Bure Valley Path** and **Marriotts Way**.

All the authorities across the Transport East area have also been successful in securing funding through the **Active Travel Fund**. However, it is unknown what percentage of this spend is being made in rural areas.

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Table 8 – Allocations from the Active Travel Fund across the Transport East area

Area	Active Travel Fund Allocation - Phase 1	Active Travel Fund Allocation - Phase 2	Active Travel Fund Allocation - Phase 3
Norfolk	£295,500	£1.498,150	£955,000
Suffolk	£376,519	£1,685,000	£3,918,947
Essex	£968,500	£7,358,700	£1,316,697
Southend-on-Sea	£309,000	£927,000	-
Thurrock	£288,000	£690,000	£616,000

Case Studies

The Highland Explorer Cycle Carriages, Scotland

Key takeaway

Existing infrastructure can be adapted to provide integrated transport.

Description

Train operator Scotrail has refurbished 5 carriages on its fleet of Class 158 trains that serve the West Highland Line between Glasgow and Oban. The refurbishment has resulted in one carriage on each train being able to hold up to 20 bicycles, or heavy luggage, for people travelling the West Highland Line. There is also space for tandem bicycles, and a charging port for e-bikes.

Figure 16-1 Highland Explorer Train (Source: ScotRail)

Outcomes

The carriages have been in operation for a year, and so lessons are still being learned as to how they are operating and their take up by cyclists. But feedback from ScotRail has been that they have generally been well received for providing a dedicated space for cyclists, and providing additional general capacity. Due to the success, the project has been extended to Mallaig.

Further Information

TRANSPORT**EAST**

ScotRail Highland Explorer

Creating accessible rural routes in Inverness

Key takeaway

Retrofitting existing routes can improve the accessibility of cycle infrastructure to all users.

Description

Physical barriers and space-limiting infrastructure, such as narrow footpaths, metal fencing and overgrown vegetation are normally no more than a minor nuisance to people travelling on bike or by foot.

But, because of Covid-19, they have become a major public health concern, as they make it much harder for people to physically distance when out and about. However, for those with additional mobility needs, this kind of infrastructure has always been an issue. And, whether steering a pram, a cargo bike, or a wheelchair, for many, trying to navigate these kinds of obstacles can be a major barrier to a simple journey.

Outcomes

In Inverness, the Highland Council, identified a number of these barriers along busy active travel commuting routes to the city centre.

They included Caulfield Road North, to the east of the city centre. This road links suburban communities with a number of essential services, including Raigmore Hospital, Insches Retail Park and the Inverness Campus.

The council replaced a large yellow gate with brightly coloured bollards in Resaurie, to make it easier for people to walk, cycle and wheel along the route.

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Meanwhile, at the other end of Caulfield Road North, at the entry way to Cradlehall Business Park, the council added a dropped kerb in the pavement. This has helped create a smoother and safer crossing point for all users.

Further Information

Sustrans Showcase

North West Greenway Network, Northern Ireland / Republic of Ireland

Key takeaway

Providing a network of routes is important in order to encourage cycling over a much wider area.

Description

The North West Greenway Network is a project led by Derry City and Strabane District Council working in partnership with Donegal County Council, Department for Transport, the Department for Infrastructure and Sustrans.

The North West Greenway Network is creating a cross border network of greenways across Northern Ireland and the Republic of Ireland. It aims to link people with places locally, regionally and nationally. It will improve people's' social, economic and environmental wellbeing.

The connected projects forming part of this scheme include the **Inis Eoghan Cycleway**, the **Foyle Valley Cycle Route**, and **a new Active Travel Hub in Derry**.

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Outcomes

To date, one route has been completed, and 2 are just starting construction. Active Travel Officers have also been active in the areas close to the planned greenways. Current data indicates that the overall objective to achieve a modal shift of 5.5% towards active travel is currently on track.

Further Information

Donegal County Council

TRANSPORT**EAST**

6 Walking routes

Key Policy Takeaways

- Walking is the most ubiquitous mode of transport, and is a part of all journeys, and placemaking is at the heart of making places better for those who choose to walk
- Walking is particularly suited for short trips within small towns and villages, many of which may have services within 20 minutes walking distance of the entire settlement;
- Elsewhere, improving walking routes and prioritising the needs of pedestrians in accessing mobility hubs may increase the accessibility of public transport and to wider services
- Walking is often seen as a tourist market to maximise in rural areas, especially long distance walking on well marked and navigable trails of significant natural interest

Summary of the concept

Walking is the most ubiquitous mode of travel, and is one that is undertaken regardless of how the majority of people travel - after all, even taking the car involves walking to the car park. In rural areas, it is often considered as a leisure activity to be undertaken on dedicated off-road footpaths and tracks. However, data from the National Travel Survey shows that walking for everyday activities is far more common, and is the default mode for first and last mile trips.

Data from the National Travel Survey shows that the overwhelming majority of walking trips are less than 2 miles in length, even in rural areas. This highlights one of the biggest barriers to walking in rural areas: distances. This is further exacerbated by the reducing number of services in rural villages, notably shops, healthcare, and education. This means that many of these trips transition from walking to a motorised form of transport (likely a car) as such services become more centralised in more urban areas.

Another common barrier to walking is the lack of safe and accessible walking infrastructure. Despite the adoption of design guides such as **Manual for Streets**, many pavements are narrow and do not provide adequate protection from nearby traffic. In many cases, pedestrians are forced to share the road with traffic, that is often travelling at high speeds. Having walking networks that are safe, and provide local connectivity, is critical to encouraging everyday walking.

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The public rights of way network can provide local connections and connections between villages - especially where the surface has been made accessible (e.g. hard surfacing). They can also have a value in terms of leisure walking providing economic activity. In Scotland, walking related expenditure exceeds £250 million per annum, primarily relating to mountaineering.

Long distance walking and hiking trails are often marketed as a local tourist offer. In 2015, Sport England estimated that the climbing, mountaineering, and walking sector alone contributes £3.2 billion to the national economy. Popular long distance footpaths in the East of England include Peddar's Way, the Essex Way, and the Angles Way.

In some smaller villages, Health Walks have appeared over the last five years. These in the main are run by volunteers and groups to provide a once a week opportunity for locals to meet and take a gentle walk. They are designed to help with isolation and to be accessible to all. The purpose of the walk maybe weight loss or for an older person who feels isolated.

Current practice in the Transport East area

All the local authorities across the Transport East area have adopted their own highways design standards, which have been influenced by best practice such as Manual for Streets, **Streets and Transport in the Urban Environment**, and the **Design Manual for Roads and Bridges**. Some have even adopted this guidance as part of their Local Plans, as summarised in the below table.

Table 9 – Highways Design Guidance across the Transport East area

Authority	Design Guidance	Adopted as part of the Local Plan?
Norfolk	**Highways guidance for development**	Partly
Suffolk	**Suffolk Design: Streets Guide**	Yes
Essex	**Essex Design Guide - Highways Technical Manual**	Yes
Southend-on-Sea	Generally refers to the Essex Design Guide	Unknown

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Thurrock	**Thurrock Design Guide**	Yes

Few of the design standards adopted make specific mention to rural issues, or specifically have rural sections within them. When considering design matters, all design standards refer to the need to be sensitive of the local context when designing schemes, prioritising vulnerable users (including pedestrians), and being secure by design. Some sections of specific guidance documents may also be more relevant to rural areas, for example the Essex Green Infrastructure Standards.

There is little publicly-available data on the quality of walking infrastructure, and people's satisfaction with it across the Transport East area. All local authorities are participants in the National Highways and Transport Survey, with only one authority publishing results, Norfolk. Even then, when reviewing the website, the link to the survey results was not working.

Most of the local authorities across the Transport East area have adopted their own Rights of Way Improvement Plans, and have online versions of their Definitive Maps of the Public Rights of Way Network. Links to which can be found in the below table. The only authority without a specific Rights of Way Improvement Plan is Thurrock. Meanwhile, the plans for Essex and Southend were adopted prior to 2010.

Southend is the only authority to not have an online version of its Definitive Map. However, it should be noted that all local authorities have a copy of their Definitive Map available (i.e. a paper copy) as required by law. Also, the major of public rights of way are mapped to **OpenStreetMap**.

Table 10 – Rights of Way Improvement Plans and Definitive Maps of the Transport East authorities

Area	Rights of Way Improvement Plan	Definitive Map
Norfolk	**Norfolk Access Improvement Plan**	**Norfolk Maps - Highways**
Suffolk	**Green Access Strategy**	**View Definitive Maps**
Essex	**Essex Rights of Way Improvement Plan**	**PRoW Interactive Map**

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Southend-on-Sea	**Southend Rights of Way Improvement Plan**	No online Map
Thurrock	No specific plan	**Thurrock Public Rights of Way Map**

Case Studies

Heart of Wales Line Trail

Key takeaway

Long distance walking trails can be more closely integrated with local railways, offering visitors the chance to walk along short sections. But this requires close engagement with community stakeholders.

Description

All information provided by the **Community Rail Network**.

The Heart of Wales Line Development Company set out to create a long-distance walking trail linked to the line, known as one of the most scenic in Britain. Their three core aims were to encourage sustainable tourism, encourage healthy outdoor activity and the use of public transport, particularly on the Heart of Wales Line, and promote local produce and local businesses/accommodation such as B&Bs, camping, cafes and pubs as part of the visitor experience.

Having secured a £5,000 grant, the development company commissioned consultants to carry out a feasibility study for the trail and formed a working steering group. It was subsequently agreed that the 140-mile route would run between Craven Arms and Llanelli, and would be written from north to south.

The criteria used to choose the route included;

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- choosing as enjoyable a route as possible with varied terrain and landscapes;
- making links to as many of Heart of Wales Line stations as possible;
- developing links to towns and stations, thus passing close to local and community-run businesses;
- highlighting links to historic sites and natural habitats;
- creating a journey that could be broken down into day sections.

The team consulted with a wide range of stakeholders, including four local authorities and Rights of Way teams, tourism and countryside bodies and local walking organisations. The route was initially researched on paper using Ordnance Survey maps and then walked on the ground using local knowledge.

Funds had to be raised for trail furniture including bridges, stiles, gates and waymarking, resulting in a successful crowdfunding campaign by the Heart of Wales Line Travellers Association entitled 'A Trail in the Making'. To complement the efforts of volunteers, financial support was also provided by Arriva/Transport for Wales, Network Rail, local and national walking organisations, local businesses and a community wind farm

Outcomes

The first part of the trail was completed back in 2017, and the launches of each subsequent section have all been accompanied by professionally led walks and talks from high-profile regional speakers. After further launches in 2018, the last Powys-based section of the route required further funds for significant new trail infrastructure. This final section, and therefore the full trail, was opened in March 2019 with a highly anticipated grand launch at Llandrindod Wells Station.

Further Information

Heart of Wales Line Trail

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Harrington Community Walkway, Cumbria

Key takeaway

Improvements to even short sections of routes can result in them being a catalyst for wider change.

Description

In early 2011, Cumbria County Council were approached by the local County Councillor regarding the development of a scheme to improve public footpath 262036 to encourage walking to school. The potential scheme subsequently moved across to the CA to design, manage and implement with the promise of technical support from the Area Highways
Team.

Once agreed, the scheme aimed to improve the entire length of public footpath 262036 and a short section of public footpath 262007 to facilitate both improved access to Beckstone Primary school and wider access opportunities for the local community. Public footpath 262026 was also recognised to have local historical significance; being a mineral railway line since 1879 which connected to an earlier waggonway dating back to 1760, supplying coke to
the steel works in Workington.

Outcomes

1384m2 of vegetation cleared as part of enabling work to provide clear sight lines for users
1.1km of path surfaced requiring the importation of 1000 tonnes of stone and aggregate.
100m of flooded path drained.
2 new ramps constructed to where bridge had been taken to provide easy access to school.
Increase in number of parents walking children to school and thereby reducing traffic congestion near school.
A local public house subsequently offered use of carpark to parents at school
Catalyst for further externally funded projects in the local area.

Further Information

TRANSPORTEAST

Cumbria County Council

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8 Shared Bikes

Key Policy Takeaways

- Shared bicycles are more likely to be successful in a commercial sense in areas where there is a high concentration of trips - larger rural villages and towns, employers etc.
- Public shared bike schemes in rural areas are likely to require ongoing revenue support, in additional to capital expenditure for infrastructure
- Public bike share is only one model of operation, with others including Bike Libraries, pool bikes, and hub-based bike share
- Successful bike share needs complimentary infrastructure improvements to encourage the use of bikes more generally.

Summary of the concept

Shared bicycle services can broadly be defined as any scheme where bikes, or e-bikes, are available to multiple users. They are commonly thought of in terms of the public bike share model - where a fleet of bikes is made available on street to the public to hire, usually for a fee. In reality, however, there are a variety of operational models for shared bikes. Most notably:

- The 'Bike Library' where bikes are available to check out from a single location, often for a small fee to cover the hire charge;
- Workpace pool bikes, that are available on demand for employees for a specific work place for work trips only;
- Hub-based bike share, where bikes are available to hire from a series of hubs, such as a railway station.

The challenge facing bike share in rural areas is that of scale. Bike share schemes that are expected to be wholly or partly financed through hire charges require a high degree of utilisation per bicycle. This typically favours locations with higher population densities and with a strong nucleus or centre that attracts and generates trips.

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The infrastructure needed to set up a small scale bike share scheme can be small - from as small as a single building to provide for maintenance facilities. Because of this, those that have been launched in rural areas generally tend to be through community and voluntary groups, aided through grants for infrastructure and the purchasing of the bikes.

The evidence indicates that it is not enough to simply launch a community bike share scheme, but many complimentary measures are needed to make using the bicycle the default option. Experience in the Netherlands, for example, highlights the importance of rural bike tracks and lanes to provide a safe cycling environment. Bike Walk Tompkins in Ithaca New York, meanwhile, offered cycle training courses to encourage people to use the local bike share service, to gain initial confidence in using shared bikes.

THE INNOVATIVE RURAL MOBILITY LANDSCAPE

Figure 6. Suitability of shared mobility types by population density and settlement type
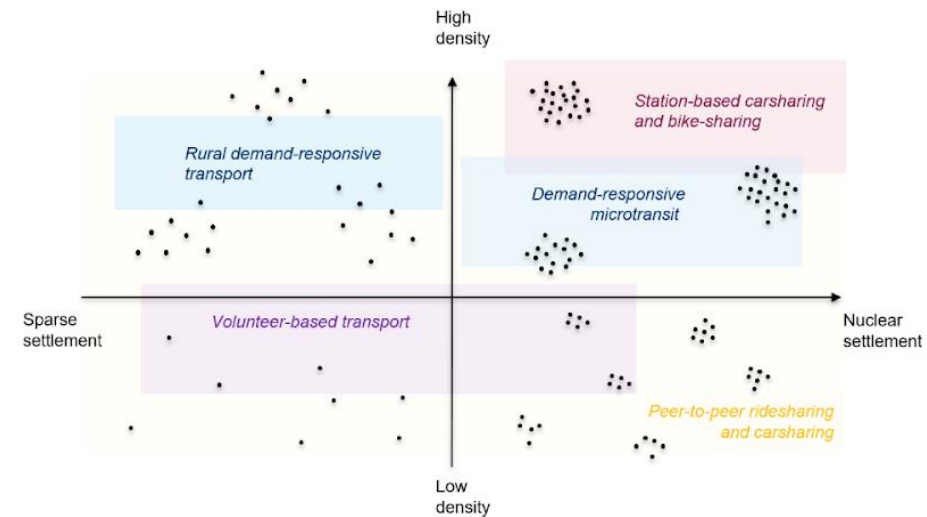
Note: The shaded areas show where certain provision models are generally best suited. Some settlement structures lend themselves to more than one model.

Figure 8-12 Different types of shared transport systems in rural areas by their need for density and settlement patterns

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Current practice in the Transport East area

According to **data collected by CoMo UK**, across the Transport East area, only one 'public' shared bike scheme is in operation: the scheme operated by **Beryl in Norwich**, which is also an e-scooter trial. The scheme consists of 400 bikes, 100 e-bikes, and 400 e-scooters across 93 bays across the city. What is interesting about this scheme is how its operational area also extends to the South West of the city towards the town of Wymondham, along a narrow stretch of Norwich Road serving part of the village of Hethersett.

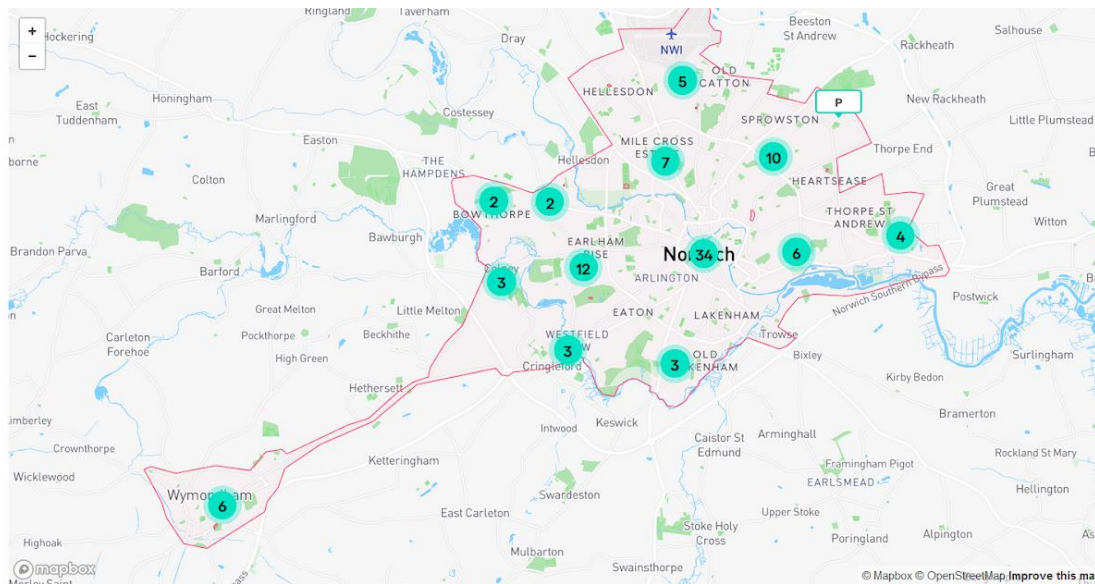Figure 13 – Current operational area of the Beryl Shared Bike Scheme in Norwich (Source: Beryl Bikes)

There are a number of cycle shops across the Transport East area which offer bicycles for hire, particularly in the areas which have higher visitor numbers. This includes the Norfolk and Suffolk Broads, Great Yarmouth, and Southwold. However, these are not considered to be public shared bike schemes.

Ipswich is home to the **Green Bike Project**. Provided by **Genesis Orwell Mencap**, this is a cycle reuse project that takes unwanted cycles, and teaches disabled or disadvantaged people to refurbish them and then use them for a variety of community uses including affordable cycle sale, cycle hire, pool bike schemes for local businesses and an exercise on referral scheme.

A similar project is being run in Essex called **Essex Pedal Power**. This project aims to distribute up to 1,300 cycles which have been refurbished, focussing on socially-deprived areas of Clacton-on-Sea and Jaywick Sands, a coastal village to the west of Clacton-on-Sea. The programme aims to make cycling accessible for everyone providing access to employment, training and educational opportunities or key local services, and will be expanded to 5,000 bikes across Essex.

Case Studies

Reeston and Craggley, Staveley, Cumbria

Key takeaway

Small scale community bike share can be established in a small village.

Description

Two community e-bikes have been made available for the residents of Staveley in Cumbria. Named Reeston and Craggy, after local landmarks, the 1600 residents of the village can hire the bikes to get around the local area. It has been described as the first village-scale bike hire scheme in the UK

Residents can join the scheme with six-month or annual subscriptions, costing £25 and £50 respectively, or pay a £5 per hour occasional user fee. The bikes are based at Staveley Mill Yard, a former mill that now houses a range of galleries, shops and crafts. The initiative is being run by Sustainable Staveley.

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The scheme was launched in October 2022.

Figure 14 – Hire Bikes in Staveley, Cumbria (Source: Unknown)

Outcomes

Current evidence indicates that both bikes are well-used during school holidays, with up to 1 person per day using them.

Further Information

Sustainable Staveley

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West Lothian Bike Library

Key takeaway

Long distance walking trails can be more closely integrated with local railways, offering visitors the chance to walk along short sections. But this requires close engagement with community stakeholders.

Description

West Lothian Bike Library is a not for profit, community interest company. They help people to get active and connected through cycling and associated activity. They aim to tackle inequalities in health by making cycling an activity for all, regardless of background, income or ability.

They deliver a variety of projects and activities that aim to improve health and increase independence, confidence, employability and skills. Where cost is a barrier to cycling, they donate and/or loan free of charge recycled bikes to those in need. The offer low cost repairs and sales of recycled bikes meaning more people can own a bike and keep it on the road cheaply, whilst raising funds to enable them to donate services to those who need them.

Figure 15 – West Lothian Bike Library parked outside a coffee shop (Source: West Lothian Bike Library)

Anyone can hire a bike for an agreed fee. Prices to hire the electric bikes specifically are:

- £10 for a half day's hire (up to four hours).
- £20 for a full day's hire (up to 7.5 hours).
- Group and weekly discounts are available.

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Outcomes

The library has donated in excess of 100 bikes, and delivers a regular programme of courses to help people to get confidence back while cycling. No data is available on their cycle hire specifically.

Further Information

West Lothian Bike Library

E-Move, Aberystwyth

Key takeaway

Rural bike share is not just about providing bikes for riding. They can be integrated with cargo bikes.

Description

E-Move is an electric cycle loan scheme for people living in Aberystwyth, Rhyl, Barry, Swansea, Newtown and their surrounding areas. This pilot scheme offers individuals a four-week loan of an e-bike.

The loan scheme is free of charge, and 20 e-bikes are available at each location. Electric cargo bikes are also available to businesses and organisations in Aberystwyth, Swansea and Newtown for up to three months.

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Figure 16 - Two women cycling as part of E-Move (Source: Sustrans)

Outcomes

After one year of operation, the following changes were observed by the participants in the scheme:

70% reported a positive impact on their health;
Active travel trips have increased by 25%;
Car trips have dropped by 39%.

Further Information

Sustrans

9 E-scooters

Key Policy Takeaways

- The impact of e-scooters on rural areas is currently unknown, due to the limited amount of trials in rural areas, and limited evidence on the impacts of e-scooters more generally
- The scope to deliver trials is currently limited to trials on private land, as it is illegal to ride e-scooters on public highways

Summary of the concept

Shared e-scooters are similar in concept to shared bicycles. The predominant model of e-scooters in the UK - a public shared e-scooter scheme - allows members of the public to hire an e-scooter through a smartphone app, for a set fee. The scooters themselves are powered by a battery, and do not require any pedalling on behalf of the rider, who controls acceleration and braking through the handle bars.

The extent of e-scooters is determined by their legality. In many countries, e-scooters are not covered by the various classes of vehicles which can use public roads. As a consequence, special licences are often issued by local or national government that give permission for e-scooters to operate in a specific area. This means that public authorities have a greater degree of control over e-scooters compared to other forms of mobility.

Currently, in the UK, public shared e-scooters can only legally operate on public roads in a set number of trial areas in England. Of these schemes, the vast majority are in larger towns and cities, with only 3 e-scooter trials having any meaningful rural element to them:

Figure 7: E-scooter utilisation by trial area (source: operator data), averaged over the lifetime of each trial
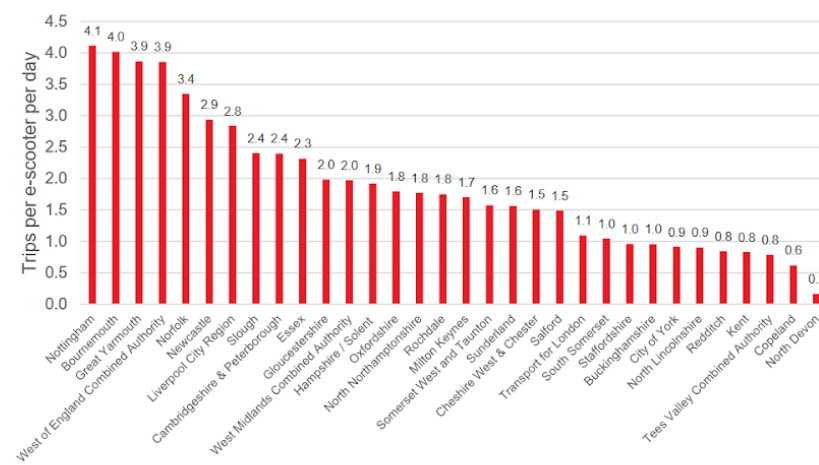

Figure 17 E-scooter utilisation by trial area

Whitehaven in Cumbria, the **Isle of Wight**, and **Princes Risborough in Buckinghamshire**. All other e-scooter use on the public highway is illegal, however it is legal to use e-scooters on private land. The Government has, however, indicated that it intends to bring in new laws to make the use of e-scooters legal on UK roads.

As e-scooters are a relatively new concept, the evidence of their impact is mixed, even in urban areas where they have been longer established. Initial evidence indicates that a significant issue is profitability. E-scooters require a high degree of utilisation to be profitable, and can lead to instances of them competing with complimentary modes like active travel. Users generally tend to be younger, male, and highly educated, and their impact on 'last-mile' journeys is uncertain.

In December 2022, the Department for Transport published the **National evaluation of e-scooter trials report**, providing an assessment of all of the national e-scooter trials to date. One of the rural-specific findings within the report was that trials with a significant rural element to them had a lower utilisation of scooters compared to urban trials. Additionally, the total number of trips in these trials tended to be lower than those in cities.

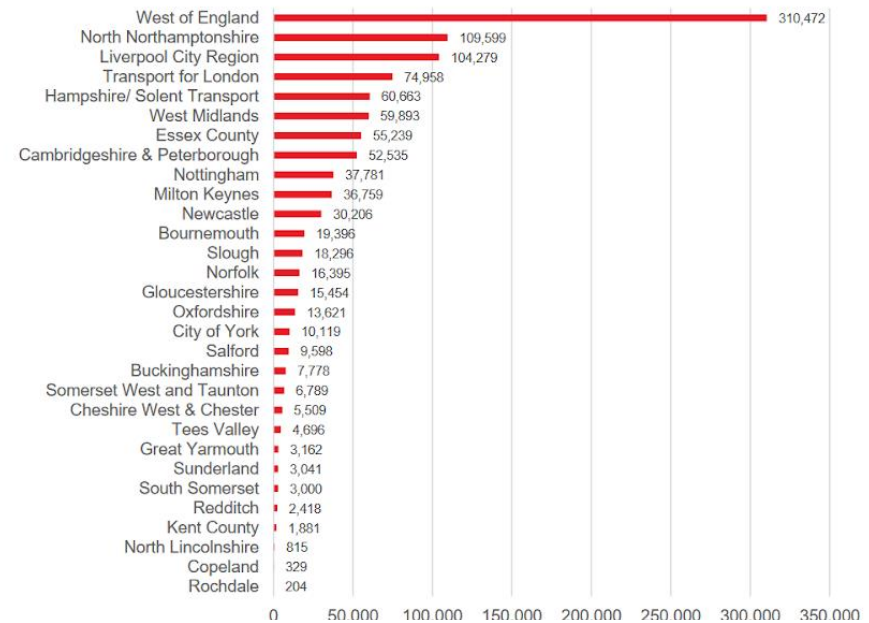**Figure 6:** Total trips in December 2021 by trial (source: operator data)[45]

Trial area	Total trips
West of England	310,472
North Northamptonshire	109,599
Liverpool City Region	104,279
Transport for London	74,958
Hampshire/ Solent Transport	60,663
West Midlands	59,893
Essex County	55,239
Cambridgeshire & Peterborough	52,535
Nottingham	37,781
Milton Keynes	36,759
Newcastle	30,206
Bournemouth	19,396
Slough	18,296
Norfolk	16,395
Gloucestershire	15,454
Oxfordshire	13,621
City of York	10,119
Salford	9,598
Buckinghamshire	7,778
Somerset West and Taunton	6,789
Cheshire West & Chester	5,509
Tees Valley	4,696
Great Yarmouth	3,162
Sunderland	3,041
South Somerset	3,000
Redditch	2,418
Kent County	1,881
North Lincolnshire	815
Copeland	329
Rochdale	204

Figure 9-18 Total trips by trial area

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Current practice in the Transport East area

In the Transport East area, all of the e-scooter trials are confined to urban areas, especially larger towns and cities. 3 of the trials in the Transport East area have closed (all of which were operated by Spin). Some data on the total number of trips made by e-scooter has been published, showing the Essex trials collectively had 55,239 trips in December 2021, Great Yarmouth had 3,162 trips, and Norwich had 16,395.

Table 11 – E-scooter trials in the Transport East area

Location of e-scooter trial	Operator	Current status	Estimated trips (December 2021)
Basildon	**Tier**	Open	55,239 (Essex County)
Braintree	**Spin**	Trial closed	
Brentwood	**Spin**	Trial closed	
Chelmsford	**Tier**	Open	
Clacton	**Spin**	Trial closed	
Colchester	**Tier**	Open	
Great Yarmouth	**Ginger**	Open	3,162
Norwich	**Beryl**	Open	16,395

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Case Studies

Beryl, Isle of Wight

Key takeaway

E-scooters in rural areas typically tend to be focussed around small to medium sized market towns due to the level of demand, and can be easily mixed with a shared bike scheme.

Description

In November 2021, Beryl launched an e-scooter trial on the Isle of Wight along with the Isle of Wight Council and Solent Transport, as part of the Solent Future Transport Zone. This is a public e-scooter scheme, available to any member of the public with a valid form of pavement and at least a provisional driving licence.

E-scooters are available to hire based on three different price tariffs. The Pay as you ride plan takes payment for the time which people ride the e-scooter. Minute bundles offer a collection of minutes for a discounted rate, and a Day Pass allows unlimited rides for 24 hours.

Figure 19 - E-scooters on the Isle of Wight (Source: Beryl)

Outcomes

The scheme has 85 e-scooters and 20 e-bikes, with the operational areas focussed on the towns and villages of Cowes, East Cowes, Ryde, Newport, Shanklin, and Sandown. The system is also integrated into the local **Breeze MaaS app**, which integrates different transport modes across the Solent.

Further Information

Beryl

TRANSPORT**EAST**

10 Mobility Hubs

Key Policy Takeaways

- Mobility Hubs in rural areas play a particularly important role in enhancing linkages to outlying areas through more extensive and efficient transport services;
- In rural areas, an important part of hub establishment is creating a centre of activity. This may mean that the best place for a hub may not be the best place in transport terms (for example in a village centre, as opposed to the railway station outside), and a focus on developing community activity;
- A co-creation approach to the development of hubs is particularly critical, and hubs should be developed as part of a network and not on their own merits individually;
- The more significant mobility hubs tend to be organised around regional train and bus stations

Summary of the concept

Mobility Hubs have many definitions, but can fundamentally be described as a location for switching between different modes of transport. In addition to enabling changes between modes of transport, in some instances services and community facilities are co-located at the hub or within a close walking distance of the hub. These can include cafes, shops, and delivery lockers, but also public services like health and local government.

Compared to transport interchanges, Mobility Hubs often have a more social focus to them. Often the aim is to create liveable, safe, and enjoyable locations, and not just places to change between transport modes. In some cases, they could re-invigorate small towns and villages as the natural hub for the area is the centre of the settlement.

What this means is that just because a place in a rural area is the most logical transport hub, does not mean that it can be the best mobility hub. For example, where the centre of a rural village has a number of shops and services within easy walking distance, but the main railway station of the village is outside the village, the village centre itself may be the most logical mobility hub in the area.

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This also leads to another aspect of rural hubs, in that developing the community and social activities surrounding the hubs is an important precursor. This may mean working with community groups and facilities to develop a hub of activity first before delivering the mobility hub. For example, greater use could be made of a community hall or the establishment of a community shop. These can be designed as part of mobility hub schemes, but they provide an important function by providing a focus of activity and not just a place to interchange.

Mobility Hubs in rural areas are especially important in building links between the hubs and nearby and outlying communities. These links can also increase the number of potential customers for surrounding businesses and allow new services to emerge. Building structures that fit into the local environment and culture are likely to increase acceptance and use. A co-creation approach in the spatial development process is important so that local businesses and users are included in the process, often leading to more ownership and acceptance of the project.

Mobility Hubs do require supplementary changes in transport services and infrastructure to support their role as central hubs. Public transport services in an area can be re-organised, and in some cases streamlined, so that hubs provide a natural focus and interchange point. Housing, cultural, and economic development strategies play an important role in supporting the role of the hub, especially when the principles of transit-orientated development are followed.

Promoting new versions of hub-and-spoke travel involves redesign of transport networks that requires long-term funding and a ramp-up phase of several years. However, policy and funding support for non-urban mobility hubs is concentrated in just a few countries, notably in Belgium, Denmark, the Netherlands and the United Kingdom (primarily in Scotland).

In its best practice guidance, CoMo UK identifies 6 success factors behind mobility hubs:

- A choice of sustainable access modes;
- Visibility and accessibility;
- Ease of switching between different modes;
- Safety;
- Practical facilities;
- Visual, social, and community appeal.

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CoMo has also produced **a variety of best practice guidance documents for delivering Mobility Hubs**. **As** part of the SMARTA project, two additional success factors have also been identified as particularly relevant to developing rural mobility hubs:

- Continuously upgrading hubs in a participatory way;
- Promoting the hub system among citizens via transport ambassadors.

The development of Mobility Hubs as a system of hubs and spokes is particularly crucial in rural areas.

Current practice across the Transport East area

There are a significant number of public transport stops across the Transport East area, which act as Mobility Hubs to varying degrees. There is no public data available on what percentage of these stops are in rural areas.

Table 12 – Railway stations and bus stops in the Transport East area

Authority	Number of railway stations	Number of bus stops
Norfolk	31	7069
Suffolk	26	7079
Essex	58	8851
Southend-on-Sea	9	807
Thurrock	7	664

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Across the Transport East area, there is little formal mention of Mobility Hubs as a policy direction from any of the local transport authorities. However, this does not mean that work is not being undertaken to improve transport interchanges throughout the Transport East area. Some of the most notable improvements to interchanges in the last 5 years in the Transport East area have included:

- Colchester Park and Ride, the first park and ride serving the city;
- Essex-wide bus shelter project, an ongoing project where the County and District Councils are collaborating to make improvements to bus shelters in their local area
- Great Yarmouth Rail Station Interchange, providing a new rail station forecourt;
- Harlow Sustainable Travel Corridors, providing access improvements and new stops and shelters linking to new development to the North of Harlow.
- Market Gates Bus Interchange in Great Yarmouth, providing new shelters and cycle parking;
- Wickford Station Forecourt Improvements, which provide improved access roads and more cycle parking.

From reviewing these works, two key observations can be made. First is the relative paucity of major works or programmes of works being undertaken in rural areas. Major spending seems to be focussed on a number of major transport interchanges and corridors, primarily within towns and cities. Secondly, a number of schemes that are not primarily about hubs or interchanges also include plans to upgrade stops and facilities, but are packaged as area and corridor improvements. But again, relatively few of these are undertaken in rural areas.

There are relatively few examples found in the Transport East area of community-based hubs, or at least hubs with a significant community development focus behind them. The closest to the concept are the largely rural-based Community Rail Partnerships, of which there are several in the Transport East area:

- The Bittern Line between Norwich, Cromer, and Sheringham;
- The East Suffolk Lines between Ipswich and Lowestoft, and Ipswich and Felixstowe;
- The Essex and South Suffolk Community Rail Partnership covering:
- The Crouch Valley Line between Wickford and Southminster;
- The Flitch Line between Braintree and Whitham;
- The Gainsborough Line between Sudbury and Marks Tey;

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- [The Mayflower Line](#) between Manningtree and Harwich;
- [The Southend Line](#) between Wickford and Southend Victoria;
- [The Sunshine Coast Line](#) between Colchester and Walton-on-the-Naze and Colchester and Clacton-on-Sea;
- [The Wherry Lines](#) between Norwich and Great Yarmouth, and Norwich and Lowestoft.

Collectively, these organisations are responsible for community development work that encourages people to use the train. This can include activities to improve the stations themselves, for example the establishment of station adoption groups. Whilst there are a number of informal groups established across all of the lines, one is formally recognised by the Community Rail Network: the **[Friends of Rayleigh Station](#)** in Essex.

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Case Studies

Haselmere Community Station

Key takeaway

Planned station regenerations can incorporate community facilities, as long as the right community partners are on board at an early stage.

Description

All information provided by the **Community Rail Network**.

Haslemere became a 'community' station back in 2015, bringing together a huge range of partners including the town's council, business chamber, museum, and arts society, alongside regional partners South Western Railway, Surrey County Council, Surrey Hills Area of Outstanding Natural Beauty, South Downs National Park, and the National Trust.

The main aspect of the redevelopment was a revamp of the station's community information hub. This was transformed from a modest facility only open in the summer months to a bigger space that is now open all year-round. More than 35 volunteers now help to run the hub, which has a new community events space and provides a wealth of information to both visitors and local residents. Other enhancements have included new flower beds and planters, artwork from local schools, a large 'Totem' displaying maps of the town and its countryside, the installation of a defibrillator, and a hand-painted life-sized Surrey Hills cow decorated with the local 'Rail to Trail' cycle route.

Outcomes

The project has not only improved the overall aesthetic appearance of the station, but has created a welcoming environment that enhances the visitor experience and promotes the social and economic vitality of Haslemere. The new hub is said to have created a real buzz within the local community, rejuvenating the enthusiasm and motivation of volunteers and cementing positive, closer relationships with station staff. The number of visitors using the hub has risen dramatically since 2017, and the site also caters for regular users such as large walking groups

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Further Information
Community Rail Network

Pub is the Hub

Key takeaway

Making common community facilities the focus of local services could reduce trips in local areas by improving accessibility, but it requires a significant amount of hard work on behalf of publicans.

Description

Seeks to establish community pubs in rural areas as the focus of community services. Some include the village shop and post office. Others include community support groups such as 'Last Orders for Loneliness.' Supported over 160 pubs to provide more than 30 different types of services including village stores, Post Offices, allotments, community cafés and libraries. Further projects are currently in the pipeline or awaiting funding provision.

Key issues were as follows:

- Securing interests of publicans, who have otherwise been interested in running a pub or do not have the time to work on additional services
- Helping publicans with insurance and licencing issues, for example challenges with offering a post office service in a location licenced to serve alcohol
- Securing ongoing funding for regional coordination roles

The key factors in the success of this initiative was:

- Supportive leaseholders and licencing bodies

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- The commitment and willingness of local service providers to trial a new approach to delivery

Outcomes

A network of Mobihubs was established based on common branding and a minimum quality of facilities. This also stimulated changes in the wider public transport network with the aim to improve accessibility of rural areas. Impacts on modal share and trips are uncertain.

Further Information

Mobihub

Network Mobihubs, East Flanders

Key takeaway

Planned station regenerations can incorporate community facilities, as long as the right community partners are on board at an early stage.

Description

On 29 May 2020, the first mobihub of the network of 19 mobihubs in East Flanders was opened in Sint-Lievens-Houtem. The mobihub on the market square of Sint-Lievens-Houtem consists of two Valckenier Share shared cars, a bus stop and a digital mobihub column with information about the shared cars and the offer of De Lijn and the SNCB. Unique to this mobihub is that tourist cycling and walking routes are also included in the information column. In a second phase of the project, there was additional bicycle parking facilities and a parcel machine for centralizing e-commerce.

Each mobihub contains a diverse mobility offer, with 5 essential basic criteria:

- parking space for car sharing

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- a high-quality bicycle parking
- proximity to a public transport stop or collective transport
- safety (e.g. good lighting)
- easily accessible for everyone.

Next to the essential basic criteria, there are a few conditions as to install a successful and high-quality mobihub:

- Proximity of other neighbourhood functions e.g. a maximum of 10 minutes walking distance (10-minute-hood).
- Quality facilities (size of parking spaces, technical requirements i.e. charging stations, accessibility, lighting, sustainability of materials). Mpact and Autodelen.net recommend consulting with experts in order to achieve the quality required.
- Infrastructural investments are part of a more general plan for shared mobility in the municipality or city.
- Every mobihub has a unique name.
- Clear and visible mobihub branding and signage.

Key issues were as follows:

- Establishing a variety of stops and networks in a consistent branding is a significant logistical undertaking, involving refreshing a significant number of stops
- Uncertainty as to what the 'hub' element entails – and why it is different to a traditional stop or interchange
- Ensuring that additional commercial services, e.g. drop off deliveries, were economically viable

The key factors in the success of this initiative was understanding that for rural areas, customized transport and basic accessibility play an important role. At first sight, these places do not seem suitable for car sharing. Yet there are plenty of good examples in Flanders where car sharing works, often serving as an alternative to the second car. In rural areas, for example, private cars or cars of the municipal fleet are shared. In Heuvelland there is a special collaboration with the organisation 'Solidariteit voor het Gezin' (Solidarity for the Family, Autodelen.net, Infopunt Publieke Ruimte, and Mpact like to share the positive experiences of users.

Outcomes

A network of Mobihubs was established based on common branding and a minimum quality of facilities. This also stimulated changes in the wider public transport network with the aim to improve accessibility of rural areas. Impacts on modal share and trips are uncertain.

Further Information

Mobihub

11 Integrated Ticketing

Key Takeaways

- Integrated ticketing schemes in rural areas are subject to a number of barriers, primarily regulatory and financial, that must be overcome in order to deliver
- Integrated ticketing can sometimes be found in peri-urban areas, where rural areas on the edge of major cities can be covered by integrated ticketing arrangements primarily focussed on the city itself;
- Otherwise, experience of integrated ticketing in rural areas is relatively isolated.

Summary of the concept

Coordination of core public transport services (primarily the inter-urban bus network and mainline National Rail Services) with what is often referred to as 'last mile' services but in practice is connecting buses, trains, Demand Responsive Transport, Taxis, Shared Bikes, and other forms of transport, is crucial to making public transport usable in rural areas. With long journey times and it often being uneconomical to provide direct services serving a small population, connecting services need to work seamlessly. And one of the key aspects of this is integrated ticketing.

Integrated ticketing is a simple concept: a single ticket which allows the users to use multiple forms of transport, usually within a set geographical area. Often associated with it is the payment of a single fare, which varies according to the scheme. A common example is an area-wide 'zonal fare' system, although other arrangements include paying an add-on to an existing fare.

Peri-urban areas sometimes benefit from being part of an integrated ticketing system offered within a nearby urban area. A good example is London, whereby contactless payment and Oyster cards can be used on National Rail services as far as Shenfield and on London buses operating in Essex. Meanwhile, the West Yorkshire MCard covers rural areas in Kirklees and Calderdale as well as more built up areas in Bradford, Leeds, and Wakefield. Both schemes are administered by a central public transport authority (Transport for London and the West Yorkshire Combined Authority).

The primary challenges to establishing integrated ticketing are revenue allocation and legislation. Integrated ticketing schemes need to be voluntarily entered into by public transport operators, and their commitment is often based on how revenue from ticket sales is allocated. This is

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often done on a 'route-kilometre' basis, with operators with a higher proportion of routes and services getting the most revenue. This can be to the disadvantage of smaller operators, many of whom may run connecting services in rural areas, who bear the same costs of carrying the passengers, but get less revenue from this.

Legislation can be both a barrier and enabler. In the UK bus industry, competition laws make it difficult to establish new joint ticketing arrangements, and the Competition Commission needs to be satisfied that there are no competition implications (i.e. bus operators can still compete on routes) from the integrated ticket. Meanwhile, all franchised rail operators must sign up to Rail Settlement Plan Limited, which means that they must accept valid rail tickets on their services. This may include Standard and Off-Peak tickets, Season Tickets, and even the tickets of other operators during times of disruption.

Otherwise, within rural areas, integrated ticketing is often limited to very specific case studies. This includes connecting buses to commuter rail, integrating demand responsive tickets for feeder bus services with inter-urban buses. As a result of limited mobility choices and thus ticketing, the urban viewed concept of Mobility-as-a-Service which places ticketing as a key characteristic, would struggle in rural areas.

Current practice in the Transport East area

There are a number of multi-bus operator ticketing schemes across the Transport East area, although it should be noted that there are significantly more single operator tickets that allow for multiple trips on a single operator over a set geographic area. Many of these multi-operator tickets also provide travel across rural areas, and are detailed in the below table.

Table 13 – Multi-operator bus tickets across the Transport East area

Authority	Ticket	Coverage	Rural coverage
Norfolk	**Fusion Day Ticket**	All of Norfolk	All rural areas
Suffolk	No dedicated multi-operator tickets		

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Essex	Colchester Boroughcard	Around Colchester	Some villages outside of Colchester
	Essex Saver / Sunday Saver	All of Essex	All rural areas
Southend-on-Sea	Southend Octopus	Southend and parts of South Essex	Rural areas around Rochford

Parts of Essex are covered by the London Oyster and Contactless payment system. Essex has a number of stops on the Central Line which pass through suburban and peri-urban areas such as Chigwell, Theydon Bois, and Epping. Elizabeth Line services are also covered by the Oyster and Contactless systems, with services terminating at Shenfield but largely serving suburban stations. Greater Anglia services as far as Shenfield are also covered by Oyster. For C2C services, Oyster cards are valid as far as Grays in Thurrock. Oyster cards are also valid on all London buses operating in Essex.

A number of railway stations across the Transport East area are also covered by the PlusBus ticket. This is an add-on to rail tickets that allows onward travel within a specified zone on local buses that accept the ticket. In the majority of cases, these PlusBus tickets cover a town or a city, and are accepted by the majority of major operators within the zone. But zones with a notable rural element include:

- Great Yarmouth PlusBus;
- Rayleigh PlusBus;
- Stanford-le-Hope PlusBus.

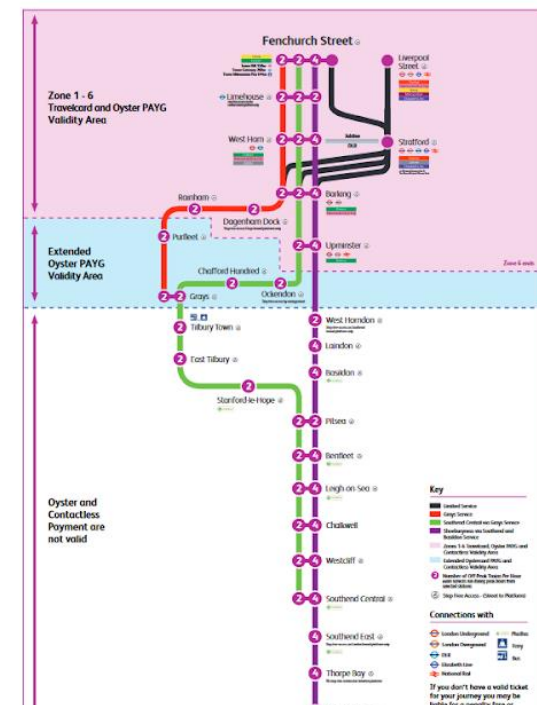Figure 119 Validity of Oyster and Contactless Payment on the C2C route (Source: C2C)

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Case Studies

Suica Card, Japan

Key takeaway

It is possible to integrate public transport tickets with wider forms of payment to enable tickets to be used for a variety of purchases, and not just transport.

Description

Integrated ticketing is well established in Japan in comparison to the UK. Although rural areas in Japan are more densely populated, there are more travel choices than in the UK. Since 2013 the Suica card has operated with 10 other transportation smart cards and since 2004 the e-Suica card has been available to pay for groceries, restaurants and vending machines, not just transportation.

Suica is a debit-style transportation card sold by the JR Rail Company. Cards can be topped up immediately, or at regular intervals as needed. When charging the card, cash can be added in increments of ¥1000 (around £6.20). Suica cards can hold a balance of up to ¥20,000 (around £125).

Since 2013, Suica can be used interchangeably with the regional transport cards, like Kansai's ICOCA and PiTaPa, Nagoya's TOICA and Manaca, Sapporo's Kitaca, Fukuoka's SUGOCA and Hayakaken and Kyushu's nimoca. Hiroshima's street car/trams also support Suica, as well as several other regional transport systems.

Many convenience stores also now provide an option for Suica holders to use their card to pay for purchases. Look for the card reader at the cash register and

Figure 20 - An example Suica Card (Source: Steven Vance)

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follow the clerk's instructions or the instructions on the screen. Many restaurant chains also support payments by Suica.

Outcomes

It is the norm for Japanese to travel with a smart card which pays for more than just transportation. The card is very much part of culture and the way of life and in some areas, visitors are encouraged to purchase a card.

Further Information

East Japan Railway Company

OV-Chipkaart, The Netherlands

Key takeaway

Regional pilots for public transport integrated ticketing can be scaled to cover more significant areas, including up to a national scale.

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Description

The OV-Chipkaart allows travel on all public transport across the Netherlands - from national railways to regional bus services. It is also valid on OV-fiets, a national bike sharing scheme that is present across the Netherlands.

The OV-chipkaart is a collaborative initiative of five large public transport operators in the Netherlands: the main rail operator NS, the bus operator Connexxion and the municipal transport operators of the three largest cities: GVB (Amsterdam), HTM (The Hague) and RET (Rotterdam), though all public transport operators in the Netherlands now use the system. It is operated through a joint venture named Trans Link Systems (TLS).

The OV-chipkaart system was first implemented in the Rotterdam Metro in April 2005. The Amsterdam Metro followed suit in 2006 by accepting the card as an alternative method of payment. All trams and buses in Rotterdam accepted the OV-chipkaart from June 2007 onwards, and coverage in Amsterdam was extended to all trams and buses in November 2008.

By 2024, the OV-chipkaart will start to be slowly phased, replaced by OVPay, which uses contactless cards and mobile phone payment technology.

Figure 22 – Example of the OV-Chipkaart (Source: NR)

Outcomes

The number of trips on OV-Chipkaart increased from 2.37 billion in 2015 to 2.72 billion in 2019.

Further Information

OV-Chipkaart

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12 Mobility-as-a-Service

Key Takeaways

- Current Mobility-as-a-Service trials have mainly focussed on cities and larger urban areas, and the initial commercial offerings have been city-based and not based upon rural needs;
- Within rural areas, there are different stakeholders for Mobility-as-a-Service offerings outside of the transport operations, with a focus on 'added value services' (e.g. local shops and entrance to visitor attractions) being key
- Requires mobility gaps to be identified across an area, and where possible filled;
- Digital connectivity is considered an essential prerequisite, but this is not always forthcoming in rural areas.

Summary of the concept

Over nearly a decade the term 'Mobility as a Service' (MaaS) has circulated the transport sector with all industry and academia alike, struggling to agree on a definition. Regardless of how MaaS is precisely defined, the are a number of underlying characteristics that are common amongst the different definitions of MaaS. These include:

- The use of a digital interface, usually a smartphone application;
- The presentation of a variety of mobility services that can be paid for using a single interface and service offer;
- The presence of a variety of modal choices, but most often including public transport, bike share, e-scooters, taxis, and demand responsive transport;
- A focus on user-centricity in delivering a service offer tailored to personal preferences.

To date, MaaS has been a relatively underexplored concept in rural areas for a number of reasons. The most obvious is the lower densities of population meaning that a choice of mobility services and modal choices is often not available in many rural areas. This poses a significant challenge for any potential MaaS offering in rural areas, where even the presence of an attractive public transport service may not be sufficient to offer an attractive alternative to the private car.

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Accordingly, when delivering MaaS in rural areas, it is not just the transport problem that needs to be tackled. The likely most promising methods are ones that will reduce public sector subsidies and save resources, and link branches of a transport network to the core of the network (likely to be local towns, cities, and interurban public transport routes), and integrating non-transport services such as healthcare and education. All whilst overcoming poor connectivity, accessibility to services, and poor access for those who do not have a car.

The International Transport Forum identified 3 promising developments in the emergence of Rural MaaS

- Horizontal streamlining into a single, flexible transport service. In Nordic countries, the term rural MaaS has been used to describe the integration of different sources of demand and supply by streamlining mobility services, such as non-emergency medical transportation, as well as combining passenger and freight transport (e.g. Finland and Denmark). A key objective is to achieve cost savings for the public sector and improvements for users despite a limited choice of mobility options and limited financial resources available in rural areas;
- Encourage users to become prosumers ("producing customers"), in order to help increase the supply of transport options in rural areas. Prosumers may contribute to the pool of drivers and/or available vehicles (e.g. United States). This involves the integration of already existing assets, through peer-to-peer ridesharing or carsharing, and harnesses existing community support networks by integrating their offers or requests into a single platform (e.g. Tompkins County, New York).
- Vertical integration through trip planning and ticketing integration can make travel more convenient by connecting local branch services and other non-conventional mobility solutions to the core transport network. Regional or national MaaS powered by an alliance of authorities (such as in Denmark) tend to be more effective than isolated local MaaS approaches, allowing for bigger tenders and pooling of resources and capacities, that may not be available at the local level. This also avoids interoperability issues for residents located between different MaaS catchment areas. To improve the financial viability of the service, some platforms have integrated non-transport offers at destination, such as tourist attractions, retail, commercial and health services (e.g. "value-added MaaS" in Japan, see WEF [2021]) or combined delivery and passenger transport

An often-understated issue is poor digital connectivity in rural areas. Both average download speeds in rural areas are lower, and the percentage of households without access to high speed broadband services is higher in rural areas than in urban areas. Also, mobile phone coverage is not guaranteed.

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As the concept develops and more pilots appear, there is a need to draw on expertise from overseas, most notably Finland and Sweden to showcase the concept.

Current practice in the Transport East area

There are no examples of Mobility-as-a-Service being trialled or delivered in the Transport East area.

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Case Studies

RMaaS, Finland

Key takeaway

The delivery of MaaS in rural areas requires experimentation, and designing the system to cater for the needs of the local market.

Description

Finland has been undertaking a number of trials of Rural MaaS through the research organisation VTT. The project 'Mobility as a Service Concept Promoting Service and Livelihood Development in Rural Areas' (Rural-MaaS) was co-funded by the development fund of the Ministry of Agriculture and Forestry of Finland and was conducted in 2016–2017. The project studied business, regulation and technology aspects and proposed e.g. rural MaaS SWOT, vision and measures. The Rural-MaaS was based on qualitative data collected via regional and national workshops, 30 interviews and a literature review.

This resulted in a number of practical trials. This included a DRT service called Kyläkyyti, operated by minibuses, and ran from January to May 2019. The pilot covered a narrow area from the centre of Porvoo northward to the southern parts of Askola. It was selected to include rural areas where no public transport existed in the evenings, as the city wished to offer a service targeted at young people travelling to and from leisure activities. This area has roughly 3000–4000 inhabitants, or 120 inhabitants per km2 on average. The pilot included a rural area close to an urban area according to the Finnish urban-rural classification.

Another case integrated different user groups, services and vehicles within the same mobility system, and ran from March to October 2019, starting gradually with different services. Kuru (city of Ylöjärvi) and Vammala (city of Sastamala) were selected as pilot areas because of their sparse population and long distances. There is also very limited public transport in these areas. Kuru consists mainly of sparsely populated rural areas, and Vammala includes rural heartland (Fig. 3). Kuru has approximately 2600 inhabitants and 50 customers, while Vammala has approximately 16,000 inhabitants and 300 customers.

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The Open Arctic MaaS project advanced mobility services in northern Finland in 2018-2019. The main goal of the project was to create new business opportunities for the local companies by advancing sustainable and energy efficient mobility. Supporting collaboration between transport service providers and tourism service providers and developing the regional collaboration especially concerning service transport is an essential part of the project. By sharing knowledge, digitizing routes, schedules and other information about destinations (attractions,services etc.) project adds visibility of destinations in the digital world

Outcomes

In the rural pilots that were undertaken, the following behaviours were observed:

- A shift from the use of private car to shared and public transport;
- Improvement in the occupancy rate of vehicles in rural settings;
- Improvements in collaboration and data sharing.

Further Information

Impact Assessment of Rural PPP MaaS pilots

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Tactran Enable

Key takeaway

The delivery of MaaS in rural areas requires identifying a suitable use case, and then using existing processes to rapidly expand.

Description

Tayside and Central Scotland Transport Partnership (Tactran) is one of the Regional Transport Partnerships in Scotland. Tactran secured funding from Transport Scotland's 'MaaS Investment Fund' (MIF) to deliver a Mobility as a Service (MaaS) software platform across the Tactran region known as the 'ENABLE MaaS Platform'.

The platform knits together transport routes, prices and other information from across the region together into one place and is used to power three new journey planning and booking apps and websites in the region: 'Go NHS Tayside' for patients and visitor travel to NHS Facilities throughout the NHS Tayside region; the 'National Park Journey Planner' app and website which help visitors and residents get to and travel within Loch Lomond and the Trossachs National Park; and the 'My D&A Travel' app for students and staff of Dundee and Angus College.

More specifically, the project sought to deliver the following:

- Develop a Tactran region wide 'MaaS platform' which brings together real time journey planning data, booking/ticketing and the payment systems of public, active and shared mode transport operators where possible.
- Co-tailor (the look and function) and pilot three apps powered by the MaaS infrastructure platform with three 'service lead' organisations: NHS Tayside, Loch Lomond and the Trossachs National Park and Dundee and Angus College.

Outcomes

Two separate websites were launched for **Go NHS Tayside**, and the **National Park Journey Planner**.

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Following the successful launch & delivery of the tool at Perth Royal Infirmary, NHS Tayside agreed to roll out the solution, promoted via appointment letters. An accessibility audit confirmed the tools are simple & easy to use, and useful for enabling a virtual journey 'run-through'. Improvements were identified, see potential for learning/transfer.

Further Information

Tactran Enable

Go Hi, Scotland

Key takeaway

The delivery of MaaS in rural areas requires experimentation, and designing the system to cater for the needs of the local market.

Description

HITRANS, the regional transport partnership, has commissioned a leading technology firm to produce the bespoke GO-HI branded app, which will provide instant access to information on buses, trains, car hire, car clubs, bicycle hire, air travel and ferries. This will allow users to plan their journeys and find, book and pay for all modes of transport using any iPhone or Android mobile device.

GO-HI is powered by Fleetondemand's Mobilleo Mobility-as-a-Service (MaaS) platform, which has been built with the capacity to deploy partner MaaS schemes using its white label capabilities. Go-Hi is addressing Government ambitions to reduce carbon emissions by encouraging a modal shift from sole occupancy cars to shared cars and public transport alternatives. Go-Hi is also reducing the feeling of isolation among those without access to a car and creating healthier lifestyles by improving the sustainable travel choices people can make in the region, including active travel opportunities.

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Go-Hi has seamless booking and payment integrations with a range of leading transport and travel partners including Enterprise Car Club and Car Hire, Bewegen, Brompton Bike Hire, Stagecoach Bus, West Coast Motors, ScotRail, Loganair, Orkney Ferries, Northlink Ferries, Liftango, Inverness Taxis, Leeds Institute for Transport Studies and SkedGo.

Outcomes

Two separate websites were launched for **Go NHS Tayside**, and the **National Park Journey Planner**.

Following the successful launch & delivery of the tool at Perth Royal Infirmary, NHS Tayside agreed to roll out the solution, promoted via appointment letters. An accessibility audit confirmed the tools are simple & easy to use, and useful for enabling a virtual journey 'run-through'. Improvements were identified, see potential for learning/transfer.

Further Information

Go Hi

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13 Freight – Long Distance

Key Takeaways

- Long distance freight is primarily between major urban areas and logistics centres. While most of it travels through rural areas, over 95% of freight has its origin or destination outside of a rural area
- Freight and logistics is primarily co-ordinated by commercial organisations, with the public sector role being limited to date in rural logistics

Summary of the concept

Freight travels within and through rural areas for a variety of purposes, and one of the most commonly considered is that of long distance freight movements. Primarily undertaken by road (but also undertaken by rail as well as coastal shipping), this movement is primarily the movement of freight between urban areas. In 2019, just 3% of all freight tonnage had its origin in a rural area, and just 4% of freight tonnage had a rural area as a destination. Meanwhile, 57% of all freight moved is between urban areas.

Long distance freight primarily is transported on the strategic road network and mainline railways. Whilst there are more heavy goods vehicles using the motorway network, within rural areas the total amount of vehicle miles travelled by freight traffic is similar between rural trunk roads, rural principal 'A' roads, and minor rural roads. However, what needs to be considered that is rural trunk roads constitute a smaller percentage of the total length of the highway network compared to both rural principal 'A' roads, and minor rural roads.
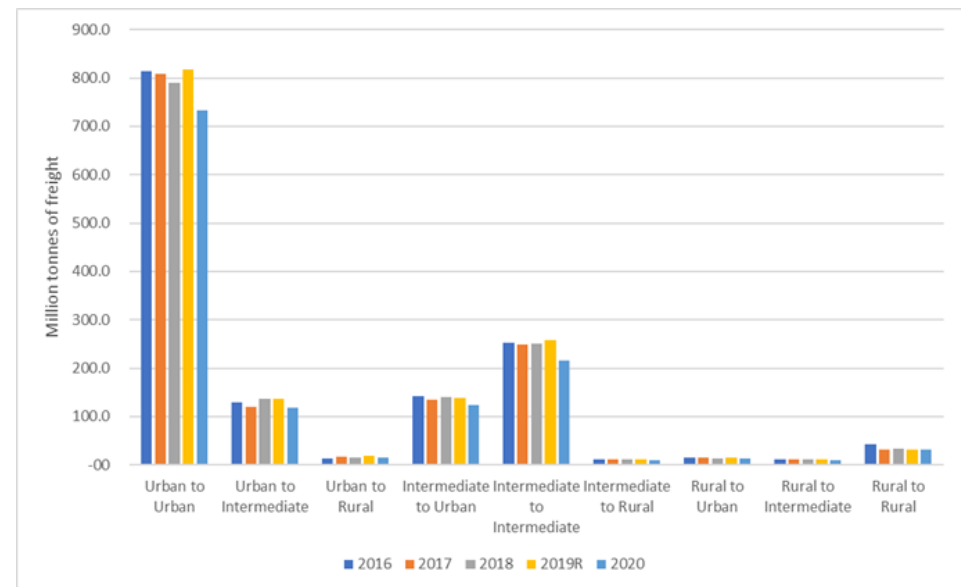

Figure 23 – Transport of freight between different region types

For local transport authorities, there is often a balancing act when it comes to effectively managing freight traffic. On the one hand, efficient logistics is essential to the operation of the modern economy. Many rural businesses are reliant in heavy deliveries and the use of larger vehicles for the transporting of bulkier items, including forestry, minerals and aggregates, and farming supplies. Fast, frequent, and low cost logistics enables rural businesses to access markets and encourages businesses to invest.

But road freight also has notable environmental and social impacts. Heavy Goods Vehicles produce more noise and air pollution than road vehicles, particularly for items such as Particulate Matter. Large vehicles travelling through smaller towns and villages are often perceived as a safety hazard, and there is often pressure to discourage freight from using particular routes.

For Local Highway Authorities, they have a statutory duty under the Traffic Management Act 2004 to manage their road network to make sure that traffic can move freely on their roads, including freight. They may also have powers, devolved to them by the police, to take enforcement action on parking and moving traffic offences on commercial vehicles. Otherwise, councils do not have any powers or duties relating to freight traffic.
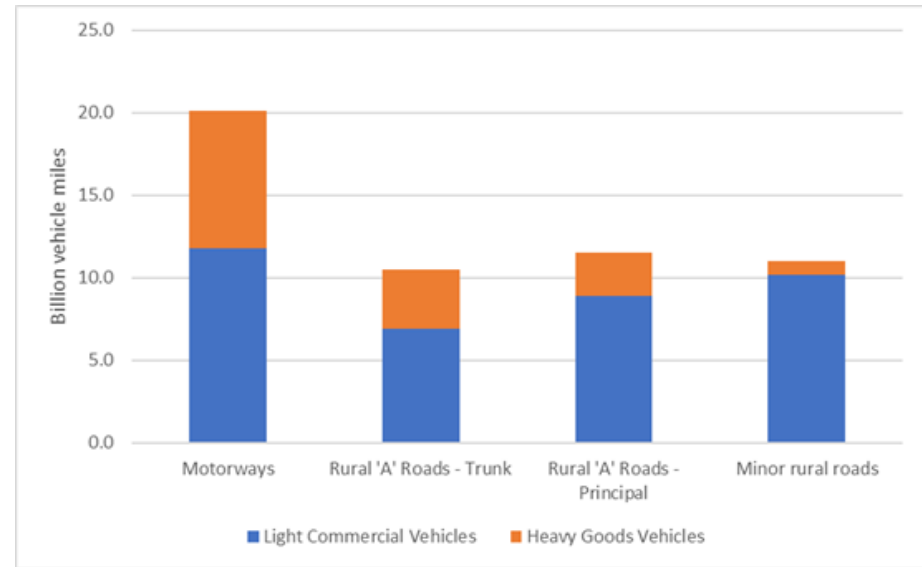

Figure 24 – Billion vehicle kilometres of road freight by road type in 2021 in the UK

Current practice in the Transport East area

There are few examples of practice relating to rural freight across the Transport East area, however in the Highlands of Scotland, Menzies Distribution act as a consolidator for rural freight. This allows residents in the area to order from suppliers who wouldn't normally be able to deliver. By registering for the service, collections can be made from given depots although there are restrictions in the same of parcel.

Case studies

England's Economic Heartland Freight Study

Key takeaway

The freight industry can be engaged with at a strategic level to identify common policy priorities.

Description

England's Economic Heartland (EEH) commissioned a study of strategic freight across its area, seeking to identify strategic policy priorities to support the freight sector. This report intended to support EEH to plan for the most efficient way of providing access to goods that unlocks economic potential, protects the environment and communities, and future-proofs networks to accommodate growth and improve efficiency.

The purpose of the report is to define a clear starting point for freight sub nationally, analyse the implications of future scenario changes, identify how EEH can capitalise on opportunities and mitigate risk – and plan for this by drawing on technical conclusions. The findings from the study serves as a supporting document to support the development of the EEH Transport Strategy.

This work provides a comprehensive picture of freight movements in the region, including the businesses and locations that generate freight movements, the role of each mode and key corridors, and the importance of construction logistics. It was based the results of the stakeholder engagement programme, including workshops and one to one discussions.

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Outcomes

The report identified a series of policy priorities, which are being actioned by EEH. This includes establishing governance processes, ongoing capacity enhancements between Ely and Nuneaton, and mitigating the impacts of construction.

Further Information

Strategic Connectivity: freight

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14 Freight – Last Mile Deliveries

Key Takeaways

- There is an increasing interest in better coordinating last mile logistics in rural areas, even if practical case studies are somewhat limited;
- Deliveries by smaller vehicles, such as vans, have significantly increased over the years.

Summary of the concept

The Last Mile Delivery concept has been considered actively in transport policy circles for a number of years. The definitions vary, but essentially this is about the transfer of the item of cargo from its final warehouse or distribution centre to its final destination. This is often mistakenly considered to be mainly deliveries to residential properties, but a significant percentage of trade is also to commercial premises. To give an indication of the scale of this market, the largest deliverer of parcels in the UK - Royal Mail - delivered 1.5 billion parcels in 2022.

Such deliveries are primarily, but not solely, undertaken by light goods or light commercial vehicles of a variety of types. UK government statistics do not provide a detailed breakdown of the registration of these vehicles by types of areas, but light goods vehicles have experienced one of the most significant increases in registrations across the UK in the last 3 years, with total
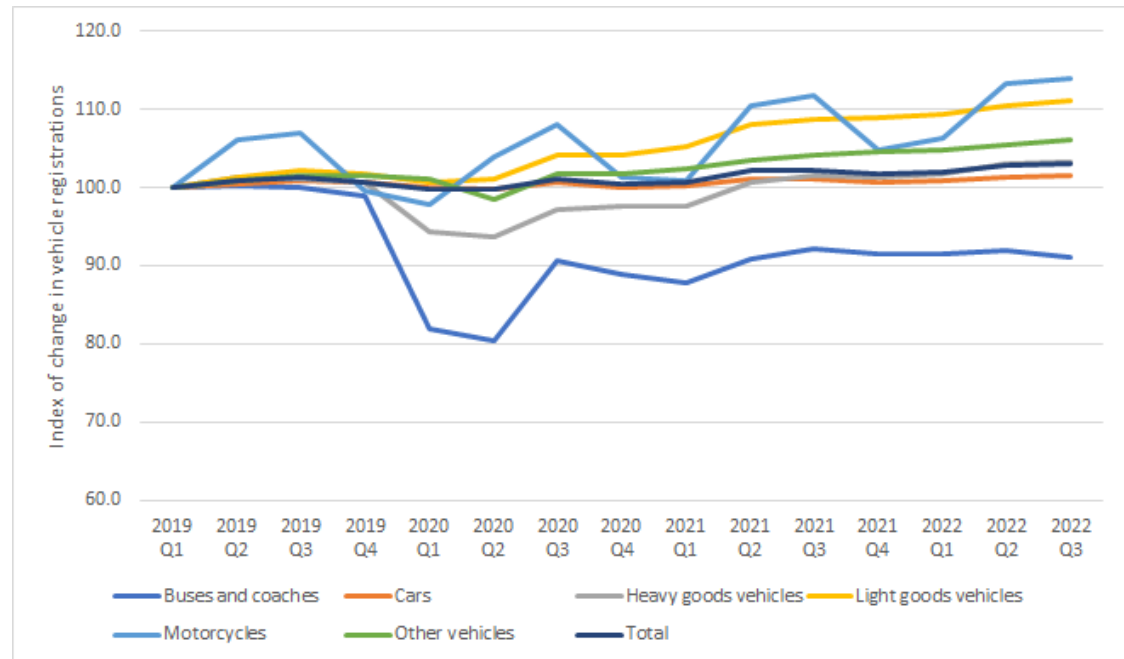

Figure 25 – Change in the number of registered vehicles in the UK by type of vehicle

numbers 10% higher, a percentage growth only exceeded by motorcycles.

Providing a commercially operated delivery service is highly dependent upon one metric: drop density. Simply, the higher the concentration of deliveries in an area, the more profitable a delivery service is likely to be by maximising the number of deliveries it can make. With lower population densities, rural areas struggle to provide this drop-density. The one exception to this rule is the Universal Service Obligation bestowed upon Royal Mail, which states that it must provide a six day a week delivery service to every address in the UK.

Within rural areas, a significant proportion of them are covered by standard delivery services, even if this is with a surcharge. But there is opportunity for innovation in last mile deliveries. One example include the island of Iona in Scotland. Here drones are being used to deliver parcels. The most notable example is the consolidation of passengers and freight. Deregulating separate licensing schemes for passenger and freight transport can be a partial solution for
increasing efficiency and tackling driver shortages in rural areas. In Japan, consolidation of passenger and freight transport is allowed with limited weight cargo in sparsely populated areas. For example, this has allowed flexible organisation of delivery services and transportation for residents, which has improved the time and cost efficiency of these two transport streams. This is not unheard of in the UK, where Postbuses have historically run in rural areas.

Several projects have tested the feasibility of integrating Parcels and Passengers (PnP). Firstly in Finland a service already exists were both parcels and people are combined (as per photo 1) and operated by Koiviston Auto. Furthermore, Le Pira et al (2021) proposed service models for the integration of PnP in what is termed MaaS4PaF. More locally in the UK, Heriot Watt University recently researched and undertook simulation studies to explore the feasibility of rural DDRT being shared with PnP.

The second idea being increasingly trialled involves cargo bikes. Primarily focussed in smaller towns and villages as opposed to isolated rural settlements, a common model is a team of volunteers makes a series of primarily local deliveries using bicycles especially adapted to the delivery of small packages. The purpose of this is primarily to support local businesses and develop a small business ecosystem within towns and villages, as well as reducing the number of vehicles making short distance deliveries on local roads.

Much of the work around last mile logistics is also integrated with wider policies on Mobility Hubs and freight consolidation. A common feature of many Mobility Hubs is the use of delivery lockers for small packages and parcels, where local people can pick up their deliveries and reduce

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the amount of delivery traffic on rural roads. The consolidation of freight deliveries through regional distribution centres is common practice in urban areas.

Current practice across the Transport East area

There are few examples of practice relating to rural freight across the Transport East area.

Case Studies

Cargodale, Calderdale
Key takeaway Cargo delivery bikes can be trialled in rural areas, but operating commercially proves to be a challenge.
Description Cargodale was established during 2020 as a grocery and shopping delivery service to residents of Hebden Bridge and Todmorden in Calderdale. The project is run as a social enterprise and funded through income from: • the delivery service • hire charges • the local authority (Tranche 1 of the 2020 Active Travel fund) • the government's Towns Fund to sustain strong local economies • emergency coronavirus (COVID-19) funding from the Department of Health and Social Care (DHSC)

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The scheme also delivers goods for local businesses and market stallholders. It provides a food waste avoidance scheme and assists residents who may have travelled by foot, bike or bus to transport their shopping home.

Outcomes

In its first 6 months (March to August 2020), Cargodale delivery bikes covered just under 1,800 miles. This prevented around 500kg of carbon dioxide (CO2) emissions from being produced, compared to using small diesel vans or multipurpose vehicles, such as people carriers.

Further Information

Cargodale

Freelway

Key takeaway

Trials of using passenger vehicles and cars for consolidated freight delivery have been undertaken, and proof of concepts delivered.

Description

Freelway started developing a conceptual sharing service for the transportation of goods in 2014. The service initially focused on a sharing service where private individuals help each other. During 2015 and 2016, the service was developed with input from Vingåker and Uppsala's municipalities, which also provided their testbeds for evaluation of the service, which changed the target group from private individuals to coordination of goods within and between organizations/companies.

During 2018 and 2019, the target group and the area of use were broadened to also include coordination of passenger transport with a carpooling service. The passenger transport service was broadened in 2019 by also being integrated with public transport and can be supplemented with digital bookings of ordered transport (call controlled).

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One of the case study areas is located in a ski resort in Norway. Here visitors can order groceries whilst out skiing and when they order a taxi or DRT to head back to their accommodation, the delivery is on that vehicle.

Outcomes

The service has expanded from initial trials to a wide variety of rural areas across Norway and Sweden.

Further Information

Freelway

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15 Unmanned Aerial Vehicles (Drones)

Key Takeaways

- Unmanned Aerial Vehicles (UAVs) or Drones are still an emerging technology for the delivery of goods and of drones;
- There have been trials of a number of case studies, but the impact of such trials has been hard the gauge.

Summary of the concept

At the basic level, Unmanned Aerial Vehicles (UAVs, or more commonly known as drones) are small aerial vehicles that can transport small numbers of passengers or freight in small packages. Where they are different from other aerial vehicles that perform the same function (for example helicopters) is that UAVs typically do not have an on-board pilot, and are instead piloted either remotely or autonomously.

The UAV market in the UK is still emerging and developing. In 2019, 5000 commercial drone operators were licenced in the UK, a doubling of the total number from 2017. Research by Nesta has shown that, in addition to the UAV operators themselves, there is a substantial supply chain of service providers to the industry, technology developers backing the industry, and research and academia testing different use cases.

There is a substantial use of UAVs for recreational purposes. This can roughly be split between those who fly drones simply for the pleasure of flying drones (including through organised meet-ups), and those for aerial photography. Though the latter is becoming increasingly commericalised with aerial photography becoming common in a wide variety of photographic markets.

The transport use cases for UAVs are still emerging, but can be summarised under four broad categories. The first is remote observation. Organisations such as Network Rail and National Highways are deploying UAVs to remotely monitor the condition of assets in situations where having a human present is a safety risk. A good example is undertaking inspections of bridge structures.

The second is deliveries of small packages. Notable examples include **Amazon trialling UAVs for last mile delivery of small packages in cities such as Cambridge**. Within rural areas, this can be especially important for hard to reach communities or islands. For example, in the Solent **UAVs have been trialled for medical deliveries**, as has **a similar trial in Northumberland**. Meanwhile, in many remote regions of Africa UAVs have delivered supplies to remote villages difficult to access by vehicle.

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The third is in emergency response. In the event of a major incident, UAVs can be used to **quickly get essential supplies to affected areas** that are cut off to emergency services and public authorities, and to **remotely monitor the situation on the ground**. This is a common application around the world, such as in communities affected by flooding, earthquakes, and hurricanes. However, to date the application in the UK has been limited.

Finally, there is an increasing interest in deploying UAVs for passenger use, or 'air taxis.' The UK Government has funded a number of research and trial projects to test the technology, primarily within urban settings.

One of the most significant challenges is regulation for the purpose of safety. Rules around the governance of airspace have been in place for nearly 50 years, and it has been necessary for UK regulators to change some rules to accommodate this growing industry. The full set of rules are contained within the **Drone and Model Aircraft Code**, but can best be summarised as follows:

There are 3 rules that are generally applicable to all types of certification: don't fly more than 120 metres (400 feet) above the ground, keep the vehicle in sight, and never fly in a restricted zone around an airport;
- The first classification of flying activity is **Open**, intended for low risk UAV flying, including over open countryside;
- The **Specific** category is for higher risk flying, such as heavy objects over an urban area, and operating approval is needed;
- The **Certified** category is for specialist UAV types, and have rules common with those or aircraft.

In the UK there are a few trails of note, including the company Boots transporting prescription medications; Amazon have committed to some parcel deliveries by drone in 2023 alongside the Royal Mail who will use the technology to deliver to islands in Scotland over the coming two years. A trial, based in the Highlands of Scotland, is in the early stages but hopes to support rural communities who currently experience high delivery charges on the isle of Iona . For a fuller discussion on air mobility in rural areas, consider the publication by ADS (2022) Regional and Rural Air Mobility, thinking outside the urban box.

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Current practice across the Transport East area

There are relatively few specific examples of drones being used across the Transport East area for any of the use cases previously identified, at least within a commercial aspect. However, work by Nesta in 2018 identified a number of organisation working in commercial drone operations.
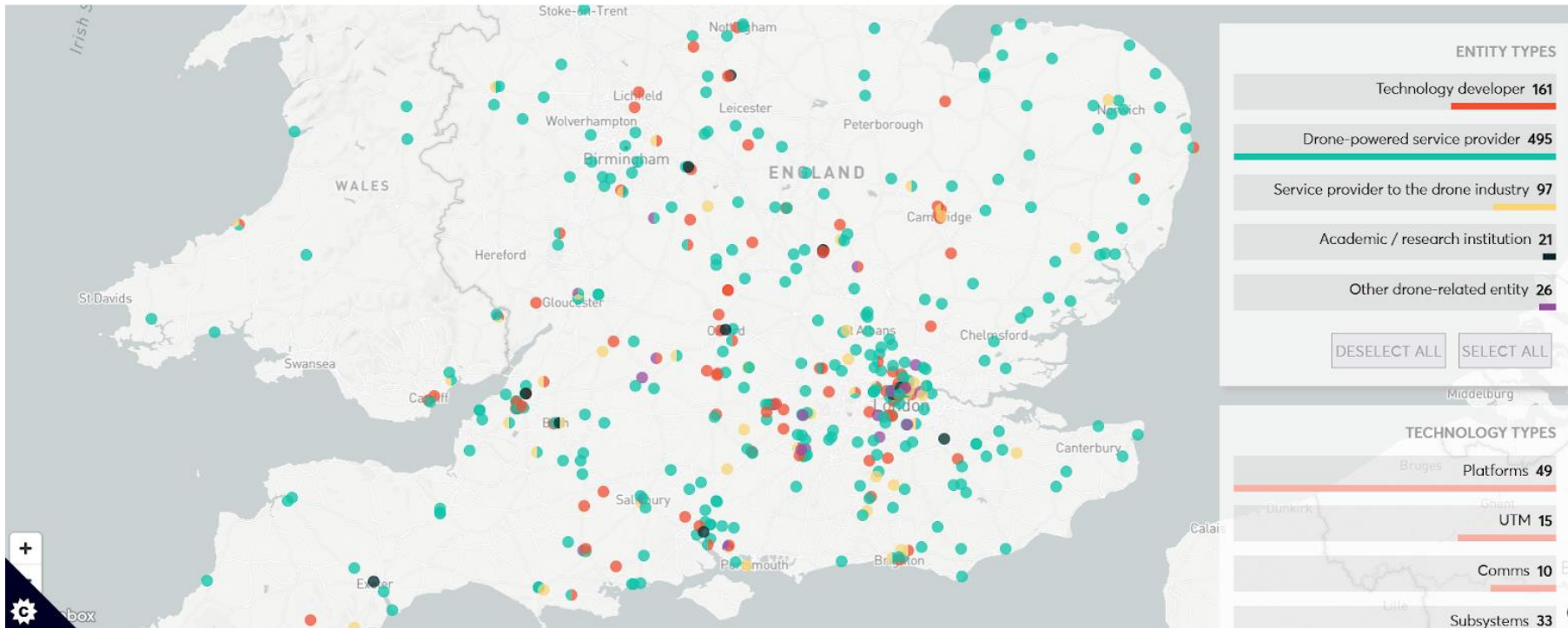

Figure 26 – The drone supply chain in the East of England (Source: Nesta)

No data is available on the number of licences issued to commercial operators in the Transport East area.

Many areas of the Transport East area are subject to restrictions on the flying of UAVs. The mixture of restrictions includes airports, power stations, and sensitive sites of national interest. Notable restriction zones include around Stansted Airport, Sizewell Nuclear Power Station, Sandringham, and RAF Lakenheath. By the nature of the extent of these zones, many of them cover rural areas, though it should be noted that the majority of rural areas are not covered by any special restrictions affecting UAV flight.
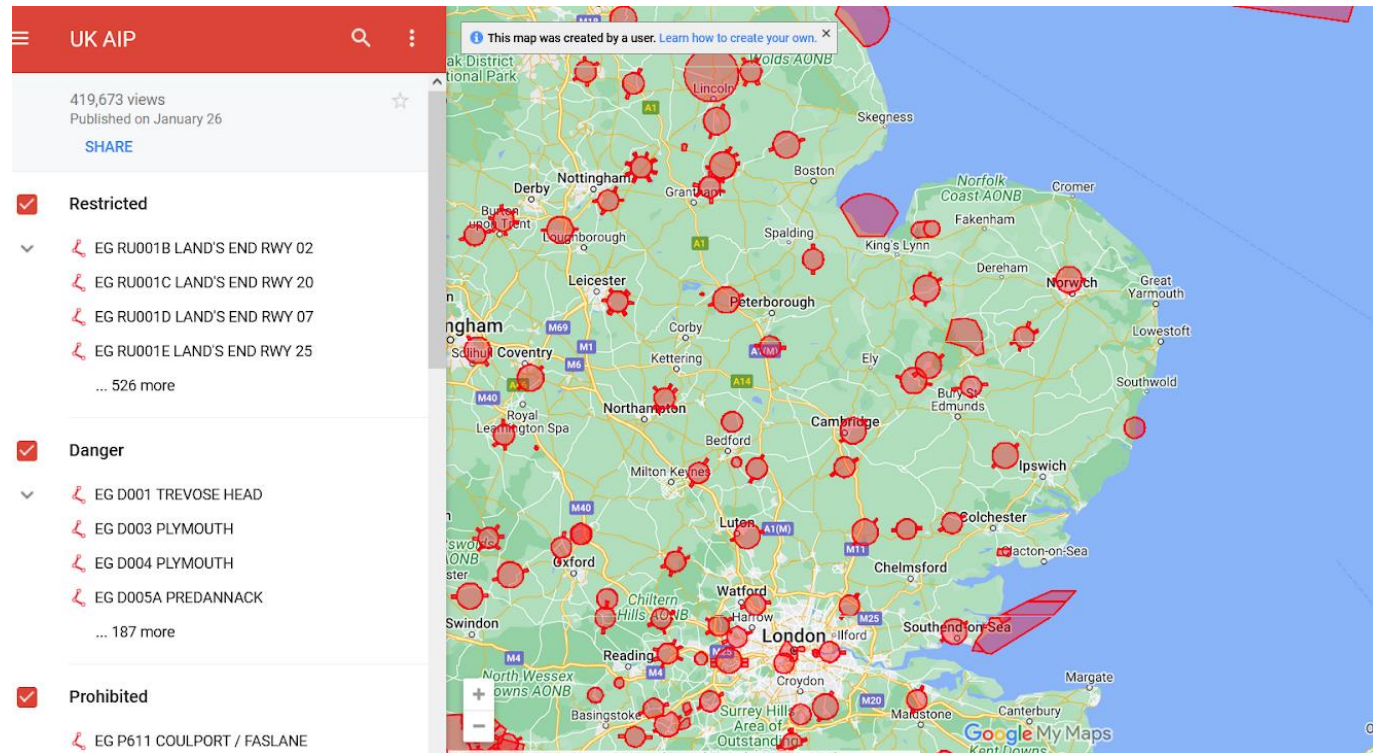

Figure 27 – Restrictions on UAV activity across the East of England (Source: Civil Aviation Authority)

Case Studies

RHEA (Robot Fleets for Highly Effective Agriculture and Forestry Management)

Key takeaway

The application of UAVs is not just for transport purposes, but for other purposes that have transport implications.

Description

Precise management of agricultural land is being made possible due to the availability of new technologies, including global positioning systems (GPS), geographic information systems (GIS), advanced sensors, automation of agricultural machinery, and high-resolution image sensing. Consequently, the concept of Precision Agriculture has emerged as the management strategy that uses information technologies to collect and process data from multiple sources in order to facilitate decisions associated with crop production. Within this context, RHEA was envisaged to design, develop, test and assess a new generation of automatic and robotic systems for both chemical and physical effective weed management aiming to diminish the use of agricultural chemical inputs, improving crop quality, health and safety for humans, and reducing production costs by means of sustainable crop management.

The project RHEA focused on a number of scientific and technical objectives aiming to detect up to 90% of the weed patches by developing new perception systems, eradicate up to 90% of the weed detected by developing innovative agricultural implements based on physical and chemical features and reduce the use of agricultural inputs by about 75%. These objectives have been achieved with the development of a heterogeneous fleet made up of two aerial robots and three ground mobile robots capable of carrying perception and actuation systems. Every aerial robot, based on a drone tailor made for a 2-kg payload, carries a remote perception system that consists of a set of two vision cameras operating in the visible and Near-infra Red spectra, respectively.

Outcomes

The project's new perception systems allowed the roaming robots to detect up to 90 % of weed patches. Using a combination of physical and chemical means, the robots can eliminate up to 90 % of detected weeds, reducing chemical consumption by 75 % compared to current usage.

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Further Information

[RHEA](#)

QLEX Creo

Key takeaway

Investment continues to be made to expand the range and capabilities of UAVs.

Description

The EU-funded QLEX Creo project (comprised of a single member, QLEX) developed a winged drone called Creo. It can fly for 2-3 times as long as competitors, giving an effective range of 250+ km. Longer flights mean more data collected but reduced costs, since fewer operator stations will be required.

The project's achievements stem from patented developments in aerodynamics, aircraft architecture and propulsion systems. The drone is highly energy efficient. This comes partly from the use of lithium-ion batteries, as used in electric cars and laptop computers, which are reliable and provide a high energy density. The current 2.45-metre wingspan model weights 6.7 kg including a payload of up to 1.5kg. The aircraft is capable of vertical take-off and landing, and reaches speeds from 50–130 km/h.

In addition to technical development, the project assessed the Creo's commercial potential via an in-depth market analysis. Researchers created a regulations database for many target markets, and laid the foundation for European Aviation Safety Agency certification.

Outcomes

The development of a new, extended range UAV that will be applied to rural areas. A fully autonomous delivery from the German mainland to an island - Helgoland - and return in one non-stop flight.

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Further Information

QLEX

Aerial Transport for Remote Areas

Key takeaway

Use cases for UAV delivery in rural areas can be found outside of traditional freight and deliveries.

Description

Aim of the project was to carry out an in-depth market analysis, including risk analysis, undertake a feasibility study to gain a deeper understanding of the market and competitors, proving the technological feasibility as well as the economic feasibility and coming up with a business plan.

FlyingBasket worked on the design, production, operation and maintenance of remotely piloted aircraft systems, and aimed to offer a transport service with medium payloads of up to 100 kg.

Today these markets are largely unexploited due to the following adoption barriers that are expected to be overcome in the next few years:

- Lack of drone pilots, drone operators
- Unwillingness and/or inability of existing freight transport to start using these drones
- Unwillingness and/or inability of end users in the above applications and industries to start using drones
- Safety and regulatory issues associated with commercial cargo drones
-

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Outcomes

During the project, FlyingBasket was able to identify an initial market that is large enough to serve as a foundation for our drone business and that works within the existing regulatory and safety framework: remote hospitality. The initial application consists in a grocery delivery service by drone to hotels, restaurants, mountain shelters and other businesses located in hard to reach mountain and island areas.

A test flight was also undertaken in the Alps to test the technical feasibility of the UAV system.

Further Information

CORDIS

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16 Rural transport policies

Key takeaways

There are few rural transport-specific policies across the Transport East region, with existing policies instead incorporating rural issues as part of wider policy agendas;

- New approaches to rural transport issues are being devised internationally, and there is much policy experimentation.
- Summary of the concept
- Transport policy making is a complex process, involving many different public sector organisations, the influence of private and voluntary sector actors, and considering the implications of related policy areas such as land use planning and economic development.

At a national level in England, the main public sector body with the most control over transport policy is the **Department for Transport**. What the Department for Transport does is set the priorities, and provide funding for, the transport network across England. This is in all aspects related to transport - not just the modes, but matters like public safety and security, regulation, introduction of new technologies, target-setting, and future planning. On some occasions, its functions are actioned through an agency or public sector body, of which **there are 24 related to transport**. The most relevant here are the likes of National Highways (responsible for the strategic road network), Active Travel England (responsible for promoting walking and cycling), and Network Rail (own and maintain the rail infrastructure).

For rural issues specifically, the **Department for Environment, Food, and Rural Affairs** is responsible for policy making. It does not have any specific remit on rural transport issues, many of its actions do have transport implications. This includes action on air pollution, biodiversity, protection of rivers, and the national parks. Like the Department for Transport, their functions can also be exercised by agencies and public sector bodies.

At a local level, rural transport policy making is undertaken by the Local Transport Authorities. Specifically on policy making, Local Transport Authorities have a number of statutory duties:

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- To produce a Local Transport Plan, the primary transport policy document of a Local Transport Authority;
- To produce a Rights of Way Improvement Plan;
- To produce a Sustainable Modes of Travel to School (SMoTS) Strategy;
- To produce a Home to School Transport Policy.

Emerging practice globally is that there are a variety of policy frameworks that are being developed and tested. The International Transport Forum broadly identifies them as:

- **Comprehensive rural mobility policy and programmes at a sub-national level**, which will be considered more in the next section on local policies;
- **National policies with or without specific targets, but lacking implementation mechanisms**. This includes not specifying clear roadmaps to achieving these targets and appropriate financial frameworks that provide long term, committed funding to rural mobility projects
- **Sustainable Regional Mobility Plans**, a variation on the Sustainable Urban Mobility Plan concept, which will be considered more in the next section on local policies.

Within this context, rural mobility is not often explicitly considered as a policy priority, but as a subset of other policy priorities. A notable example is in the policy priority of accessibility, where the challenges facing rural residents of being able to access services and work are often recognised. Where there are location-specific issues, these are often within larger urban areas.

Within the UK, the Department for Transport is in the process of developing a Future of Transport: rural strategy. It previously issued **a call for evidence** to assist in the development of the strategy. To date no summary of responses has been produced by the Department for Transport. Within the compendium of national policy documents relevant to transport in England, none specifically mention rural transport issues. Current practice across the Transport East area

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Across the Transport East area, there are no rural-specific policy documents on transport. Amongst the transport policy documents that have been created, rural mobility issues have been recognised - particularly in Norfolk. However, there is no dedicated strategy or funding to tackling these issues.

Table 14 – Rural Transport Policies of Transport East authorities

Authority	Local Transport Plan	Rights of Way Improvement Plan	Sustainable Modes of Travel to School Strategy	Home to School Transport Policy
Norfolk	**Norfolk LTP**	**Norfolk Access Improvement Plan**	**Sustainable School Travel Strategy**	**Home to School Policy**
Suffolk	**Suffolk LTP**	**Green Access Strategy**	Part of the LTP	**Home to School Policy**
Essex	**Essex LTP**	**Essex Rights of Way Improvement Plan**	**Essex SMoTS**	**Home to School Policy**
Southend-on-Sea	**Southend LTP**	**Southend Rights of Way Improvement Plan**	Part of the LTP	**Home to School Policy**
Thurrock	**Thurrock Transport Strategy**	No specific plan	**School Travel Strategy**	**Home to School Policy**

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Case Studies

Decree on Basic Mobility (Flanders, Belgium)

Key takeaway

Policy making can be shifted from being supply-led (what can be delivered given resources) to demand-led (what is needed to meet potential demand) through co-ordinated transport options.

Description

The decree, adopted in 2019 and replacing a previous basic accessibility decree, provides a new transport policy based broadly on the principles of hub-and-spoke systems:

- Identifying the core network, which falls into the competence of the Flemish government and which is complementary to the national rail network;
- Identifying a supplementary network, which falls into the competence of the regions;
- "Tailormade transport", or the basic layer, which is also a responsibility of the transport regions and provides flexible first- and lastmile access (such as DRT and shared bicycles) for people who do not have access to the supplementary network

Public transport is at the heart of this policy. Railway and bus stations are considered the core elements for multimodal spatial development. Local authorities can apply to the Belgian (Flemish) government for subsidies for the spatial implementation of the policy, including for example, mobility hubs, carpooling and carsharing facilities, and the construction of cycle route networks.

Under the decree, 15 transport regions covering the Flanders region of Belgium are identified. Each transport region has a council which ensures inter-administrative co-ordination. The transport region councils consist of various mobility stakeholders, such as the Flemish transport company De Lijn, the Agency for Roads and Traffic and the local municipalities.

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The council is responsible for organising the supplementary and tailor-made networks in their regions. This includes planning, preparation, implementation, monitoring and evaluation of a mandatory regional mobility plan. A mobility plan is also established for Flanders as a whole. Optionally, one or more municipalities can establish local mobility plans.

While the mobility plans do not have regulatory power, they provide the strategic direction and this cannot be deviated from at will. The decree also provides for the consultation of citizens and social partners.

The transport region chooses the transport offer and subsystems for tailor-made transport to cover the first- and last-mile services. These choices are recorded in their regional mobility plan and determine the budget and tariff policy. The mobility centre (set up by the Flemish government) takes care of the practical organisation of "tailor-made transport", from planning and information to reservation and follow-up.

Outcomes

5 regional mobility plans are currently in development:
- Limburg
- Mechelen
- Ghent
- Vlaamse Rand
- Kortrijk

The Decree sets aims and objectives, but does not specify targets for individual regional plans, nor a timescale by which they are to be adopted.

Further Information

Government of Flanders (link is in Dutch)

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Plateforme France Mobilités, France

Key takeaway

Providing a dedicated support unit to rapidly develop and expand rural mobility policy making.

Description

In 2019, the French Government passed *Loi d'orientation des mobilités*, or the New Mobility Law. This new law passed by the French Government established a series of *Autorités Organisatrices de la Mobilité* (AOMs, or Mobility Organising Authorities) with the task of producing sustainable mobility plans. What is most relevant is that for the AOMs covering rural areas, the development of such plans is a much simpler process, and there is a greater degree of support from central government.

This is provided by Plateforme France Mobilités, or the French Mobility Platform, under the remit of the Ministry of Ecological Transition and Territorial Cohesion. Under this platform, a series of regional support cells have been established. These have 3 missions:

- Animate the ecosystem of regional players in innovative mobility
- Help with the realization of projects through technical and administrative support
- Capitalise and identify by establishing local networks and sharing best practice

This platform does not deliver projects by itself. But it provides technical support to regions and the partners within those regions to deliver projects that achieve the requirements of the New Mobility Law. These support units have been established for 15 regional areas and French overseas territories.

Outcomes

To date, the platform has been involved in the delivery of over 300 projects. The most common areas of work have included shared mobility, mobility for all, and active travel. 40% of projects have taken in place in areas defined as 'rural and/or mountainous.'

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Further Information

France Mobilités (link in French)

Transport Co-ordination Units, Republic of Ireland

Key takeaway

Dedicated financial and project support from national government is welcome, and community-based working is a preferred approach. But it needs to be based on a good understanding of accessibility issues.

Description

The National Transport Authority for Ireland, as part of its rural programme, established 15 Transport Co-ordinating Units (TCUs) across the country, as part of the Transport Ireland Local Link. These offices manage requests and delivery of local regular bus and DRT services in their area. The majority of the Transport Coordination Units are independent non-profit entities managing rural transport services on behalf of the National Transport
Authority through a grant agreement.

There are around 1,350 Door to Door bus services across the TFI Local Link network along with over 90 Regular Rural routes. Passenger numbers had been increasing steadily up until the pandemic and reached 2.5m passenger journeys in 2019.

Outcomes

There has been a significant amount of work undertaken. The key features include:

- Completing 2.5 million passenger journeys in 2019

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- Over 90 RRS routes (scheduled services) and 1,350 Demand Responsive services
- Travelling over 12 million kilometres annually
- Almost 400 Private Operators provide the services involving over 900 drivers
- As well as providing regular public transport services and Demand Responsive services, the Programme also funds the provision of 'Once Off' trips for individuals and community/voluntary groups to help address rural social exclusion
- 90% of TFI Local Link bus services have provisions for children's buggies and wheelchair

Despite this, recent analysis highlights that many communities in rural Ireland continue to be at risk of transport disadvantage, even when considering the provision of the Rural Transport Programme.

Further Information

National Transport Authority Rural Transport Programme

Rural Transport Incubator, Arizona

Key takeaway

Dedicated financial and project support from national government is welcome, and community-based working is a preferred approach. But it needs to be based on a good understanding of accessibility issues.

Description

In 2010, Maricopa Association of Governments worked with many partners statewide to create Age Friendly Arizona, a network dedicated to connecting older adults with people of all ages in their communities. The project initially began as a Municipal Aging Services Project with the goal of meeting the needs of older adults in the Greater Phoenix area. Over time, the purpose, name, and geographic area transitioned into a statewide effort and continued to focus on connecting older adults with people of all ages in their communities, benefiting from their talents

Goals of the Rural Transit Incubator are;
• providing rides to older adults with low incomes in rural areas,
• using technology to streamline and support these transportation services,
• encouraging national replication through toolkits, training, and presentations.

The RTI launched new and expanded transportation services in 12 rural communities in remote areas of Arizona. These communities received stipends to provide transportation services and assistance to older adults with low incomes in rural communities. Some communities are receiving access to transportation for the first time while others are trying innovative approaches to transportation, including using technology to make transportation services more efficient. In all cases, the type of support is individualised to meet the specific needs of the community.

Another technology objective was to pilot the Assisted Rides app during year one of the grant. Verde Valley Caregivers tested the app, and it was decided to explore other options that would better fit the diverse needs of small rural providers. Remaining funds were transferred to support additional communities in participating in the incubator.

A successful technology innovation was the creation of the state's first centralized, interactive database of human services transportation providers which is now accessible online as a result of this project. The website AZRide Info was created to streamline the way people access information, reduces the amount of time it takes to connect to vital services, and improves people's access to services needed for a good quality of life. A centralized phone number and marketing campaign was also completed in conjunction with the website.

Outcomes

The RTI has served 1,081 adults with low incomes by providing more than 60,000 rides since the start of the project nearly two years ago. Data collected indicates that 71% of the riders are age 65 or older and 29% are aged 55 to 64 years or companions of older adult riders. 100% of the riders are considered to have low income.

In addition to the numbers, all projects within Age Friendly Arizona, including RTI, are measured by achievement in three main indicators: (1) decreasing social isolation, (2) increasing access to services, and (3) increasing social connections. Wellbeing survey results indicated that 20% of riders experienced a decrease in social isolation, 38% had increased access to services and 23% experienced an increase in the number of social interactions.

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Further Information

Age Friendly Arizona

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17 Funding rural mobility services

The funding landscape for rural transport is complex and nuanced, but can be broadly differentiated between commercial sources, cross-sectoral funding, developer contributions, and innovation funding;

- The type of funding available varies significantly between projects and for different purposes, and is often irregular.
- Summary of the concept
- Financing rural mobility services is challenging owing to the low population densities and the need to provide public sector financial support to public transport services. The funding environment for rural mobility services is complex, and subject to changes, varying requirements, and different levels of evidence required to demonstrate value for money, with variations in these even going down to the scheme level. With pressures on public sector finances over the last decade, some of the more expensive rural transport services to operate (as measured in subsidy per passenger) have been lost, leading to a significant reduction in rural mobility services.

Funding for rural mobility services typically comes from these sources:

- **Commercial sources**, with private businesses running transport services with the intention of making a profit;
- **Cross-sectoral funding**, where multiple agencies fund transport projects;
- **Developer contributions** from planned housing or commercial developments;
- **Innovation funding** for projects that are proof of concept or at trial stage.

Some rural transport services, especially inter-urban bus and coach services can operate on a purely commercial basis. This is usually the case where there is a strong trip attractor or generator at either end (usually towns or cities) with strong passenger flows between those points. Rural villages often happen to be on the most direct line of route, and usually pick up passengers going to and from these destinations.

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A more recent financial model is the establishment of a new rural mobility service, usually DRT, on a loss-leading basis, with the intention of the service becoming commercially viable through a mixture of passenger revenues, seeking contributions from local organisations, and providing 'value added' services through extensive data collection. These approaches have varied significantly, and with varying levels of success.

The final commercial model is contracting passenger transport services for specific commercial purposes. A notable example of this is providing a minibus or bus service to major employment sites in rural areas for employees and visitors. These are usually procured on a commercial basis, and are usually for the sole use of that organisation. However, over time they can be opened up to more regular use by the public.

An alternative approach that has been gaining traction in the last 15 years has been using cross-sectoral funding, especially within the public sector. By combining funding sources and commissioning transport services in a way that integrates public services such as social care, healthcare, eduction, and even the mail, services can be commissioned as one.

There is one obvious advantage to this approach in terms of efficiency savings. This is achieved in several ways, the most notable being commissioning a handful of routes or services serving multiple purposes as opposed to more routes and services each serving a single purpose. There are also savings in opportunity costs through single procurements taking place, as opposed to multiple procurements. There is also the opportunity for operators to make efficiency savings by minimising the number of vehicles and staff required to meet the service levels specified in the contract, as opposed to having numerous additional vehicles and staff 'on call' (and with the associated wasted costs through vehicle storage and maintenance).

This approach is not just about combining different sources of public sector funding, but can involve sourcing funding from non-public sector sources, notably local businesses. A notable such business is tourism, which can be utilised in two ways. First, a local charge on overnight stays could be used to financially subsidise local transport services. Secondly, higher fares during peak seasons for visitors (usually Easter, the summer, and potentially Christmas) and the associated profits can be used to cross-subsidise lower fares or maintaining services outside of these peak periods.

A popular funding model for the establishment of new mobility services in rural areas is through developer contributions. In its most basic form, this is when development in a rural area finances the establishment of a new service, or improvements to existing services. Such improvements can either be capital improvements (e.g. new bike lanes or upgrades to bus stops) or revenue funded (e.g. new bus services).

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Such improvements are typically secured through three mechanisms, each of which are governed by their own rules. The most widely used are Section 106 Contributions secured through Section 106 of the Town and Country Planning Act 1990, where rules as to what can be secured are set out by the National Planning Policy Framework in paragraph 57, and in planning obligations guidance. In general terms, the types of facilities for which contributions should be sought should be set out in the Local Plan.

The second is the Community Infrastructure Levy (CIL). This is a levy, usually charged above certain development thresholds by way of a set charge per dwelling or per square metre of floor area, is a contribution towards improvements to infrastructure and services set out in the Local Plan. What can be charged to CIL is strictly regulated by statutory guidance and the CIL Regulations.

The final approach is specifically related to highways, and is called a Section 278 Agreement, made under Section 278 of the Highways Act 1980. This is when developers are given permission to (at their own expense) make permanent changes to the public highway. This can include new junctions, new walking and cycling infrastructure, and new bus stops and bus priority.

Financing rural mobility services is challenging owing to the low population densities and the need to provide public sector financial support to public transport services. With pressures on public sector finances over the last decade, some of the more expensive rural transport services to operate (as measured in subsidy per passenger) have been lost, leading to a significant reduction in rural mobility services. In the East of England region, such funding is usually provided by Local Transport Authorities, with occasional contributions from District Councils and Town and Parish Councils.

With the future of mobility being identified as one of the Grand Challenges under the industrial strategy, there has been a significant amount of innovation funding channelled towards transport. Typically, such funding is focussed towards development and deployment of new technologies and service models, and historically within urban areas.

The most common methodology for distributing such funds is through competition. Such projects have the advantage for local authorities in being able to partner with industry to test new ideas, and have the entirety of the cost of doing so covered under typical grant funding arrangements (e.g. Innovate UK funding typically covers 100% of the project costs for local authorities, subject to the rules of each competition). Effectively, the projects are de-risked for local authorities financially.

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The challenge with such funding is it takes time, resource, and increasingly experience with successful funding bids to win such funding. Something which many local authorities do not have. Even when the funding is won, there are no guarantees that the services will be maintained after the trial period.

Furthermore, such funding typically favours new technologies and business models, as opposed to testing an existing technology in an entirely new context. Ideas such as better dispatch algorithms for community buses, and social innovations that involve the local population as co-creators find it harder to get funding as they have already been developed and applied in other contexts. Also, innovation funding rarely, if ever, seeks to trial a long-proven process or service deployed elsewhere in a new location on a trial basis.

A new approach that has been trialled is the idea of Living Labs - essentially large scale testing areas where people live where trials are undertaken over an extended period on a large number of projects. Living labs in test regions and larger-scale demonstration projects would allow the necessary evidence to be collected and the findings from small-scale demonstrations be substantiated, in order to convince decision makers of the benefits. The timeframe and geography should be broad enough that impacts on society, environment and local economy can be observed.

Current practice in the Transport East area

The current levels of expenditure by commercial companies on transport services in the Transport East area is unknown due to the commercial confidentiality of this information. In terms of general principles, however, the following is known:

The inter-urban bus network between cities and larger towns is primarily provided on a commercial basis, though some limited subsidy may be provided for morning or evening trips;

- The inter-urban coach network, primarily provided by National Express, is operated on a purely commercial basis, though stops in rural areas are limited;
- Taxis and Private Hire Vehicles are operated commercially, though in the case of taxis there are set minimum fare levels.

There is also relatively little data on the degree of cross-sector funding that takes place, partly because the cross-sectoral arrangements vary at the project level and are thus difficult to quantify. What is known is that substantial support for transport services is given by all Local Transport

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Authorities across the Transport East area. There are significant variances in this support across the Transport East area, with Norfolk being the notable outlier in terms of total spend.

Data on spend by local authorities on supporting bus services through developer contributions is also difficult to quantify. Each local planning authority (the District Councils) publishes spend data of planning obligations to varying standards, and not always openly. Some of the spend on new transport services can be captured through local transport authority spend data where the local transport authority procures the new service, however the degree to which this is done is uncertain.

For innovation funding, the **amount of spend on innovation projects since 2004** across the Transport East area is available from Innovate UK. The majority of the spend is in non-transport related innovation areas, notably food production, healthcare, and clean energy. No data is provided on the amount of spend on rural innovation projects.

Figure 28 – Spend by local authorities on supporting bus services in 2021/22

Suffolk was part of the recently completed **ADEPT Smart Places Live Labs programme**. The project was called '**A Smarter Suffolk**,' and proposed a roll out of sensor technology across the transport network including in rural areas. This included installing sensors in grit bins, establishing and enhanced air quality sensor network, monitoring gulleys and road temperatures, and installing a street light central management system.
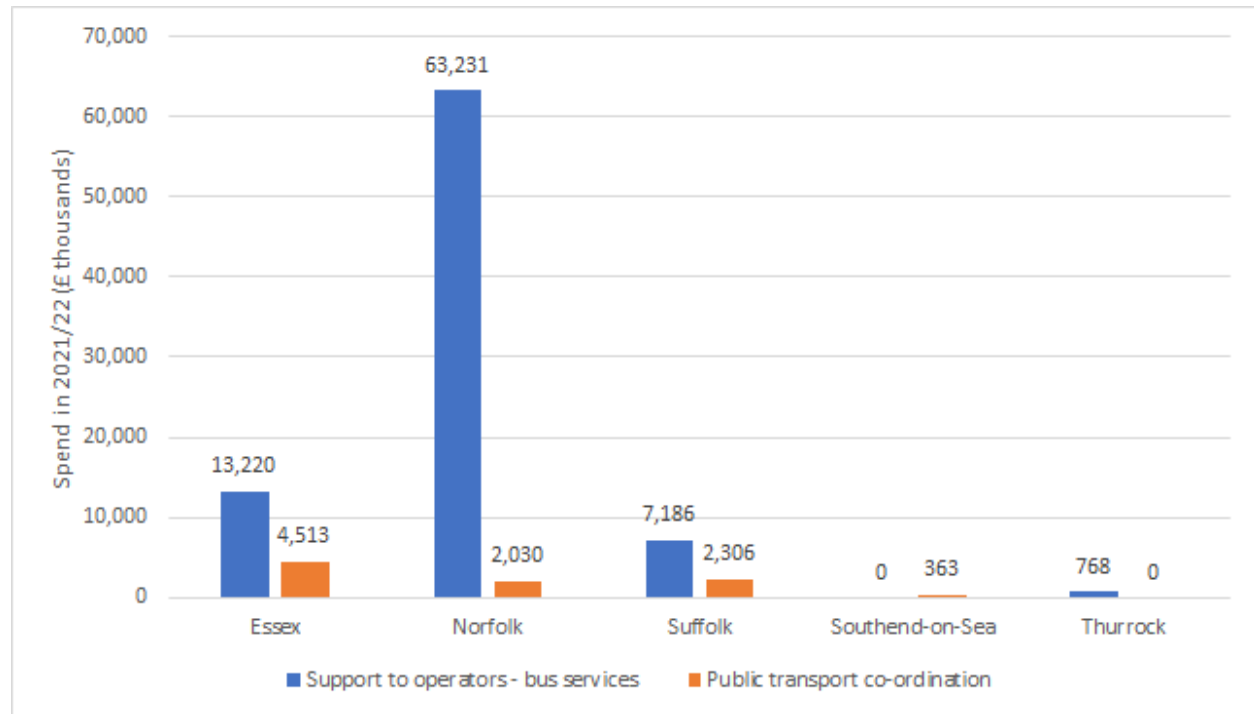
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Case Studies

A Smarter Suffolk

Key takeaway

Testing a number of technologies through a Living Lab, and its enabling communications infrastructure, offers a way of developing the business case for a variety of technologies in a near-real world setting.

Description

As part of the ADEPT Smart Places Live Labs Programme, Suffolk County Council was one of 7 projects that sought to fast-track innovation and new technologies through the adoption of a Living Lab approach. At a total cost around £4.5 million, the County Council sought to upscale an existing programme of adaptive street lighting and remote deployment of sensors across its network.

The series of projects that were delivered were as follows:

- Air quality sensors to provide near-real time data on Nitrogen Dioxide, Ozone, and Particulate Matter;
- Grit bin level monitoring through sensors;
- Gulley sensors to monitor levels of sedimentation;
- Street lighting, focussing specifically on enhancing the user interface for operators;
- Road temperature monitoring sensors.

The project did not necessary seek to 'prove' the case for each of these, but to understand how a network of connected sensors could support a variety of highways asset management use cases at scale. This was undertaken across urban and rural areas in Suffolk.

Outcomes

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There was no differentiation in the results between urban and rural areas. But the general results of the project were as follows.

- Air quality sensors
  There were issues with sensor calibration and reliability that affected all sensor types
  The business case depended on the requirements of the Environment Bill 2020

- Grit level sensors
  Sensors correctly detected grit levels in bins throughout the year
  Business case for the sensors was not established, as the cost of the sensors every year exceeded the cost of filling the bins

- Gulley sensors
  Significant variability in the reliability of gulley sensors
  Cost of sensors is higher than that of an in-person inspection

- Street lighting
  Recommended that the user interface design is a criterion to be assessed as part of the selection of the CMS for street lighting

- Road temperature monitoring sensors
  Sensor calibration and reliability was highly variable
  Business case can be found if used as a compliment to current weather and forecasting services

Further Information

ADEPT Live Labs

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