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Mobility options for travel generators outside cities – a scoping study

University of Hertfordshire

TRIG22 Challenge: Local Transport Decarbonisation

Index keywords:

Mobility hub; TRIG; Rural transport; MaaS

Executive summary

The project focused on the University of Hertfordshire as a major travel generator outside a city and looked at options for reducing car travel and carbon emissions from travel to and within the University and the surrounding area. There is very limited information on transport options for areas outside cities and the project wanted to use the University to create a template for other major travel generators in similar places, and in particular to see if it could integrate various transport offers and become a mobility hub, and whether such options would be attractive to likely users.

The project investigated existing travel options and found that the University is already providing a lot of mobility services. It runs its own bus company, Uno, which provides bus services across West Hertfordshire (Uno have been a partner in this project); it charges for and limits onsite car parking and runs a park and ride service; and it offers or has offered other mobility services including a basic bike hire service and previously an e-car club. The project included a programme of structured interviews with mobility providers, including Enterprise, Mobilityways, Zeelo and Transport Initiatives (bike hire specialists), and with key people in the University and in surrounding areas. Staff and students were also interviewed on their attitudes to travel and what their response might be to new mobility services.

Key highlights were identifying a range of opportunities for new mobility services in addition to existing provision and also good practice elsewhere that could be adopted by the University and by similar travel generators outside cities. We also found real enthusiasm for new mobility options from those we interviewed, and we gained insight on barriers and possible solutions to individual mobility options and to a mobility hub as a whole.

The project has shown that it is possible to provide good zero carbon mobility options in places outside cities and that these can apply in a range of places and circumstances. It also identified ways to overcome barriers to these options and the potential roles for the private sector, travel generators, landowners and local authorities in implementing these options, supporting electric vehicles and charging for them and also providing alternatives to single-occupancy car use. The project has led to some very fruitful discussions both within the university and between the university and outside bodies. There is interest in taking forward many of these discussions and to arrange meetings between the private sector companies we have talked to and key people at the University and in the surrounding area. In addition, the project has helped Uno develop its vision of ”The Connected Campus”.

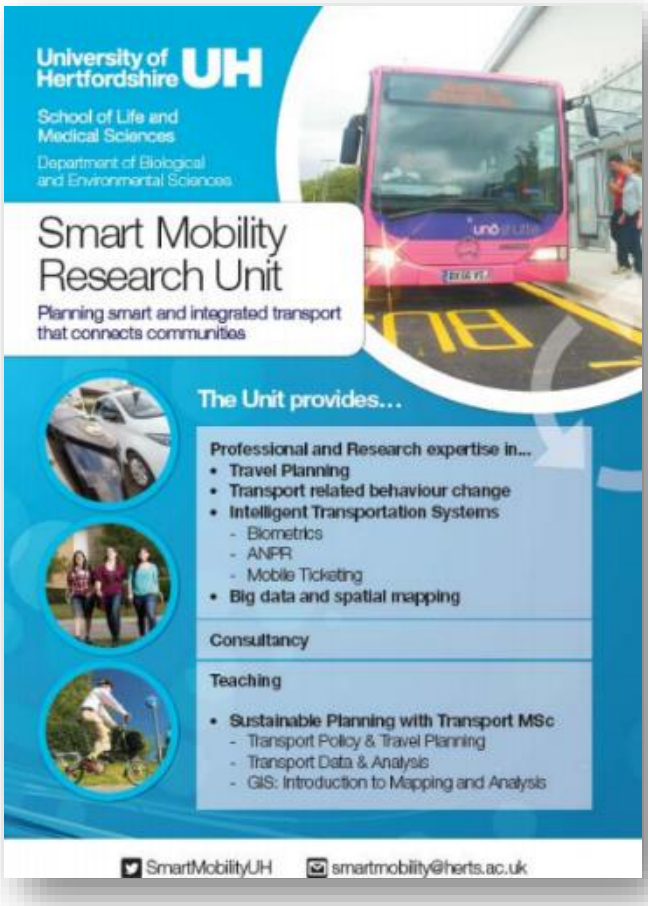
The TRIG project findings will also be an important part of the Smart Mobility Unit’s wider programme of work on developing options for low carbon transport outside cities and in promoting research and qualifications on transport planning. It will feature in work we are doing with the sub-national transport bodies, especially England’s Economic Heartland and Transport East. In this it will contribute to the Government objective of supporting low-carbon economic growth.

Contents

Aims of the Project

This project focused on the University of Hertfordshire as a major travel generator outside a city and looked at options for reducing car travel and carbon emissions from travel to and within the University and the surrounding area. It has built on previous work by the Smart Mobility Unit (SMU) at the University focusing on transport outside cities. In particular, it has, in association with DfT and the Catapult, run a series of roundtables looking at aspects of this, as part of the evidence gathering for the Government's forthcoming "Future of Transport: Rural Strategy". These roundtables, which are being continued with Transport East (sub-national transport body), have noted that shire counties account for 63% of the population and 74% of surface transport carbon emissions in England1. There is however very limited information on transport options for areas outside cities, so developing options for reducing transport carbon emissions in rural areas and smaller towns is an important challenge.

The project therefore wanted to apply learning and contacts from these roundtables and other work by the Unit, including work on Mobility as a Service, to the University itself and its surrounding area. It aimed to use the University to create a template for other major travel generators in similar places, and in particular to see if it could integrate various transport offers and become a mobility hub, and whether such options would be attractive to likely users. It wanted to identify challenges and barriers to the University becoming a mobility hub and to the various elements that a hub might include, and also possible ways to overcome these barriers to create a "connected campus".



[1] https://www.herts.ac.uk/__data/assets/pdf_file/0007/339397/1107-UH-Roundtable-Report_P5.pdf

Research Approach, Methodologies & Activities

The University is a major travel generator – it has 3,400 staff and 32,000 students and these generate significant levels of travel. The surrounding area includes the Hatfield Business Park, which aside from the University campus has major companies such as Ocado. A major landowner in the area is Gascoyne Estates, which is undertaking or proposing major developments in the area, and there are also regeneration plans for Hatfield itself, especially the town centre. The project therefore sought to engage with four main groups:

- People in the university and its administration (estates, finance etc) to test out their appetite for new mobility options
- People in the surrounding area – local authorities, Gascoyne Estates etc
- New mobility suppliers, with whom we had already developed a good relationship through the round tables and other contacts, to see what options might be available for the University and its area. These included Enterprise, Mobilityways, Zeelo and Transport Initiatives (bike hire specialists)
- Staff and students at the university, to test out their willingness to take up new mobility offers and a broader mobility hub/ MaaS offer.

In each case we ran a programme of structured interviews to identify challenges and barriers to a mobility hub and elements in it and possible solutions. Our project started by investigating existing travel options and found that the University is already providing a lot of mobility services. It runs its own bus company, Uno, which provides bus services across West Hertfordshire (Uno have been a partner in this project); it charges for and limits onsite car parking and runs a park and ride service; and it offers or has offered other mobility services including a basic bike hire service and previously an e-car club. with mobility providers. We therefore looked at ways of enhancing these services, linking them together and making them available to the surrounding area. The options we tested are all technically viable and have indeed been individually applied in different places. More challenging is the idea of linking them together, in three ways:

- Physically, providing hubs on and around the university sites where different mobility services can be accessed.
- Communication: ensuring staff, students and people and businesses in the surrounding community can be offered information on all mobility options for every journey they want to make.
- Payment: bringing together different mobility options into a single payment platform. This last is technically challenging, especially where there are different operators and brands – the apportionment of revenue is also a major challenge.

However, from the interviews we have conducted we have concluded that in principle these challenges can be overcome. Physical hubs can be provided – in fact the University already has the basis for some. Communicating mobility options should also be achievable using the University's communications system and wider transport systems such as Hertfordshire County Council's Intalink. However, creating a payment platform for different mobility options will be more challenging and may require the creation of partnerships between the university and local authorities, and between Uno and other transport operators and mobility providers.

Challenges or Limitations

The project was avowedly a scoping study, so it was not intended to implement a mobility hub, to scope out options and draw conclusions for major travel generators. Challenges have included contacting interviewees and drawing out relevant information. Timing for interviewing staff and students was difficult given the academic term. It has also not been possible with the resources available to draw up detailed business plans for a mobility hub and for elements within it. As a university, the team found it easier to overcome concerns about commercial confidentiality.

However, the project has been successful in showing that it is possible to provide good zero carbon mobility options in places outside cities and that these can apply in a range of places and circumstances. It identified a range of opportunities for new mobility services in addition to existing provision and also good practice elsewhere that could be adopted by the University and by similar travel generators outside cities, and it gained insight on barriers and possible solutions to individual mobility options and to a mobility hub as a whole. It also identified ways to overcome these barriers and the potential roles for the private sector, travel generators, landowners and local authorities in implementing these options, supporting electric vehicles and charging for them and also providing alternatives to single-occupancy car use. It also found real enthusiasm for new mobility options from many of those interviewed.

The project also made or revived useful links between the university and other organisations, and these will benefit university students and staff and the wider Hatfield community.

In retrospect the team would seek to engage with a wider range if stakeholders, including the business community, and allocate more time to interviewing them. We might also have wanted to engage with financial issues more deeply than we have been able to do.

Impacts & Benefits

The project proved that it is possible to reduce carbon emissions from surface transport at and around a major travel generator outside a city. This will have a useful impact because it can help other areas outside cities reduce their carbon emissions and work with major travel generators in their areas. It will have other benefits:

- Improved access and mobility for people without access to their own vehicle
- Reduced costs for travel
- A more attractive university for students and staff, with consequent improved student experience and staff recruitment and retention
- More choice in travel apart from single occupancy car use

The project has had many positive benefits. It has given indications towards frameworks for implementing new mobility solutions. We gained detailed knowledge on these solutions from our interviews, including:

- Car clubs: a car club offer was available prior to Covid and could be reinstated. Provision of parking spaces with charging would be key. Welwyn Hatfield Council is already starting to require car club provision in new housing developments so this could be integrated with a university scheme
- Bike hire: bike hire schemes are running or being procured in neighbouring areas in Hertfordshire so a scheme at the University and surrounding area would be achievable. The project found that a county-wide framework would be helpful – Surrey has set one up and this is being used in Guildford by the council and the University of Surrey to procure a bike hire scheme for the city. Creating bike hire hubs at different places in the University and Hatfield would be attractive for staff and students and was seen by the local council as an attractive offer for residents too. The literature suggests that moving this to e-bikes would increase the attractiveness of the hire scheme and widen cycling use to more groups and journeys.
- Mobilityways: the university has a travel plan and Mobilityways are offering to review and extend this and bring in car sharing in a more structured way, with measurement, reductions and reporting.
- Public transport: the university already has its own bus operator, Uno, and the project has noted options for expanding its network and reducing carbon emissions. A strong desire for better links to the Hatfield railway station, by bus and by other modes of transport, was noted. Uno is already a partner in a DRT scheme with Padam, and that platform could be extended and used in Hatfield. There are also bespoke transport contracts with Ocado on the business park run by Zeelo, and these could form part of a wider offer.

The interviews found that providers of these services are already working together to create combined mobility offers and digital platforms. The project concluded, as already noted, that drawing together mobility offers into a mobility hub and a Mobility as a Service offer will be more challenging. A key finding was that many of the barriers to adopting new technologies are institutional and financial rather than down to the technology itself. To overcome these barriers and to make the most of the technology, partnerships between the University, local authorities, and providers will be needed. A positive finding was that the basis for some of these partnerships already exist.

The Uno bus company has contributed some thinking on its role in creating a “connected campus”, and the issues that will need to be addressed to develop this. This is useful learning which will be followed up. Interviews with potential users of mobility services and a mobility hub were also positive. 73% said that they would find a mobility hub offering useful. A summary of the key results from the interviews with staff and students at the university can be viewed in the Appendix.

Next Steps

The next steps can be set out in four parts:

Research: it is proposed to produced a more detailed research report setting out the findings from this project and the wider implications that it has raised. It is expected that this report will be of great interest to a wide rage of groups and organisations. England's Economic Heartland has recently produced guidance on mobility hubs and has an ongoing programme of work to identify locations and seek to implement them. A report based on this project's findings will support this work.

It is also intended to produce research papers arising from this project – there is limited literature on mobility hubs and (as noted above) on transport outside cities, and the SMU is seeking to fill these gaps. A reading group has already been established and it is anticipated that this will review this report and suggest potential research papers arising from it.

Learning opportunities: the outcomes from this project will be incorporated into the curriculum of the new MSc in transport planning, initiated in 2022 and taking in new students each semester. Morre widely, it can support modules in undergraduate geography and environment courses and in other postgraduate curricula. It is also hoped to use this and other research to attract PhD students.

Implementation: the contacts made during the project will be used to take forward individual mobility options using contacts made and seeing if these can be practically implemented. The project has led to some very fruitful discussions both within the university and between the university and outside bodies. There is interest in taking forward many of these discussions and to arrange meetings between the private sector companies we have talked to and key people at the University and in the surrounding area. Existing initiatives and proposals – for example Vehicle to Grid charging and public EV charging at the University – can be developed as part of these discussions. In addition, the project has helped Uno develop its vision of "The Connected Campus", to which Uno can contribute moves to electrify its bus fleet and develop new partnerships. promote integration of buses with other transport and mobility offers. The project can also assist with separate initiatives by different bodies; for example, a proposed "Hertfordshire Rapid Transit" (HERT) project, providing high quality public transport across the county, is envisaged as having mobility hubs at each of its stops, and this project can inform the development of this.

Dissemination: The TRIG project findings will also be an important part of the Smart Mobility Unit's wider programme of work on developing options for low carbon transport outside cities. It will feature in work with the sub-national transport bodies, especially England's Economic Heartland and Transport East – indeed there is already a roundtable with TE on mobility hubs to build on the TRIG research. Hubs, and interest in this project, have featured in Transport East's current rural mobility project and this will feed into Transport East's centre for excellence on rural mobility.

Conclusions

The project has shown that it is possible to provide good zero carbon mobility options in places outside cities and that these can apply in a range of places and circumstances. It also identified ways to overcome barriers to these options and the potential roles for the private sector, travel generators, landowners and local authorities in implementing these options, supporting electric vehicles and charging for them and also providing alternatives to single-occupancy car use. The project made or revived useful links between the university and other organisations and these will benefit university students and staff and the wider Hatfield community.

The project will have wider benefits for the county, the region and the UK economy. It will support improvements to rural mobility and offer a template to others. It will form part of the university's teaching and research programmes and its engagement with local authorities and sub-national transport bodies. It will lead to measures that will help with the cost of living by providing lower cost options for accessing the university. In this it will contribute to the Government objective of supporting low-carbon economic growth.

Appendix

Summary of the key results that were obtained from the interviews with staff and students at the University of Hertfordshire.

Ten interviews were carried with 11 potential mobility hub service users at the University of Hertfordshire via Microsoft Teams (one interview included two interviewees). The interviewees consisted of three students (two international students and one home student), seven staff members (4 academic staff members and 3 professional staff members), and one participant who was both an academic staff member and a PhD student at the university. 27% of the participants travelled to and from the university by public transport using a combination of trains and buses. In addition, 55% of the participants travel to and from the university by private car (only), and 18% of the participants shared that they travel to and from the university using a combination of a private car and a bike (a motorbike, electric bike or pedal bike).

Key challenges associated with transport and the use of a mobility hub offering mentioned by staff and students within the interviews:

- Not knowing how to ride a bike / requiring cycle proficiency training to increase safety and confidence when using a bike.
- A lack of connections between home locations and the university make the use of public transport for commuting time consuming and challenging e.g. needing to travel into London and then back out again or needing to make multiple train and/or bus changes in order to reach a destination.
- Having reservations about car sharing with strangers and not knowing where to find information about other staff and students who live in the same area who would be interested in car sharing. Multiple participants said that they would be interested in car sharing if a scheme was in place to connect users who study or work at UH.
- Not wanting to carry around or share a bike helmet with others.
- A lack of secure, covered or available storage facilities for bikes, electric bikes and helmets.
- A lack of available showers and a lack of storage facilities for wet clothing at the university.
- Some participants shared safety concerns about some cycle routes and areas without cycle lanes, and others said that they had a lack of knowledge about suitable and available cycling routes between their homes and the university.
- Two participants perceived E-scooters as fast and dangerous for pedestrians (especially on pavements) and it was highlighted that the use of E-scooters could be a potential risk to the university in terms of insurance.
- Bus services can be irregular and do not always turn up or arrive on time.
- Some forms of transport would not be attractive to use in the winter or in inclement weather e.g. E-scooters and bikes.
- The shuttle bus between campuses is often crowded and was described by one participant as being too intermittent, which can delay staff and students who need to travel between campuses for time critical activities. Similarly the buses that run between Hatfield train station and the campuses are often crowded and are not always available when they are needed, so it was suggested that a DRT service or a service similar to the Ocado model could be desirable for UH staff.
- There are a lack of electric car charging points / spaces at the university, particularly on the De Havilland campus.

- Key factors that the staff and student interviewees said would encourage them to use a mobility hub offering in and around UH:
- Putting in measures to teach people how to use available transport options e.g., providing cycling proficiency courses to staff.
- Making transport offers convenient, accessible and straightforward and easy to use (including having a properly functioning and simple app).
- Making the transport offers easy to pay for and available at a reasonable price / low cost that provides value for money.
- Raising awareness of what transport options and transport routes are available for staff and students and putting people in touch with others at the university who live nearby to one another and are interested in car sharing.
- Expanding the mobility hub offering beyond Hatfield within a 5-mile radius so that it would include St. Albans.
- Providing a bike hire scheme so that people could hire a bike using an app. It was also highlighted that making the bike hire free for the first 30 mins would make it attractive to users.
- Helping to reduce fears related to cycling e.g., by providing and signposting suitable cycling routes and providing cycling proficiency courses.
- Ensuring that utilising the services would not add significant time or added complications to existing commuting journeys.

Overall, eight interview participants (73%) said that they would find a mobility hub offering useful, and three participants (27%) said they would not find it useful or were not sure whether they would find it useful for their transport needs. The image below presents a range of interview extracts showing what factors the staff and student participants said would encourage them to use a mobility hub offering.