

# Transport integration and MaaS: what can Northern Ireland learn from elsewhere?

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Image source: Intelligent Transport



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Prepared by:

Steer

Prepared for:

The Consumer Council  
Seatem House,  
28 – 32 Alfred St,  
Belfast BT2 8EN

[www.steergroup.com](http://www.steergroup.com)

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## Terminology

Term	Description
ABT	Account Based Ticketing
API	Application Programming Interface
DfE	Department for the Economy
DfI	Department for Infrastructure
DfT	Department for Transport
DDRT	Digital demand responsive transport
EU	European Union
EV	Electric Vehicle
FTZ	Future Transport Zone
GHG	Greenhouse gas
HITRANS	Highlands and Islands Transport Partnership
MaaS	Mobility as a Service
MaaS provider	The MaaS provider is responsible for the development of the MaaS app and platform. This role could be taken by different actors such as the public transport authority, transport operator or companies from the banking, telecommunications or other sectors.
MSP	Mobility Service Provider
MVP	Minimum viable product
Pay As You Go	Pay As You Go
SUMA	Shared Use Mobility Agency
TfL	Transport for London
TFTS	Translink Future Ticketing System

## Executive summary

### Background

Transport is at the centre of some of the most significant challenges in society including congestion, air pollution and increasing carbon emissions. In some locations, the Covid-19 pandemic had a drastic impact on the use of public transport and consumer confidence in those modes.

In Northern Ireland most journeys continue to be made by private car (71%) whilst overall walking, cycling and public transport use has barely changed.<sup>1</sup> Belfast is reported by INRIX as being a highly congested city and the second most congested city in the UK after London.

More recently, we have seen the accelerated introduction of shared mobility (such as bike and e-scooter share and car clubs) and use of technology to improve transport offer and connectivity (e.g., transport integration and Mobility as a Service (MaaS)). While a transition to electric vehicles can support decarbonisation targets, this shift will not address wider issues such as congestion and the cost of travel. To achieve Northern Ireland's environmental targets and build a transport system for the future, public and private sector bodies must collaborate to develop integrated, convenient and sustainable transport networks which help to decarbonise transport.

The Consumer Council has commissioned Steer to undertake research to understand international and national best practice focused on the integration and use of technology supporting a transition towards more sustainable transport services.

A literature review was undertaken to understand existing research and best practice regarding transport integration and MaaS. To support the desktop research and literature review, four interviews were conducted with organisations involved in the delivery of transport integration and MaaS: Solent Transport, Swiss Federal Railways (SBB CFF FFS, subsequently abbreviated as SBB) Highlands and Islands Transport Partnership (HITRANS) and AECOM.

### Transport integration and MaaS

Integration of transport services and, ultimately, MaaS, allows users to easily change between different public and private transport modes (including shared transport) with an ability to access information and book and pay for tickets with one app. This helps enable and encourage behaviour change, which needs to be accompanied by promoting pull (e.g., user-friendly app, messaging health or environmental benefits) or push measures (e.g., increasing costs of driving alone).

The MaaS Alliance defines MaaS as the integration of transport and transport-related services into a single, comprehensive, and on-demand mobility service.<sup>2</sup> The user is placed in the centre of the MaaS service with an ability to plan, book and pay for multimodal journeys tailored to the user's preferences and personal choices. A MaaS service by itself does not create additional transport capacity but integrates existing capacity from public and private transport modes.

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<sup>1</sup> [Planning for the future of Transport \(infrastructure-ni.gov.uk\)](https://www.infrastructure-ni.gov.uk)

<sup>2</sup> [What is MaaS? – MAAS-Alliance](https://www.maaS-alliance.com)

Sochor et al. (2017) developed a typology distinguishing five integration levels for MaaS ranging from no integration to a full integration of booking and payment presented in the figure below.

**Figure 1.1. MaaS integration levels**

<b>Level 0</b> No integration	The separate services are provided for different transport modes (e.g. Stagecoach bus app)
<b>Level 1</b> Integration of information	Travel information is provided through multi-modal journey planners, which may also include information on routes and costs (e.g. Google Maps, Translink NI journey planner app)
<b>Level 2</b> Integration of booking and payment	MaaS facilitates the finding, booking, and payment of individual trips (e.g. Jelbi in Berlin, GO-HI in Scotland)
<b>Level 3</b> Integration of transport services into passes and bundles	MaaS goes beyond assisting in individual travel movements, to responding to the full daily mobility needs of individuals and families by offering different means of transport through bundles/ passes (e.g. Whim in Finland, yumuv in Switzerland)
<b>Level 4</b> Integration of societal goals	MaaS extends beyond its function as an intermediary between the demand for and supply of mobility. This service is combined with local, regional, and/or national policy goals (e.g. the Sked Go Sydney MaaS trial looking at subscription and modal shift policy)

Source: Sochor et al. (2017)<sup>3</sup>

A steppingstone to MaaS is provision of a range of mobility services which complement existing public transport services and offer users a range of services instead of a private car. The table below provides an overview of the types of services which can support use of public transport within MaaS implementation.

**Table 1.1: Mobility services and initiatives which support MaaS in Northern Ireland**

Services and initiatives which support MaaS	Current, future and past provision in Northern Ireland
Car clubs	Enterprise Car Club (Belfast, only three locations)
Shared bikes	Belfast Bikes (Belfast)
Shared e-scooters	None
App-based taxi/Private Hire services	fonaCAB (Belfast), Uber (Belfast)
Park + Ride sites	Translink operates dedicated high frequency services from major park and ride sites. <sup>4</sup>
Belfast Transport Hub	The project will deliver an integrated transport hub to enhance local and international connectivity with bus, coach and rail links across Northern Ireland and beyond. The facility will also include cycle and taxi provision delivering enhanced connectivity and comfort encouraging sustainable active travel for a healthier city. <sup>5</sup>
Translink Future Ticketing System (TFTS)	The multi-million pound TFTS project seeks to upgrade the existing ticketing equipment to deliver a new platform for Translink's proposed Account Based Ticketing System (ABT). The ABT system means customers

<sup>3</sup> Sochor, J., Arby, H., Karlsson, I. C. M., & Sarasini, S. (2017). A topological approach to Mobility as a Service: A proposed tool for understanding requirements and effects, and for aiding the integration of social goals. Paper presented at the 1st International Conference on Mobility-as-a-Service, Tampere, Finland

<sup>4</sup> [Park & Ride Services \(translink.co.uk\)](https://www.translink.co.uk/park-ride-services)

<sup>5</sup> [Belfast Transport Hub \(translink.co.uk\)](https://www.translink.co.uk/belfast-transport-hub)

Services and initiatives which support MaaS	Current, future and past provision in Northern Ireland
	simply tap on at the start of their journey with a debit or credit card (or a mobile wallet like ApplePay or GooglePay), or a dedicated Translink smartcard, before tapping off at the end of their journey. <sup>6</sup>
Digital Demand Responsive Transport (DDRT)	The Integrated Transport Pilot was held in 2016 in the Dungannon area to consider how and if a more joined up approach to service delivery could deliver improved operational efficiency and increased options for people needing to travel. <sup>7</sup>

The Department for Infrastructure (DfI) presents their approach that is shaped around three overlapping actions which transport integration and MaaS could support (see the table below).

**Table 1.2 How MaaS can support the DfI's approach**

Steps of the DfI's approach	MaaS potential
Carbon reduction – using existing policy tools and emerging technology	<ul style="list-style-type: none"> <li>MaaS could improve the overall transport network efficiency, optimise capacity, and encourage co-operation across the transport system leading to reduced congestion and improved air quality.</li> <li>MaaS has the potential to encourage mode shift away from private car journeys and spread the demand across the day leading to reduced congestion and improved air quality</li> </ul>
Proactive planning and design – taking direct steps towards desired outcomes	<ul style="list-style-type: none"> <li>Data collection enabled by MaaS can facilitate better management of travel demand and transport infrastructure. Transport planners can optimise use of existing transport networks and better plan for future.</li> </ul>
Integrated land use and transport planning – securing short-, medium- and longer-term changes if we start now.	<ul style="list-style-type: none"> <li>MaaS could be developed alongside Mobility Hubs and introduction of new services such as shared micromobility and DDRT encouraging their uptake.</li> </ul>

There are various ways transport integration and MaaS could be delivered and there is not a perfect solution suitable for every location. The approach to transport integration should be tailored to the existing conditions and needs of each city or region.

Currently, there are several private sector companies which have developed platforms with journey planning, booking and payment functionalities. They are mainly focused on the most available or commercially attractive integration elements which are often developed without consideration of the public sector strategic goals such as inclusivity and accessibility or reduction of congestion. City and transport authorities have only recently started to lead on MaaS development focused on delivering public policy goals, with locations such as Berlin, Solent Region and Paris leading by example.

<sup>6</sup> [Translink Future Ticketing System](#)

<sup>7</sup> [165.-20160831raise-anoverviewoftheintegratedtransportpilot.pdf \(niassembly.gov.uk\)](#)



There is a general consensus that to achieve public policy objectives, MaaS should be developed as a private and public sector partnership, encouraging close collaboration and co-creation. The public sector could set a range of required key performance indicators (KPIs) reflecting the strategic goals, while also allowing for private sector innovation.

Without active engagement from the public sector, there is a risk that strategic policy goals could be overlooked and not achieved. Further risks exist from a lack of public sector involvement including unfair competition, lack of service resilience if operators fail and lack of transparency.

### **MaaS delivery**

The delivery of transport integration and MaaS is complex and a tailor-made approach reflecting local context should be developed to maximise the potential success of any MaaS implementation. The most important lessons learned by Northern Ireland, collected from the literature review and case studies, are summarised below.

- **The public sector should play a prominent role in development of MaaS** regardless of the delivery model chosen (e.g., private or public sector-led). Public authorities must become involved to ensure public policy goals are reached and user benefits are fully realised.<sup>8</sup>
- **A single MaaS platform is recommended** given Northern Ireland's size: there is a scope for a countrywide MaaS solution supporting urban, interurban and rural connectivity.
- **Skills and resources available to the public sector could be limited** and there could be a need to work with a range of experts in business models, smart ticketing and legal requirements while developing a MaaS solution.
- **Roles, expectations and responsibilities should be clearly established** as MaaS brings together a high number of stakeholders including transport operators, technology and payment solution providers, policy makers and other service providers such as Electric Vehicle charging infrastructure operators.
- **The MaaS business model is yet to be proven** – a long-term commercial sustainability has not been achieved yet. Commercial sustainability would be more challenging in rural areas and there could be a need for ongoing subsidy of MaaS operations if not enough revenue is generated through sources such as commissions on selling tickets, advertising and sponsorship.
- MaaS development typically **requires upfront capital funding** and often **ongoing revenue funding**. One of the use cases of MaaS which could be explored further is MaaS for businesses/organisations (e.g., MaaS solution tailored to the biggest employers in the area). At the same time, it should be acknowledged that the value of MaaS lies in the shift to sustainable modes and in that sense, funding invested into MaaS could be balanced by capturing the value corresponding to the cost of congestion and air pollution.<sup>9</sup>
- **Before implementing MaaS, there is a need to ensure that appropriate infrastructure and transport operators are in place** (e.g., bike share, car clubs, smart ticketing solutions). Shared mobility services could be developed alongside MaaS (e.g., in the Solent Region shared e-scooters and e-bikes were introduced while Brompton bike hire and shared e-bike scheme were also developed by HITRANS in Scotland). There is a scope to develop a network of Mobility Hubs alongside MaaS to support uptake of the services encouraging multimodal journeys (e.g., in Berlin and Vienna). Mobility Hubs can allow for smoother changes between transport modes and enhance the overall travel experience.

<sup>8</sup> [mobility as a service maas and sustainable urban mobility planning.pdf \(eltis.org\)](#)

<sup>9</sup> [Report MaaS final.pdf \(uitp.org\)](#)

- **Without integrating data, MaaS cannot work:** relevant data in the optimal format enables insight which in turn enables the creation of innovative services.
- **Development of MaaS and integration of transport services takes time** and could be more complex than it seems. It is important to develop partnerships with the service providers and gain their trust. The technology is readily available, but commercial agreements with services providers still need to be negotiated. For example, Solent Transport engaged with the key stakeholders prior to the MaaS provider procurement to ensure they are willing to collaborate and participate in the MaaS trial.
- **It is important to test and run trials to tailor MaaS solutions** for users in each location. Various services can be gradually added to the platform and app in a phased approach (e.g., starting from integration of information and leading to full integration with an ability to book and pay for services).
- **Marketing and promotion are crucial for MaaS uptake**, and it is important to raise awareness of its benefits. The creation of a strong brand would support promotion of MaaS and overall sustainable travel. The acceptance of MaaS can be increased through public outreach programs to educate users on the benefits of MaaS in cost saving, health and environmental terms.
- **Incentive strategies can be important to fully unlock the potential of MaaS** encouraging use of sustainable transport options, incentives strategies might be helpful. The Sydney MaaS trial revealed that without a monetary incentive, travellers appeared to see very little value in MaaS. Therefore, for sustainable goals to be achieved, introduction of bundles (a subscription plan) was advised as a tool to obtain societal goals.<sup>10</sup>
- **There is a scope for MaaS to be expanded to provide international links.** As shown by yumuv in Switzerland, there is a potential to go beyond national boundaries too, so it is important to collaborate with other authorities at regional but also at national level. Given the importance of the Belfast-Dublin corridor and routes from the Antrim coast to the Atlantic coast, there is a significant potential for MaaS in Northern Ireland to improve cross-border travel and air/sea travel to Great Britain.<sup>11</sup>
- **It is important to monitor and evaluate the impacts of MaaS** on travel behaviour and choices of the users. A monitoring and evaluation framework should be developed stating the required KPIs, assessment methods and tools.

### Options for delivery of MaaS in Northern Ireland

In Northern Ireland, Translink provides the public transport including NI Railways, Ulsterbus and Metro. In terms of shared mobility, there are shared bikes and a small number of car clubs in Belfast. Given there are not any MaaS apps and platforms operational in Northern Ireland at the moment, there is potential for Translink to take the lead, building on the journey planning app Translink NI which includes public transport modes.

When considering the potential delivery of MaaS in Northern Ireland, the following learnings and potential actions are recommended as a starting point:

- Evaluate opportunities to expand shared mobility services such as car clubs and shared micromobility first (e.g., including shared e-scooters, e-bikes and e-scooters);
- Engage with the key public and private transport operators in Northern Ireland and gather their initial views on MaaS and willingness to share the data;

<sup>10</sup> [MaaS Exploratory Study \(gov.ie\)](https://www.gov.ie/en/publications-and-resources/publication/2020-03-10-maaS-exploratory-study/)

<sup>11</sup> [Rethinking-Mobility-in-Ireland Smart-Dublin FINAL-1.pdf \(smartdublin.ie\)](https://www.smartdublin.ie/~/media/SmartDublin/SmartDublin_FINAL-1.pdf)

- Evaluate an opportunity for the Translink NI journey planning app to incorporate shared mobility services (e.g., similar to Google maps and Citymapper partnerships in other locations);
- Identify and agree the role of the government in delivering MaaS;
- Identify and secure funding to pilot MaaS solutions taking into consideration potential need for revenue funding;
- Start small – try pilots and tailor MaaS solution to the local context (see MyMobilityHub project example in Case Studies, Chapter 4);
- Identify key use cases for MaaS in Northern Ireland including MaaS for business travel;
- Engage with Irish government and share knowledge on transport integration and explore opportunity for future cross border MaaS operations.

# 1 Introduction

## Research context

- 1.1 The Northern Ireland Assembly passed its first ever Climate Change Legislation in March 2022. The Climate Change Act (Northern Ireland) 2022 received Royal Assent on 6 June 2022 and sets out the legal framework for tackling climate change by reducing greenhouse gas (GHG) emissions in Northern Ireland for decades to come.<sup>12</sup>
- 1.2 In December 2021, the Department for the Economy (DfE) published its Energy Strategy, ‘Path to net zero energy’.<sup>13</sup> The Strategy sets out the significant carbon reduction that the transport sector has to achieve in order for Northern Ireland to achieve its overall decarbonisation objectives. The Strategy also states the key role consumers will play in decarbonising transport and the need for policymakers to engage with consumers and understand their views.
- 1.3 On the 27 October 2022 the DfE published its Energy Consultation on the Plan for the Implementation of the Energy One Stop Shop.<sup>14</sup> Transport is included in the strategic objectives which states that:
- “The Energy One Stop Shop will inform, advise and support people, businesses and communities to enable them to transition to affordable, smart decarbonised solutions for their energy efficiency, power, heat and transport needs, with special regard to those who may be least able to.”*
- 1.4 The objective for the Energy One Stop Shop is to become a go to source for impartial information, advice and support for consumers moving to sustainable technologies.
- 1.5 The Consumer Council has commissioned Steer to undertake this research to understand international and national best practice with a focus on the integration and use of technology in transport services to support a transition to use of more sustainable transport.

## Methodology

- 1.6 A literature review was undertaken to understand existing research and best practice regarding transport integration and MaaS.
- 1.7 To support the desktop research and literature review, four interviews were conducted with organisations delivering MaaS.

Table 1.1. Interviews

Organisation name	Case study
HITRANS	Go-Hi MaaS app and platform in Scotland
SBB	Yumuv MaaS app and platform in Switzerland
AECOM	MyMobilityHub project in Ireland

<sup>12</sup> [Climate Change Act \(Northern Ireland\) 2022 \(legislation.gov.uk\)](https://legislation.gov.uk)

<sup>13</sup> [The Path to Net Zero Energy. Safe. Affordable. Clean. \(economy-ni.gov.uk\)](https://economy-ni.gov.uk)

<sup>14</sup> [Energy "One Stop Shop" Implementation Plan - consultation on policy options | Department for the Economy \(economy-ni.gov.uk\)](https://economy-ni.gov.uk)

Organisation name	Case study
Solent Transport	Breeze MaaS app and platform in England

## Background context

- 1.8 Transport is facing significant challenges such as congestion, air pollution and increasing carbon emissions. In some locations, the Covid-19 pandemic had a drastic impact on the use of public transport and consumer confidence in these modes.
- 1.9 Transport became the largest sectoral emitter of GHGs in 2016 in the UK, growing to account for 27 per cent of national emissions by 2019. The Transport and Environment Statistics Annual Report states that in the UK 55% of transport emissions come from cars leading to air pollution.
- 1.10 In Northern Ireland most journeys continue to be made by private car (71%) whilst overall walking, cycling and public transport use has barely changed.<sup>15</sup> Belfast is reported by INRIX as being a highly congested city and is second behind London in terms of cities across the UK in the difference in travel times between peak and free-flow times of the day (used to measure levels of congestion).
- 1.11 More recently, we have seen the accelerated introduction of shared mobility (e.g., bike and e-scooter share and car clubs) and use of technology to improve transport offer and connectivity (e.g., transport integration and MaaS). To achieve the Northern Ireland’s environmental targets and build a transport system for the future, public and private sector bodies must collaborate to develop integrated, convenient and sustainable transport networks.

## Structure of the report

- 1.12 Following this introduction, this report includes:
- Chapter 2 describes the concept of transport integration and MaaS;
  - Chapter 3 presents MaaS delivery models;
  - Chapter 4 summarises the findings from the case studies; and
  - Chapter 5 provides a summary of the key lessons learned.

<sup>15</sup> [Planning for the future of Transport \(infrastructure-ni.gov.uk\)](https://www.infrastructure-ni.gov.uk/planning-for-the-future-of-transport)

## 2 Transport integration and MaaS

### Introduction

- 2.1 Travel patterns and the modes that we use are dominated by our habits and routines that form part of our everyday lives. Behaviours like driving to work tend to be ingrained habits that are difficult to change, as people rarely question their frequent behaviours, unless prompted by a significant change, such as a new job or moving home.<sup>16</sup>
- 2.2 Integration of transport services and, ultimately, MaaS, allows users to easily change between different public and private transport modes with an ability to access information and pay and book for the tickets with one app. This allows to enable behaviour change, which needs to be accompanied by promotion of a pull (ease of use, health benefits, improving the environment, etc.) or push measures (increase costs of alternative modes, etc.).<sup>17</sup>

### MaaS definition

- 2.3 The MaaS Alliance defines MaaS as the integration of transport and transport-related services into a single, comprehensive, and on-demand mobility service.<sup>18</sup> The user is placed in the centre of the MaaS service with an ability to plan, book and pay for multimodal journeys tailored to the user's preferences and personal choices.
- 2.4 The MaaS Lab defines MaaS as a:  
*"User-centric, intelligent mobility management and distribution system, in which an integrator brings together offerings of multiple mobility service providers and provides end-users access to them through a digital interface, allowing them to seamlessly plan and pay for mobility".<sup>19</sup>*
- 2.5 A MaaS service by itself does not create additional transport capacity but integrates existing capacity from public and private transport modes. Integration of the different transport and mobility related services into a single platform and user interface is undertaken by a MaaS operator/provider which matches supply and demand (see Figure 2.1 below). Mobility Service Providers (MSPs) are public and private transport operators (e.g., bus, rail, shared micromobility, car club operators etc.) and mobility related services such as Electric Vehicle (EV) charging infrastructure operators.

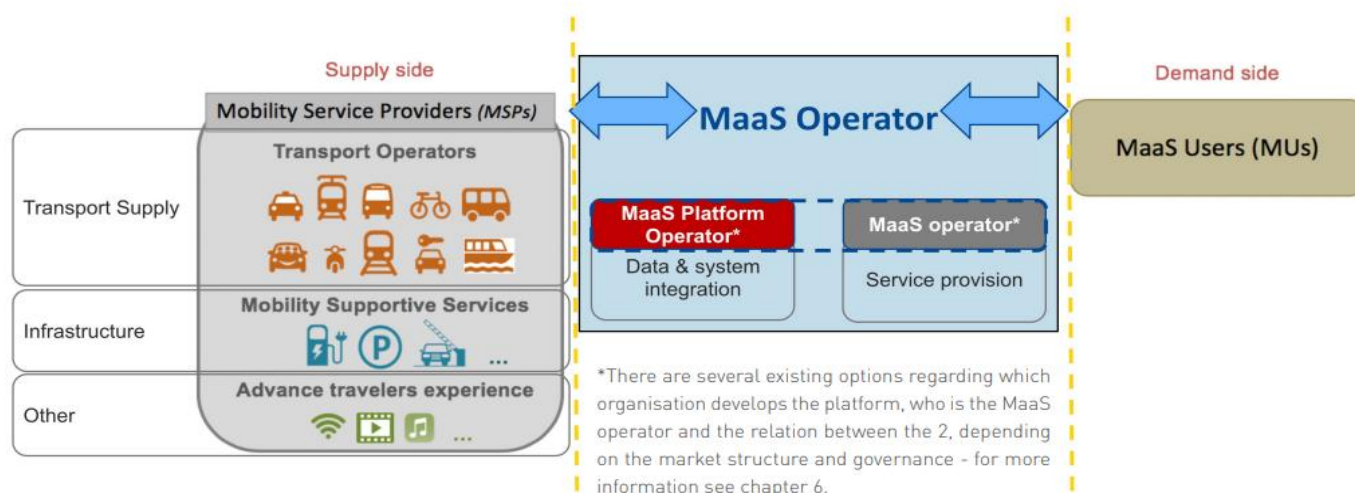
<sup>16</sup> [planning-route-sustainable-transport.pdf \(the-ies.org\)](#)

<sup>17</sup> [planning-route-sustainable-transport.pdf \(the-ies.org\)](#)

<sup>18</sup> [What is MaaS? – MAAS-Alliance](#)

<sup>19</sup> [mobility as a service maas and sustainable urban mobility planning.pdf \(eltis.org\)](#)

Figure 2.1. MaaS concept



Source: MaaS concept (elaborated by Eltis from the elements of UCL-MaaS Lab, [mobility\\_as\\_a\\_service\\_maas\\_and\\_sustainable\\_urban\\_mobility\\_planning.pdf](#) (eltis.org))

2.6 Sochor et al. (2017)<sup>20</sup> developed a typology distinguishing five integration levels for MaaS ranging from no integration to a full integration of booking and payment:

- Level 0: no integration. The separate services are provided for different transport modes. (e.g., Stagecoach bus app);
- Level 1: integration of information. Travel information is provided through multi-modal journey planners, which may also include information on routes and costs (e.g., Google Maps, Translink NI journey planner app);
- Level 2: integration of booking and payment. MaaS facilitates the finding, booking, and payment of individual trips (e.g., Jelbi in Berlin, GO-HI in Scotland);
- Level 3: integration of transport services into passes and bundles. MaaS goes beyond assisting in individual travel movements, to responding to the full daily mobility needs of individuals and families by offering different means of transport through bundles/ passes. (e.g., Whim in Finland, yumuv in Switzerland); and
- Level 4: integration of societal goals. MaaS extends beyond its function as an intermediary between the demand for and supply of mobility. This service is combined with local, regional, and/or national policy goals (e.g., the Sked Go Sydney MaaS trial looking at subscription and modal shift policy).

2.1 A steppingstone to MaaS is provision of a range of mobility services which complement existing public transport services and offer users a range of services instead of a private car. Table 3.1 provides an overview of the types of services which can support use of public transport within MaaS implementation.

<sup>20</sup> Sochor, J., Arby, H., Karlsson, I. C. M., & Sarasini, S. (2017). A topological approach to Mobility as a Service: A proposed tool for understanding requirements and effects, and for aiding the integration of social goals. Paper presented at the 1st International Conference on Mobility-as-a-Service, Tampere, Finland

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Belfast Transport Hub	The project will deliver an integrated transport hub to enhance local and international connectivity with bus, coach and rail links across Northern Ireland and beyond. The facility will also include cycle and taxi provision delivering enhanced connectivity and comfort encouraging sustainable active travel for a healthier city. <sup>22</sup>
Translink Future Ticketing System (TFTS)	The TFTS project seeks to upgrade the existing ticketing equipment to deliver a new platform for Translink's proposed Account Based Ticketing System (ABT). The ABT system means customers simply tap on at the start of their journey with a debit or credit card (or a mobile wallet like ApplePay or GooglePay), or a dedicated Translink smartcard, before tapping off at the end of their journey. <sup>23</sup>
Digital Demand Responsive Transport (DDRT)	The Integrated Transport Pilot was held in 2016 in the Dungannon area to consider how and if a more joined up approach to service delivery could deliver improved operational efficiency and increased options for people needing to travel. <sup>24</sup>

2.2 The cumulative effect of targeting different types of journeys with a variety of modes is also likely to be substantially greater than that of a single intervention for one specific travel mode. There is a scope to gradually develop MaaS through a coordinated strategy of interventions.

2.3 MaaS has typically been applied in urban contexts, where there is a high potential demand for transport services and a wider range of transport options. MaaS can also be applied in rural settings (e.g., Go-HI in Scotland), but faces unique challenges related to lower population densities, often greater distances between the cities and lower levels of demand.

### MaaS benefits

2.4 MaaS could provide a range of benefits and advantages making it an attractive mobility innovation that can be applied across a range of contexts. MaaS has potential to influence the modal shift from private ownership and use of cars towards shared resources and greater use of public transport, vital in reducing the carbon emissions of transport. It aims to provide a viable and competitive alternative to the private car (or second car) reducing trips by car and mitigating associated environmental and health impacts.

2.5 MaaS has the potential to facilitate more sustainable travel behaviour by providing access to multiple transport modes and services, first/last mile connections, fare integration and real-

<sup>21</sup> [Park & Ride Services \(translink.co.uk\)](https://www.translink.co.uk)

<sup>22</sup> [Belfast Transport Hub \(translink.co.uk\)](https://www.translink.co.uk)

<sup>23</sup> [Translink Future Ticketing System](#)

<sup>24</sup> [165.-20160831raise-anoverviewoftheintegratedtransportpilot.pdf \(niassembly.gov.uk\)](#)



time information. It also improves user experience by addressing the challenge of navigating multiple applications and payment systems.

- 2.6 MaaS can bring benefits to various groups, including users, transport operators and service providers (Table 3.2), as well as wider societal benefits, such as socio-economic and environmental sustainability. It can also contribute to financial sustainability for transport operators by increasing ridership.

**Table 2.2 MaaS benefits**

Beneficiary	MaaS benefits
User benefits (including users and businesses)	<ul style="list-style-type: none"> <li>• <b>Improved customer experience:</b> users can plan, book and pay for their journeys in a seamless way. They are also informed in real-time if their journeys are disrupted. MaaS eliminates the need for separate transport accounts and multiple travel tickets. For businesses and organisations MaaS could provide an easy option to manage and influence business travel of their employees. <i>Customer satisfaction of the users of UbiGo MaaS pilot in Sweden in using the app was high with 97% of participants indicating they wanted to continue using the app at the end of the trial.</i><sup>25</sup></li> <li>• <b>Tailored services:</b> customers can plan their journey based on their personal preferences such as time, cost, comfort, convenience.</li> <li>• <b>Transparent and competitive pricing:</b> MaaS can offer services through a Pay As You Go (PAYG) model or as weekly/monthly/yearly tickets. Users can also be offered mobility fare bundles/subscriptions with cheaper prices compared to a PAYG model.</li> <li>• <b>Potential to improve health and wellbeing:</b> incentives could be provided to encourage and/or reward the use of active modes such as walking and cycling, which has a positive impact on personal health through encouraging physical activity. <i>21% of the participants of the MaaS pilot in Greater Manchester were more willing to cycle and walk.</i><sup>26</sup></li> </ul>
Transport operators and service providers	<ul style="list-style-type: none"> <li>• <b>Increased demand:</b> MaaS represents a new sales channel and could increase demand for sustainable transport services. <i>95% of all trips by Whim users (MaaS app in Finland) in 2018 were made by public transportation.</i><sup>27</sup> <i>The results from the MaaS pilot in Greater Manchester revealed that 26% of the participants were more willing to use public transport after the trial.</i><sup>28</sup></li> <li>• <b>Improved operations:</b> MaaS could increase operating efficiency of transport operators and service providers through provision of additional data and insights on user choices.</li> <li>• <b>Innovation:</b> MaaS could encourage development of new business models leading to innovation.</li> </ul>
Society	<ul style="list-style-type: none"> <li>• <b>Efficient transport network:</b> MaaS could improve the overall transport network efficiency, optimise capacity, and encourage co-operation across the transport system leading to lower carbon emissions, reduced congestion and improved air quality. Furthermore, data collection enabled by MaaS can facilitate better management of travel demand and transport infrastructure. Transport planners can optimise use of existing transport networks and better plan for future.</li> <li>• <b>Improved air quality, reduced private car use and congestion:</b> MaaS has the potential to encourage mode shift away from private car journeys and spread the</li> </ul>

<sup>25</sup> [Urban Transport Group – Maas movement report\\_AW.pdf](#)

<sup>26</sup> [Report\\_MaaS\\_final.pdf \(uitp.org\)](#)

<sup>27</sup> [Ramboll\\_whimpact-2019.pdf](#)

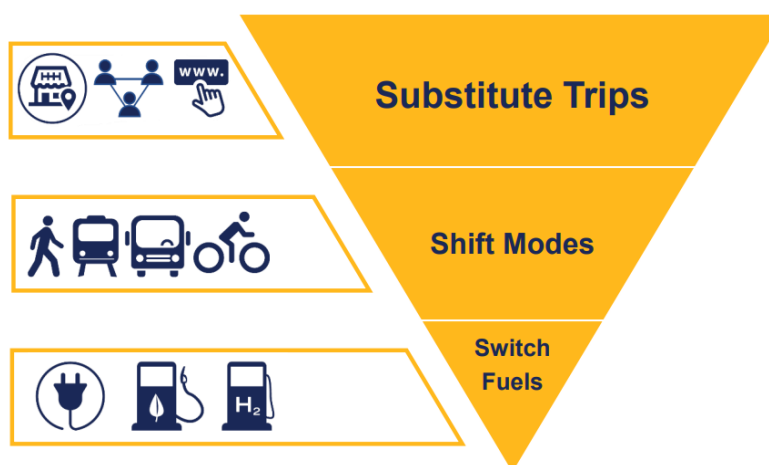
<sup>28</sup> [UMP-MaaS-paper-FINAL.pdf](#)

Beneficiary	MaaS benefits
	demand across the day leading to reduced congestion and improved air quality. <i>The results from the MaaS pilot UbiGO in Sweden conducted in 2014 revealed that 48% of participants reported using their car less and increased their use of bus/tram (50%) and car sharing (57%).<sup>29</sup> A 2014 trial of a MaaS app found that 46% of participants changed their modal choice on leisure trips – and 21% of users reduced their car use.<sup>30</sup></i>

Source: adapted from [MaaS Exploratory Study \(gov.ie\)](#)

- 2.7 MaaS is supported by the wider policy context at a national level in the UK. For example, the UK Department for Transport's (DfT) 2015 – 2020 plan outlines its commitment to objectives such as ticketing innovation and the delivery of the National Air Quality strategy that directly align with the development of MaaS.<sup>31</sup>
- 2.8 The DfI published its “Planning for the Future of Transport – Time for Change” report, where the hierarchy in reducing the carbon impact of transport in North Ireland is presented (see Figure 2.2).<sup>32</sup>
- 2.9 The DfI commits to reduce carbon impact of transport through the following key steps:
- Substitute trips: remove completely or shorten;
  - Shift modes: use a more energy efficient mode of transport; and
  - Switch fuels: use zero or less carbon intensive fuel.

Figure 2.2. Hierarchy in reducing the carbon impact of transport



Source: [Planning for the future of Transport \(infrastructure-ni.gov.uk\)](#)

- 2.10 The DfI presents their approach which is shaped around three overlapping actions which transport integration and MaaS could support (see Table 2.3 below).

<sup>29</sup> [Urban Transport Group – Maas movement report AW.pdf](#)

<sup>30</sup> [Rethinking-Mobility-in-Ireland Smart-Dublin FINAL-1.pdf \(smartdublin.ie\)](#)

<sup>31</sup> <https://www.gov.uk/government/publications/department-for-transport-single-departmental-plan/department-for-transport-single-departmental-plan-june-2019>

<sup>32</sup> [Planning for the future of Transport \(infrastructure-ni.gov.uk\)](#)

**Table 2.3 How MaaS can support the DfI's approach**

Steps of the DfI's approach	MaaS potential
Carbon reduction – using existing policy tools and emerging technology	<ul style="list-style-type: none"> <li>• MaaS could improve the overall transport network efficiency, optimise capacity, and encourage co-operation across the transport system leading to reduced congestion and improved air quality.</li> <li>• MaaS has the potential to encourage mode shift away from private car journeys and spread the demand across the day leading to reduced congestion and improved air quality</li> </ul>
Proactive planning and design – taking direct steps towards desired outcomes	<ul style="list-style-type: none"> <li>• Data collection enabled by MaaS can facilitate better management of travel demand and transport infrastructure. Transport planners can optimise use of existing transport networks and better plan for future.</li> </ul>
Integrated land use and transport planning – securing short-, medium- and longer-term changes if we start now.	<ul style="list-style-type: none"> <li>• MaaS could be developed alongside Mobility Hubs and introduction of new services such as shared micromobility and DDRT encouraging their uptake.</li> </ul>

## 3 Delivery models

### MaaS delivery models

- 3.1 There are various ways transport integration and MaaS could be delivered and there is not a perfect solution which would suit every location. The approach to transport integration should be tailored to the existing conditions and needs of each city or region.
- 3.2 Currently, there are several private sector companies which have developed platforms with journey planning, booking and payment functionalities. They are mainly focused on the most available or commercially attractive integration elements which are often developed without consideration of the public sector strategic goals such as inclusivity and accessibility or reduction of congestion. City and transport authorities have only recently started to lead on MaaS development focused on delivering public policy goals with locations such as Berlin, Zurich and Paris leading by example.
- 3.3 There are a range of existing MaaS delivery models which could be broadly categorised in two categories:
- **Private sector-led MaaS** – private sector companies acting as a MaaS operator. It could be a single-mode transport operator which transformed its service into a MaaS platform (e.g., Uber developing its service beyond ride sharing), or a journey planning company (e.g., Citymapper – available in Dublin but not Belfast), or another type of a private company (e.g., Whim in Finland).
  - **Public sector-led MaaS** – when public bodies develop and operate the platform by themselves or procure the operator using a bespoke white label MaaS (e.g., Jelbi in Berlin, WienMobil in Austria).
- 3.4 As a separate category, the idea of the open back-end platform is often discussed.<sup>33</sup> In this case, a public sector or a neutral party develops an open back-end platform allowing for various MaaS providers to use it. All MSPs and transport operators would need to open their application programming interfaces (APIs) and integrate into the back-end platform. This delivery model would allow for competition in the market driving innovation between MaaS providers. At the same time, it is very unrealistic that transport operators would open up their APIs to a third-party platform even if it is controlled or led by the government (due to transparency and security issues).
- 3.5 Each of the models has its own benefits and drawbacks. Public sector-led MaaS has higher chances of achieving the strategic goals of the cities and protecting the needs of the users than private sector-led MaaS, which is often commercially driven. At the same time, public sector led MaaS could be expensive to roll out and operate and will require high level of involvement from public bodies.<sup>34</sup> There are also challenges around the capacity and existing skills within public authorities to deliver MaaS. Nevertheless, private sector led MaaS would still require effective policy measures to be implemented by the government around the data sharing, sustainability, and inclusivity.

<sup>33</sup> [mobility as a service maas and sustainable urban mobility planning.pdf \(eltis.org\)](https://www.eltis.org/mobility_as_a_service_maas_and_sustainable_urban_mobility_planning.pdf)

<sup>34</sup> [https://www.gov.ie/SiteCollectionDocuments/Environment and greener living/R Mobility as a Service Exploratory Study 20211221 JB.pdf](https://www.gov.ie/SiteCollectionDocuments/Environment_and_green_living/R_Mobility_as_a_Service_Exploratory_Study_20211221_JB.pdf)

- 3.6 There is a general consensus that to deliver on the potential public policy objectives, MaaS should be developed in a form of partnership between private and public sectors encouraging close collaboration and co-creation. Public sector could set a range of required KPIs reflecting the strategic goals, while also allowing for private sector to innovate.
- 3.7 Without active engagement by public sector, there is a risk that strategic policy goals could be overlooked and never achieved. Further risks exist from a lack of public sector involvement including unfair competition, resilience (if operators fail) and lack of transparency.

## 4 Case studies

### Introduction

4.1 This Chapter presents the findings and key learnings from the six case studies including:

- MyMobilityHub project in Ireland – integration of transport information;
- Go-Hi MaaS app and platform in Scotland;
- Yumuv MaaS app and platform in Switzerland;
- Breeze MaaS app and platform in England;
- Elba Sharing app and platform in Italy – integration of transport information; and
- MaaS implemented alongside Mobility Hubs in Germany and Austria.

### MyMobilityHub project, Dublin

- Journey planning and booking platform and app for Council staff;
  - Funded by the government;
  - Operating model: public sector-led;
  - Commercial sustainability: the Council is covering the costs of the platform;
  - Number of users: ~700 members of staff;
  - Operated by AECOM.
- 4.2 AECOM initially worked with Smart Dublin<sup>35</sup> to develop the transport integration platform MyMobilityHub.<sup>36</sup> The app was subsequently adopted by Dun Laoghaire Rathdown County Council for use in journey planning, asset management and vehicle booking for its staff.
- 4.3 MyMobilityHub is a journey planning platform and app which is designed for the Council's staff to plan and book their journeys required as part of their work. The platform offers access to shared e-bikes and shared electric cars (owned by the Council), the public bike share service BleeperBikes and public transport (e.g., rail and bus). The platform does not include an integrated payment system as it is currently focusing on serving enterprises/businesses rather than the general public. It is considered to be a steppingstone to MaaS.
- 4.4 Prior to the platform launch, the first version of the platform and app was launched as an eight-month pilot project. It was permanently launched in Dun Laoghaire-Rathdown County Council in 2019 and since then it has increased use of EVs by over 200% and resulted in the government body reducing emissions associated with work travel by 2.5t CO<sub>2</sub> per person/annum.<sup>37</sup> There have been thousands of bookings across all modes of transport, including bikes, e-bikes, and public transportation and over 3,000 trips booked by the Council managed electric car club, eCar.<sup>38</sup>
- 4.5 The project was initially funded by Smart Dublin. At the moment the operational costs are covered by the Dun Laoghaire Rathdown County Council.
- 4.6 The app and platform are designed to encourage the Council's staff to make greener and healthier travel choices through provision of the carbon footprint information of each transport

<sup>35</sup> Smart Dublin is founded by the four Dublin Local Authorities with the aim to bring together technology providers, academia and citizens future-proof the Dublin region by testing innovative solutions.

<sup>36</sup> [Home Page - MyMobilityHub](#)

<sup>37</sup> Interview with AECOM

<sup>38</sup> [SCAG Mobility as a Service Feasibility White Paper Final Report, July 2022](#)

mode offered in the platform. The journey planning function also considers users' preferences (e.g., desired amount of cycling/walking, approval to use council owned e-bikes/cars, driving licence availability, etc.).

**Figure 4.1. MyMobilityHub project, Dublin**



Source: AECOM

### *Marketing and promotion*

- 4.7 The Council has organised a number of launch events at the start of the project to promote the initiative and inform staff. The staff are using the platform as it is the only viable way for them to book their business travel.
- 4.8 Every year, the Council hosts a workshop presenting the impact of the scheme (e.g., carbon savings achieved).

### *Key lessons learned*

- It is important to have existing services and transport operators operational before launching the transport integration platform and app (e.g., there should be existing shared mobility services such as bike share and car clubs);
- A phased approach to implementation works very well and allows to adjust the approach reflecting the users' needs;
- Mileage income by staff was seen as an obstacle for people to start using shared mobility services, as it would mean the staff's overall income was reduced; there were discussions on what could be done to incentivise use of sustainable transport modes (e.g., through compensation for staff based on their carbon footprint for business travel);
- MaaS for businesses/organisations could be an interesting use case where both parties gain value: businesses/organisations reduce their carbon footprint while members of staff receive easy access to a wider range of transport options.
- Implementing a trip planning app that includes both public and private mobility service providers before deploying a full-scale MaaS platform can build the market for an integrated transportation platform to be offered to the general public.

### Next steps

- 4.9 Smart Dublin published a report called “Recommendations to Initiate a MaaS Programme” in Dublin in 2019<sup>39</sup> outlining the recommended roadmap for implementing MaaS, which was followed up by a paper “Rethinking mobility in Ireland” in 2022.<sup>40</sup> Some of the key actions and takeaways outlined by the plan included:
- Prior to launch of the platform, it is important to conduct research to determine the readiness to implement MaaS (e.g., number of exiting transport services and APIs, willingness for service providers to participate in MaaS, current state of digital ticketing, exiting data sharing policy) and set design principles and data standardization guidelines.
  - MaaS implementation could benefit from coordination with Mobility Hubs development.
  - MaaS in Dublin should be publicly led to allow for the most control by public authorities.<sup>41</sup> The publicly led model was anticipated to allow government and local authorities to create a system that offers the most societal benefits, such as encouraging active lifestyles and improving social inclusion. It was also mentioned that public control over MaaS operations, rather than private operation will allow public officials to directly communicate with the public.<sup>42</sup>
  - A MaaS programme should be led by a consortium of the relevant public bodies and other key stakeholders which should be established prior to the launch.
  - Each stakeholder should perform a high-level impact and readiness assessment as to how a public-led MaaS solution will impact their operations.
  - Importance of launching pilots and trials first to ensure the solution addresses the needs of the users in the most beneficial way.
- 4.10 While Ireland has not implemented a full-scale MaaS system, Dun Laoghaire-Rathdown County Council has taken several steps with its infrastructure to enable a future development. The plan is to ensure appropriate infrastructure and transport services are in place first:
- National Transport Authority is working on investing in smart ticketing solutions including through the Next Generation Ticketing project;<sup>43</sup>
  - Shared micromobility services including shared bikes, e-bikes and e-scooters are being planned or expanded.

### Go-Hi MaaS app, Scotland

- Regional MaaS platform and app;
- Rural setting;
- Funded by the Government;
- Operating model: Public sector-led;
- Commercial sustainability: needs revenue support at the moment;
- Number of users: downloaded more than 1,500 times (December 2022);
- Operated by Mobbileo.

<sup>39</sup> [https://smartdublin.ie/wp-content/uploads/2020/07/MaaS-for-Dublin\\_Smart-Dublin-Point-of-View\\_Nov-2019\\_Ext-1.pdf](https://smartdublin.ie/wp-content/uploads/2020/07/MaaS-for-Dublin_Smart-Dublin-Point-of-View_Nov-2019_Ext-1.pdf)

<sup>40</sup> [Rethinking-Mobility-in-Ireland\\_Smart-Dublin\\_FINAL-1.pdf \(smartdublin.ie\)](#)

<sup>41</sup> [SCAG Mobility as a Service Feasibility White Paper Final Report, July 2022](#)

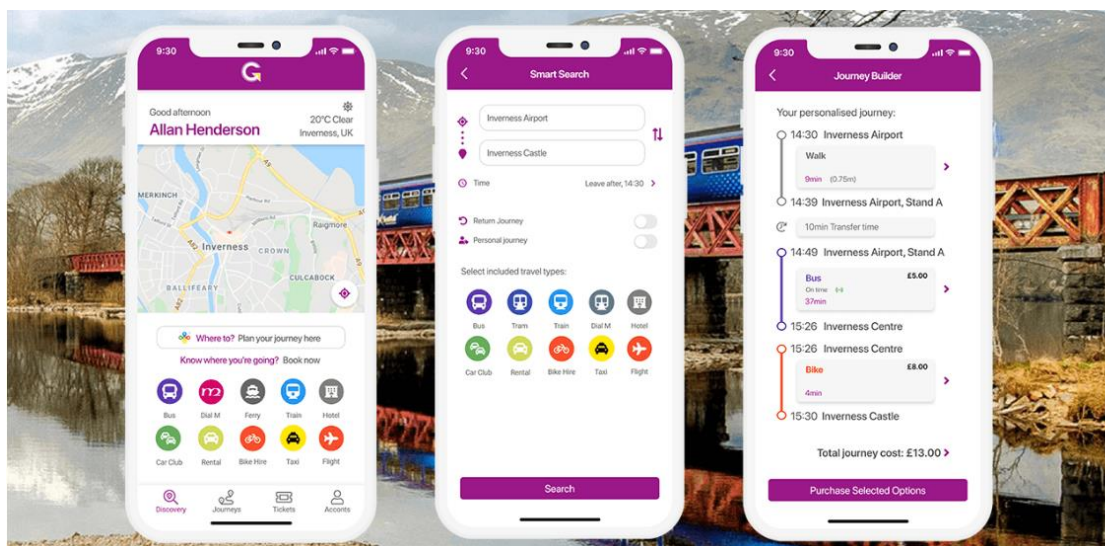
<sup>42</sup> [SCAG Mobility as a Service Feasibility White Paper Final Report, July 2022](#)

<sup>43</sup> <https://statics.teams.cdn.office.net/evergreen-assets/safelinks/1/atp-safelinks.html>



- 4.11 Go-Hi is a MaaS App and Platform launched in 2021 by the HITRANS<sup>44</sup>. One of the key objectives for MaaS stated by HITRANS is to improve accessibility for residents and visitors and reduce carbon emissions by encouraging a modal shift to sustainable transport modes.
- 4.12 The project is funded by the European Union's (EU) North Sea Region's 'Stronger Combined' project and the Scottish Government's MaaS Investment Fund.<sup>45</sup> It has received £470,170 in Round One and £408,772 in Round Two of the MaaS Investment Fund competition.<sup>46</sup>

Figure 5.2. Go-Hi App interface



Source: HITRANS launches pioneering Go-Hi MaaS app – Mobbileo

- 4.13 The platform is developed by FOD Mobility Group (Mobbileo platform). Users can access a range of functionalities including:<sup>47</sup>
- Journey planning;
  - Ability to book and pay for a range of public and private transport modes by debit card, credit card or PayPal;
  - Discover a range of local services with the 'Explore nearby' feature;
  - Search for services such as parking, restaurants, cafes, bars, petrol stations, EV charge points; and
  - Book hotels.
- 4.14 The app can also be deployed by business or organisations to their employees to manage their own travel and assign individual mobility budgets to monitor their monthly spend.
- 4.15 Transport operators offering services as part of the Go-Hi platform and app include:<sup>48</sup>
- **Rail:** The Go-Hi app is supported by an integration with the Trainline.com system allowing users to plan, book and pay for rail travel on all UK rail operators. ScotRail passengers can book the tickets and seats through the app to travel in Scotland and from the region to

<sup>44</sup> HITRANS is the statutory regional transport partnership covering the Western Isles, Orkney, Highland, Moray and the Argyll and Bute area.

<sup>45</sup> The MaaS Investment Fund has been set up to explore potential for MaaS in Scotland and aims to deliver on the Scottish Government's aspirations of lowering carbon emissions, improving health, and growing digital and innovation.

<sup>46</sup> [HITRANS - Highlands and Islands Transport Partnership](#)

<sup>47</sup> [Go-Hi - Travel Made Simple in Scotland's Highlands & Islands \(gohi.app\)](#)

<sup>48</sup> Sustainable Travel Made Simple Briefing note for NZET Committee prepared and shared by HITRANS.

any UK location. The Trainline.com integration also includes QR / Barcode M-Ticketing on other rail operators (e.g., LNER). The screenshots below show the booking flow and M-Ticket generated through Go-Hi and stored in the app desktop.

- **Bus:** Users can plan, book and pay for a range of ticket types for Stagecoach North Scotland services in the Highlands, Moray, and the Orkney Islands. Stagecoach is the only live operator as of now. Scottish Citylink / Megabus operations are scheduled to go live in Spring 2023.
- **Ferries:** NorthLink Ferries were fully integrated into the app in December 2022. Users can plan, book and pay for their journeys through Go-Hi app.
- **Car club:** users can book Enterprise Car Club vehicles by the hour as part of their multi modal journey planning. 11 vehicles were supported through the first phase of Go-Hi and they have completed journeys covering almost 140,000 miles (as of December 2022).
- **DDRT:** an initial three-year contract was awarded to Liftandgo to deploy a DDRT platform consisting of a user application, operators' platform and a driver platform in December 2021. An API will facilitate integration of the solution with Go-Hi platform and this integration is expected to be completed in the first quarter of 2023. The DDRT platform is already live and bookable through the MOOVE Flexi App (DRT app) in the Culbokie and Ferintosh area and HITRANS are working with partner local authorities to launch the service across the region.
- **Bike share/hire:** HITRANS launched an e-bike share scheme called Hi-Bike in late 2020 in Inverness and Fort William for residents and visitors available for hire via the Go-Hi app. A partner scheme has also been delivered by Lochaber Environment Group in Fort William. Additionally, Brompton folding bike lockers have been introduced in Inverness (Falcon Square), Oban (Station Square) and Elgin (Rail Station) offering the opportunity for rail and bus passengers to take a folding bike with them as part of their journey. A fourth Brompton dock will be introduced at Stornoway Bus Station in 2023.
- **Air travel:** users can plan, book and pay for flights with Loganair throughout the region directly within the Go-Hi app. Other airlines are also available to book through Go-Hi via Skyscanner integration (e.g., EasyJet, British Airways and KLM).

4.16 As of December 2022, the app has been downloaded more than 1,500 times and HITRANS have been approached by several organisations throughout the region willing to introduce Go-Hi to their employees to use for business-related journeys and commuting to and from work.<sup>49</sup> Examples of the feedback received from users are presented in the figureFigure 4.3 below.

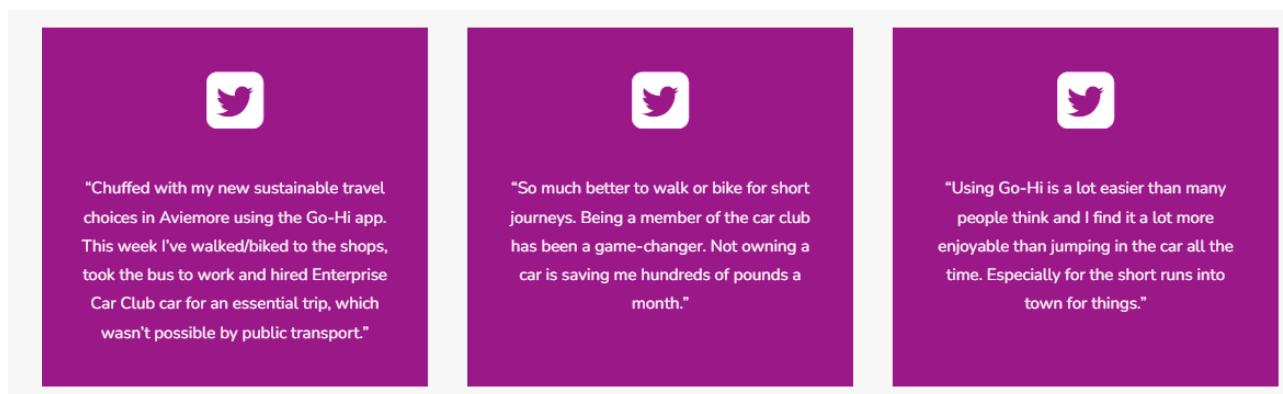
4.17 There are plans to work in collaboration with Motability to introduced mobility credits to facilitate use of the service for those eligible for a vehicle through the Motability scheme<sup>50</sup>.

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<sup>49</sup> [HITRANS - Highlands and Islands Transport Partnership](#)

<sup>50</sup> <https://www.motability.co.uk>

Figure 4.3. Customer feedback



Source: [Go-Hi - Travel Made Simple in Scotland's Highlands & Islands \(gohi.app\)](#)

### *Marketing and promotion*

4.18 To support promotion of MaaS, a new website [www.gohi.app](http://www.gohi.app) was launched with the following features:<sup>51</sup>

- Information about Go-Hi app and platform and relevant news;
- Separate information for businesses with the benefits Go-Hi offers to companies clearly explained (e.g., centralised billing and flexible payment options with no contracts, minimum spend or subscription fees to pay); and
  - An option for businesses to arrange a live online demonstration of the Go-Hi desktop platform.
  - Detailed management reporting providing businesses with instant access to their total cost of travel.

4.19 HITRANS are marketing across a range of channels including radio and social media. They plan to test working with social media influencers<sup>52</sup> in future.

### *Commercial sustainability*

4.20 HITRANS are reviewing a range of potential funding streams to support Go-Hi operation beyond the period covered though the MaaS Investment Fund award. They are currently discussing potential options with the government and are exploring additional revenue streams.

### *Lessons learned*

- Integration of transport operators takes time and requires prior negotiation;
- MaaS development require lots of efforts and resources from the local transport authority staff, the level of time and resource should not be underestimated;
- Try to establish new services as part of the MaaS development which would attract more users to Go-Hi. For example, HITRANS introduced the Brompton bike hire and shared e-bikes scheme. Additional car club vehicles were also added in the region.
- There is an opportunity for MaaS to be used by businesses to increase usage – for example, HITRANS are onboarding the Highland Council for its staff members to use Go-Hi for business travel.

<sup>51</sup> [HITRANS - Highlands and Islands Transport Partnership](#)

<sup>52</sup> Influencers in social media are people who have built a reputation for their knowledge and expertise on a specific topic and become popular on social media.

- It takes time for users to understand MaaS and become aware of the concept.

### Yumuv MaaS app and platform, Switzerland

- MaaS platform and app: pilot;
- Funded by the transport operators;
- Operating model: Public sector-led;
- Commercial sustainability: required revenue support;
- Number of users: over 1,000 downloads with over 10,000 trips booked;
- Operated by Trafi.

- 4.21 Yumuv is the MaaS app and platform launched by the SBB (Switzerland's national rail operator) in collaboration with Bernmobil (a public transport operator in Bern), the Basler Verkehrsbetriebe (a public transport operator in Basel) and the Zurich Public Transport (VBZ). Yumuv is read as "you move" entailing that the key focus is on movement rather than transport modes.<sup>53</sup>
- 4.22 Yumuv was launched a part of the internal research project initiated by SBB. The key aim of the research was to investigate subscription model. The pilot project was severely affected by the Covid-19 pandemic: lower demand for public transport and issues around public transport safety during the pandemic. SBB decided to close the pilot in 2021.
- 4.23 The project involved a number of partners including local transport operators, which managed to collect the data. The project research team was responsible of operations of the platform and app and its day-to-day performance.
- 4.24 Yumuv riders were able to plan trips, purchase public transport tickets, book and pay for shared e-bikes and e-scooters through the app.<sup>54</sup> Car sharing and cargo bikes were also added in Bern.
- 4.25 Mobility subscriptions were developed and tested: in addition to basic public transport tickets, the mobility subscriptions included free travel on other transport modes such as shared e-bikes and e-scooters.<sup>55</sup> The pilot was launched in Zurich with 200 participants. For CHF19 (~£17) the users received 60 minutes per month of shared micromobility use (through the operators Bond, Tier and Voi) and the Zurich Transport Network (ZVV) subscription or the GA travelcard (SBB trains).<sup>56</sup> A partnership with universities was established to support evaluation of the trial: collecting the relevant data on user behaviour with the aim to understand customer needs better.

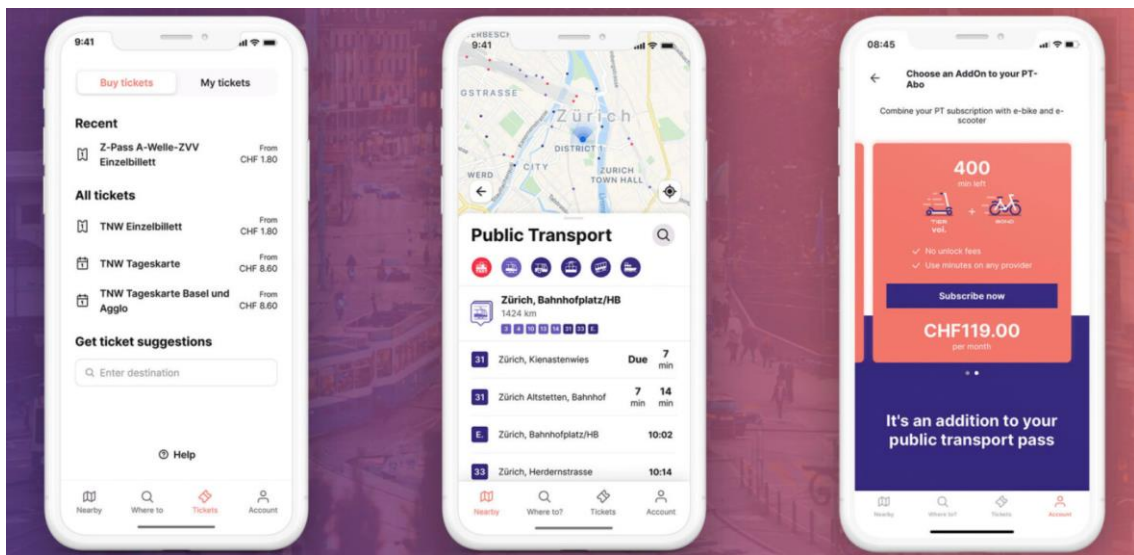
<sup>53</sup> <https://vbzonline.ch/mit-yumuv-abfahren-und-wissen-schaffen/>

<sup>54</sup> [yumuv – Regional MaaS with subscriptions in Switzerland – Trafi](https://www.stadt-zuerich.ch/vbz/de/index/mobilitaet-der-zukunft/Maas.html)

<sup>55</sup> <https://www.stadt-zuerich.ch/vbz/de/index/mobilitaet-der-zukunft/Maas.html>

<sup>56</sup> <https://vbzonline.ch/mit-yumuv-abfahren-und-wissen-schaffen/>

Figure 4.4. Yumuv app interface



Source: [Trafı launches regional Mobility as a Service in Switzerland – Trafı](#)

### *Commercial sustainability*

- 4.26 The pilot project required ongoing subsidy which was funded by the SBB and the partners. The MaaS platform and app was not commercially sustainable, partially affected by low demand during the Covid-19 pandemic.

### *Marketing and promotion*

- 4.27 There was not a big budget allocated for the project by the SBB due to its research nature. However, the participating transport operators were able to contribute to marketing and promotion efforts: for example, a tram was painted in yumuv colours, and the information was advertised through flyers and on the web page.
- 4.28 They used grassroots marketing campaign using LinkedIn, Instagram and also partnering with restaurants.

### *Lessons learned*

- Partnerships are important and management of both internal and external stakeholders; involve key decision makers in the process;
- Running a MaaS plot internally also required a good level of coordination. Clear roles and responsibilities should be defined from the start;
- Allocated resources based on the available budget; and
- The project team should have right skills and enough bandwidth to run the pilot which is often underestimated.

## Breeze, Solent Region, UK

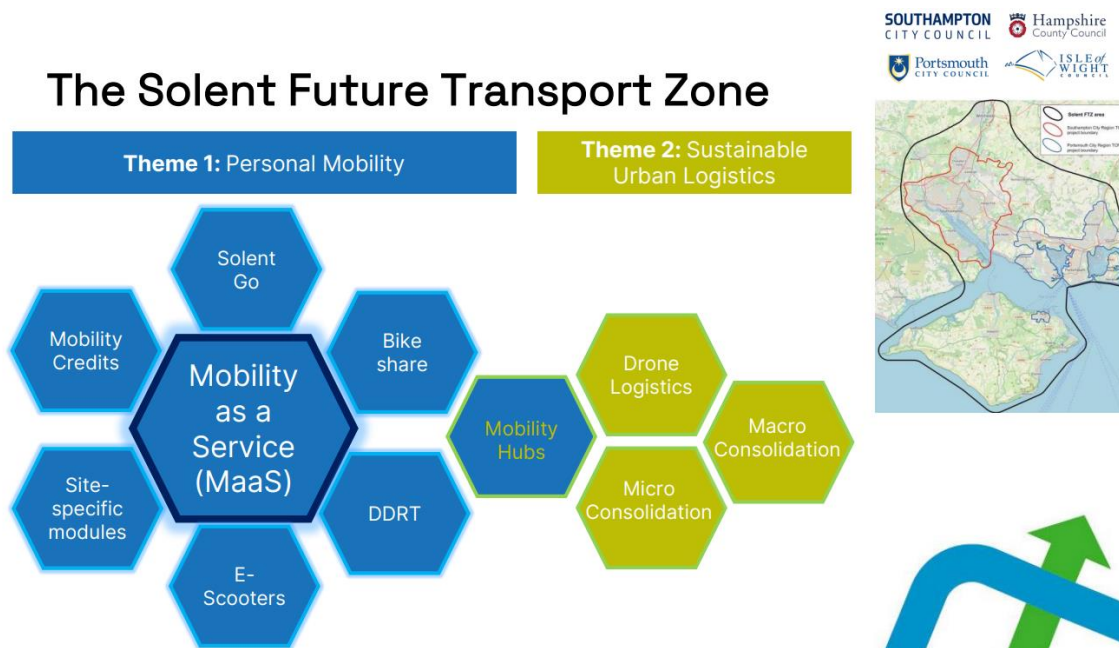
- Regional MaaS platform and app;
- Funded by the Government;
- Operating model: Public sector-led;
- Commercial sustainability: needs operational support at the moment;
- Operated by Trafi.

4.29 Breeze is the regional MaaS platform and app developed as part of the Solent Future Transport Zone (FTZ) programme funded by the Department for Transport (DfT) and launched in 2022. MaaS is one of the biggest pilots funded as part of the programme and is supported by a range of smaller scale projects such as shared e-scooters, regional bike share, DDRT and mobility credits (see Figure 5.5 below).

4.30 The development of MaaS solution was driven by the three key themes:

- Transport for all – achieving equality, inclusion and access to mobility;
- Facilitating behaviour change: meeting strategic challenges in the region; and
- Supporting research: partnerships to advance understanding of MaaS.<sup>57</sup>

Figure 4.5. The Solent Future Transport Zone pilots



Source: [PowerPoint Presentation \(technologyscotland.scot\)](https://www.technologyscotland.scot/)

Development of the regional MaaS platform is facilitated by the roll out of supporting projects presented in the Table 5.1Table 4.1 below.

Table 4.1. Solent FTZ

Project	Description
Solent Go	Expanding the range of multi-operator public transport tickets offered via the MaaS app, including new carnet and 1-hour tickets.

<sup>57</sup> [Solent Transport - Mobility as a Service \(June 2022 MaaS Scotland Conference\)](#)

Project	Description
E-scooter share	Solent Transport awarded the contract to Voi in 2021, a shared micromobility operator, to run a shared e-scooter trial as part of wider national trials launched by the DfT. The trial has been successful so far with over 139,000 registered users and a total of 1.37million trips as of November 2022. <sup>58</sup> The shared e-scooters can be rented through Breeze app.
Bike/e-bike share	A regional contract to operate bike share was awarded to Beryl in 2022 with the scheme operating in Portsmouth, Southampton and the Isle of Wight. <sup>59</sup> The scheme is called “Beryl Bikes by Breeze” and the bikes can be rented through Breeze app.
DDRT	This project will procure a digital back-office system enabling DDRT to form part of the MaaS offer. DDRT will become part of the Breeze platform after the trial of on-demand services is completed.
Mobility credits	A mobility credits trial is planned to be launched alongside MaaS with an aim to offer free travel credit via Breeze app. The direct and wider impacts of the mobility credits on the trial group will be monitored and analysed via in-app surveys and app usage analysis and compared against a control group of individuals who do not receive mobility credits. The trial will be delivered via Breeze through the rewards platform which allows to issue discounts and vouchers to the users. A small trial of 50 people is planned initially with a potential to expand its scope.

Source: An interview with Solent Transport Scotland and the presentation assessed at: [PowerPoint Presentation \(technologyscotland.scot\)](#)

- 4.31 Trafi<sup>60</sup> was awarded a £2.4M contract in 2021 to develop the regional MaaS linking Portsmouth, Southampton, South Hampshire and the Isle of Wight by Solent Transport (a partnership of local government transport bodies).<sup>61</sup>
- 4.32 Trafi is leading the consortium with Unicard (the Solent Go<sup>62</sup> smart travel system provider), the Behavioural Insights Team and the Southampton University. The work involves assessing travel behaviour changes and ensuring the app and platform is developed in a user-friendly way.<sup>63</sup>
- 4.33 Breeze provides a range of functionalities including journey planning (finding the best travel options based on users’ needs and preferences), ticketing (access to tickets for private and public transport modes such as trains, buses, ferries, shared e-scooters and e-bikes), secure customer accounts and payments.

<sup>58</sup> [E-scooter trial approved to continue across the Solent region until May 2024 - Portsmouth City Council](#)

<sup>59</sup> [E-bike scheme launched across Portsmouth, Southampton and the Isle of Wight | CiTTi Magazine](#)

<sup>60</sup> [Solent – Trafi](#)

<sup>61</sup> [Solent Transport to create £2.4m multi-city MaaS scheme | Latest news \(smarttransport.org.uk\)](#)

<sup>62</sup> Solent Go is a travelcard users top up as they go when travelling in the Solent region: [Solent Go travelcard - It's now easier to travel from A to B to Sea! | Solent Go](#)

<sup>63</sup> [Solent Transport appoints Unicard, Trafi and Behavioural Insights Team to deliver the UK's first multi-city MaaS scheme](#)

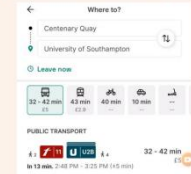
Figure 4.6. Breeze functions

Delivered by  
**Solent Transport**


Powered by  
**Trafi**

## Customer experience

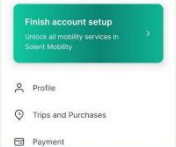
**1. Journey planner**  
All modes; can mix modes together  
Curated and benchmarked




**2. Ticketing**  
Bus, Rail, Ferry  
Solent Go integration, micromobility




**3. Customer account**  
Easy sign-up and authentication  
Stored trips, cards, wallets, ID



**4. Payments**  
Integrated payments and cards  
Customers can pay from our app



**5. Branding**  
An exciting new brand and identity  
Tying together regional transport



Every transport option in one place

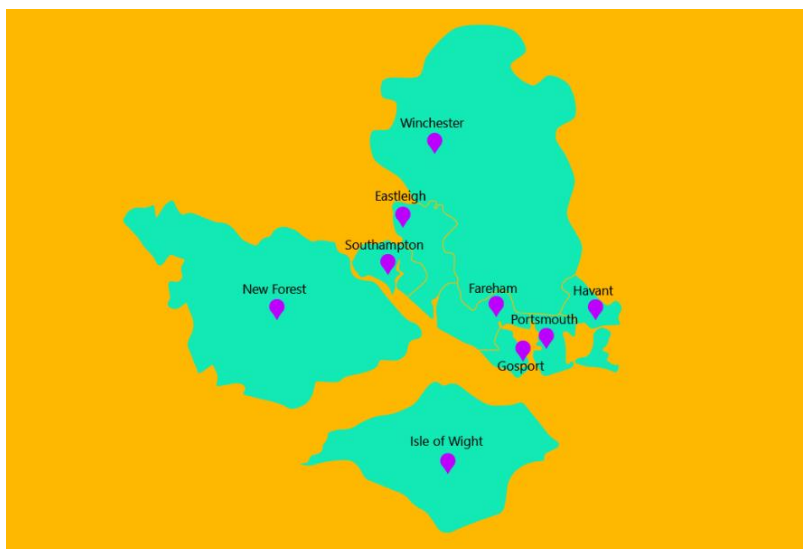
Designed to be easy and attractive to use

Enabled by complex tech integrations

Source: [Solent Transport - Mobility as a Service \(June 2022 MaaS Scotland Conference\)](#)

- 4.34 The MaaS solution is being developed in stages gradually adding new functions and modes. As of February 2023, the following modes have been integrated: public transport (bus, rail), shared micromobility (shared e-scooters and e-bikes) and a car club. Over the coming months, more services and deeper payment integration will be added including ferries, car rental, taxis, parking and EV charging.
- 4.35 Solent Transport is working with the university to prioritise new function and features to be developed as part of the MaaS platform and app.

Figure 4.7. Breeze operating area



Source: [Breeze App – Breeze Transport Application \(breezeuk.app\)](#)

- 4.36 Solent Transport stated that by putting a customer at the centre of their delivery approach, they removed the differentiation of ‘bus customers’ and ‘train customers’ and focused on the



MaaS users instead moving away from defining customers by transport mode.<sup>64</sup> They believe that by providing customers with flexibility and convenience of access to the most suitable mode for different type of journeys would allow transport and service providers to reach a wider user base.

#### *Marketing and promotion*

- 4.37 Solent Transport has highlighted the importance of raising user awareness of MaaS and its associated benefits which should facilitate uptake of the service. They have hired a specialised marketing agency to develop a new brand – Breeze. The idea was to develop a brand similar to TfL’s achievements with the Oyster card brand (a strong association with travel around London without tying the brand to public transport alone).<sup>65</sup>
- 4.38 The Breeze app has been launched as part of a controlled release to about 4,000 users to first, test the app and resolve any issues and bugs. Solent Transport plans to start advertising the app and platform to the public in spring 2023. Prior to the launch, the team has assessed various user profiles using different data sources including Mosaic demographic data.
- 4.39 As part of Breeze, Solent Transport has access to the customer engagement platform, which will be used to create marketing campaigns and engage with the users after the app is being advertised to the general public. The platform will allow access to:
- Deeper user insights and understanding of the profiles and segments;
  - Behaviour of different segments can be used to make informed decision and tailored marketing campaigns (e.g. based on time of the day, user preferences and behaviour choices);
  - Ability to send tailored messages to specific user segments; and
  - Ability to update the messages in real time learning quickly which messages work.
- 4.40 The platform needs 10,000 or more users to be registered and use the app to generate meaningful insights.

#### *Commercial sustainability*

- 4.41 Solent Transport received the funding from the DfT which should support MaaS operations initially, and they are currently exploring revenue options which could support Breeze app and platform from June 2025.
- 4.42 Possible revenue streams include commissions on the tickets sold, sponsorship, advertising, sales from ancillary services, MaaS for businesses (e.g., events, stadiums, key employers) and selling the solution to other local authorities. They are also exploring various public sector funding streams. Solent Transport have recognised the importance of ongoing commercial success of MaaS and are currently advertising for a Commercial Development position to support this.
- 4.43 One of the challenges is also to achieve efficiency in their supply chain, for example, the level costs payment service providers charge on each transaction, which could be reduced in future.

#### *Lessons learned*

- Do not overcomplicate procurement of the MaaS provider: Solent Transport provided a detailed specification for the minimum viable product (MVP) as part of the tender brief,

<sup>64</sup> [Developing the UK’s first multi-city MaaS platform - Intelligent Transport](#)

<sup>65</sup> [Developing the UK’s first multi-city MaaS platform - Intelligent Transport](#)

while keeping the approach to the full development flexible. Overcomplicating the tender specification could make it difficult for the suppliers to respond to;

- It is important to manage the expectations of all stakeholders in terms of timeline of the delivery;
- Skills and resources available to a local authority could be limited and there is a need to work with a range of experts in business models, smart ticketing and legal requirements;
- Partner integrations are crucial: the technology part is not complicated, but it is about commercial agreements with services providers which need to be negotiated. Solent Transport engaged with the key stakeholders prior to the procurement process to ensure they are willing to collaborate and participate in the trial;
- Certain transport integrations (e.g., rail) could take longer than expected for various reasons;
- Branding is important and the overall branding should be developed early on; and
- The app and platform should be properly tested before the official launch.

### Elba Sharing app and platform, Italy

- Rural and island setting;
- A MaaS pilot funded by EU;
- Operating model: public-sector-led;
- Commercial sustainability: needs revenue support;
- Operated by Memex.

- 4.44 Elba is the third largest island in Italy located close to the Tuscan coast and one of six islands selected for trials of the MaaS concept. There are around 32,000 people living on the island with more than 1 million tourists visiting it yearly (pre-Covid-19).
- 4.45 The Shared Use Mobility Agency (SUMA) is an umbrella platform that co-ordinates shared mobility services with traditional public transport services. The pilot was developed as part of the CIVITAS Destinations project co-financed by the H2020 EU Grant (€19 million was allocated for six projects).<sup>66</sup> The SUMA is implemented by the Municipality of Portoferraio which oversaw operations.<sup>67</sup>
- 4.46 The pilot was design to address the following challenges:
- High seasonal mobility demand and dispersed trip origins;
  - A fragmented transport offer – lack of information and accessibility; and
  - Inability of existing public transport services to accommodate increased demand during the peak summer season.
- 4.47 The portal and administrative back office was designed by Memex: an independent consultancy working with local authorities in public transport across rural and urban areas.
- 4.48 The key functions of Elba Sharing app and platform include:
- Aggregation of information – the platform provided users with an access point to the information on the island’s mobility offer including rental services (e.g., car and scooter rental);
  - Journey planning (connected through API from the regional portal); and

<sup>66</sup> [shared-use-mobility-agency\\_booklet.pdf \(civitas.eu\)](#)

<sup>67</sup> [SMARTA-GP-SUMA.pdf \(ruralsharedmobility.eu\)](#)

- Additional features such as a ride-sharing function when users can share rides via the “message boards for sharing trips” – they share their current location and desired destination to other passengers/drivers.

4.49 Payment is not part of the solution at the moment, and, therefore, Elba Sharing can be seen as a steppingstone towards MaaS. The platform includes several key components presented in Table 4.2 below.

**Table 4.2 Elba Sharing platform’s components**

Component	Description
Elba Open Data Layer	The Open Data Layer allows for collection, aggregation and provision of mobility and service data and information. Through a dedicated set of adapting interfaces, the layer collects available data in different formats from IT systems and data sources.
Elba Operators Networking (CSBB) and mobility support	This component coordinates the already existing rental services (cars, scooters, bikes, boats, etc.).
Mobility Information Services	This component provides multimodal mobility information services through the management of data communication with the Open Data Layer component and the elaboration of the collected data. One of the services provided at this level is the multimodal journey planner.
Ride-sharing Services	This component is dedicated to managing specific services based on the “ride-sharing scheme” and the principle “share the same trip”. This component works through a specific app, helping to connect users travelling to the same destination.

Source: [Shared Elba Mobility Agency | CIVITAS](#)

4.50 The platform and app were launched in June 2020, but there was a notable reluctance to share a ride with other people by users potentially associated with the Covid-19 pandemic. The app was used only for checking the timetables of transport services, for travel planning and for the car/bike rental availability.<sup>68</sup>

#### *Marketing and promotion*

4.51 It has been mentioned that an effective promotional campaign was required to increase uptake of the service, including involvement of the tourism associations, hoteliers associations and Chamber of Commerce.

4.52 Due to the impact of the Covid-19 pandemic, it is not clear what type of marketing and promotional activities have been implemented. However, the following marketing channels were mentioned at the planning phase: local, regional and national press, local television and radio, the Elba Sharing site, social media, local dissemination campaigns and distribution of informational materials on the island and on ferries and events in Elba.<sup>69</sup>

<sup>68</sup> [Shared Elba Mobility Agency | CIVITAS](#)

<sup>69</sup> [shared-use-mobility-agency\\_booklet.pdf \(civitas.eu\)](#)

### *Commercial sustainability*

- 4.53 The operational costs after the launch were expected to be around €94,200 per year.<sup>70</sup> It was anticipated that a certain level of ongoing subsidy could be required. An annual fee for registration, annual contribution from rental operators and contribution from commercial operators were mentioned amongst potential revenue sources.

### *Next steps*

- 4.54 The final tests were completed in the spring of 2021, and it was mentioned that the platform's software will be further updated.<sup>71</sup>

### *Lessons learned*

- The transport operators in Elba are contractually obliged to provide data which has been important for establishing a MaaS shared data standard for static information, as well as the more complex provision of real-time information.
- Financial uncertainty persists despite the possibility of revenue generation from commercial agreements with networking operators.

## **Mobility Hubs and MaaS**

- 4.55 Mobility Hubs can be seen as a physical representation of transport integration and MaaS – through integration of public and shared transport modes and other services in one well designed and easily accessible place.
- 4.56 CoMoUK defines the concept as “Mobility hubs bring together shared transport with public transport and active travel in spaces designed to improve the public realm for all.”<sup>72</sup> Mobility Hubs exist to bring shared mobility and public transport services together, integrating different mobility offerings to encourage greater use. Even with a selection of mobility services available, a Mobility Hub's appeal is limited if a different apps and accounts are needed for each service.
- 4.57 If MaaS is being implemented, there is also a case for Mobility Hubs to be roll out alongside which would support uptake of MaaS by encouraging multimodal journeys. Mobility Hubs can allow for smoother changes between transport modes and enhance the overall travel experience.

### **Jelbi Mobility Hubs, Germany**

- 4.58 BVG, a transport authority in Berlin, Germany, has led on the development of one of the most advanced MaaS platform and app in the world – Jelbi. Alongside the Jelbi MaaS app and platform, BVG invested in a network of Mobility Hubs under the same consistent Jelbi branding. Two types of the hubs were introduced and located next to the public transport stops.<sup>73</sup>
- Jelbi Stations: larger Mobility Hubs that include cars and vans, and
  - Jelbi Points: smaller Mobility Hubs with access to shared micromobility services.

<sup>70</sup> [Shared Use Mobility Agency in Elba Island: from concept to the IT Platform - DESTINATIONS | CIVITAS](#)

<sup>71</sup> [Shared Elba Mobility Agency | CIVITAS](#)

<sup>72</sup> [Mobility hubs > Overview and benefits \(como.org.uk\)](#)

<sup>73</sup> [Jelbi – Stations: Berlin's public transport and sharing services in one place.](#)

- 4.59 There are plans to roll out Jelbi Mobility Hubs across Berlin from the city centre to the suburbs to facilitate switching between shared e-mopeds, bikes, e-scooters or cars at most S-Bahn and subway stations.

**Figure 4.8. Jelbi Mobility Hub, Berlin, Germany**



Source: BVG, [How mobility hubs increase MaaS usability – Trafi](#)

### **WienMobil Hubs, Austria**

- 4.60 WienMobil is a MaaS platform and app launched in Vienna, Austria by a public transport authority Wiener Linien.<sup>74</sup> The platform integrates the following services:
- Public transport (rail and bus);
  - Bike share;
  - Taxis;
  - Car sharing (car clubs) and a rental car service;
  - Shared e-mopeds and e-scooters;
  - Airport transfer; and
  - Information about parking garages (WiPark).
- 4.61 Wien Mobil Stations (Mobility Hubs) were also developed in a few locations in the city. In September 2018, the first public mobility hub was implemented at Simmeringer Platz as a result of the EU-funded project Smarter together. Later, in 2019, two other mobility hubs were implemented: one at Rochusmarkt and another in Richard-Wagner-Platz. Mobility Hubs are branded in a similar way to WienMobil MaaS platform and app.
- 4.62 The preparation and planning phases lasted from one to two years, while the installation took two months with the costs of €600,000 per Mobility Hub including conceptualization, design,

<sup>74</sup> [WienMobil – Vienna | \(maasification.com\)](#)

planning, and implementation.<sup>75</sup> Wiener Linien is the main operator of the Mobility Hub and it is responsible for planning and managing, as well as general maintenance (e.g. winter maintenance), the operation of the digital information board, and the maintenance of the public bicycle pump.

- 4.63 The mobility services present at this station are integrated into the Wien Mobil App which allows for smoother journey planning and improved user experience.

**Figure 4.9. WienMobil Maria-Tusch-Straße**



Source: [WienMobil Maria-Tusch-Straße - SmartHubs \(smartmobilityhubs.eu\)](https://www.smartmobilityhubs.eu)

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<sup>75</sup> [Paper1028.pdf \(unesp.br\)](#)

# 5 Summary

## Lessons learned

5.1 The delivery of transport integration and MaaS is complex and a tailor-made approach reflecting a local context of each location should be developed, to maximise the potential success of any MaaS implementation. The most important lessons learned to Northern Ireland collected from the literature review and case studies are summarised below.

- **The public sector should play a prominent role in development of MaaS** regardless of the delivery model chosen (e.g., private or public sector-led). Public authorities must become involved to ensure public policy goals are reached and user benefits are full realised.<sup>76</sup>
- **A single MaaS platform is recommended** given Northern Ireland's size: there is a scope for a countrywide MaaS solution supporting urban, interurban and rural connectivity.
- **Skills and resources available to the public sector could be limited** and there could be a need to work with a range of experts in business models, smart ticketing and legal requirements while developing a MaaS solution.
- **Roles, expectations and responsibilities should be clearly established** as MaaS brings together a high number of stakeholders including transport operators, technology and payment solution providers, policy makers and other service providers such as EV charging infrastructure operators.
- **The MaaS business model is yet to be proven** – a long-term commercial sustainability has not been achieved yet. Commercial sustainability would be more challenging in rural areas and there could be a need for ongoing subsidy of MaaS operations if not enough revenue is generated through sources such as commissions on selling tickets, advertising and sponsorship.
- MaaS development typically **requires upfront capital funding** and often **ongoing revenue funding**. One of the use cases of MaaS which could be explored further is MaaS for businesses/organisations (e.g., MaaS solution tailored to the biggest employers in the area). At the same time, it should be acknowledged that the value of MaaS lies in the shift to sustainable modes and in that sense, funding invested into MaaS could be balanced by capturing the value corresponding to the cost of congestion and air pollution.<sup>77</sup>
- **Before implementing MaaS, there is a need to ensure that appropriate infrastructure and transport operators are in place** (e.g., bike share, car clubs, smart ticketing solutions). Shared mobility services could be developed alongside MaaS (e.g., in the Solent Region shared e-scooters and e-bikes were introduced while the Brompton bike hire and shared e-bike scheme was also developed by HITRANS in Scotland). There is a scope to develop a network of Mobility Hubs alongside MaaS to support uptake of the services encouraging multimodal journeys (e.g., in Berlin and Vienna). Mobility Hubs can allow for smoother changes between transport modes and enhance the overall travel experience.
- **Without integrating data, MaaS cannot work**: relevant data in the optimal format enables insight which in turn enables the creation of innovative services.
- **Development of MaaS and integration of transport services takes time** and could be more complex than it seems. It is important to develop partnerships with the service providers and gain their trust. The technology is readily available, but commercial agreements with services providers still need to be negotiated. For example, Solent

<sup>76</sup> [mobility as a service maas and sustainable urban mobility planning.pdf \(eltis.org\)](#)

<sup>77</sup> [Report MaaS final.pdf \(uitp.org\)](#)

Transport engaged with the key stakeholders prior to the MaaS provider procurement to ensure they are willing to collaborate and participate in the MaaS trial.

- **It is important to test and run trials to tailor MaaS solutions** for users in each location. Various services can be gradually added to the platform and app in a phased approach (e.g., starting from integration of information and leading to full integration with an ability to book and pay for services).
- **Marketing and promotion are crucial for MaaS uptake**, and it is important to raise awareness of its benefits. The creation of a strong brand would support promotion of MaaS and overall sustainable travel. The acceptance of MaaS can be increased through public outreach programs to educate users on the benefits of MaaS in cost saving, health and environmental terms.
- **Incentive strategies can be important to fully unlock the potential of MaaS** encouraging use of sustainable transport options, incentives strategies might be helpful. The Sydney MaaS trial revealed that without a monetary incentive, travellers appeared to see very little value in MaaS. Therefore, for sustainability goals to be achieved, introduction of bundles (i.e., a subscription plan) was advised as a tool to obtain societal goals.<sup>78</sup>
- **There is a scope for MaaS to be expanded to provide international links.** As shown by yumuv in Switzerland, there is a potential to go beyond national boundaries too, so it is important to collaborate with other authorities at regional but also at national level. Given the importance of the Belfast-Dublin corridor and routes from the Antrim coast to the Atlantic coast, there is a significant potential for MaaS in Northern Ireland to improve cross-border travel and air/sea travel to Great Britain.<sup>79</sup>
- **It is important to monitor and evaluate the impacts of MaaS** on travel behaviour and choices of the users. A monitoring and evaluation framework should be developed stating the required KPIs, assessment methods and tools.

### Option for delivery of MaaS in Northern Ireland

- 5.2 In Northern Ireland, Translink provides the public transport including NI Railways, Ulsterbus and Metro. In terms of shared mobility, there are shared bikes and a small number of car clubs in Belfast. Given there are not any MaaS apps and platforms operational in Northern Ireland at the moment, there is potential for Translink to take the lead, building on the journey planning app Translink NI which includes public transport modes.
- 5.3 When considering the potential delivery of MaaS in Northern Ireland, the following learnings and potential actions are recommended as a starting point:
- Evaluate opportunities to expand shared mobility services such as car clubs and shared micromobility first (e.g., including shared e-scooters, e-bikes and e-scooters);
  - Engage with the key public and private transport operators in Northern Ireland and gather their initial views on MaaS and willingness to share the data;
  - Evaluate an opportunity for the Translink NI journey planning app to incorporate shared mobility services (e.g., similar to Google maps and Citymapper partnerships in other locations);
  - Identify and agree the role of the government in delivering MaaS;
  - Identify and secure funding to pilot MaaS solutions taking into consideration potential need for revenue funding;

<sup>78</sup> [MaaS Exploratory Study \(gov.ie\)](#)

<sup>79</sup> [Rethinking-Mobility-in-Ireland Smart-Dublin FINAL-1.pdf \(smartdublin.ie\)](#)



- Start small – try pilots and tailor MaaS solution to the local context (see MyMobilityHub project example in Case Studies, Chapter 4);
- Identify key use cases for MaaS in Northern Ireland including MaaS for business travel;
- Engage with Irish government and share knowledge on transport integration and explore opportunity for future cross border MaaS operations.

## Control Information

**Prepared by**

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Steer

+44 20 7910 5000  
www.steergroup.com  
+44 20 7910 5000  
www.steergroup.com

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---

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**Author/originator**

---

Olga Anapryenka

**Reviewer/approver**

---

Matthew Clark

**Other contributors****Version control/issue number**

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