

# MaaS

## Exploratory Study



Government of Jersey

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steer



# MaaS Exploratory Study

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# 1 Introduction

- 1.1 The advancement of emerging technologies in transportation such as micromobility, connected autonomous vehicles (CAVs) and electric mobility are having a significant and growing impact on how people access mobility, goods and services. Changing behaviour, increasing traffic volumes and the need to decrease carbon emissions are contributing to the growth of shared on-demand mobility.
- 1.2 These innovative mobility options, combined with the changes in travel brought about by the COVID-19 pandemic, are leading to fundamental changes which require policymakers and governments to consider the individual and collective impacts on demand for travel, system design, public transport, and first mile/last mile connections.
- 1.3 Digitalisation is driving the transport sector to explore innovative solutions that bring efficiency to movements across the transport network. Between 2012 and 2018, the proportion of adults that owned or had access to a smartphone increased from 53% to 87%, with ~ 90% of smartphone users utilising their phones for travel purposes, particularly for navigation and route planning.<sup>1</sup>
- 1.4 In Jersey, the States Assembly adopted a new Sustainable Transport Policy (STP) framework in March 2020 which sets an ambitious vision for Jersey's transport network:

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'By 2030, our transport system will make our everyday lives better, support businesses, encourage us and our children to be healthier and make our Island greener'

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- 1.5 To deliver this vision, the States Assembly agreed that four action plans were required with one of them being a Mobility as a Service Framework Plan, which should closely link with the three other plans with a focus on Active Travel, Bus Service Development and Parking.<sup>2</sup>
- 1.6 The Government of Jersey (GoJ) has commissioned Steer to develop this MaaS Exploratory Study assessing opportunities and challenges for MaaS development in Jersey in support of the MaaS Rapid Plan.
- 1.7 This report has been developed working closely with the GoJ through:
  - Desktop research and literature review;
  - Stakeholder engagement; and
  - Workshop with the GoJ's representatives.
- 1.8 The report is structured as follows:

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<sup>1</sup> Pöllänen, et al. (2015)

<sup>2</sup> Sustainable Transport Policy Your views on the approach to the rapid plans, GoJ, November 2020

- Chapter 2 provides a summary of what MaaS is, including key stakeholders, operational models, benefits, challenges and case studies;
- Chapter 3 explores the local context in Jersey, available transport options and key transport challenges; and
- Chapter 4 presents an overview of the MaaS readiness assessment for Jersey and summarises proposed recommendations and next steps for moving forward to implementing MaaS.

#### 1.9 A Glossary of Terms is presented below:

Acronym	Full Term
<b>APIs</b>	Application Programming Interfaces
<b>B2B</b>	Business to Business
<b>B2C</b>	Business to Consumer
<b>CAVs</b>	Connected and Autonomous Vehicles
<b>DfT</b>	Department for Transport (UK)
<b>EV</b>	Electric Vehicles
<b>GDPR</b>	General Data Protection Regulation
<b>GoJ</b>	Government of Jersey
<b>ICT</b>	Information and Communications Technology
<b>IoT</b>	Internet of Things
<b>ITSO</b>	Integrated Transport Smartcard Organisation
<b>KPIs</b>	Key Performance Indicators
<b>MaaS</b>	Mobility as a Service
<b>PAYG</b>	Pay As You Go
<b>PT</b>	Public Transport
<b>SLA</b>	Service Level Agreement
<b>STP</b>	Sustainable Transport Policy

## 2 Understanding of MaaS

### Introduction

2.1 This Chapter provides a summary of the current understanding of MaaS including the following:

- Definition of MaaS;
- Functions and responsibilities of stakeholders within the MaaS ecosystem;
- Potential benefits of MaaS;
- MaaS business and operational models;
- MaaS implementation; and
- Regulation and legislation.

2.2 The research is also supported by case studies of different approaches to MaaS implementation in the UK and internationally.

### What is MaaS?

2.3 The concept of MaaS has been a subject of numerous discussions, research papers, conferences, and strategy documents, as a key component of the emerging mobility market. Nevertheless, the practical application of MaaS is still in its infancy and there are many competing definitions and claims about how best to deliver MaaS in the industry.

2.4 MaaS Alliance<sup>3</sup> defines MaaS as the integration of transportation services into a single mobility service, that is accessible on-demand.<sup>4</sup> The MaaS Lab<sup>5</sup> defines MaaS as a:

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*“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”*

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2.5 It should be noted that travel planning apps are distinct from MaaS. Intermodal journey planning applications such as Google Maps use search engines to enable users to find optimal means of travel between multiple locations which may be optimised using criteria like efficiency or cost. MaaS platforms and applications make use of trip planning engines but have additional functionality that makes them unique. For example, the ability to book and pay online, manage your ticketing, and receive subscription-based incentives.

2.6 The app or online platform is a digital interface through which the more complex concept of MaaS is operationalised. The essential functions commonly agreed as components of MaaS are presented in Figure 1 below.

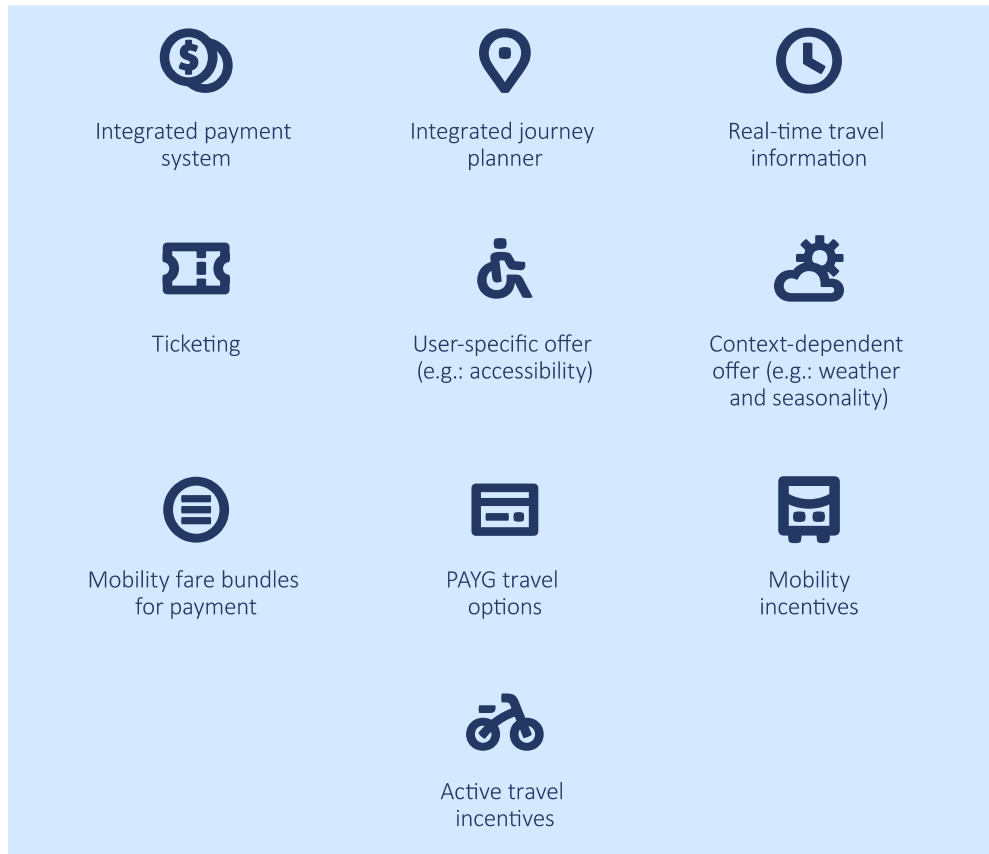
<sup>3</sup> The MaaS Alliance helps them cooperate through a shared work programme engaging transport operators, service providers and users: [Working Together — MAAS-Alliance](#)

<sup>4</sup> <https://maas-alliance.eu/homepage/what-is-maas/>

<sup>5</sup> MaaS Lab (2018)



**Figure 1. Functions of Mobility as a Service**



Source: Steer visualisation of MaaS annual survey

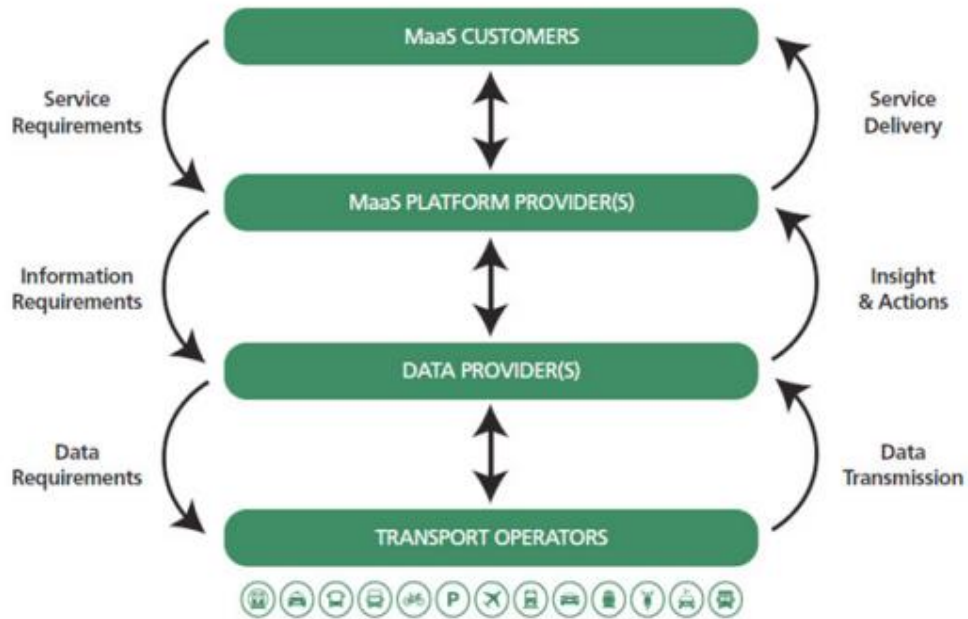
- **Integrated payment system** and **journey planner** functions allow users to purchase tickets after browsing their mobility options, in terms of mode, time, network, cost and emissions.
- These functions are supported by **real-time travel information** captured from transport and service operators. Users benefit from the ability to accurately plan their travel and stay up to date with changes to their journey.
- MaaS organises and consolidates **ticketing** information for the user across a range of trips. Payment options range from daily and monthly passes to **Pay-As-You-Go (PAYG)** and subscription-based services offering **mobility fare bundles**.<sup>6</sup>
- The MaaS offer is **user-centred**, which means it caters for individual preferences, travel habits and unique mobility needs like wheelchair access. It also accounts for the **local context**, such as weather and live traffic conditions.
- MaaS providers can incorporate **mobility incentives** that nudge users towards certain mode or route choices with the purpose of spreading peak congestion and reducing reliance on a particular mode. For example, **active travel incentives** can be focused on user uptake of the most sustainable modes of travel – cycling and walking – for their health and environmental benefits.

<sup>6</sup> A **mobility fare bundle** is a type of service bundling whereby users of MaaS subscribe to a 'bundle' of mobility services. The design of these differs between MaaS operators, for example Citymapper have developed the Citymapper pass which gives access to public transport, Santander cycles and the taxi network of London (as defined using a geofenced area). These bundles reduce hassle and allow users to focus on navigating instead of buying separate tickets ([MaaS bundle design - ScienceDirect](#))

## MaaS ecosystem

- 2.7 MaaS can also be described as an ecosystem through which the market of a portfolio of user-centric mobility services is established. Within this, the digital interface is the command centre for personalised mobility which acts to replace elements of the physical requirements of the transport system, such as tickets, and relieve pressure on information services at transport hubs. The core function of the MaaS ecosystem is to create an open market for the delivery of mobility services which are tailored to the needs of the users.<sup>7</sup>

Figure 2. MaaS ecosystem



Source: Transport Systems Catapult (2016)<sup>8</sup> – see Figure 9 in **Appendix** for greater detail of MaaS ecosystem relationships

- 2.8 The MaaS ecosystem presented in **Figure 2** is made up of four major stakeholder groups, following the principle of the MaaS operator being an intermediary between transport operators/mobility service providers (both public and private) and user groups:
- **MaaS customers:** could be an individual (Business-to-Customer (B2C)) or company (Business-to-Business (B2B)). Individual customers access the information on transport options for the purposes of travel planning and payment for travel. There may be different types of transport user groups such as residents, employees or tourists. B2B services co-ordinate different mobility operators: the platform allows operators of different rental/ hire services to access information on the availability of resources across the local context, for example, tariffs and asset availability.
  - **MaaS platform providers:** the MaaS platform provider is at the centre of the framework that connects transport operators to users. They design the service offering and develop the customer interface, which is provided through an appropriate device (e.g. mobile

<sup>7</sup> [https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper\\_final\\_040917-2.pdf](https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper_final_040917-2.pdf)

<sup>8</sup> [Mobility-as-a-Service Exploring-the-Opportunity-for-MaaS-in-the-UK-Download.pdf \(catapult.org.uk\)](https://catapult.org.uk/wp-content/uploads/2016/05/Mobility-as-a-Service-Exploring-the-Opportunity-for-MaaS-in-the-UK-Download.pdf)

application or/and platform). There can be one or more MaaS platform providers in one area.

- **Data providers:** specialised services supporting the data and information sharing requirements of the MaaS platform providers and transport operators/ mobility service providers. They act as a data broker to service the data and information sharing requirements of the transport operators and mobility service providers. All stakeholders within the MaaS ecosystem are impacted by technological requirements such as interoperability, roaming, and harmonised standards. A pre-requisite to interoperability is an open middle-layer platform that connects the MaaS operator with service providers. Standardised interfaces/ Application Programming Interfaces (APIs) with consistent governance enable the development of multiple business models and allow stakeholders to collectively address technological and organisational challenges.<sup>9</sup>
- **Transport operators/mobility service providers:** transport operators, and mobility service providers such as electric vehicle charging points operators, which provide the transport assets and services. The core business is formed by transport operators who agree to allow the MaaS provider to access their data and APIs.<sup>10</sup>

2.9 **Other stakeholders** include technology companies who offer support to the MaaS provider, such as ticketing and payment solutions, telecommunication companies, and insurance brokers. There have been advances in intelligent systems, Internet of Things (IoT), cloud technology and big data management, enabling the vision of MaaS and introducing new actors into the transportation market.<sup>11</sup> The extent to which organisations fulfil one or more role in the MaaS ecosystem will depend on the market conditions.

2.10 An additional, and vital stakeholder is a **public authority** (government or public transport authority responsible for transportation) who should have the power to make political decisions affecting the scope, deployment, and governance of MaaS. Public authorities may join a MaaS scheme as a partner to form a MaaS partnership or they may initiate such a partnership incentivising various partners to work together. They may, however, have limited involvement - only orchestrating MaaS through setting rules and regulations for transport and mobility market and providing an appropriate level of governance. As MaaS brings together mobility stakeholders (transport operators, technology and payment solution providers and policy makers), a clear definition of roles, expectations and responsibilities should be established to encourage integration within the system and to help align stakeholders' priorities. MaaS could be possible without public sector involvement; however, public sector involvement is important to help promote strategic policy objectives such as modal shift, uptake of active travel and decarbonisation.

2.11 The ecosystem of MaaS also includes the **broader political and economic space** in which policymakers intervene, as well as **research** conducted by universities, research institutes and commercial firms on MaaS.

<sup>9</sup> [https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper\\_final\\_040917-2.pdf](https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper_final_040917-2.pdf)

<sup>10</sup> [https://cms.uitp.org/wp/wp-content/uploads/2020/07/Report\\_MaaS\\_final.pdf](https://cms.uitp.org/wp/wp-content/uploads/2020/07/Report_MaaS_final.pdf)

<sup>11</sup> [Mobility as a Service Transport Trends and Economics 2018-2019.pdf \(unece.org\)](#)

## Benefits of MaaS

- 2.12 MaaS could provide a range of benefits and advantages making it an attractive mobility innovation that can be applied across a range of contexts. This section describes possible MaaS benefits for various stakeholders including MaaS users, MaaS platform providers, transport operators/mobility service providers and wider society.
- 2.13 MaaS has potential to influence the modal shift from private ownership and use of cars towards shared resources and greater use of public transport. It aims to provide a viable and competitive alternative to the private car (or second car) to mitigate its environmental and health impacts. To date, it has typically been applied in urban contexts, where the relatively high use of public transport provides a solid basis for offering users an end-to-end service that is tailored to meet their individual needs. MaaS can also be applied in rural settings, but faces unique challenges related to lower population densities, often greater distances, and lower levels of demand.
- 2.14 In the context of providing users with equitable and sustainable transport options, MaaS can facilitate access to multiple modes, first/last mile connections, fare integration and real-time information. It is therefore able to offer a customised service to its users, addressing the challenge of navigating multiple applications and payment systems to use mobility services. In the UK, a Department for Transport (DfT) survey found that 63% of respondents saw an advantage to using a MaaS platform.<sup>12</sup> Ultimately, MaaS, when implemented based on the strategic policy objectives, has the potential to help address endemic transport-related challenges, such as air quality and congestion, and improve the overall quality of users' journeys.
- 2.15 Potential benefits of MaaS can be split into the following categories: user benefits, supplier benefits (transport operators and service providers) and wider societal benefits (socio-economic and environmental sustainability).

### User benefits:

- **Improved customer experience:** users being offered optimised journeys for their individual needs, alongside simplified ticketing and payment procedures. MaaS also facilitates better access to alternative modes of transport and routes, empowering users to make more informed choices.
- The MaaS provider offers the **most suitable mode for the users' needs:** customers are provided with a journey management service that keeps them informed in real-time if their journey is disrupted.
- **Competitive pricing:** MaaS can offer services through a Pay As You Go (PAYG) model or as weekly/monthly/yearly tickets. This ensures the market remains competitive as there is transparency in price across the service offer. Additionally, users could be offered mobility fare bundles/subscriptions with cheaper prices compared to a PAYG model.
- **Journey planning:** a journey planning service allows customers to plan their journey based on their personal preferences such as time, cost, comfort, convenience. Users could make informed journey decisions and have freedom to choose and access various transport modes.

<sup>12</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/803347/transport-and-transport-technology-public-attitudes-tracker-wave-3-report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803347/transport-and-transport-technology-public-attitudes-tracker-wave-3-report.pdf)

- **Convenience and ease of payment:** MaaS eliminates the need for separate transport accounts and multiple travel tickets. A customer could access transport operator assets and services by using a range of devices, for example a smartphone, smartwatch, smartcard or bank card.
- **Potential to improve health and wellbeing:** 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.

#### Supplier benefits:

- **Market creation:** MaaS could offer transport operators and mobility service providers new sales channels through diversifying customer demand. MaaS also presents operators with a way to serve unmet demand, for instance, during peak hours when users are redirected from congested modes and routes. MaaS has the potential to bring together a range of modes to offer a complete and compelling alternative to the private car.
- **Data collection:** transport operators have access to user and demand information which allows them to monitor past and present service levels and create evidence-based strategy.
- **New business models:** MaaS could facilitate creation of new business models in the transport sector and encourage development of market competition leading to innovation.
- **Improved operations:** MaaS could increase operating efficiency of transport operators and service providers through provision of additional data and insights on user choices.

#### Wider societal benefits:

- **Network efficiency:** MaaS could not only benefit users, suppliers, operators, and authorities, but also societies and environments.<sup>13</sup> Through tackling journey convenience at the individual level, it has the potential to improve the overall network efficiency, optimise capacity, and encourage co-operation across the transport system leading to 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 enhancements and maintenance by utilising MaaS user-data to inform their work.
- **Improved air quality and reduced congestion:** through offering mobility incentives, MaaS has the potential to encourage mode shift away from less desirable journey trips from a public policy point of view (e.g. single occupancy car trips), particularly important at peak hours where certain routes and modes become congested. Spreading user journeys across alternative modes and routes could benefit the functioning and efficiency of the operating area itself, improving air quality, and liveability.
- **Modal shift from private car:** by combining traditional public transport modes with shared modes, and providing a tailored transport options to each user, MaaS could encourage a modal shift from the private car. If MaaS could encourage more public transport use, active travel and reduce vehicle traffic, it could be part of a suite of mechanisms that facilitates sustainable travel and decarbonisation.
- **Alignment with the government strategy:** from local to national levels, the potential benefits of MaaS present opportunities for governments to fulfil their commitment to citizens in tandem with delivering innovative mobility solutions. MaaS is supported by the

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<sup>13</sup> <https://maas-alliance.eu/wp-content/uploads/sites/7/2021/03/05-MaaS-Alliance-Playbook-FINAL.pdf>

wider policy context at a national level in the UK. For example, the UK DfT's 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>14</sup>

## MaaS business and operational models

- 2.16 Developing MaaS requires a high degree of involvement from a varied set of stakeholders. Public transport focused MaaS operations are only just starting to be implemented in a few city and urban environments. Meanwhile, commercial operators have created platforms which include digital journey planning, booking and payment functionality – although they may only include a limited range of services, or be available across limited geographies. Commercial operators have different levels of service and are mainly focused on the most available or commercially attractive elements - with some being without any remit to fulfil wider strategic social or environmental obligations and objectives, e.g. ensure access for all, reduced congestion or improved air quality.
- 2.17 There are a range of different operational models available in the market, which could be broadly categorised in three groups:
- **Public sector-led MaaS** – when public bodies develop and operate the platform by themselves;
  - **Private sector-led MaaS** – a single-mode operator may create a digital platform and transform it into a MaaS application. Once the operator has a consistent customer base it will expand to add other modes and services (e.g. Whim in Finland, Citymapper in the UK).<sup>15</sup> For example, Uber has grown its functionality from a digital ride-hailing platform that intermediates drivers and riders, to trialling multi-modal travel and partnerships with new business models; and
  - **Public-private partnership** – collaboration between the public and private sectors, with the public sector having control of the platform, e.g. when public bodies use a bespoke white label MaaS platform provided by the private sector (e.g. Jelbi in Berlin, WienMobil in Austria).
- 2.18 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 normally commercially driven. At the same time, pure public sector-led MaaS could be expensive to develop and operate and will require high level of involvement from public bodies.
- 2.19 A public-private partnership can be beneficial where the public sector determines how the MaaS platform is created and integrated, with a public body playing a key role in MaaS governance and administration and setting the required Key Performance Indicators (KPIs).
- 2.20 Transport for Greater Manchester offers an alternative characterisation of MaaS models, conceptualising six operational models and the role the public sector could play within them:<sup>16</sup>
- Model A (direct): Public Sector is the MaaS operator and uses in-house resources;
  - Model B (external provision of services): Public Sector is the MaaS operator but outsources all of its responsibilities (becomes a commissioning authority);

<sup>14</sup> <https://www.gov.uk/government/publications/department-for-transport-single-departmental-plan/department-for-transport-single-departmental-plan-june-2019>

<sup>15</sup> [Report MaaS final.pdf \(uitp.org\)](#)

<sup>16</sup> [Urban Transport Group – Maas movement report AW.pdf](#)



- Model C (operational commissioning): Public Sector is the MaaS operator but outsources all of its responsibilities except financial transactions;
- Model D (joint provision e.g. partnership): Public Sector is the MaaS operator but brings in a partner to manage and operate the system;
- Model E (Spin-out, mutual): Public Sector is the MaaS operator but shares platform/resources with other providers to make financial savings and bring efficiency;
- Model F (private sector operation): Private sector is the MaaS operator and has full control of its operation.

2.21 In models where the public sector is either the MaaS operator or a proactive participant, transport authorities could ensure that MaaS delivers across policy goals, from public health and air quality to reducing congestion and reliance on the private car. Without this active engagement, there is a risk that these strategic policy goals could be overlooked.

2.22 Further risks exist from a lack of public sector involvement including unfair competition, resilience (if operators fail) and transparency. However, there are also risks to the public sector of taking a central role in MaaS including commercial risks and liabilities and the costs of developing, managing and administering MaaS. There are also challenges around the capacity and capability of public authorities to take on MaaS operations, including attracting and retaining the necessary skills in a competitive market. All these challenges can be important given that revenue funding for public bodies is typically heavily constrained.<sup>17</sup>

2.23 The CIVITAS ECCENTRIC project highlights the importance of the role of the public sector: “Business models are company specific and constructed from the viewpoint of the focal company. The roles of public authorities (at city, national, regional, or global level) in a business model of a company vary, as they can be perceived as paying customers, suppliers of the service, sources of resources, providers of regulatory frameworks, or co-creators of value. For public actors, it is therefore essential to understand what role they play in the business models of the firms they engage with in developing MaaS solutions”.<sup>18</sup>

2.24 MaaS business models are still in the process of research and development with their commercial feasibility and long-term sustainability of the services being assessed.

## Implementation and delivery

2.25 Development of MaaS in a particular location depends on creation of conditions allowing for mobility service innovation, favouring integration, preventing fragmentation of mobility services and creation of transparent and fair transport and mobility markets.









2.26 There are number of factors to consider when implementing MaaS. Table 1 summarises the factors which, when applied to a local geographical scope, provide a cross-sectoral view of preparedness for change, and describe what decisions could be made to support implementation of MaaS.<sup>19</sup>

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<sup>18</sup>[https://civitas.eu/sites/default/files/maas\\_in\\_local\\_contexts\\_2020.pdf#:~:text=5%20MaaS%20Readiness%20Levels%2035%205.1.%20Strategic%20readiness,use%20in%20the%20local%20authorities%20....%2036%205.3.](https://civitas.eu/sites/default/files/maas_in_local_contexts_2020.pdf#:~:text=5%20MaaS%20Readiness%20Levels%2035%205.1.%20Strategic%20readiness,use%20in%20the%20local%20authorities%20....%2036%205.3.)

<sup>19</sup>[https://civitas.eu/sites/default/files/maas\\_in\\_local\\_contexts\\_2020.pdf#:~:text=5%20MaaS%20Readiness%20Levels%2035%205.1.%20Strategic%20readiness,use%20in%20the%20local%20authorities%20....%2036%205.3.](https://civitas.eu/sites/default/files/maas_in_local_contexts_2020.pdf#:~:text=5%20MaaS%20Readiness%20Levels%2035%205.1.%20Strategic%20readiness,use%20in%20the%20local%20authorities%20....%2036%205.3.)

Table 1: Factors for consideration when implementing MaaS

Factor		Description
	Infrastructure	Digital integration and physical infrastructure for walking/cycling/parking to enable integration of public transport with other modes.
	Fare integration, data and technology	MaaS requires full integration of data on real-time location, vehicle occupancy, travel time and payment from different transport operators and technology providers.
	Management and operations	MaaS systems bring together stakeholders such as transport operators, technology and payment solution providers, and policy makers - a clear definition of roles, expectations and responsibilities should be established.
	Governance	Regulations and policies have historically been mode-specific which might hinder MaaS' development; the three broad factors that govern MaaS policy and regulation are economic (market competition and entry barriers), political (taxation, subsidies, incentives to consumers, data sharing/ standardisation, data privacy/security, use of public resources), and social (accessibility, equity, environment, health/well-being of citizens).
	Business models	Business models for MaaS are either led by public authorities or private companies or managed through public-private partnerships.
	Finance	Funding requirements for MaaS vary by business model.
	Public education and acceptance	A MaaS model for a region which caters to specific travel needs of the users requires engaging with the user groups, operators, and technology providers to evaluate needs and develop an appropriate and feasible solution. 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.
	Customer incentives	To fully unlock the potential of encouraging commuters to use more sustainable transport options, incentives strategies might be helpful. The Sydney MaaS trial <sup>20</sup> 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. Gamification and nudging should be considered as elements of motivational techniques for recognised good travel behaviour. Further means of stimulating sustainable travel behaviour include bonus / loyalty schemes, where travellers are rewarded for using shared or eco-friendly modes. <sup>21</sup>

2.27 Fare integration and data standardisation in combination with available infrastructure are important pre-requisites to MaaS implementation. Critical technological requirements for

<sup>20</sup> [The Sydney MaaS trial - SkedGo](#)

<sup>21</sup> [mobility as a service maas and sustainable urban mobility planning.pdf \(eltis.org\)](#)



MaaS include interoperability and harmonised data standards. Interoperability is a responsibility for all parties involved and requires an open middle-layer platform that can connect transport service providers with the MaaS provider.<sup>22</sup>

- 2.28 CIVITAS define two key pillars of MaaS development: business models (*see previous section*) and stakeholder engagement. The primary objective of stakeholder engagement is enabling delivery of the components of the MaaS scheme. The public sector may contribute through land regulation, availability of public data, and other assets that enable the creation of the digital infrastructure for MaaS. It is key that this engagement starts early in the MaaS deployment process.
- 2.29 Another fundamental element of MaaS delivery is following a user-focused approach. This can be achieved through understanding of the local context in terms of existing challenges and opportunities and engaging with stakeholders and communities. Commercial success of MaaS and ability to facilitate behavioural change are dependent on its uptake by the target user group(s), and, therefore, a user-focused approach is integral to implementing MaaS. This is part of the reason why pilot trials are tested prior to a full MaaS roll-out, often lasting several years to build up a solid evidence base before launching (e.g. WienMobil in Austria).
- 2.30 Public transport is often considered as the backbone of effective MaaS operations, particularly when implementing MaaS in partnership with the public sector. However, there has been development in the market of incorporating private vehicles into the MaaS offer, based on an understanding of the role cars play for many suburban households and rural areas and how these will continue to remain central to a broad proportion of the population’s mobility needs.
- 2.31 The attempts to define MaaS as documented in (scientific) literature often use “integration” as a stepping stone. Sochor et al. (2017)<sup>23</sup> developed a typology distinguishing five integration levels:
- **Level 0: no integration.** The separate services are provided for different transport modes.
  - **Level 1: integration of information.** Travel information is provided through multi-modal journey planners, which may also include information on routes and costs. This enables users to make an informed journey choice on mode, route, and time of day.
  - **Level 2: integration of booking and payment.** MaaS facilitates the finding, booking, and payment of individual trips.
  - **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.
  - **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.
- 2.32 Table 2 provides a summary of main technological and policy enablers for each level of MaaS integration.

<sup>22</sup> [https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper\\_final\\_040917-2.pdf](https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper_final_040917-2.pdf)

<sup>23</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.

**Table 2. MaaS levels of integration and enablers**

MaaS levels of integration	Key technical enablers	Key policy enablers
Level 0: no integration	<ul style="list-style-type: none"> <li>High-quality transport infrastructure</li> <li>Multimodal services</li> </ul>	<ul style="list-style-type: none"> <li>Access to new mobility market</li> </ul>
Level 1: integration of information.	<ul style="list-style-type: none"> <li>Static and dynamic data</li> <li>Open APIs for data sharing</li> <li>Common data formats</li> </ul>	<ul style="list-style-type: none"> <li>Common data formats and open APIs</li> </ul>
Level 2: integration of booking and payment	<ul style="list-style-type: none"> <li>Digital payment and validation methods</li> <li>Open APIs for planning, booking and payment</li> </ul>	<ul style="list-style-type: none"> <li>Access to ticket resale</li> <li>Multimodal passenger rights</li> <li>Incentives for data exchange, interoperability framework</li> </ul>
Level 3: integration of transport services into passes and bundles.	<ul style="list-style-type: none"> <li>Data feedback loop to service providers</li> </ul>	<ul style="list-style-type: none"> <li>Access to ticket resale, all types of tickets</li> <li>Flexibility in terms of pricing when reselling services</li> <li>Comprehensive passenger rights/consumer rights and privacy schemes</li> <li>Creation of non-discriminatory and competitive market</li> </ul>
Level 4: integration of societal goals	<ul style="list-style-type: none"> <li>Data feedback loop to public authorities</li> </ul>	<ul style="list-style-type: none"> <li>Incentives for the sustainable modes</li> <li>Aligned policies across the sectors and administrative borders (subsidies, taxation, etc.)</li> <li>Comprehensive mobility budget approach</li> <li>Framework for impact assessment and compliance</li> </ul>

Source: MOBI-MIX insight report “The MaaS scene”: making the most of MaaS during and after COVID-19, Intelligent Transport, 2021.

2.33 Some of the MaaS building blocks identified by the MaaS Alliance<sup>24</sup> include:

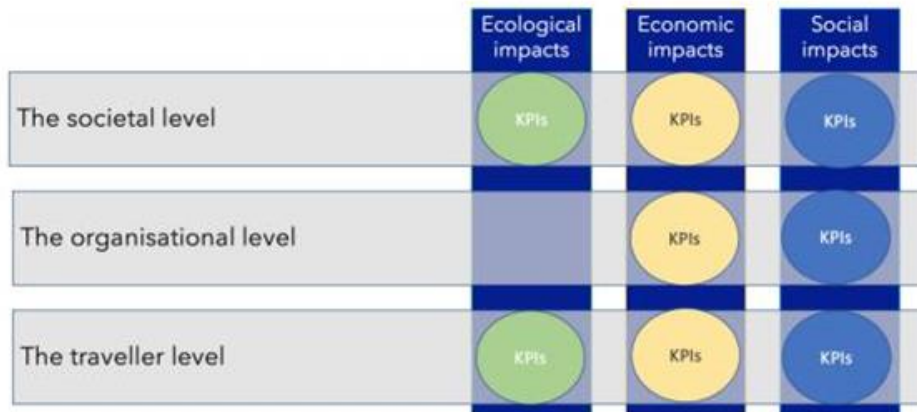
- An open market for MaaS operators and service providers to establish their business;
- Fair market conditions;
- A right of access to MaaS marketplaces for existing transport operators and mobility service providers;
- Open but secure and safe APIs ensured by proper overarching *Regulation and legislation* of the ecosystem;
- Real-time secure access to in-vehicle data for mobility operators to monitor capacity and inform future demand;
- Clearly defined and secured ownership of data; and
- Entitlement for all citizens to MaaS services that meet their accessibility needs.

<sup>24</sup> [MaaS-WhitePaper\\_final\\_040917-2.pdf \(maas-alliance.eu\)](#)

## Monitoring and evaluation

- 2.34 It is key to measure the impact of MaaS and a clear monitoring and evaluation framework should be developed stating the required KPIs, assessment methods and tools. This is not only to measure the success of MaaS in commercial terms, through its uptake, but also to track the extent to which it is providing the expected benefits and to monitor the effectiveness of its governance and regulatory frameworks (see Figure 3).

**Figure 3: Monitoring the performance of a MaaS scheme against its expected benefits through a core evaluation framework**



Source: [https://n-catt.org/wp-content/uploads/2020/12/MaaS\\_Final\\_WhitePaper.pdf](https://n-catt.org/wp-content/uploads/2020/12/MaaS_Final_WhitePaper.pdf)

- 2.35 The KOMPIS evaluation framework has been developed to evaluate two MaaS deployments in Sweden: LIMA (Lindholmen Mobility Arena) and MoJo (Mobility Johanneberg).<sup>25</sup> These projects were running from September 2020 to September 2021. The framework is designed to measure the development of the schemes in line with Swedish transport policy objectives in terms of ‘function’ and ‘consideration’. The primary modes of data collection were questionnaires targeting different stakeholders in the pilot regions, in addition to travel diaries and the personal data collected about trip patterns and smartphone application usage. The main effects the framework evaluates are ecological, economic, and social factors across the micro (individual travellers), meso (organisations creating and delivering MaaS services), and macro (communities, cities, regions) levels.
- 2.36 CIVITAS has also defined key metrics for evaluating the impact and success of MaaS schemes<sup>26</sup> as the following:

- **Market relationships:** these are expected to evolve towards a preference for sustainable mobility solutions over private, individual, motorised transport. The success of MaaS secures investment to develop and deploy the digital and physical infrastructure necessary to deliver a high-quality MaaS ecosystem.
- **Saturation of the service:** MaaS capacity is limited by the pre-existing capacity, range, and quality of mobility services and how many of these are integrated into the MaaS platform.
- **Effective governance:** maintaining oversight from the public sector is important in ensuring MaaS remains customer-oriented and achieves its wider benefits of

<sup>25</sup> [https://kompis.me/wp-content/uploads/2020/06/KOMPIS-framework-and-KPIs\\_web-version.pdf](https://kompis.me/wp-content/uploads/2020/06/KOMPIS-framework-and-KPIs_web-version.pdf)

<sup>26</sup> [https://civitas.eu/sites/default/files/maas\\_in\\_local\\_contexts\\_2020.pdf#:~:text=5%20MaaS%20Readiness%20Levels%2035%205.1.%20Strategic%20readiness,use%20in%20the%20local%20authorities%20.....%2036%205.3.](https://civitas.eu/sites/default/files/maas_in_local_contexts_2020.pdf#:~:text=5%20MaaS%20Readiness%20Levels%2035%205.1.%20Strategic%20readiness,use%20in%20the%20local%20authorities%20.....%2036%205.3.)

sustainability and other health goals that may be aligned with the government's policy. Equally, the gradual phase out of public support (particularly under business models where the public sector is heavily involved from the start) has to be timed in such a way that the infrastructure and service investments can be adequately taken on by the private sector.

### Case studies

- 2.37 MaaS is an emerging service and examples of the trials around the world are shown in the case studies below.

#### **Case study: Whim in Helsinki, Finland**

##### Case study: Whim in Helsinki, Finland

Helsinki is the capital and largest city in Finland, with a population of 1.3 million.<sup>27</sup> The city's transport system includes city bike, bus, tram, underground, rail, and ferry services. It is planned and procured by Helsinki Region Transport (HSL).

Helsinki's MaaS ecosystem has been driven forward by the Whim app, developed by MaaS Global. The app has over 100,000 downloads and is available for iOS and Android. It was fully launched in November 2017 and had 70,000 users and 2,000,000 trips within a year.<sup>28</sup> The app connects the city's public transport network with car rental, taxi rides, city bikes and e-scooters as part of a holistic and integrated mobility service. It evaluates these modes against the personal preferences of the user (time, budget, environmental value, etc.) and other external constraints (congestion, weather, etc.) to offer users the best-fit solution.

MaaS Global uses openly available APIs to book and pay for trips, enabled by the Finnish Transport Act which mandates all transport data must be open. HSL approve all ticket prices and organise ticket sales, as well as being the gateway to partner public transport providers. Whim users have several payment plan types including pay-as-you-go fare, weekend pass and unlimited pass. Whim has machine learning capabilities that can analyse users' journey travel patterns and use favourite places and calendar syncing to plan journeys in advance.

**Operating model:** private sector-led MaaS. MaaS Global has raised a total of \$61M in funding over 5 rounds. Their latest funding was raised on May 27, 2021 from a Series B round.<sup>29</sup>

**Outcomes:** In 2019 95% of Whim trips are by public transport and the app use is growing along public transport corridors.<sup>30</sup> The initiative's success has strongly relied on its attractiveness to users and on a service to customer perspective. Negotiation with transport providers on technology integration and contractual terms was a key.

In 2019 MaaS Global partnered with Tencent and the city to integrate tourism information and transport service for tourists. Designed especially for Chinese visitors, the WeChat MyHelsinki mini program is the first city app in the world to combine preferred personal recommendations, mobility planning and purchase options for travellers.<sup>31</sup>

<sup>27</sup><https://www.macrotrends.net/cities/20937/helsinki/population#:~:text=The%20current%20metro%20area%20population,a%200.92%25%20increase%20from%202020>

<sup>28</sup><https://mobilemarketingmagazine.com/whim-transportation-app-debuts-with-25-million-trips-taken>

<sup>29</sup>[MaaS Global - Funding, Financials, Valuation & Investors \(crunchbase.com\)](https://maasglobal.com/funding-financials-valuation-investors)

<sup>30</sup>[https://ramboll.com/-/media/files/rfi/publications/Ramboll\\_whimpact-2019.pdf](https://ramboll.com/-/media/files/rfi/publications/Ramboll_whimpact-2019.pdf)

<sup>31</sup>[New visitor app by the City of Helsinki, Tencent and Whim takes travel experience to the next level - Helsinki Marketing \(cision.com\)](https://www.cision.com/news/whim-takes-travel-experience-to-the-next-level)

### ***Case study: Jelbi, Berlin, Germany***

#### **Case study: Jelbi (Berlin, Germany)**

Berlin has a dense transport network including underground (U-Bahn), light rail (S-Bahn), bus and tram, as well as regional rail services across Berlin-Brandenburg. The transport offer is complemented by shared mobility schemes. Berlin launched a multimodal app called Jelbi which integrates the public transport network (BVG) and private transport operators and enables route planning, payment and ticketing in late 2019.

The technology platform for Jelbi is provided by Trafi as a white label solution, fully branded with the Berlin public transport agency 'BVG' branding. The development of the app aims to integrate more mobility offers, with around 25 private transport providers interested in joining the service. The App is available in German and English; it has 50,000+ downloads on Play Store and it is available for iOS and Android. 3% of population in Berlin used the product at least once. BVG has funded the whole set-up of the platform and is paying yearly fee to Trafi. The fee includes users' feedback analysis and platform updates.

Operating model: Public-private partnership.

The App integrates the following services:

- Public transport: these include bus, underground, tram and light rail services in Berlin, and public transport services in Berlin-Brandenburg (thanks to the cooperation with Verkehrsverbund Berlin-Brandenburg - the public transport authority in the federal states of Berlin and Brandenburg);
- Shared mobility: six Jelbi stations (Mobility Hubs) are located at S-Bahn and U-Bahn stations and provide kick scooter, e-scooter, car and bike sharing services. Jelbi stations are also stops for taxis and on-demand mini-buses ("BerlKönig"). There is a plan to roll out Jelbi stations all over Berlin, from the city centre to the suburbs. We note that users can benefit of additional stations managed by the shared mobility partners.

Users can register with a new sign-up or with their BVG account. They need to choose a payment method (PayPal, credit card and SEPA direct debit) and validate their documents (ID - driving licence) in case they wish to hire a vehicle. The App shows services, stations and stops around the user; after entering a destination, it provides real-time routing and available service information. These include options based on mode, trip duration and price. The user can choose and pay the single trip or other BVG fares (except some monthly fares).

The initial roll out was across a test zone of east Berlin which incorporates both dense and less connected areas. Jelbi doesn't include some bigger operators which are trying to create their own MaaS platforms: Sixt Share and Share Now (BMW and Daimlers' joint car share that bring together Car2Go and DriveNow). Jelbi is regarded initially as a research project, collecting data that currently does not exist on how Berliners get from A to B. BVG will share trip data from the app with the companies on the platform.

It took approximately six months to establish the platform. Key phases included:

- Team and stakeholder mobilisation, setting Key Performance Indicators and objectives;
- Technical deployment of the App;
- Integration of mobility service providers and of ticketing;
- Trafi App customisation (a design team was on site to learn and adapt the new product);
- Open beta test of the system resilience; and
- Marketing and launch.

**Case study: WienMobil, Austria****Case study: WienMobil, Austria**

WienMobil is the multimodal mobility app run by Wiener Linien since June 2017, operating in Vienna, Austria. The App allows users to plan, book and pay for journeys from door to door, using one or a combination of transport means: public transport, bikes, car rentals, scooters, car-sharing, taxis, and parking. Users can set preferences in journey planning including walking speed, walking distances, preferred modes. The environmental impact of a selected route is also displayed and there are walking directions provided.

The WienMobil Card ceased to be sold when the app was launched. The App has 500.000+ downloads on Play Store and is available for iOS and Android. The app is available in German and English.

Operating model: Public-private partnership.

The app integrates the following services:

- Public transport: these include Wiener Linien services; all Wiener Linien fares are included.
- Shared mobility: the app sells shared mobility services which are also available at three WienMobil stations (these are mobility hubs integrating mobility services);
- Vienna City Card: tourists can access the app “Products” section and buy the Vienna City Card which has different packages including public transport (the airport transfer can be added), discounts to museums, events, restaurants, city tours; the Card has different durations (e.g. 24, 48, 72 hours, 1 week); there are plans to integrate micro-mobility services. The Card is both available on mobile phones and printed. There are also Cards types designed for the residents which offer discounts.

**MaaS in rural settings**

- 2.38 The current trials, implementation, and development of MaaS focuses mainly on urban environments due to the economies of scale of geographical areas with high population density that present a captive market better suited to the use of shared transport modes.
- 2.39 Rural areas generally cover larger geographical regions with a sparser population density and higher private car usage. It is particularly challenging to deploy MaaS successfully in rural areas as the pre-existing public transport infrastructure and its coverage is sparser due to the distances covered.<sup>32</sup> This results in low capacity utilisation rates, and public transport could be associated with poor performance, unreliability and overall poor quality due to lack of investment making it unattractive to both users and future investors. Furthermore, the greater likelihood of siloed and fragmented publicly subsidised transportation due to the broader geography of non-urban areas makes developing a robust framework for collaborative governance even more challenging.
- 2.40 The challenges of deploying MaaS in rural settings include the following:
- The need for public subsidy of transport services
  - Lack of stakeholder responsibility for developing and coordinating mobility services in regions;
  - Lack of expertise in organising and planning mobility;
  - Lack of agreement on implementing new solutions;
  - Irregular transportation demand and a restricted market;

<sup>32</sup> <https://www.sciencedirect.com/science/article/pii/S2210539518300403>



- Poor public transport service level (infrequent and limited geographical scope); and
- Public transport does not meet the full scope of accessibility requirements.

2.41 For rural areas MaaS presents an opportunity to improve efficiency of transportation through integrating different transport modes and services.<sup>33</sup> Two case studies are presented below: GO-HI app in the Scottish Highland Region and SUMA project on an island of Elba, Italy.

#### ***Case Study: GO-HI MaaS app (HITRANS), Scotland***

##### **Case study: GO-HI MaaS app**

The Highlands and Islands Transport Partnership (HITRANS) is the statutory regional transport partnership covering the Western Isles, Orkney, Highland, Moray and the Argyll and Bute area, it has pioneered the development of a MaaS platform for rural geographies.<sup>34</sup> Part of the Stronger Combined project and MaaS Investment Fund, funded by the EU North Sea Region and Scottish Government respectively, the project aims to address the key challenges of public transport reformation in rural areas, including:<sup>35</sup>

- lack of knowledge among local political decision-makers; and
- irregular and dynamic service preferences of rural citizens.

**Operating model:** Public-private partnership. The Go-HI app was funded through the MaaS Scotland Fund Round 2: HITRANS formed partnership with the private sector to secure £500K of funding.

The GO-HI app is a pilot project for MaaS, which will be launched in Spring/Summer 2021. It will deliver a data platform, powered by Mobbileo, for rural combined mobility to revolutionise transport accessibility in the Highland and Islands area of Scotland.

The app will provide instant access to information across train, car & bicycle hire, car clubs, buses, air travel, and ferries. Users will be able to plan their journeys and pay for all modes of transport using their mobile device. HITRANS launched an e-bike share scheme in late 2020 with three hubs for 30 e-bikes across Inverness for residents and visitors, which shall be available for hire via the GO-HI app. Participating transport providers will be able to access data collected by the app on service demand. This will inform them of the needs of their users in the HITRANS region and adapt the provision of their services accordingly.



#### ***Case Study: SUMA on the Island of Elba, Italy***

##### **Case study: SUMA, Elba, Italy**

Elba is an island in the Mediterranean Sea, 10km from the Tuscan coast and the third largest Italian island. The CIVITAS Destinations project – co-financed by the H2020 EU Grant – has chosen Elba as a location for the launch of a MaaS pilot project, the Shared Use Mobility Agency (SUMA).<sup>36</sup> The Destinations project has chosen six islands as live laboratories for testing the MaaS concept.

SUMA acts as an umbrella platform that co-ordinates shared mobility services with conventional public transport. Its purpose is to increase the accessibility and sustainability of mobility services. Elba Island has 32,000 inhabitants and up to 1,000,000 annual tourists (pre-COVID-19). In particular, SUMA targets the following issues affecting Elba's mobility:

- high seasonal mobility demand and dispersed trip origins;

<sup>33</sup> Eckhardt, Aapaoja, et al., 2017

<sup>34</sup> [https://hitrans.org.uk/Projects/Current\\_Projects/Stronger\\_Combined](https://hitrans.org.uk/Projects/Current_Projects/Stronger_Combined)

<sup>35</sup> <https://northsearegion.eu/stronger-combined/about/>

<sup>36</sup> [https://civitas.eu/sites/default/files/shared-use-mobility-agency\\_booklet.pdf](https://civitas.eu/sites/default/files/shared-use-mobility-agency_booklet.pdf)

**Case study: SUMA, Elba, Italy**

- a fragmented mobility offer, in terms of information, marketing, accessibility and cooperation; and
- the ineffectiveness of existing PT services in providing suitable integrated solutions, in response to >30% demand increase during the peak season.

Operating model: Public-private partnership. Funded by EU as part of CIVITAS DESTINATIONS initiative with the total budget 19M Euro for six projects.

SUMA has provided users with an access point to all information on the island's mobility offer, and has aggregated mobility demand, reconciling the parallel axes of sharing services and public transport through innovative mobility solutions. The user is able to become their own mobility service provider via the "message boards for sharing trips" whereby they share their current location and desired location to other passengers/drivers. The portal and administrative back office was designed by MemEx: a small independent consultancy working with local authorities in public transport across rural and urban areas.

The transport operator in Elba is 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. Journey planning is connected through API from the regional portal. Payment is not part of the solution at the moment, and therefore SUMA can be seen as a stepping stone towards MaaS. There are plans to implement payment functionality in the future. In terms of financing and delivery, it is anticipated that once the pilot has ended, SUMA's operation will be self-sustained through the revenue generated. Although a certain level of subsidies may be required. External revenue sources may include an annual fee for registration, annual contribution from renting operators, and contribution from commercial operators.

As mobility requirements and needs are in evolution, the function of MaaS on Elba is anticipated to change. There may be future extension to other rural areas, and it may be subsidised within public transport provision. A weakness of MaaS as implemented on Elba has been the complexity of design specifications and realisation, as well as investment costs: related to the ICT platform. Financial uncertainty persists despite the possibility of revenue generation from commercial agreements with networking operators. A threat to the development of MaaS in future would be a reduction in the investment in PT on the island, as well as a rise in private vehicle use associated with the COVID-19 pandemic.

**Challenges in implementing MaaS**

2.42 Whilst MaaS has several clearly defined benefits, in practice, there could be barriers to its implementation. This section outlines challenges in implementing MaaS including the following:

- Data collection, distribution, and sharing;
- Public perception of MaaS;
- Need for collaboration;
- Governance and operations;
- Commercial feasibility;
- Regulation; and
- Social inclusion.

*Data collection, distribution, and sharing*

2.43 Most private mobility services do not currently share extensive data on their service usage. This is a challenge for MaaS, as the collection of aggregated user data is an important pre-requisite for a number of user and supplier benefits, such as the ability to tailor transport



preferences to individuals, and to help transport operators and public bodies cater their mobility strategies to actual user demand. Addressing the concerns of public agencies on the responsibility of the MaaS provider to protect consumer interests and consumer data requires agreement on data protocols.

- 2.44 Some contexts may be particularly vulnerable to this data-driven barrier to MaaS as they lack access to high-quality and up-to-date data. A means of overcoming this is through greater co-operation between MaaS operators and service providers to ensure a continuous and accurate flow of data, as well as providing a common framework for the industry through which data is collected, stored, and processed. Standardised data-sharing processes and promotion of open data policies across the region could help mitigating the risk.

#### *Public perception of MaaS*

- 2.45 Public perception of MaaS could be enhanced through education and public outreach programmes designed to educate users on its benefits. Outreach also allows suppliers to gain a better qualitative understanding of their user's needs, through engaging directly with stakeholders.
- 2.46 Perception can also be highly dependent on the local context. For example, in the USA private cars account for more than 80% of total trips, which should be considered when developing MaaS. In this context, the personal car could become part of the MaaS ecosystem, including kerb and parking management guidelines.

#### *Need for collaboration*

- 2.47 MaaS ecosystems require strong collaboration between the public and private sectors. Within the market, transport and mobility service providers often operate independently and may not wish to coordinate their services with each other. Thus, participation in MaaS may require changes in the way providers schedule and operate their services, as well as the role of the provider in the overall transportation network.
- 2.48 Another source of misaligned priorities between stakeholders is centred around kerb space and parking management in cities. This is being impacted by the growth in shared mobility options and delivery services and can create conflicts with other modes of transport and local authority revenue streams. In a MaaS ecosystem, public bodies will have to rethink how kerb space is used and dedicate specific areas or hubs for first/last mile connections (e.g. through Mobility Hubs).

#### *Governance and operations*

- 2.49 The governance of MaaS is still a grey area with different operating models being developed around the world. For larger public bodies, the decision to create a MaaS ecosystem requires efficient collaboration between stakeholders at regional and local levels, both between themselves and with the private sector and stakeholders. For government a balance needs to be achieved between framing and enabling a system.
- 2.50 Public authorities should get involved to ensure public policy goals are reached and people will benefit from all the advantages MaaS could bring. Since MaaS ecosystem is a mix of public and private players, there is a risk that commercial players take advantage, for example through introduction of algorithms that would favour certain more profitable services.<sup>37</sup>

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<sup>37</sup> [Report MaaS final.pdf \(uitp.org\)](#)

### *Commercial feasibility*

- 2.51 One of the key challenges of MaaS for commercially led schemes is to offer the service at a price that users are willing to pay whilst still making a commercial return to the overarching provider of the MaaS offer, as well as to the operators of the services that make up all the elements of the MaaS offer (e.g. public transport operators and shared mobility providers).
- 2.52 This may help to explain why despite all the hype around the concept of MaaS, it is difficult to find examples of its application at scale as a purely commercial offer. If a purely commercial MaaS package offer is challenging to achieve at scale, and in a way which serves more people, then there is an option for either the private sector or the public sector cross-subsiding the cost of its provision.<sup>38</sup>

### *Regulation*

- 2.53 Regulatory uncertainties in a region looking to implement MaaS creates additional risk for investors, therefore, dissuading investment and impeding market evolution. Equally, a complex regulatory framework with multiple institutional and geographic layers could hinder the deployment and roll-out of transport services.

### *Social inclusion*

- 2.54 MaaS could be targeted at geographical locations where it is more economical to provide access to a full range of modes and at demographics which are tech-savvy such as early adopters with relatively high disposable income. This can therefore leave out people from disadvantaged groups such as those on lower incomes and those who live in less central and dense urban areas.
- 2.55 Given the digital nature of MaaS and its app interface, a mobile phone and adequate internet connection are important prerequisites for its use. This may result in exacerbating the effects of digital exclusion.<sup>39</sup> There are challenges around creating an inclusive MaaS system in the short to medium term, particularly around coverage and pricing of the services, as well as how these services are accessed (given the necessity of being digitally connected).<sup>40</sup>

## Regulation and legislation

- 2.56 For MaaS to successfully function between users and public and private providers, agreed data protocols and data sharing are required. The government has an important role to play in setting open data policies and frameworks along with creating a collaborative ecosystem and conditions to attract business and users to use the services and share data.

### Case study: UK

- The UK government's Foresight Future of Mobility Evidence Review<sup>41</sup> explored key drivers of change in mobility needs, the objectives of MaaS, and the implications of different MaaS business models for decision makers.

<sup>38</sup> [Urban Transport Group – Maas movement report AW.pdf](#)

<sup>39</sup> <https://publications.parliament.uk/pa/cm201719/cmselect/cmtrans/590/590.pdf>

<sup>40</sup> [Urban Transport Group – Maas movement report AW.pdf](#)

<sup>41</sup> Mobility as a Service in the UK: change and its implications, Future of Mobility

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/766759/Mobilityasaservice.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766759/Mobilityasaservice.pdf)

### Case study: UK

- A key commitment set out in the Future of Mobility Industrial Strategy<sup>42</sup> is to “explore ways to use data to accelerate development of new mobility services and enable the more effective operation of our transport system”.
- Transport for London (TfL) made the policy decision to open-up all their data since 2010 as per the TfL Open Data Policy,<sup>43</sup> which has resulted in the deployment of new journey planning apps, such as Citymapper. It is now being used in over 600 apps and has changed the way people use TfL and the wider London transport network.
- The Department for Transport (DfT) has taken steps to make bus data available to the public through the Bus Services Act 2017.<sup>44</sup> It requires all PSV operators in the UK to openly publish and share up-to-date data on timetables, fares and live location. While the local bus route and timetable data from 2019 onwards is available in Open Bus Data portal, delivering data on fares and ticketing requires data to be made available in a standard format (comparable to NeTEx (Network Timetable Exchange) the European Standard for exchanging multimodal public transport data). All operators would need to make all fares and ticket data available via the Bus Open Data portal by the end of 2022. This may help not only to improve bus services, but also allow mobility technology companies to explore the possibility of delivering MaaS.

2.57 To make MaaS successful, policy makers must consider policy reform around the governance arrangements of MaaS in terms of:

- How transport service providers must provide access to essential information in a computer-readable format including routes, timetables, stops, prices and accessibility information;
- How different operators can collaborate: the degree of interoperability required;
- How the data is shared;
- How MaaS can be safe and socially inclusive;
- How MaaS can meet policy objectives (e.g. encourage people to use more public transport and increase cycling and walking compared to other modes);
- How payment and ticketing services can be set up to allow for a multimodal travel with a single ticket purchase;
- How interoperability of different MaaS modules such as ticketing, payment, journey planning etc. can be delivered.

2.58 Urban Transport Group’s report “Towards an appropriate legal and regulatory framework for smart futures on transport”,<sup>45</sup> identified the following priority areas for the UK Government:

- **Data sharing:** data sharing and standardisation are considered as a stepping stone for successful MaaS implementation. There are no existing consistent methods in place for local authorities to enforce data sharing from private transport operators in the UK; and
- **Business model:** in the future, it may be important to develop regulations on the licensing of MaaS operators and quantity restrictions in terms of the number of companies offering MaaS platforms and apps.

<sup>42</sup> 30 Future of Mobility: Urban Strategy <https://www.gov.uk/government/publications/future-of-mobility-urban-strategy>

<sup>43</sup> TfL Open Data Policy <https://tfl.gov.uk/info-for/open-data-users/open-data-policy>

<sup>44</sup> Bus Services Act 2017: Creation of Bus Open Data <https://www.gov.uk/government/consultations/busservices-act-2017-bus-open-data/bus-services-act-2017-bus-open-data-html>

<sup>45</sup> [Towards an appropriate legal and regulatory framework for smart futures on transport \(urbantransportgroup.org\)](https://www.urbantransportgroup.org/)

### Case study: Finland

Finland was one of the first countries to launch MaaS and is a good example of the government supporting MaaS and taking action to encourage its implementation. In July 2018, the Finnish government introduced new legislation - the Act on Transport Services, which aims to enable and promote transport integration and is considered as a steppingstone to MaaS. The Act is part of the Transport Code project and represents a step towards Finland's vision of providing MaaS and creating a digital future for mobility.

The current government aims to promote the use of digitalisation in the transport sector and through services. This is driven by targets to reduce emissions, given the proportion that transport contributes to this, through improved energy efficiency of vehicles, and new sources of fuel and power. There is a working group looking to halve domestic transport emissions from 2005 to 2030 and achieve totally carbon-neutral transport by, latest, 2045. Digitalisation and taxation are components of addressing this. This will require even closer collaboration between the public and private sectors and establishing criterion which will be used to measure the success of MaaS.<sup>46</sup>

## Conclusion

- 2.59 This Chapter has laid out the scope of the understanding of MaaS, based on a mix of desktop-based research and case studies that draw on emerging evidence from the UK and around the world in urban and rural settings.
- 2.60 When considering next steps for MaaS in Jersey, it is recommended to consider the Urban Transport Group's presentation<sup>47</sup> of the following five questions which should be answered to ensure that MaaS supports delivery of the strategic policy goals:
- Does MaaS incentivise public transport use?
  - Does MaaS help reduce congestion and pollution?
  - Is MaaS socially inclusive? (Is it affordable; accessible in a non-digital way; providing good geographical coverage; providing information and options for those with additional mobility needs?)
  - Is there a culture of openness and data sharing?
  - Does MaaS encourage active lifestyles?

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<sup>46</sup> Aho, Lyly, & Mero, 2017

<sup>47</sup> [Urban Transport Group – Maas movement report AW.pdf](#)

## 3 Jersey: local context

### Introduction

- 3.1 This Chapter provides an overview of the current transport network in Jersey, which is important to understand when considering the potential for MaaS in Jersey. This Chapter covers the following topics:
- Overview of transport options in Jersey; and
  - Understanding of the key transport challenges.
- 3.2 The information was collected through the desktop research, interviews with the stakeholders and a workshop with the GoJ's representatives.
- 3.3 The summary of the GoJ's transport strategy and data on population, employment statistics and tourism is attached in Appendix B.

### Transport options

#### Road

##### *Road network*

- 3.4 Car is the primary transport mode in Jersey. The road network is 557km long, and the default speed limit is 40mph. A significant proportion of the road network is narrow country lanes. Some of these lanes are classified as green lanes and have a 15mph speed limit.<sup>48</sup>
- 3.5 Main roads are maintained by the Government and funded by taxation. Motor Tax was abolished in Jersey in 1993 and import duties on fuel were increased from 1994 to replace the loss of revenue.<sup>49</sup> Other roads are maintained at the Parish authority level through a Roads Committee. Based on the Census 2011 data, there were 62,456 cars / vans available for use by private households. This is equivalent to 651 cars / vans per 1,000 population. This represents high levels of car ownership at 1.50 cars / vans per private household, which was higher than in 2001 (1.48) and considerably higher than the UK average (1.2).

##### *Electric vehicles*

- 3.6 The number of electric vehicles rose by 189 to 572 between 2018 and 2019, and by 739 for registered hybrid electric vehicles.<sup>50</sup> There are currently 67 charging stations provided by Evolve (Jersey Electricity) across the island: 3 rapid, 40 22kW, 22 7k and 13 Amp. Payment is done via the Evolve RFID card, or via the Charge Your Car smartphone app. It is yet to be determined if the Government of Jersey will follow the UK in banning the sale of new petrol and diesel cars from 2030.

##### *Parking*

- 3.7 Public on-street parking is controlled by both time restrictions and/ or payment across Jersey in areas of high demand. Single yellow lines indicate a 'no waiting' restriction, and parking here will incur a fine. Managing deliveries (onloading and offloading) in St Helier could be

<sup>48</sup> <https://www.gov.je/SiteCollectionDocuments/Travel%20and%20transport/IDJerseyHighwayCodepdf20090923Clem.pdf>

<sup>49</sup> <https://www.gov.je/government/freedomofinformation/pages/foi.aspx?ReportID=3244>

<sup>50</sup> <https://jerseyeveningpost.com/news/2019/11/11/surge-in-the-number-of-electric-and-hybrid-cars/>

challenging as high volumes of deliveries could occur based on the traffic from the port. Parking in some streets around the outskirts of St Helier and some areas at the harbour is free.

- 3.8 Most of the users of public car parks pay for on-street parking using Paycards, parking discs or the PayByPhone app. The PayByPhone app was introduced in 2018 and has been widely adopted with 65% of users paying via the app. Paycards can be bought from garages, newsagents, local shops, and supermarkets individually or in books of ten. Paycards are validated by scratching off the date, time, and length of stay. One unit can last for between 20 minutes and two hours depending on the car park or street area parked in. Monthly season tickets are offered for £142.00 per month and for £71.00 per month for an eco-friendly season parking ticket.
- 3.9 An eco-friendly parking permit scheme run by the Infrastructure, Housing and Environment division is in operation until the 31 December 2021.<sup>51</sup> This is applicable to EVs and PHEVs with carbon emissions of less than 50g CO<sup>2</sup> per km. Newly registered vehicles get free parking in all States of Jersey car parks for 12 months; and parking is half price until the scheme expiration.
- 3.10 Pre-COVID-19 parking demand in St Helier was high with limited capacity available at peak periods, but the demand dropped during the pandemic and, as of May 2021, it is around 75% of the pre-COVID-19 level.
- 3.11 The GoJ is currently developing a Parking Rapid Plan considering future plans for parking in more detail.

### **Public transport**

- 3.12 There are no public railway services in Jersey. Buses began running on the Island in the 1920s and had rendered railways unprofitable by the following decade.
- 3.13 Buses are currently operated by CT Plus Jersey, which is a local subsidiary of HCT Group, and the service is called Liberty Bus. Liberty Bus is a social enterprise, which means that rather than making profit for shareholders, their key focus is on benefits for local community. Their operations have been significantly affected by the COVID-19 pandemic.
- 3.14 Approximately 80 buses operate over 20 public routes, a comprehensive school bus network, and service over 800 stops. The buses operate seven days per week, 362 days a year from the main bus station in St Helier, Liberation Station.<sup>52</sup> All buses are low-floor, so they are all fully accessible for wheelchair users, pushchairs, prams and some smaller mobility scooters (with a permit). Liberty Bus also operates local school buses.
- 3.15 Liberty Bus offers the journey planner function on its website.<sup>53</sup> Their ticket machines also have mobile network connectivity providing data to a system called VIX which feeds it to a 'text my bus' service and a website providing live bus times.<sup>54</sup> Liberty Bus integrates with Google Maps, so the users can see what time the next service will be.
- 3.16 There are three payment options available: by cash, by card and PAYG (ITSO type card), which is an e-purse product and the cheapest way to buy a single bus journey. Paying by card was the most popular option (40%) between January and April 2021. Liberty Bus has previously

<sup>51</sup> <https://www.gov.je/environment/greenerlifestyles/greenertravel/motorvehicles/pages/ecofriendlyvehicles.aspx>

<sup>52</sup> [About Us | Liberty Bus](#)

<sup>53</sup> [Planner | Liberty Bus](#)

<sup>54</sup> [Live | Liberty Bus](#)

assessed an opportunity to introduce digital ticketing but could not secure required funding. The validation equipment is capable of reading the QR codes.

- 3.17 The GoJ is currently developing a Bus Service Development Rapid Plan considering future plans for the bus system in more detail.

### **Active travel**

- 3.18 Jersey has a network of signposted cycle routes. The quality and scope of its cycling infrastructure has been improved over the past decade under the direction of the Sustainable Transport Policy.
- 3.19 There are fifteen signposted routes across Jersey. Most routes are on dedicated lanes and quieter paths, but there are some on busier main roads with no cycle prioritisation. The GoJ is currently developing an Active Travel Rapid Plan considering future plans for active travel in more detail including both walking and cycling.

### **Shared transport**

#### *Taxis*

- 3.20 Taxis in Jersey operate both rank and private hire service. Fares for rank-originating journeys are set against a Maximum Taxi-Cab tariff. For pre booked service the company can charge a different fare at an agreed percentage difference to the Maximum.
- 3.21 There are 12 taxi operators across Jersey, seven of which have wheelchair accessible vehicles available. The Jersey Taxi Drivers Association (JTDA) includes over 90 public rank taxi drivers and is the largest taxi fleet operating in Jersey. Home James offers additional services such as valeting and 'carback', which allows users to return from an evening out with their vehicle.<sup>55</sup>
- 3.22 A number of taxi operators have their own websites with ability to book journeys online. The Jersey Taxi Drivers Association and Yellow cabs also have mobile apps which allow users to book and pay for a journey. The mobile apps could be improved in terms of their usability and user experience (e.g. Jersey Taxiapp has only 2.6 star rating out of 5 stars).

#### *Ride share*

- 3.23 Triskel Ride<sup>56</sup> provides a ride share service in Jersey, which is a carpooling app for the users to find, offer and share their journeys. The service allows users to collect reward points and earn Eco points which finance various green projects.
- 3.24 Jersey Lifts provides an informal lift sharing network, coordinated via social media platform Facebook. Users post requests or offers for rides, with a location, number of passengers, and time of collection detailed. There are about 22,900 members of the group and it is active, with over 2,000 posts by over 600 unique users over a 25-day period. 79% of posts mentioned were requests, demonstrating an underlying demand for travel. It is understood that this service is creating a tension with the existing network of taxi operators.

#### *EVie On Demand*

- 3.25 EVie is a Jersey-based shared mobility platform, offering, EVieBikes, electric Bluebikes and an electric car club including vans.<sup>57</sup> In total, there are around 15,000 of registered members of

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<sup>55</sup> [Home James | Home](#)

<sup>56</sup> [Triskel Ride](#)

<sup>57</sup> <https://evieondemand.com/>

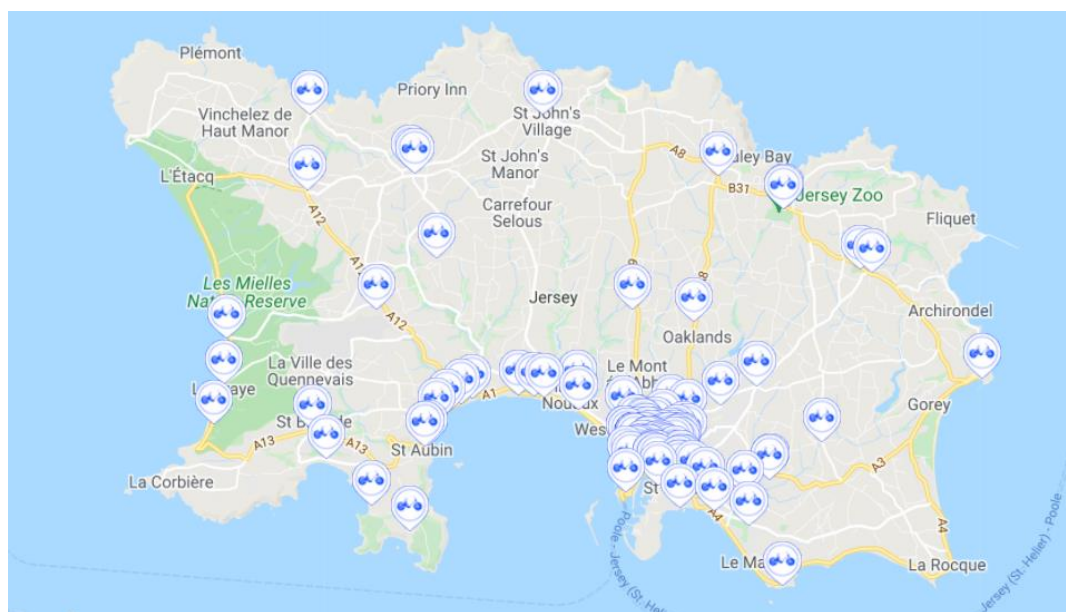


EVie. EVie utilises the Vulog platform<sup>58</sup> and plans to integrate a taxi operator to its platform and app.

*Bike share and hire*

- 3.26 There are around 140 electric dockless bikes available for one-way trips with 80 electric bikes available for a flexible e-bike subscription hire (monthly and annual).<sup>59</sup>
- 3.27 Users can check availability and pay for usage through the EVie FreeBike app, and stations are distributed across the island as shown in Figure 4. There are a cluster of Park & Ride sites concentrated in the South of Jersey, with a mix of half price parking, and dedicated Park & Ride EVieBikes on offer<sup>60</sup>. EVie is also available on Guernsey.

**Figure 4: EVie bike station locations**



Source: <https://evieondemand.com/bike/>

- 3.28 EVieBike pricing is based on pay-as-you-go (PAYG) model; ending a trip is free at a virtual station and costs £5 for an out of station return.
- 3.29 EVie BlueBike is a flexible e-bike subscription, offering full-time use of a bike with no upfront costs. EVie offers a small and medium BlueBike, both with a legal limit of 25km/hr top speed and over 75km range. There are monthly and 4- and 8-month term subscriptions available to users. Whilst the subscription is targeted at long-term hire, users can hire BlueBikes in the shorter term for up to 30 days with lock, charger, and bike insurance included at a day rate priced competitively over time (over 33% discount on price per day for ten+ days compared to one to two days). BlueBikes can also be hired by groups of four to ten people from one to five days, at a starting price of £30 per bike per day. Multi-day discounts are also available.
- 3.30 EVie has also purchased four e-cargo bikes, which will be available for hire after the regulation is adjusted by the GoJ.

<sup>58</sup> [Vehicle Subscription Solution - Vulog](#)  
<sup>59</sup> [EVie BlueBike | EVie \(evieondemand.com\)](#)  
<sup>60</sup> <https://evieondemand.com/blog/parknride/>



*Car club*

- 3.31 EVie also offer a car club with cars and vans available via the app. The current fleet of electric vehicles includes the BMW i3, Nissan Leaf and Nissan E-NV200 and consists of 10 vehicles in total. Rental starts at £7.50 per hour for the Nissan Leaf, rising to £9 per hour for the i3 and £11 per hour for the E-NV200<sup>61</sup>. The day rate for the Leaf is £50, and for the i3 and NV200 it is £60. Additional charges are incurred for late return, low charge, and loss of the ignition key. Cars must be returned to the original, reserved parking area at the end of the trip.
- 3.32 All charging of EVie vehicles during use is carried out using an Evolve charge card, whereby the charging fees are booked to Evie.<sup>62</sup> EVie is currently working with a housing developer to allow access for its charging infrastructure at residential car parks.
- 3.33 EVie indicated that for a wider take up of car clubs, they need to expand their fleet and provide a more comprehensive charging infrastructure network around Jersey, which would require funding support from the GoJ or significant private investment.

**Key transport challenges**

- 3.34 Key challenges related to the transport network in Jersey are presented below. The Island geography, the north-south divide, and seasonality should be acknowledged when assessing the challenges.

**Air quality**

- 3.35 The majority of air pollution in Jersey comes from road traffic emissions (also contributing to over a third of overall carbon emissions). This is concentrated in rush-hour, where cars are idling for school drop-off/ pick-up, or where peak traffic exceeds road capacity and causes congestion.

**High car ownership**

- 3.36 The cost of car ownership is considered to be low which is supported by relatively cheap parking prices across the Island (apart from the residents parking zones in the centre of St Helier which are priced at a higher rate).
- 3.37 Data from traffic surveys in Jersey shown an average car occupancy rate of 1.39, which is lower than an average rate of 1.6 in the UK.<sup>63</sup> This highlights an opportunity for MaaS to influence a reduction in single occupancy vehicles.

**Congestion**

- 3.38 Monitoring of travel patterns and behaviours over the first eight months of the COVID-19 pandemic showed car travel initially reduced by 70%, although it has returned to the pre-pandemic levels already.<sup>64</sup> An initial increase in cycling was sustained, but this was concentrated in leisure trips and has yet to make an impact on commuting. This is a significant challenge to Jersey as the residents already suffer from car dependence and high peak-hour traffic.

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<sup>61</sup> Prices are exclusive of 5% GST that is added at time of booking

<sup>62</sup> <https://evieondemand.com/faqs/car-faqs/>

<sup>63</sup> [Vehicle mileage and occupancy - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

<sup>64</sup> [https://statesassembly.gov.je/assemblyreports/2020/r.137-2020.pdf?\\_gl=1\\*1aa7mgj\\*\\_ga\\*MTc1NTk3MzA3OC4xNjIwMTMvODM5\\*\\_ga\\_07GM08Q17P\\*MTYyMDEzNig1MC4yLjEuMTYyMD\\_E0MTExNy4w](https://statesassembly.gov.je/assemblyreports/2020/r.137-2020.pdf?_gl=1*1aa7mgj*_ga*MTc1NTk3MzA3OC4xNjIwMTMvODM5*_ga_07GM08Q17P*MTYyMDEzNig1MC4yLjEuMTYyMD_E0MTExNy4w)

### **Public transport: buses**

- 3.39 Bus ridership dropped by 50% affected by the COVID-19 pandemic, which is economically unsustainable in the medium to long-term. Liberty Bus does not possess the funds to introduce digital ticketing.

### **Parking**

- 3.40 Relatively cheap on- street short stay parking encourages the use of private cars for short trips.

### **Planning**

- 3.41 There are planning obligations agreements<sup>65</sup> established in Jersey. Planning obligations are legal agreements between a developer and the Minister for the Environment. They are made in order to ensure that the implications of new development are balanced by the provision of necessary infrastructure and services, the cost of which will be met by the developer.
- 3.42 There are currently no specific types of agreements similar to S106 in England and S75 in Scotland supporting shared mobility and implementation of car clubs at new housing developments. Introduction of similar agreements or update of the planning obligation agreements in Jersey to specifically cover shared mobility would be beneficial for car club's uptake and development on the Island.

### **Regulation and legislation**

- 3.43 The current Jersey legislation for transport services is considered outdated. There is a need for the GoJ to have availability to test new services (e.g. e-scooters) and similar approach as in the UK is required – for example, analogue of the Section 44 of the Road Traffic Act 1988, which allows the Department for Transport (DfT) to trial new mobility services.
- 3.44 It should be noted that the regulation is currently being updated for bikes (including e-bikes and e-cargo bikes) and taxis in Jersey.

### **Taxis**

- 3.45 Taxi provision could be considered not reliable with challenges on the supply side. Age profile of taxi drivers could be an issue affecting the supply side of the service with fewer vehicles operating between the late evenings and early mornings. The figures published by the Jersey Evening Post revealed that out of 371 taxi drivers, 22% are under 50 (1% of which are under 30), 31% are between 51 and 60 years old, 33% are between 61 and 70 years old, and 14% are over the age of 71.<sup>66</sup>
- 3.46 The JTDA has previously mentioned the challenge of of taxi rank capacity at the Weighbridge rank during the day and early evening.
- 3.47 It is also understood that the service could be improved through making existing apps more user friendly and intuitive for customers to book and pay for the taxi services.

### **Poor transport integration**

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<sup>65</sup> [Planning obligations agreements \(planning advice note\) \(gov.je\)](#)

<sup>66</sup> [Taxi drivers keep working to supplement States pension | Jersey Evening Post](#)

- 3.48 The transport offer in Jersey is fragmented with no digital integration between public transport, taxis and shared mobility services.

**Lack of multimodal transport information**

- 3.49 Currently, in Jersey, the customers cannot find multimodal (min. two modes of transport) traveller information or guidance. Liberty Bus offers a journey planner on its website which only includes one transport mode – a bus service. Islanders can use Google Maps to plan their car and bus journeys – information on a car club, bike share and taxis is not available.

**Vulnerable groups**

- 3.50 There is currently a lack of suitable infrastructure for those with specific mobility needs. In the Government of Jersey's Disability Strategy (2017), 41% of disabled residents stated they had difficulty moving around Jersey. The STP aims to address this by reviewing availability of disabled parking spaces, introducing a concessionary bus pass scheme, and working with Ports of Jersey and Future St Helier to improve the accessibility standards of off-island travel and town centre services, respectively.<sup>67</sup>

**Availability of EV charging infrastructure**

- 3.51 The target of 75 charging points to be developed by the end of 2020 for Jersey Electricity was not achieved affected by the pandemic. More charging points are required to support uptake of both private and shared car club EVs.

**Summary**

- 3.52 Table 3 provides a summary of the challenges which could be supported and addressed through implementation of MaaS in Jersey.

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<sup>67</sup> ibid

**Table 3. MaaS and transport challenges**

Transport related challenge	Role of MaaS
<b>High car ownership</b>	Through offering mobility incentives, MaaS has the potential to encourage mode shift away from less desirable journey trips (e.g. single occupancy car trips). Car drivers’ behaviour could be influenced through the use of nudges and incentives as part of a MaaS Platform and App.
<b>Congestion</b>	Facilitating mode shift particularly important at peak hours where certain routes and modes become congested. Data collection using MaaS technology could potentially facilitate better management of travel demand and transport infrastructure. Nudging could be used to incentivise users to use sustainable transport modes.
<b>Air quality</b>	Spreading user journeys across alternative modes and routes could benefit the functioning and efficiency of the operating area itself improving air quality.
<b>Buses</b>	MaaS could provide the digital ticketing functionality allowing to book bus trips through an app. MaaS could support increasing take up of buses.
<b>Taxis</b>	Through integration of taxi services to MaaS, the customer base could be extended. MaaS could provide a digital user-friendly solution for customers to book and pay for the taxi services alongside other modes.
<b>Poor transport integration</b>	MaaS could integrate all transport modes on the island including public transport, taxis and shared mobility services leading to higher uptake and modal shift from private cars. At its core, the concept of MaaS requires the digital joining-up of different transport modes, information and payment services into a smooth and reliable customer-facing experience.
<b>Lack of multimodal transport information</b>	MaaS could provide a source of the real time information and ability for the customers to plan journeys across all available modes on an island.
<b>Vulnerable groups</b>	Through MaaS, it could be possible to provide additional information about transport modes and tailor this information for a specific user, for example, information on wheelchair access.

Source: Steer

3.53 Table 4 provides a summary of the key opportunities and risks for stakeholders in Jersey. The RAG status is assigned to each stakeholder, where “amber” and “red” areas are classified as those which require attention.

**Table 4. MaaS implementation: understanding drivers and barriers**

Stakeholder	Key opportunities	Potential challenges/risks	RAG	Comments
GoJ	Achievement of strategic objectives and benefits: modal shift from	<ul style="list-style-type: none"> <li>Need to define the role of the GoJ in implementation and operation of MaaS</li> <li>Need for funding (could be both CAPEX and OPEX)</li> </ul>		The actions and approach chosen by the GoJ will define how MaaS is implemented in Jersey

Stakeholder	Key opportunities	Potential challenges/risks	RAG	Comments
	private car, reduced congestion, improved air quality	<ul style="list-style-type: none"> <li>Integration of parking into MaaS (and review of parking charges to influence demand)</li> <li>Procurement of MaaS (depending on the chosen business model)</li> </ul>		
Buses	Increase visibility and uptake Improved customer experience	<ul style="list-style-type: none"> <li>Need to agree to share the data</li> <li>Integration through APIs</li> <li>Service Level Agreement</li> <li>Integration of existing ticketing system</li> </ul>		Through stakeholder engagement, Liberty Bus expressed willingness to collaborate and join the MaaS ecosystem.
Taxis	Increase visibility and uptake Improved customer experience	<ul style="list-style-type: none"> <li>Need to agree to share the data</li> <li>Integration through APIs</li> <li>Service Level Agreement</li> </ul>		Differing attitudes toward technology, awareness of the potential to introduce Mobility Hubs
Shared transport: bike share and car club	Increase visibility and uptake Improved customer experience	<ul style="list-style-type: none"> <li>Need to agree to share the data</li> <li>Integration through APIs</li> <li>Service Level Agreement</li> </ul>		Through stakeholder engagement, EVie expressed willingness to collaborate and be a part of the MaaS eco-system.
Private cars	Potential to influence car users through nudges and incentives	<ul style="list-style-type: none"> <li>Integration of parking functionality into MaaS offer may lead to more users driving</li> <li>Private drivers may not be interested in a MaaS platform and app</li> <li>Other disincentives to drive will be required, such as increased parking charges</li> </ul>		MaaS could provide private car drivers with alternative options to travel

# 4 MaaS in Jersey

## Introduction

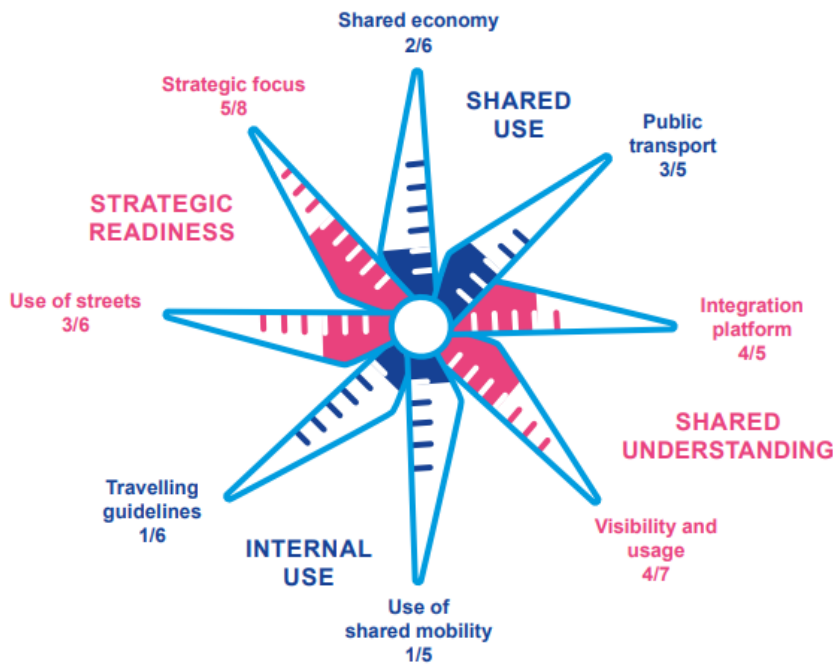
4.1 This Chapter provides an overview of the MaaS readiness assessment for Jersey and summarises proposed recommendations and next steps for moving forward to implementing MaaS.

## MaaS readiness assessment in Jersey

4.2 The MaaS readiness assessment was developed as part of the CIVITAS ECCENTRIC project by EU (2016–2020). It has been updated and published in “How to implement MaaS” report<sup>68</sup> in 2020.

4.3 In the MaaS Readiness assessment, each of the eight categories is given a value of one point with the maximum number of points available in each category varying from five to seven (see an example of the assessment for Madrid presented in Figure 5).

Figure 5. The MaaS readiness level of the City of Madrid, 2019

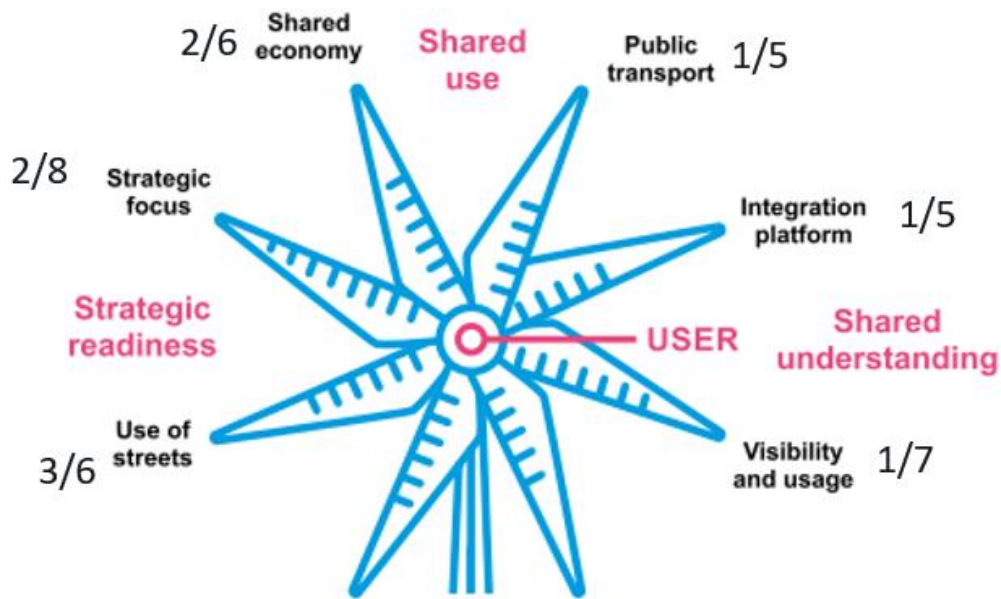


Source: <https://civitas.eu/>

4.4 The MaaS readiness assessment was adjusted based on the local context of Jersey and presented to the GoJ during a workshop. The results of the assessment are presented in Figure 6, Table 5 and Appendix C.

<sup>68</sup> Guidelines on How to implement MaaS in local contexts (civitas.eu)

Figure 6. The MaaS readiness level of Jersey, 2021



Source: Steer

The results show that MaaS is at very early stages of its development in Jersey and a clear roadmap and action plan for its implementation is required. To date, only the areas presented in Table 5 have been achieved in Jersey. This means that for the GoJ to score high in the MaaS readiness assessment, it should consider actions and recommendations suggested in the section below.

Table 5. Jersey’s MaaS readiness assessment

Criteria and score	Jersey’s points
<b>Strategic focus</b> 2/8	<ul style="list-style-type: none"> <li>The Government of Jersey is working actively to develop MaaS further</li> <li>There is an ongoing dialogue between the Government of Jersey and the private sector, concerning their cooperation in the delivery of the required infrastructure and mobility services.</li> </ul>
<b>Use of streets</b> 3/6	<ul style="list-style-type: none"> <li>The Government of Jersey has a parking policy for street use</li> <li>The Government of Jersey is ready to change parking policy in critical areas or is ready to take measures to reduce car dependency (private motoring/ car ownership) and support the shared use of vehicles</li> <li>The parking policy supports shared cars/e-cars by offering priorities/cheaper parking/incentives/ emission zones/parking zones for shared vehicles and parking permits are easy to acquire.</li> </ul>
<b>Shared economy</b> 1/6	<ul style="list-style-type: none"> <li>There are different kinds of shared mobility opportunities that are offered by companies for residents.</li> </ul>
<b>Public transport</b> 1/5	<ul style="list-style-type: none"> <li>Customers can buy bus tickets via public transport service provider’s own channels</li> </ul>
<b>Integration platform</b> 1/5	<ul style="list-style-type: none"> <li>Third parties already use data gathered from public transport operation and provide information services to customers.</li> </ul>
<b>Visibility and usage</b> 1/7	<ul style="list-style-type: none"> <li>Customers have found shared mobility services and their use has increased within the last year</li> </ul>

## Future outlook: MaaS in Jersey

4.5 MaaS offers the potential to place the traveller at the heart of the mobility service ecosystem. It assumes that, as in other areas of their lives, people want trip experiences that place them in control and that draw on the most convenient options available irrespective of who offers them. Whereas transport has historically been a siloed world of independent and separately regulated services, MaaS offers a vision for mobility to become more aligned with other “as a service” models where usership is valued more than ownership (Jittrapirom et al., 2017).<sup>69</sup>

4.6 ***If MaaS is developed in Jersey, it has potential to change the way people are travelling around the island and bring the following benefits and opportunities:***

- Aggregation of all mobility services into a multimodal travel planning app would be in the interest of the end user and a MaaS platform could integrate a variety of the services on the island and provide a realistic alternative to the private car;
- Improvement of the overall quality of users’ journeys through provision of real-time information, journey planning and convenience of payment and booking;
- Potential for a modal shift from private cars to a combination of public transport and shared mobility, leading to decreased congestion, improved air quality, and supporting the Carbon Neutral Strategy;
- Better management of travel demand and transport infrastructure through data collection enabled by MaaS;
- An increase in use of public transport and shared mobility may be accelerated by development of MaaS and establishment of a common digital platform;
- Tourists visiting Jersey would be able to use the App to navigate around the island and access a range of transport services; and
- For transport operators, MaaS provides an unprecedented possibility to access new passenger markets.

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<sup>69</sup> Jittrapirom et al., 2017



Figure 7. MaaS potential in Jersey



### No MaaS:

- Fragmented transport offer
- No integration of public and private transport operators
- Congestion
- High car ownership
- Low air quality
- Poor provision of transport information to customers
- Lack of data



### MaaS:

- Integrated transport offer
- Increased patronage on buses and shared mobility
- Increased customer satisfaction of transport modes, ease of payment and booking, journey planning
- Availability of real time information on transport services
- Modal shift from private car
- Uptake of active transport
- Decreased congestion
- Improved air quality
- Availability of data to inform strategic secessions, travel demand management and infrastructure development

4.7 An example of a customer journey without and with MaaS is presented in Figure 8.

Figure 8. Customer journey

# Without MaaS

Emma wakes up and gets into her car to come to St Helier for a meeting with a client

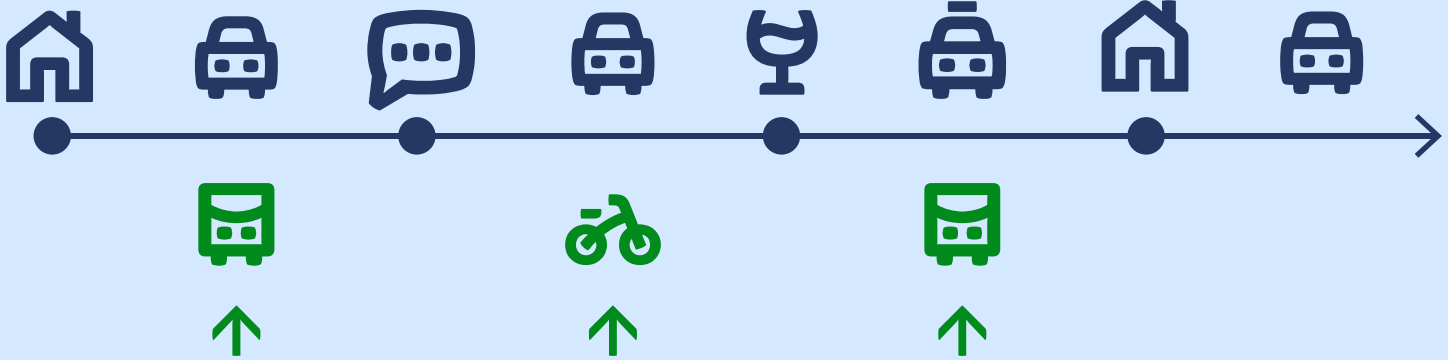
Emma is driving to St Helier paying attention to other drivers on the road and worrying about where to park

Emma spends 15 minutes trying to find a parking space, and becomes stressed about being late to the meeting

Emma drives to the restaurant to attend a party and leaves her car outside the pub

Emma has pre-booked a taxi by phone to take her home

The next day Emma's partner Rob drives her to pick up her car from the party venue



In the morning Emma plans her journey to St Helier in a MaaS app, walks to a bus stop and gets on a bus

Emma is enjoying her journey and reviewing her notes ahead of the meeting

Emma arrives in St Helier and walks to the meeting

Emma uses bike share to ride to a friend's birthday party, some welcome exercise

She plans her journey back home on a bus through the MaaS app

Emma enjoys her bus journey back home talking on the phone to her sister about the party

# With MaaS

## Recommendations and next steps

- 4.8 The development of MaaS in Jersey depends on creation of conditions allowing for mobility service innovation, favouring integration and preventing fragmentation of mobility services by the GoJ. There are number of factors to consider when implementing MaaS presented below.

### Governance and operations

- 4.9 The governance of MaaS is still a grey area with different operating models being developed around the world and there is not "one size fits all approach". For the Government, a balance needs to be achieved between framing and enabling MaaS in Jersey.

- 4.10 Public sector-led MaaS has higher chances of achieving the strategic goals of the cities and protecting the needs of the users rather than private sector-led MaaS, which is normally commercially driven. At the same time, pure public sector-led MaaS could be expensive to develop and operate and could require high level of involvement from the public bodies. A public-private partnership could be beneficial where public transport is at the core of the approach and public policy objectives determine how the MaaS platform is created and integrated with a public body playing a key role in MaaS governance, administration and setting the required KPIs.
- 4.11 One of the key challenges of MaaS for commercially-led schemes is to offer the service at a price that users are willing to pay whilst still making a commercial return to the overarching provider of the MaaS offer, as well as to the operators of the services that make up all the elements of the MaaS offer (e.g. public transport operators and shared mobility providers). This may help to explain why despite all the hype around the concept of MaaS, it is difficult to find examples of its application at scale as a purely commercial offer. If a purely commercial MaaS offer is challenging to achieve at scale, and in a way which serves more people, then there is an option for either the private sector or the public sector cross-subsiding the cost of its provision.<sup>70</sup>
- 4.12 The MaaS trial in Sydney has shown that profitability goes hand-in-hand with scalability and without this, MaaS is unlikely to take off unless it is driven by financial support from the Government or other non-mobility sources,<sup>71</sup> which means that a financially sustainable business model for MaaS is likely to need a level of cross-subsidy, in particular while it is being established.
- 4.13 The GoJ should action the following:
- Identify and agree the role of the GoJ in delivering MaaS in Jersey;
  - Early engagement with potential MaaS operators, which can help the GoJ to identify the best operational model and assess the level of interest in the market;
  - Agree on the operational model for MaaS; and
  - Identify the local framework for implementing MaaS based on the desired governance and operational model in Jersey.
- 4.14 Table 6 presents two operational models, which, based on the current situation, are considered to be the most possible within the local context in Jersey.

**Table 6. MaaS operational models in Jersey**

Operational model: description	Jersey context	Risks/challenges	Opportunities	Potential role of the GoJ	Costs
<p><b>Public-private partnership</b></p> <p>Public bodies are using a bespoke white label MaaS</p>	<p>The GoJ can procure a company to develop and operate a MaaS Platform in Jersey</p>	<ul style="list-style-type: none"> <li>• The GoJ needs to secure funding</li> <li>• MaaS operations are likely to be subsidised and</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to influence development and operations of MaaS</li> <li>• Ability to promote</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate MaaS through relevant initiatives, e.g. regulatory reform</li> <li>• Develop a MaaS business case, cost and benefits</li> </ul>	<p>A higher cost option for the GoJ, as the funding will be required to develop the platform (the</p>

<sup>70</sup> [Urban Transport Group – Maas movement report AW.pdf](#)

<sup>71</sup> [The Sydney MaaS trial - SkedGo](#)

Operational model: description	Jersey context	Risks/challenges	Opportunities	Potential role of the GoJ	Costs
<p>platform provided by the private sector</p> <p><i>Examples: Jelbi in Berlin, WienMobil in Austria; HITRANS MaaS project, SUMA in Elba, FTZs in England</i></p>		<p>supported by the GoJ</p> <ul style="list-style-type: none"> <li>The GoJ will need to have skills and experience to oversee MaaS development</li> </ul>	<p>strategic policy objectives such as modal shift, uptake of active travel and decarbonisation.</p>	<p>analysis and secure funding</p> <ul style="list-style-type: none"> <li>Procure a MaaS operator<sup>72</sup></li> <li>Set the KPIs and commercial agreements</li> <li>Monitor and evaluate MaaS implementation</li> </ul>	<p>required funding will depend on the detailed scope of the project and could range from an estimated £100,000 to £1.5M)</p>
<p><b>Private sector-led MaaS</b></p> <p>A single mode operator may create a digital platform and transform it into a MaaS application. Once the operator has a consistent customer base it could expand to add other modes and services.</p> <p><i>Examples: Uber, Citymapper, Whim in Helsinki</i></p>	<p>Private sector (e.g. EVie) could develop a MaaS platform in Jersey integrating various transport modes</p> <p>Key risk: The GoJ will have limited influence over MaaS implementation and its goals and objectives</p>	<ul style="list-style-type: none"> <li>The GoJ will not have influence over how the MaaS is developed</li> <li>Strategic objectives are not achieved</li> <li>No access to data from the MaaS platform unless agreed with a platform operator</li> <li>Platform operator may not be able to cover the costs of integration of public transport and other services, e.g. parking</li> <li>No influence over how the price is set</li> <li>Full MaaS may never be developed in Jersey</li> </ul>	<ul style="list-style-type: none"> <li>Potential for MaaS to be developed by the private sector without public funds and no costs to the GoJ</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate MaaS through relevant initiatives, e.g. regulatory reform</li> <li>Work with platform operator to sign Memorandum of Understanding (MoU) and agree on certain aspects such as, for example, data sharing agreements</li> </ul>	<p>A lower cost option for the GoJ</p>

4.15 A public-private partnership could be beneficial where the public sector determines how the MaaS platform is created and integrated, with a public body playing a key role in MaaS governance and administration and setting the required KPIs. Without this active engagement, there is a risk that these strategic policy goals will be overlooked. This model has higher

<sup>72</sup> Procurement could be used to ensure that the chosen solutions favour the user and do not create further bottlenecks or monopolies. In addition, public procurements can be used to set requirements for interoperability, data sharing or the use of open APIs.

chances of achieving the strategic goals and protecting the needs of the users rather than private sector-led MaaS, which could be purely commercially driven.

- 4.16 However, there are also risks to the public sector of taking a central role in MaaS including commercial risks and liabilities and the costs of developing, managing and administering MaaS. There are also challenges around the capacity and capability of public authorities to take on MaaS operations, including attracting and retaining the necessary skills in a competitive market.
- 4.17 If the public-partnership model is established and the GoJ becomes a member of a MaaS partnership model, it will need to establish a level-playing field for the mobility service operators and address the following:
- Ensuring the strategic objectives are met when implementing MaaS;
  - Ensuring the benefits for the customers are realised (e.g. MaaS is socially inclusive) and the customers' interests are protected;
  - Assign a person to oversee MaaS development within the GoJ;
  - Setting up the key KPIs for the MaaS platform working together with the MaaS Platform provider;
  - Facilitating engagement with private transport operators and supporting Service Level agreements (SLAs) with them to join MaaS platform;
  - Facilitating data sharing and establishing data sharing agreements;
  - Providing platforms for knowledge exchange; and
  - Monitoring and evaluating MaaS scheme conducting qualitative and quantitative research.

### **Regulations and legislation**

- 4.18 For MaaS to function effectively, agreed data protocols and data sharing are required between users and public and private providers. The Government has an important role to play in setting open data policies and frameworks along with creating a collaborative ecosystem and conditions to attract business and users to use the services and share data. Availability of APIs for journey planning, booking, ticketing and pricing data and interoperability of systems are prerequisites for the parties involved in a MaaS scheme.
- 4.19 There is no single established business model for the delivery of MaaS. Principles for delivering MaaS and the key policies required to enforce those principles, such as data sharing terms, competition law, minimum service standards, fare capping (if non-competitive service) should be explored and agreed.
- 4.20 Developing data sharing agreements and standardisation is considered as a stepping stone for successful MaaS implementation. There are currently no consistent methods in place for the GoJ to enforce data sharing from private transport operators. A good example is the Finnish Government which introduced new legislation - the Act on Transport Services.<sup>73</sup> According to the Act (see Chapter 2 for more details), all transport operators must provide access via open APIs to information on timetables, routes, ticket prices as well as real-time location data.
- 4.21 Access to static data alone, such as timetables, would not suffice. Third parties, such as MaaS operators, also need access real time information and associated information providing, for example, an ability to book a trip, issue verified ticket and unlock a shared bike. Dynamic

<sup>73</sup> [The first impacts of the Act on Transport Services meet expectations \(valtioneuvosto.fi\)](https://valtioneuvosto.fi/en/press-releases/2019/06/19/2019061901)

information regarding timetables, delays, disruptions and deviations are similarly necessary. The GoJ should consider changing the legislation in terms of:

- How transport service providers must provide access to essential information in a digital format including routes, timetables, stops, prices and accessibility information;
- The quality and consistency of data shared and how it is shared;
- Data standardisation; and
- Open data policies.

4.22 The use of customer data should always be treated in compliance with the relevant legal requirements such as the General Data Protection Regulation (GDPR).

4.23 The Government should also work to increase predictability around how, and under what conditions, regulatory frameworks might evolve.

#### **Public perception of MaaS**

4.24 Public perception of MaaS can be enhanced through education and public outreach programmes designed to educate users on its benefits. The GoJ could support the MaaS operator and run or collaborate on marketing and promotion campaigns to ensure that the benefits of MaaS are fully understood by the end-users. The GoJ should also promote the use of public transport and shared modes such as car clubs and bike share.

4.25 To have the scale and uptake desired from MaaS implementation, it needs to be used by the general public. Involvement of the GoJ is vital to the support implementation of MaaS. The Government could influence and persuade islanders to use the scheme. The acceptance of MaaS could be increased through public outreach programs to educate users on the benefits of MaaS in cost savings, health and environmental terms.

#### **Need for collaboration**

4.26 MaaS ecosystem requires strong collaboration between the public and private sectors. Within the market, mobility service providers often operate independently and may not wish to coordinate their services with other providers, for example taxi operators.

4.27 The GoJ should work with both private and public transport operators to establish collaborative and open environment for all the parties involved. The GoJ should aim at bringing together the various stakeholders and after an open consultation build a common vision with right incentives and risk sharing so that everyone can benefit. Fair rules must be established to create a level playing field and engage newcomers.

#### **Social inclusion**

4.28 There are challenges around creating an inclusive MaaS system in the short to medium term, particularly around coverage and pricing of these services, as well as how these services are accessed (given the necessity of being digitally connected).<sup>74</sup>

4.29 The GoJ should work with the MaaS operator to ensure the needs of disadvantaged groups are addressed and the proposed platform and app is socially inclusive.

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<sup>74</sup> [Urban Transport Group – Maas movement report\\_AW.pdf](#)

### Transport services and infrastructure

4.30 Public transport can be considered as a backbone of the MaaS concept, complemented with other mobility services to provide a door-to-door solution. Shared mobility services also have a very important role to play as they can provide connections between locations not served by public transport as well as provide first/last mile solutions. The GoJ should support the following:

- Provide sufficient transport infrastructure, and safe pedestrian and cycling routes, ensure spatial coverage by public transport modes, and implement actions identified in the Active Travel and Bus Service Development Plans);
- Support physical integration of services providing parking, car-sharing stations and bike rental points at stations and Mobility Hubs<sup>75</sup> (see Appendix D for more information) to enable multimodal journeys;
- Set out a clear vision and strategy on how to integrate shared mobility as well as other mobility services into a MaaS platform in a way that is cost competitive and reduces private car ownership;
- Support new business models by adapting parking standards for existing and new residential developments (reducing the area of parking space, allocating parking spaces for shared cars, and enabling new mobility services for residents) – implement measures identified in the Parking Plan; and
- Make sure the use of streets is managed holistically, considering all modes of transport and needs related to logistics.

### Monitoring and evaluation

4.31 Another crucial element is the evaluation framework of the impacts of MaaS. It will be important for the GoJ to create an evaluation framework to enable impact of MaaS on travel behaviour to be measured against local transport policy goals. KPIs must be in place to measure the efficiency and functioning of transport systems and should include feedback from residents and tourists.

4.32 Exchanging lessons learnt with other locations implementing MaaS will also reduce the possibility of repeated mistakes and increase the quality of the process.

### Summary

Figure 9 presents a set of actions and steps which the GoJ could undertake to develop MaaS on the island depending on the chosen operational model.

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<sup>75</sup> Mobility hubs are highly visible, safe and accessible spaces where public, shared and active travel modes are co-located alongside improvements to public realm and where relevant enhanced community facilities. The redesign and reallocation of space from the private car, is intended to enhance the experience of travellers as well as benefiting local residents and businesses. The concept has been applied to the streetscape in many European and North American cities and is now being replicated in the UK.



Figure 9. Potential roadmap for development of MaaS in Jersey

**No MaaS: fragmented transport offer**

**MaaS: integrated transport offer**

	Year 0 — 1	Year 1 — 2
<b>Governance and operations</b>	<ul style="list-style-type: none"> <li>→ Assign a person to oversee MaaS development within the GoJ</li> <li>→ Confirm key objectives for MaaS development in Jersey</li> <li>→ Hold a working session with the GoJ leadership team to share results of work done to date and the vision for MaaS in Jersey</li> <li>→ Agree on the GoJ’s role in delivering MaaS (depending on the chosen operating model)</li> <li>→ Develop stakeholder engagement strategy</li> <li>→ Ensure future transport projects and pipeline, especially projects closely linked with MaaS, are future proof and identify any opportunities to reshape existing projects to include various elements of MaaS</li> </ul>	<ul style="list-style-type: none"> <li>→ Work with the MaaS operator to ensure the needs of disadvantaged groups are addressed and the proposed platform and app is socially inclusive</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>→ Secure funding for MaaS development in Jersey (if required and depending on the chosen operating model)</li> </ul>	
<b>Procurement</b> <small>(depending on the chosen operating model)</small>	<ul style="list-style-type: none"> <li>→ Hold a soft market test to test the market appetite</li> <li>→ Develop specification and procurement documentation including contractual agreement</li> <li>→ Procure MaaS Operator →</li> </ul>	
<b>Monitoring and Evaluation</b>		<ul style="list-style-type: none"> <li>→ Monitor and evaluate MaaS Platform and App in Jersey, e.g. undertake research to test participants’ willingness to shift to sustainable mode(s) and analyse their behaviours in short, medium and long terms.</li> <li>→ Also assess in terms of the value they perceive in MaaS and the trade-offs they are prepared to accommodate</li> <li>→ Adjust KPIs as required</li> <li>→ Use results from a statistically significant trial sample size to provide robust indication of economic benefits of MaaS that can be achieved in Jersey</li> </ul>
<b>Regulation and legislation</b>	<ul style="list-style-type: none"> <li>→ Update regulation for micromobility</li> <li>→ Update taxi regulation</li> <li>→ Work to develop unified data sharing agreements, protocols and standards</li> <li>→ Implement open data policies</li> <li>→ Develop a on legislation regarding managing MaaS, service level agreements and contracts with partners/operators (depending on the chosen operating model) Support the UK Government with development of MaaS Code of Practice</li> <li>→ Allow for the GoJ to test new services (e.g. e-scooters) - for example, analogue of the Section 44 of the Road Traffic Act 1988, which allows the Department for Transport (DfT) to trial new mobility services.</li> <li>→ Adapt parking standards for existing and new residential developments (reducing the area of parking space, allocating parking spaces for shared cars, and enabling new mobility services for residents)</li> </ul>	
<b>Marketing and communications</b>	<ul style="list-style-type: none"> <li>→ Define marketing communication strategy for MaaS</li> <li>→ Support promotion of shared mobility services and use of buses on the island →</li> </ul>	
<b>Stakeholder engagement</b>	<ul style="list-style-type: none"> <li>→ Facilitate engagement with public and private transport operators to encourage them to join MaaS platform</li> <li>→ Set up MaaS Forum for knowledge exchange</li> <li>→ Exchange lessons learnt with other locations implementing MaaS</li> </ul>	
<b>Transport infrastructure</b>	<ul style="list-style-type: none"> <li>→ Provide sufficient transport infrastructure, safe pedestrian and cycling routes, ensure spatial coverage by public transport modes and implement actions identified in the Active Travel and Bus Service Development Plans</li> <li>→ Implement measures identified in the Parking Plan</li> <li>→ Explore opportunities to develop Mobility Hubs on the island</li> </ul>	



# A Appendix A

Figure 9: MaaS reference architecture

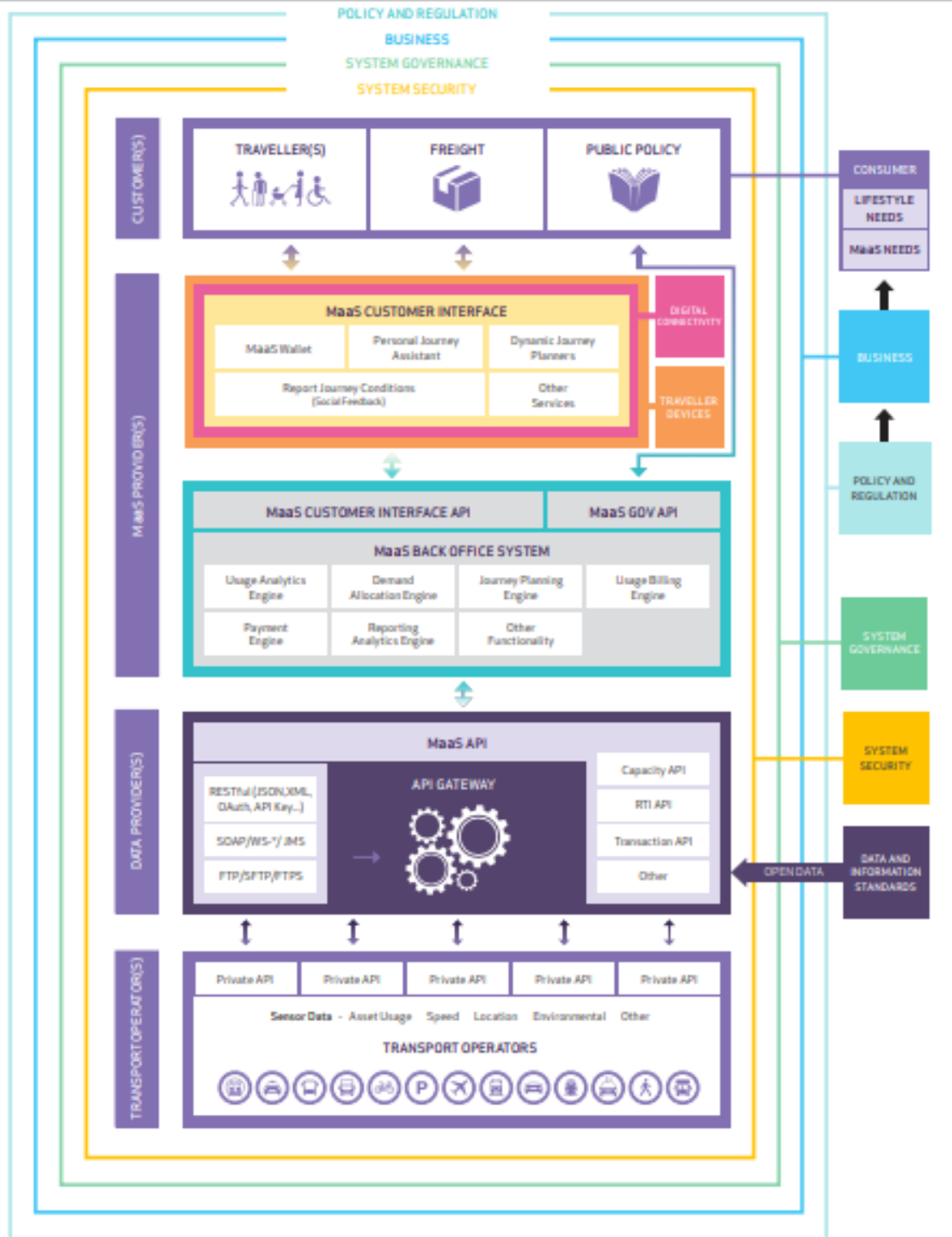
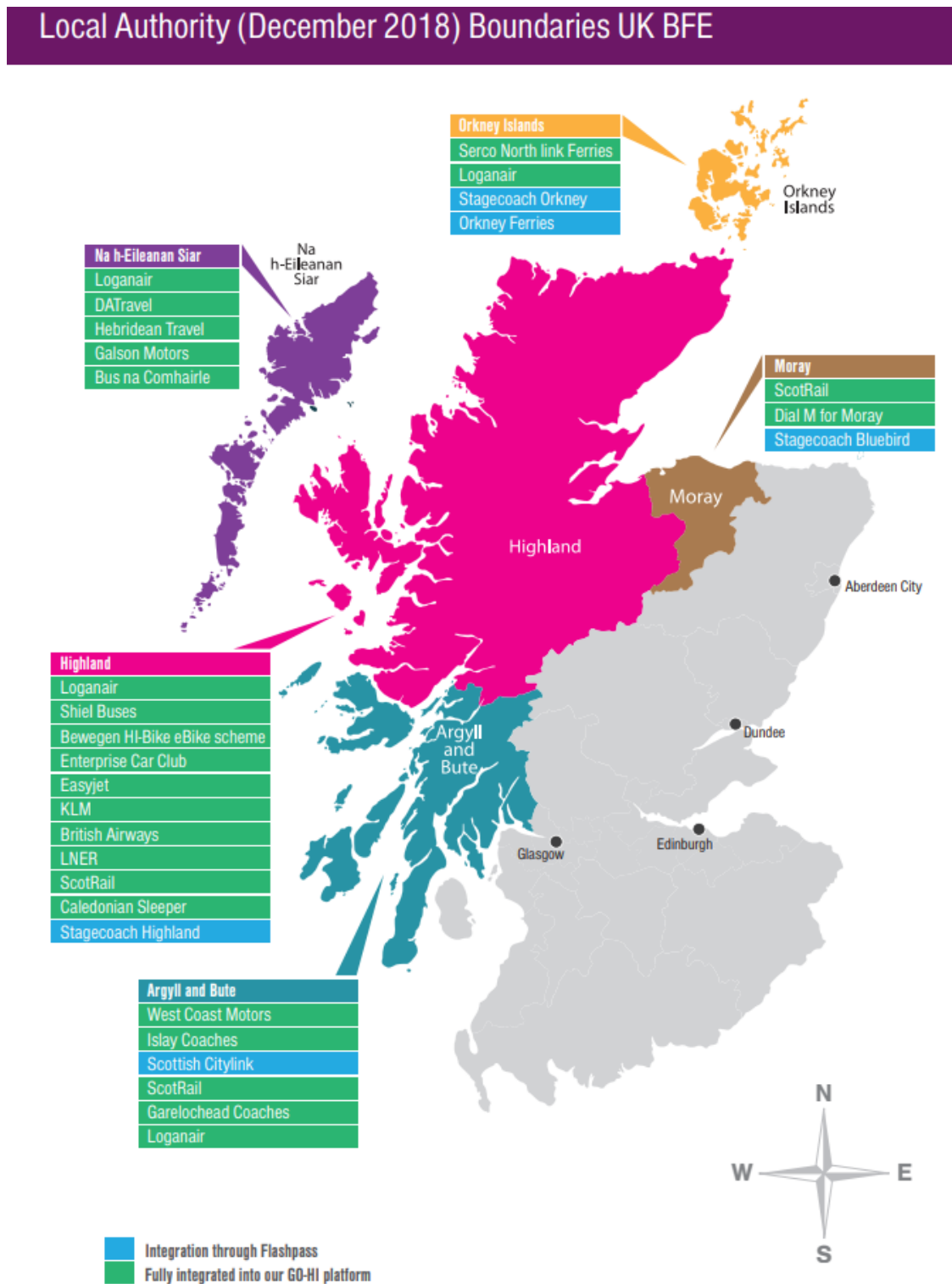


FIGURE 6: MaaS reference architecture

Source: [https://ts.catapult.org.uk/wp-content/uploads/2016/07/Mobility-as-a-Service\\_Exploring-the-Opportunity-for-MaaS-in-the-UK-Web.pdf](https://ts.catapult.org.uk/wp-content/uploads/2016/07/Mobility-as-a-Service_Exploring-the-Opportunity-for-MaaS-in-the-UK-Web.pdf)

Figure 10. Go-HI app cover area



Source: Go-HI app platform report

## B Appendix B

### Transport strategy

- B.1 The Government of Jersey's commitment to reducing dependence on the car has been in place for over a decade, with the 2011 Island Plan outlining a policy focus of reducing dependence on the car.<sup>76</sup> This section provides an overview of the Sustainable Transport Policy (STP) and Carbon Neutral Strategy.

### Sustainable Transport Policy

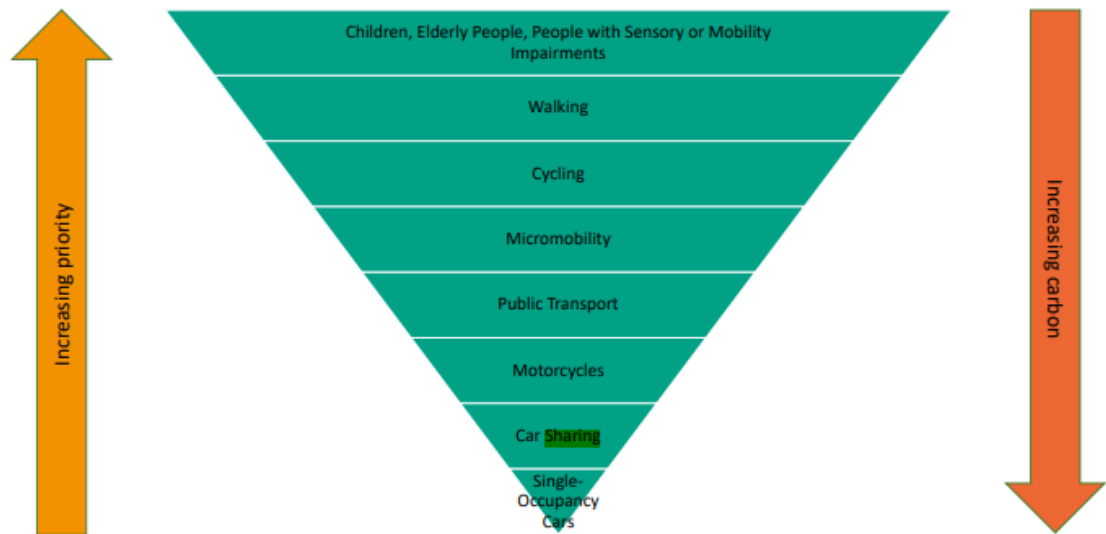
- B.2 Jersey published its STP in December 2019, providing a framework for the sustainable delivery of transport infrastructure on the Island – A Framework for a Sustainable Transport System – accompanied by a Sustainable Transport Strong Start Delivery Plan for 2020.<sup>77</sup>
- B.3 The STP follows a principle of 'sustainable wellbeing', which will include the redesign of Jersey's entire transport system.
- B.4 Key measures planned for implementation in 2020 were as follows:
- Launching a programme of traffic-free days across key routes in the capital, St Helier;
  - Developing the existing bus service, including bus priority measures;
  - Embracing new transport technologies in collaboration with Digital Jersey;
  - Piloting use of personal light electric vehicles; and
  - Encouraging car and bike sharing schemes in a focus on Mobility as a Service.
- B.5 For journeys that still require cars, the Minister for Infrastructure (Deputy Kevin Lewis) has highlighted support for the 'transition to electric vehicles with free parking and more electric charging points'. The modal hierarchy which supports these measures and policies in Jersey is shown in Figure 11.

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<sup>76</sup> <https://consult.gov.je/portal/policy/pd/ip2011?pointId=1405696217773>

<sup>77</sup> <https://www.gov.je/News/2019/Pages/SustainableTransportPolicy.aspx>

**Figure 11. Jersey mobility hierarchy**



Source: [https://statesassembly.gov.je/assemblypropositions/2019/p.128-2019.pdf?\\_gl=1\\*1wxnyvq\\*\\_ga\\*NDE4Mjl3OTQwLjE2MTk1MzQzNjQ.\\*\\_ga\\_07GM08Q17P\\*MTYxOTUzNDM2My4xLjA uMTYxOTUzNDM2My4w](https://statesassembly.gov.je/assemblypropositions/2019/p.128-2019.pdf?_gl=1*1wxnyvq*_ga*NDE4Mjl3OTQwLjE2MTk1MzQzNjQ.*_ga_07GM08Q17P*MTYxOTUzNDM2My4xLjA uMTYxOTUzNDM2My4w)

- B.6 The STP commits to supporting the development of public EV charging points in collaboration with Jersey Electricity’s target of 75 points by the end of 2020, although this has been delayed due to the COVID-19 pandemic. This will also involve installing additional electric car priority parking in public car parks.<sup>78</sup>

**Carbon Neutral Strategy**

- B.7 The STP is part of Jersey’s wider Carbon Neutral Strategy, published on the same day and with ambitious aims to mitigate carbon emissions and achieve carbon neutrality by 2030. Transport is a key element of this plan as currently a third of emissions coming from the island’s road transport. This follows on from the political declaration of a climate emergency by Jersey’s government in May 2019.<sup>79</sup>
- B.8 A Climate Emergency Fund was proposed by the Council of Ministers to ensure implementation of the Carbon Neutral Strategy with initial allocation of £5 million in 2020.
- B.9 The fund aims to support policies such as investment in electric and low carbon vehicles and upgrading and extending existing cycling and walking infrastructure.
- B.10 In the Government Plan it is proposed that fuel duty will be increased by 4p a litre above RPI, with equivalent revenue transferred to the Fund, which should be used to support sustainable transport initiatives. The increase is designed to incentivise drivers to reduce their car use for shorter trips. Fuel duty will rise again to 6p above RPI in 2021 and 8p above RPI in 2022.

<sup>78</sup> [https://statesassembly.gov.je/assemblypropositions/2019/p.128-2019.pdf?\\_gl=1\\*1wxnyvq\\*\\_ga\\*NDE4Mjl3OTQwLjE2MTk1MzQzNjQ.\\*\\_ga\\_07GM08Q17P\\*MTYxOTUzNDM2My4xLjA uMTYxOTUzNDM2My4w](https://statesassembly.gov.je/assemblypropositions/2019/p.128-2019.pdf?_gl=1*1wxnyvq*_ga*NDE4Mjl3OTQwLjE2MTk1MzQzNjQ.*_ga_07GM08Q17P*MTYxOTUzNDM2My4xLjA uMTYxOTUzNDM2My4w)

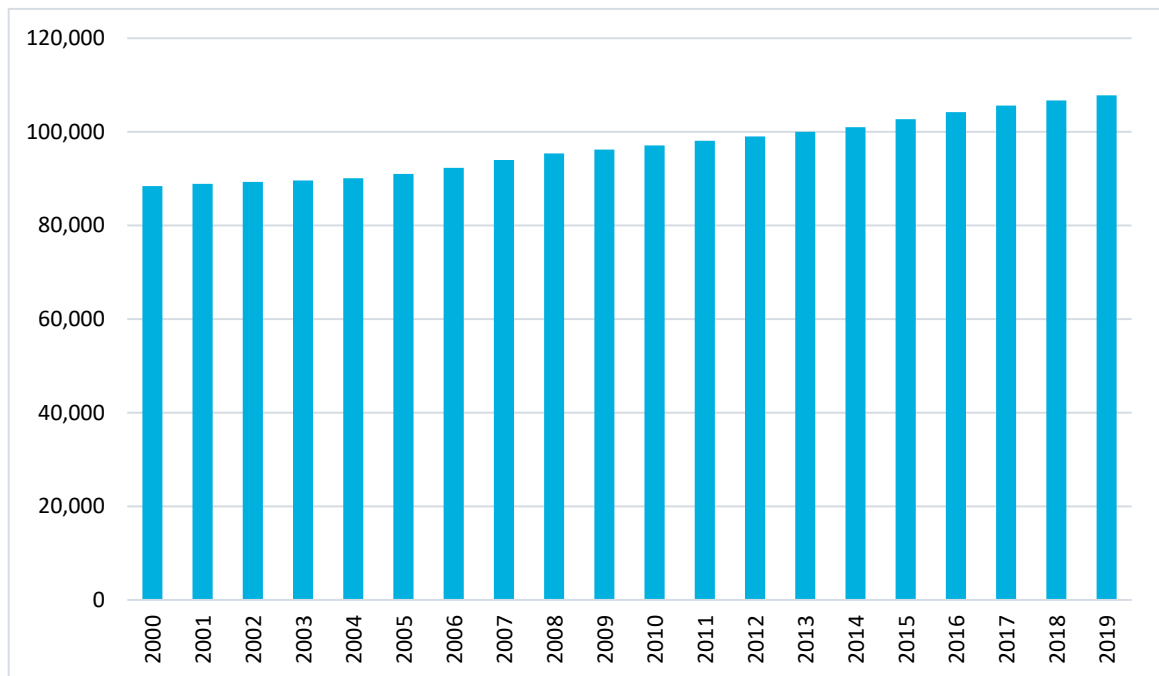
<sup>79</sup> <https://www.gov.je/SiteCollectionDocuments/Environment%20and%20greener%20living/R%20Tackling%20the%20Climate%20Emergency%20Your%20Island%20Your%20Say%20HL.pdf>

## Population and employment

### Population

- B.11 The total resident population of Jersey was estimated to be 107,900 at year-end of 2019.<sup>80</sup> Over the past decade, the annual population growth rate has been 1.2%. Most of Jersey’s population increase can be attributed to net inward migration (91%). The remainder is a result of natural growth.<sup>81</sup>
- B.12 Natural growth has been the lowest in Jersey since 2002. The largest population age bracket in Jersey is 50 – 54 (8,500 in 2019), equally distributed between male and female. This gives Jersey an ageing population structure, meaning the average age is increasing leading to likely reduction in commuter travel and increase in leisure/off peak travel due to a higher proportion of retired residents.

Figure 12: Resident population of Jersey (2000 - 2019)



Source: <https://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20Population%20Estimate%20Current%2020180620%20SU.pdf>

<sup>80</sup><https://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20Population%20Estimate%20Current%2020180620%20SU.pdf>

<sup>81</sup> births exceeding the replacement rate

## Employment

- B.13 In June 2021 the total number of jobs was 62,430.<sup>82</sup> There was an annual increase of 2,650 jobs (4.4%) since June 2020, the largest increase since at least 1998. Although, in June 2020 there was a 4.1% decrease in comparison to June 2019 which can be explained by the impact of the COVID-19 pandemic.
- B.14 Ten sectors saw annual increases in jobs; the largest increase was of 700 jobs in hotels, restaurants and bars, which was the largest increase recorded in any sector since the introduction of the Control of Housing and Work Law in July 2013. The only sector that saw an annual decrease in jobs was transport and storage, down 100 jobs.

## Tourism

- B.15 Tourism is a significant part of Jersey's economy, making up 8.3% of GVA (2017)<sup>83</sup>. The tourist industry contributes to 6,470 jobs.<sup>84</sup> However, its relative importance has been declining. Travel to Jersey is highly seasonal, with accommodation occupancy peaking in the summer months between May and September. There is some evidence that shorter trips could discourage this seasonality, as people are more inclined to take shorter breaks outside of peak months.<sup>85</sup>
- B.16 The total number of visits to Jersey in 2019 was 770,700, of which 539,490 (70%) were considered staying leisure visits. Jersey receives most of its tourism from the UK, and the average age of UK leisure visitors is 57.
- B.17 VisitJersey is the government-owned tourism coordinator for the island.<sup>86</sup> It is the central point for locating accommodation and other hospitality services, as well as providing a comprehensive list of upcoming events across the Island.
- B.18 Whilst having relatively lower density of accommodation in comparison to competitor destinations, Jersey is limited in the geographical scope of its tourism development by its size. The Island must therefore make the most efficient use of existing space.
- B.19 Air arrivals grew from 1.55 million to 1.76 million between 2015 and 2019, as shown in **Error! Reference source not found.** Most visitors arrive by air from the UK. Pre-COVID direct seasonal flights were available from 24 airports across the UK, and six other European airports including Munich and Dusseldorf. The busiest route is from London Gatwick (670,000 passengers in 2018).<sup>87</sup>
- B.20 There are also ferry options between St Helier (the Island's main port) and Poole, Guernsey, Portsmouth, and Saint-Malo (France).

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<sup>82</sup> [June Labour Market report published \(gov.je\)](https://business.jersey.com/sites/default/files/components/pdf_download_row/Visit%20Jersey_TE%20Tourism%20Productivity.pdf)

<sup>83</sup> [https://business.jersey.com/sites/default/files/components/pdf\\_download\\_row/Visit%20Jersey\\_TE%20Tourism%20Productivity.pdf](https://business.jersey.com/sites/default/files/components/pdf_download_row/Visit%20Jersey_TE%20Tourism%20Productivity.pdf)

<sup>84</sup> <https://www.jerseyislandholidays.com/jersey-island-statistics/>

<sup>85</sup> [https://business.jersey.com/sites/default/files/components/pdf\\_download\\_row/Visit%20Jersey\\_TE%20Tourism%20Productivity.pdf](https://business.jersey.com/sites/default/files/components/pdf_download_row/Visit%20Jersey_TE%20Tourism%20Productivity.pdf)

<sup>86</sup> <https://www.jersey.com/>

<sup>87</sup> <https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-2018/>

# C Appendix C

C.1 The table below provides an overview of the detailed responses collected through the MaaS readiness assessment exercise for Jersey by the representatives of the GoJ.

**Table 7. MaaS readiness assessment**

Criteria	Points
<b>Strategic readiness – to promote, support, and incentivise MaaS</b>	
<p><b>Strategic focus</b></p> <ol style="list-style-type: none"> <li>1. The Government of Jersey is working together with service providers to create measures that support the development of mobility services, and/or incentives are used to establish MaaS. - <i>No</i></li> <li>2. The Government of Jersey has a plan/strategy to explicitly support the development of MaaS in the local context. - <i>No</i></li> <li>3. The Government of Jersey local funding to support the change. - <i>No</i></li> <li>4. The Government of Jersey has a named person to oversee MaaS development. The Government of Jersey develops MaaS systematically. - <i>No</i></li> <li>5. The Government of Jersey is working actively to develop MaaS further. - <i>Yes</i></li> <li>6. The Government of Jersey is actively engaged in networks that enhance MaaS development on national or/and international levels. - <i>No</i></li> <li>7. The Government of Jersey carries out qualitative and quantitative research and feeds the findings back to the service providers. - <i>No</i></li> <li>8. There is an ongoing dialogue between the Government of Jersey and the private sector, concerning their cooperation in the delivery of the required infrastructure and mobility services. - <i>Yes</i></li> </ol>	<p>Max 8 points</p> <p><b>Jersey score: 2</b></p>
<p><b>Use of streets</b></p> <ol style="list-style-type: none"> <li>1. The Government of Jersey has a parking policy/policy for street use. - <i>Yes</i></li> <li>2. The Government of Jersey is ready to change parking policy in critical areas or is ready to take measures to reduce car dependency (private motoring/ car ownership) and support the shared use of vehicles. - <i>Yes</i></li> <li>3. The Government of Jersey is active in supporting new business models by adapting parking standards for (new) residential developments (reducing the area of parking space, allocating parking spaces for shared cars, and enabling new mobility services for residents). - <i>No</i></li> <li>4. The parking policy supports shared cars/e-cars by offering priorities/cheaper parking/incentives/ emission zones/parking zones for shared vehicles and parking permits are easy to acquire. - <i>Yes</i></li> <li>5. The use of streets is managed holistically, considering all modes of transport (i.e. shared light vehicles) and needs related to logistics. - <i>No</i></li> <li>6. Street space management is dynamic and offers different pricing initiatives. - <i>No</i></li> </ol>	<p>Max 6 points</p> <p><b>Jersey score: 3</b></p>
<b>Shared use</b>	
<p><b>Shared economy – availability and market penetration of shared and combined travel options</b></p> <ol style="list-style-type: none"> <li>1. There are pilots/campaigns/incentives in Jersey regarding shared mobility options. - <i>No</i></li> </ol>	<p>Max 6 points</p>

Criteria	Points
<ol style="list-style-type: none"> <li>2. There are different kinds of shared mobility opportunities that are offered by companies for residents. <i>-Yes</i></li> <li>3. There are combined packages that are offered during specific events or campaigns. <i>-No</i></li> <li>4. There are more than four different kinds of operators that provide combined mobility within Jersey, covering the following modes, for example: public transport, shared vehicles, shared bikes, ride sharing, rental cars, taxis, rental boats, etc. <i>-Yes</i></li> <li>5. There are one or more MaaS platforms, offering combined shared mobility opportunities from different providers to customers. <i>-No</i></li> <li>6. Regular service providers (grocery stores, theatres, estate developers, housing companies, etc.) work together with MaaS operators and offer package deals to their customers. <i>-No</i></li> </ol>	<p><b>Jersey score: 2</b></p>
<p><b>Public transport (PT)</b></p> <ol style="list-style-type: none"> <li>1. Customers can buy bus tickets via public transport service provider’s own channels. <i>-Yes</i></li> <li>2. The Government of Jersey is actively connecting with MaaS operator in the area and they have plans to offer package deals to customers. <i>-No</i></li> <li>3. The Government of Jersey already offers package deals or discounts and incentives that combine bus services with different mobility services to customers. <i>-No</i></li> <li>4. Customers can buy bus tickets through several sales channels that are offered by third parties. <i>-No</i></li> <li>5. Hotels, retailers, other service providers, etc. offer several service packages that combine bus services with their own services. <i>-No</i></li> </ol>	<p>Max 5 points</p> <p><b>Jersey score: 1</b></p>
<b>Shared understanding</b>	
<p><b>Integration platform</b></p> <ol style="list-style-type: none"> <li>1. Public transport or private third parties offer journey planners, which support multimodal transportation during the same trip. <i>-No</i></li> <li>2. Third parties already use data gathered from public transport operation and provide information services to customers. <i>-Yes</i></li> <li>3. The Government of Jersey has opened data/standardised information gathered from public transport operation so that third parties can use it to create new apps and services. <i>-No</i></li> <li>4. Mobility service providers/third parties work together to sell their services by using the same app as other private and/or public mobility service providers. <i>-No</i></li> <li>5. Tourist information and services are combined with MaaS services. <i>-No</i></li> </ol>	<p>Max 5 points</p> <p><b>Jersey score: 1</b></p>
<p><b>Visibility and usage – how obvious and easy are the shared mobility offers</b></p> <ol style="list-style-type: none"> <li>1. Customers can find multimodal (min. two modes of transport) traveller information/guidance. <i>-No</i></li> <li>2. Customers have several channels through which they can find multimodal traveller information. <i>-No</i></li> <li>3. Customers are provided with visuals or other advertisements related to MaaS services while travelling. <i>-No</i></li> <li>4. Customers can change their means of transport easily in several places within Jersey (min. four transport means in one place, mobility/travel/multimodal hubs). <i>-No</i></li> <li>5. Customers have found shared mobility services and their use has increased within the last year. <i>-Yes</i></li> <li>6. Customers have found MaaS services with digital ticketing, journey planning/information, and apps and their use has increased within the last year.</li> <li>7. The use of cars has been declining due to MaaS offers. <i>-No</i></li> </ol>	<p>Max 7 points</p> <p><b>Jersey score: 1</b></p>



## D Appendix D

- D.1 Mobility Hubs are an evolving concept with some of the first developed by the City of Bremen, Germany, and later expanded to cities and regions in Norway, Belgium and the Netherlands. Existing definitions of Mobility Hubs follow common themes and concepts, recognising a Mobility Hub as a link between sustainable and shared transport modes supplemented by additional facilities and features which benefit and attract the user.

Figure 13. Mobility Hub concept by CoMoUK



Source: Mobility Hubs Guidance, CoMoUK

- D.2 Steer, working for SEStran,<sup>88</sup> developed the following definition of a Mobility Hub:

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“A Mobility Hub is a recognisable and easily accessible place which integrates different transport modes and supplements them with enhanced facilities, services and information aimed at encouraging more sustainable travel, creating sense of place and improving journeys and travel choices”

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- D.3 Mobility Hubs are used to promote greener cleaner choices through the provision of storage facilities for bicycles, wayfinding information and shared mobility. The provision of first and

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<sup>88</sup> SEStran is a Regional Transport Partnership comprised of eight local councils in South East Scotland (UK): Borders, East Lothian, West Lothian, Midlothian, Edinburgh, Fife, Falkirk and Clackmannanshire.

last mile travel through car clubs and bike share schemes at Mobility Hubs can help to reduce the need for a privately owned car and associated problems of carbon emissions.

D.4 Potential benefits of Mobility Hubs include:

- Enabling more sustainable travel and behaviour change through the provision of micromobility services and an electric car club;
- Encouraging active travel;
- Offering low carbon choices and contributing to the reduction of emissions;
- Creating a sense of place and community through placemaking and effective land use;
- Promoting shared economy and increasing use of shared mobility as an alternative to the private car and facilitate a shift to more sustainable and active modes to reduce car ownership;
- Providing an opportunity to test innovative technologies and support early adoption of beneficial transport innovations; and
- Encouraging effective partnerships between key stakeholders.

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