



Mobility as a Service: Positioning Scotland for an Emerging Global Market

A joint venture between Technology Scotland and ScotlandIS



ScotlandIS

About MaaS Scotland

MaaS Scotland was established in March 2017 to be the driving force for Mobility as a Service (MaaS) activities in Scotland, establishing a formal network for the vibrant MaaS eco-system in Scotland, and facilitating initiatives that will deliver the benefits of this transformational opportunity to Scotland. A joint venture, operated by Technology Scotland and ScotlandIS, Scotland's foremost Technology Associations, the group has made rapid progress in its first 9 months of operation, developing considerable interest both locally and internationally.

MaaS Scotland supports the growth of a strong cluster of companies who can supply products and services along the MaaS value chain in partnership with the public sector. The group has been facilitating the development of a Project Pipeline that seeks to deliver MaaS solutions in a range of different environments - urban, rural and island communities - and is playing a vital role in ensuring Scotland's position as the global partner for MaaS development.

Summary

Mobility as a Service (MaaS) is emerging as a key component of future mobility and represents a significant opportunity for Scotland. However, engagement and support from Scottish Government is required in order to fully exploit the economic, social and environmental benefits that MaaS could provide, while cementing Scotland's reputation as a global leader in this area. This paper proposes three areas in which Scottish Government intervention would facilitate the effective delivery of MaaS solutions in Scotland, delivering projects and creating an attractive environment for upscale and inward investment. These proposals have been designed to strengthen an already vibrant sector in Scotland and ensure full exploitation of the economic potential of this new global market while delivering tangible benefits to the people of Scotland.

1. Formation of a joint Working Group, to include Transport Scotland and MaaS Scotland, that will develop a roadmap for the delivery of a National MaaS Framework

- *Facilitate upscale and roll out of successful MaaS models across Scotland*
- *Create an attractive environment for inward investment*
- *Encourage innovation in a significant new export market*
- *Position Scotland as the global partner for the development of MaaS models*

2. An initial Scottish Government investment of £1-2m in the form of 'MaaS Delivery Fund' to support ongoing MaaS projects over the next two years

- *Leverage national and international private sector investment*
- *Generate an evidence base to support future policy and planning decisions*
- *Identify innovative ideas and exportable solutions*
- *Strengthen Scotland's reputation as a world leader in future mobility*

3. Scottish Government investment to support MaaS Scotland activities until 2021

- *Support and grow Scotland's MaaS community*
 - *Facilitate current and new MaaS projects*
 - *Promote Scotland's products and expertise on the global stage*
 - *Provide thought leadership at national and international level*
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Introduction

Global interest in Mobility as a Service (MaaS) is growing as it emerges as the dominant force in mobility development. Driven by increased demand for personalised services and key technological developments, the concept has disrupted traditional transport thinking, capturing the attention of the private and public sectors alike and introducing new players into the mobility market.

Based around a central premise of a single point of delivery supplying a customer focused, seamless and valued mobility service, MaaS represents an important tool that could allow future transportation to be shaped to ensure positive benefits for the environment, social equity and inclusivity, and facilitate community building.

The economic opportunities in this area are substantial with estimates of the global market ranging from \$6.5tr to \$13tr by 2020 (Frost and Sullivan and ABI).

The opportunity for Scotland has been estimated at up to £480m depending on market share assumptions (Hazel, Scottish Enterprise Report 2017) but this could be an underestimate depending on how the market evolves and how MaaS is defined.

The potential economic, social and environmental benefits available have ensured that MaaS enjoys a global profile with significant interest shown by UK Government. There is currently a UK Parliamentary Committee examining the potential impact of MaaS and the Department of Transport is actively developing their response, organising workshops and a Foresight project.

This high profile is further illustrated by the inclusion of the Future of Mobility as one of four 'Grand Challenges' in the recent UK Industrial Strategy White Paper. This recognises the significant impact that mobility developments could have on the future of the UK, highlighting MaaS specifically as a disruptive concept that could 'challenge our assumptions about how we travel'.

Scotland finds itself in a strong position to exploit this transformational opportunity. With traditional strengths in the three key areas needed for MaaS development and delivery - energy, informatics & data analytics and transport – and the right geographic and demographic characteristics to provide attractive test beds for MaaS products and services, Scotland can become a global lead in future mobility, benefitting directly from the opportunities that this will bring.

Capturing this opportunity will require a strong partnership between Government and the private sector. Action must be taken now or, without Government support, Scotland risks being overtaken, losing its lead role in MaaS development and its ability to dictate the shape of this global market and reap the rewards.

MaaS Scotland

Success to date

With initial support from Scottish Enterprise, MaaS Scotland was established in March 2017 to be the driving force for MaaS activities in Scotland, establishing a formal network for the vibrant MaaS eco-system in Scotland, and facilitating initiatives that will deliver the benefits of MaaS to Scotland.

MaaS Scotland is joint venture, operated by Technology Scotland and ScotlandIS, Scotland's foremost Technology Associations. The group has made rapid progress in its first 9 months of operation, developing considerable interest both locally and internationally. Highlights include:

- Membership growth to 59 companies and public bodies, representing the entire MaaS supply chain. The MaaS Scotland network is now the largest of its kind in Europe and it has attracted international recognition – a list of current members is given in Appendix 1.
- Links have been established with MaaS companies and networks around the world, including high profile organisations such as MaaS Global and the European MaaS Alliance, providing opportunity for international collaboration as well as opening up new market opportunities for Scottish industry.
- Integration into the existing UK wide ecosystem, including key links to Innovate UK/KTN, Transport Systems Catapult, AESIN and the Satellite Applications Catapult. MaaS Scotland has also been approached by two UK professional institutions seeking advice on MaaS with respect to the Parliamentary Committee examining this area.
- Inaugural MaaS Scotland Conference and subsequent MaaS Project Workshop, between them attracting over 200 attendees.

- Development of a MaaS Project pipeline, multiple MaaS projects across Scotland that focus on the delivery of MaaS as a solution for a diverse range of transport challenges – urban, rural, island, and tourism.
- International recognition of the thought leadership that MaaS Scotland has shown through its network and leadership in the MaaS market.

MaaS Scotland Model

MaaS Scotland facilitates the development of a strong cluster of companies who can supply products and services along the MaaS value chain in partnership with the public sector. The group then helps to identify potential Phase 1 projects, working with the leadership team of these projects to develop the business case and build consortia that have products and services that could contribute to the delivery of that project. This includes the key links between private and public sector organisations.

This model is attracting interest across the world and MaaS Scotland has been approached by groups in Canada, Spain, Finland, Slovakia, Australia and New Zealand, all of whom are interested in developing a similar cluster based model. MaaS Scotland is supporting these activities and seeks to build relations with clusters that will facilitate international collaboration, leveraging these opportunities with Scottish based reference sites, while providing key global opportunities for our members and attracting inward investment.

Delivering MaaS in Scotland

MaaS Scotland has made significant progress over the first 9 months of operation, delivering a powerful network with an international profile, and laying strong foundations for future MaaS exploitation through the project pipeline. However, the global evolution of MaaS is rapid and there is a limited window of opportunity that must be exploited in order to keep Scotland at the leading edge of development, ensuring maximum value for Scotland. The next 2-3 years are therefore critical as MaaS Scotland seeks to deliver projects that will establish Scotland as one of the leading places in the world to develop and deliver MaaS ecosystems, products and services.

Failure to do so could see Scotland missing out on a significant new export market, together with the high value job creation that would result from the growth of Scottish businesses. Scotland is uniquely positioned to offer a truly country wide MaaS service with all the benefits that this offers. This will put Scotland ahead of most of the world in deploying a truly scalable MaaS solution, offering a new growth area for products and services in areas such as energy, ICT and mobility.

In an increasingly competitive global market, Scotland must also ensure it remains an attractive base for international investors to develop MaaS products and services. In order to achieve this, it is vital that Scotland creates the correct environment for the deployment and upscale of MaaS Solutions, including attractive regulatory and legislative frameworks for delivery. This will require Government intervention and, in this context, it is important to note that current world leading nations in MaaS, such as Finland, have enjoyed significant Government support. Examples of international Government support for MaaS are given in Appendix 2.

Securing Government engagement would also allow the Scottish Government to shape the benefits of MaaS to support economic, social and environmental objectives.

By providing a mechanism to personalise and incentivise transport users, MaaS can shape mobility use in a way that brings value to them and to the community while offering

viable transport options to those who do not own a car or have restricted mobility through disability. A number of projects being generated within the MaaS Scotland network also address issues regarding rural mobility, offering new, more efficient, approaches to connectivity in semi-rural and remote areas.

In addition, by improving the efficiency of current services, and driving mobility use through incentivisation, MaaS also offers the opportunity to impact positively on environmental targets such as decarbonisation. By working in parallel with the impending Low Emission Zone introductions across Scotland, this would have an enormous health benefit across the nation, lessening the load on key NHS services.

Projects are now underway in Scotland that will provide an evidence base for the true impact of MaaS to Scottish cities and rural areas. By engaging with these projects, and supporting subsequent projects in the project pipeline described in this paper, the Scottish Government has the opportunity to shape outcomes and align project impacts with Government targets and future policy. Government engagement would also give confidence to project consortia that MaaS solutions are meeting local and national demand, offering sustainability beyond the project lifetime.

The Scottish Government must work with industry to ensure that an attractive environment is created for the demonstration and upscale of MaaS Solutions in Scotland. Early engagement in projects will ensure that outcomes are aligned with Government targets and future policy



Creating a Delivery Roadmap for MaaS in Scotland

Scotland has a unique opportunity to be recognised as a global leader in MaaS, with a vibrant industry base, strong skill set and ideal geography to attract significant inward investment to develop MaaS products and services within Scotland. With a number of geographically restricted demonstrator projects already underway in Scotland, there is an opportunity for Scottish industry to benefit from upscale and roll-out of successful models and products across the country, bringing the benefits of MaaS to all within Scotland.

However, for these objectives to be reached, consideration must be given to creating the right environment across the country that will enable MaaS to thrive. This means a shift in focus from small, geographically bounded initiatives to a national strategy that will include exploration of the infrastructure, legislation and skills required.

MaaS Scotland calls on the Scottish Government to create a Joint Working Group to develop a delivery roadmap for the creation of a National MaaS Framework that will allow Scotland to fully exploit the potential economic, environmental and social benefits of MaaS.

MaaS Scotland is keen to work with the Scottish Government and its agencies to create an attractive environment for MaaS and has identified the following areas that will require future Scottish Government intervention to ensure maximum benefit for Scotland, its companies and its citizens.

1. Interoperability

As MaaS develops, so various eco-systems and platforms are emerging each vying for their place in the market through delivery of different products and services. It is the view of MaaS Scotland that the next 5 years will see a number of MaaS systems coming to the market in Scotland and these will need to be

integrated to provide a national system of mobility that will allow users to travel freely across Scotland, without needing to join several different systems. This requires interoperability between systems, akin to the roaming architecture already in use within the mobile phone industry. The ERTICO based European MaaS Alliance has already established a working party to look at a roaming type system based on a standardisation framework and such an approach must also be adopted within Scotland. This needs to be addressed at national level, led by Scottish Government in partnership with local government and industry.

2. Connectivity

Digital connectivity is an essential pre-requisite of MaaS. This includes not just overall connectivity, but connectivity matched to the availability needs and expectations of business and personal users. This in turn relates to demographics and geography. The Scottish Government has achieved a lot in this area and has an ambitious programme to deliver digital connectivity to every part of Scotland. The recent budget announcement, committing a further £100m to the programme, underlines this ambition. Scotland is therefore well placed in the near future to deliver the required digital connectivity to support MaaS. However, the Scottish Government must be engaged in MaaS activities to ensure that the quality and reliability of connectivity provision allows MaaS adoption across all regions and communities in Scotland.

3. Data and API sharing

One of the key essentials for MaaS is the ability of MaaS providers to get access to the data and Application Programming Interfaces (APIs) of companies along the value chain, including transport operators and product and service suppliers.

It may be possible to develop a Government regime where companies are incentivised to do this but, if not, there will have to be legislation forcing companies to open their APIs and share data. Scotland has a good base for this through Traveline Scotland, a member of MaaS Scotland, but the Scottish Government could look to Finland for further guidance in this area. The Finnish Parliament has recently approved legislation that requires all companies and agencies operating within the Finnish mobility system to open their APIs and their data to the market. This came into force in January 2018.

4. Regulation and Legislation

There is general agreement that the role of Central Government should be to enable innovation and delivery of MaaS not to act as the MaaS aggregator or provider. A major part of this role is ensuring that regulation and legislation support MaaS delivery. However, much of the current regulation and legislation does not help MaaS and needs to change. It is also important to use the potential of MaaS to address environmental, social equity and wider economic issues. If not, there is a danger that MaaS providers will concentrate on urban, high income areas.

The Finnish Ministry of Transport and Communications has led the way by developing a new Transport Code – a simplification of regulations and legislation related to transport into one code for all modes, including data and API access as detailed above.

We recommend establishing a partnership between Transport Scotland and the Finnish Ministry to learn from each other and further develop the role of National Government in MaaS. The Finnish Ministry is interested in such a partnership.

5. Skills needs and opportunities

MaaS brings together energy, ICT and transport into a new, integrated and user focussed mobility market. This presents a significant opportunity to create new job opportunities across multiple sectors. However, MaaS and the associated areas of connected and autonomous vehicles, will challenge some existing jobs and skills.

This means that new skills will be required providing new opportunities for the people of Scotland. Support from the Scottish Government may be required in order to ensure the necessary skills are in place within both the private and public sectors.

Recommendation

As a first step towards a National MaaS Framework, MaaS Scotland recommends that the Scottish Government establish a Working Group, formed of a partnership between Transport Scotland and MaaS Scotland, to develop a Delivery Roadmap that will provide a strategic outlook for MaaS adoption across Scotland. MaaS Scotland proposes that the Group be led by Transport Scotland who would identify someone to lead MaaS nationally on the Government's behalf. This Working Group should work together with the National Transport Strategy team to help inform and develop a National Strategy and Delivery Roadmap for MaaS in Scotland.

Scotland's MaaS Project Pipeline

MaaS Scotland has been facilitating the development of a MaaS Project pipeline that will seek to deliver MaaS solutions in a range of different environments - urban, rural and island communities. This includes the development of business models that are commercially viable and will help deliver the Scottish Government's targets. Scotland's first MaaS project was launched in October 2017 through the ESP Group's NaviGoGo scheme and the Dundee MILL initiative will provide further MaaS pilots in 2018.

Three additional projects – Cairngorm National Park/Inverness Region, Isle of Arran and Orkney Islands – are generating particular international interest as most MaaS activity to date has been concentrated on urban areas. Scotland stands to be at the forefront of rural and island development, bringing MaaS benefits to isolated communities across Scotland and providing outcomes that will be of interest across the globe.

A summary of all projects within the Scottish MaaS pipeline is given in Appendix 3.

It is imperative that MaaS Scotland builds on these initial projects, delivering multiple projects within the next year that will bring confidence to the Scottish MaaS cluster while raising Scotland's international reputation. To date, industrial partners within the MaaS Scotland network have invested significant time and resources in MaaS projects, supported by various funding routes including Innovate UK, ERDF and various City Deals.

However, the direct support of the Scottish Government is vital to secure industry confidence, providing evidence of Government commitment and leveraging national and international private sector investment. Early Government engagement would also ensure that potential project outcomes are aligned to Government targets and future policy, sending a clear message that proposed MaaS solutions are shaped by national demand, offering sustainability beyond the project lifetime.

With this in mind, MaaS Scotland proposes the establishment of a 'MaaS Delivery Fund' to support Scottish projects.

It is the view of MaaS Scotland that an initial investment of £1-2 million pounds is the minimum required to ensure projects provide maximum value to Scotland and deliver outcomes that will shape future mobility solutions

This level of funding would 'unlock' 4 to 5 projects in the project pipeline described in this paper while providing clear evidence of significant Scottish Government commitment to future MaaS delivery. The delivery mechanism for this fund, which could be based on programmes such as CivTech or CanDo, must ensure that applicant projects address and evaluate key challenges or evidence requirements.

By providing support in this way, Government would also have the opportunity to pre-define component areas to develop, obligating project participants to share certain findings, or undertake certain evaluations, as a direct input into the advancement of a National MaaS Framework and Delivery Roadmap.

It is vital that initial projects are funded within 2018 to give confidence and stability to the emerging MaaS market in Scotland.



Concluding Remarks

The MaaS community in Scotland is vibrant, with a number of high profile ‘anchor’ companies supported by a hugely powerful network of SMEs providing innovative technologies and products. Representation across the supply chain is strong, from technology providers and systems integrators to transport operators and regional transport partnerships. With a willingness from private and public sector organisations, a strong pipeline of demonstrator projects, and a unique and attractive geography to deliver MaaS, Scotland stands in a great position to exploit this transformational and lucrative opportunity. However, the window of opportunity is small, and Scotland’s reputation as a world leader in MaaS is under threat without the necessary financial and strategic support from the Scottish Government.

This paper has set out three proposals for Scottish Government intervention that would ensure that Scotland capitalises on the opportunities that this significant new market presents. The time for Government action is now. By strengthening the relationship between industry and Government, Scotland can establish itself as a global home for MaaS, benefiting from the positive economic, environmental and social impacts this will create.

Economy and Innovation

- *Encourage upscale of MaaS solutions developed in Scotland*
- *Grow inward investment by positioning Scotland as an attractive base to develop MaaS products*
- *Generate high value jobs by supporting vibrant SME base*
- *Encourage innovation in significant new export market*
- *Exploit growth opportunity for some of Scotland’s key sectors – ICT, Energy and Mobility*

Sustainability and Efficiency

- *Maximise efficiency of existing transport assets*
- *Manage supply and demand curves for Scotland’s busiest transport routes*
- *Reduce traffic congestion in known hotspots*
- *Improve planning and policy decisions through better visibility of traveller needs and behaviours*

Inclusivity and Community

- *Significantly improve transport provision for those without access to a car*
- *Improve access to transport services for those with disability or living with poor health*
- *Enhance connectivity for island, rural and semi-rural communities*
- *Encourage community building through shared transport provision*

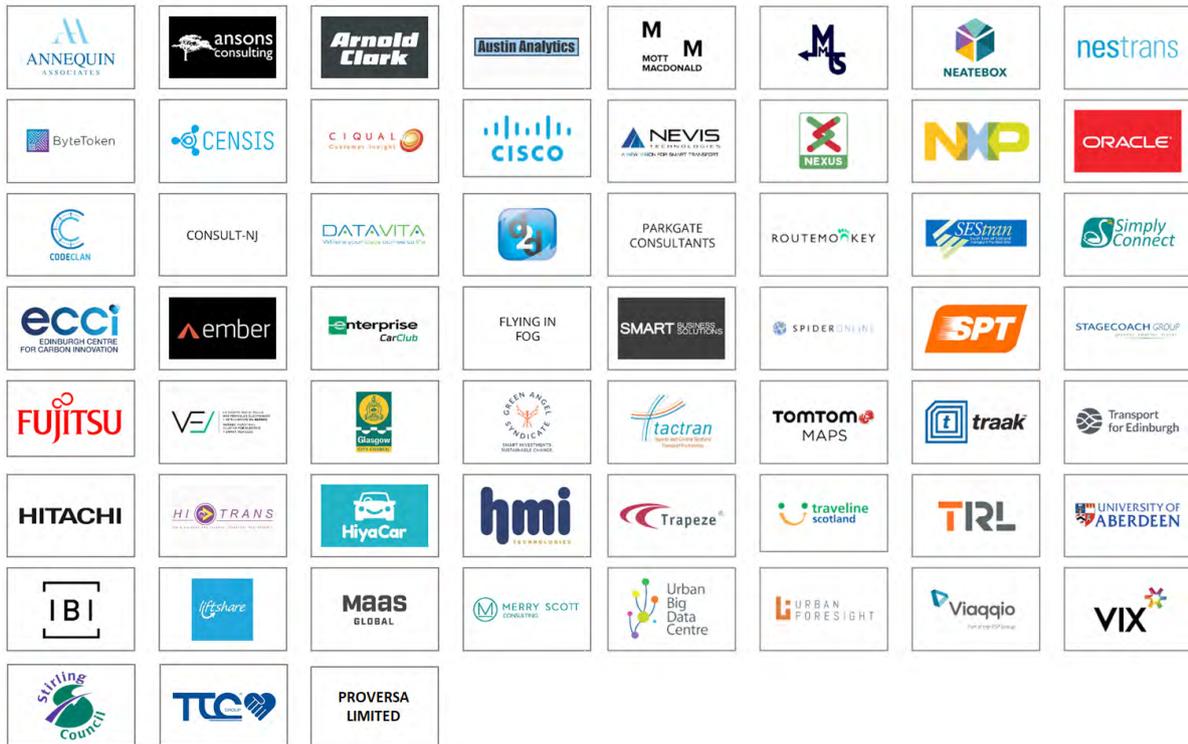
Environment and Health

- *Reduce carbon emissions by increasing patronage on Public Transport and encouraging vehicle sharing*
- *Incentivise active travel such as cycling and walking*
- *Align transport provision with key NHS services*
- *Manage travel behaviour in key areas of poor air quality*



Appendix 1: List of Current MaaS Scotland Members

MaaS Scotland currently has 59 members:



Appendix 2: International Government Support for MaaS

Finland

TEKES, the economic development arm of the Finnish Government, invested around €2-3m from their innovation fund to support exploitation of the emerging MaaS market. When MaaS Global was formed in 2016, TEKES invested €2.2m in partnership with two private companies to begin development of the WHIM application, one the world's first MaaS provision platforms. This triggered a further €24m investment in MaaS Global from major investors such as Transdev, Toyota and Karsan.

The Finnish Government is also currently offering a €16,000 grant for all mobility providers to implement MaaS products and services and they have launched a new National Transport Sector Growth Programme (2018-2022) aimed at translating MaaS into deliverable products and services to secure a percentage of the global MaaS market.

Sweden

Drive Sweden is leading the development of Combined Mobility/MaaS on behalf of the Swedish Government. This is under one of the five National Innovation Partnership Programmes – Next Generation Travel and Transport Programme. Drive Sweden comprises Volvo Cars, Volvo Buses, Nobina, RISE and the Royal Swedish Institute of Technology. They have funding of 50m SEK (£4.5m) over four years.

In addition, the Swedish Government's Collaboration Group has created the KOMPIS Programme to develop a Roadmap for MaaS delivery from 2018 to 2020. KOMPIS has €2.5m central funding plus €0.3m from Western Sweden Region, €1.2m from National calls and between €1.5m to €3m from the Swedish Energy Agency.

Netherlands

In late 2017, the Dutch Government conducted a comprehensive market consultation on MaaS, focussing on their ambitions for MaaS development around a series of Regional Pilot Projects.

The Dutch Ministry of Infrastructure and Water Management, working with decentralised authorities, has developed 7 regional pilots that will be put out to tender in 2018. While these pilots will have specific, distinguishing objectives, they will be built on a National Framework Agreement according to uniform rules and transparent preconditions.

The pilots will be experimental in nature, identifying what MaaS solutions work best in practice and generating an evidence base for future development and policy. It will also be a requirement that pilots be setup such that a rapid national upscaling is possible.

Appendix 3: MaaS Scotland Project Pipeline

Project: NaviGoGo	Project Lead: Viaqqio (ESP Group)	Area: Dundee & North Fife
<p>Summary:</p> <p>NaviGoGo is Scotland's first Mobility as a Service (MaaS) web application and has been co-designed by young people, for young people as part of an Innovate UK funded project. The platform aims to make it easier for young people to travel. A 6-month Beta trial is currently ongoing with 100 young people in Dundee and North East Fife. During the trial from October 2017 to March 2018, the trial participants will be able to access streamlined and personalised information, payment and fulfilment for trains, taxis, bike schemes, buses, car clubs and walking - all in one single hub.</p>		
<p>Key features:</p> <ul style="list-style-type: none"> • A personalised journey planner with fare calculator responsive to a user's profile and entitlements • A journey payment and fulfilment platform • A taxi splitter tool to ease the pain of calculating the cost of a taxi journey with friends • A 'Discover a Destination' database containing local transport information • Incentive points for positive/sustainable choices through Young Scot rewards 		
<p>Expected impact:</p> <ul style="list-style-type: none"> • Support the achievement of wider local transport challenges for young people and provide genuine alternative to car ownership. Specifically to address concerns around <ul style="list-style-type: none"> o Safety, complicated timetables, unclear fare structure • Demonstrate that NaviGoGo creates more public transport, taxi, car/bike club journeys • Demonstrate demand for a MaaS service in Scotland for 16-25 year olds • Demonstrate the operating principle and framework of the underlying technical architecture for future commercial roll-out 		
<p>Current status:</p> <ul style="list-style-type: none"> • Beta trial of 100 participants already underway - first results expected soon 		
<p>Next steps:</p> <ul style="list-style-type: none"> • Innovate UK funding ends on 31st May 2018 • ESP Group aims to move forward as a fully commercial services. Requires: <ul style="list-style-type: none"> o Evaluation of the trial o Commercial and operating agreements with Transport Operators o Integration of ticketing across all modes o Tackling national challenges for MaaS such as integrating payment/ticketing and data standards o Additional funding • Ambition for Scotland-wide commercial roll-out 		

Project: Dundee MILL	Project Lead: Urban Foresight	Area: Dundee City
<p>Summary:</p> <p>The MILL (Mobility Innovation Living Lab) is an innovation hub which has been established in Dundee to allow the city’s infrastructure to be used for testing, demonstrating and showcasing new technologies in mobility. £950,000 is available (50% ERDF, 50% Dundee City Council) to support a collection of innovation pilots.</p>		
<p>Expected impact:</p> <ul style="list-style-type: none"> • Increase accessibility to transport for all • Reduce emissions • Attract investment in infrastructure and innovation • Create new economic opportunities 		
<p>Current status:</p> <ul style="list-style-type: none"> • Project manager has been assigned – Urban Foresight • The following themes have been identified for proposals: <ul style="list-style-type: none"> • Shared mobility services <ul style="list-style-type: none"> o Shared mobility solutions o Lower emission transport options • Solutions for fleets <ul style="list-style-type: none"> o Reduce the use of conventional fuelled vehicles o Improve utilisation of transport assets o Facilitate access to public sector transport assets • Advanced parking services <ul style="list-style-type: none"> o Improve the management of existing parking assets in the city, including e-vehicle charging • Advanced use of urban data <ul style="list-style-type: none"> o Improve visibility how transport assets are being used round the city o Improve the quantity and quality of data to be shared via open data platform • City-wide bike sharing 		
<p>Next steps:</p> <ul style="list-style-type: none"> • Call for proposals will open on 8th January • Pilots to commence in early 2018 and run until November 2019 • Wave 2 beyond this date is already being investigated 		

Project: MaaS Pilot for Tay Cities Region	Project Lead: P&K Council	Area: Tay Cities Area
<p>Summary:</p> <p>This project will aim to ensure the best and most efficient use of transport infrastructure across the Tay Cities area. It will aim to reduce congestion and improve traffic flow; promote multi-modal, sustainable and active travel; ensure the efficient and punctual running of buses and increase patronage.</p> <p>Exploring the potential of Mobility as a Service (MaaS) across the Tay Cities area will be a key element of the proposed project and would:</p> <ul style="list-style-type: none"> • Be operated through a Public-Private Partnership (PPP) led by public sector • Present a range of modal options • Involve major commercial operator(s) • Include an app that will incorporate journey planning, integrated ticketing and billing • Aim to encourage modal shift to shared, public transport or active travel • Generate revenue through subscription fees and transaction fees on journeys booked • Focus on urban and rural location to help resolve ‘last mile’ issue 		
<p>Expected impact:</p> <ul style="list-style-type: none"> • Contribute to Tay Cities Region shared vision and objectives by improving sustainable travel, workforce mobility (helping inclusive growth) and innovation • Improve integration between different modes of public and private transport, promote modal shift from car to shared or public transport, and sustainable mobility • Address many of the transport challenges facing society by engaging new business models and technology • Provide transport based on consumer demand supported by rich data to help optimise and manage transport systems and networks. • Reduce the costs of building additional road capacity, by using technologies to optimise the performance of existing infrastructure and sweating of assets. • Use smart technologies to make significant, positive impacts on air pollution, increasing active travel and improving safety. 		
<p>Current status:</p> <ul style="list-style-type: none"> • Project is being discussed as part of Tay Cities Deal <ul style="list-style-type: none"> o Initially focussed on Perth and adjacent rural areas • Aiming to agree Heads of Terms by March 2018 		
<p>Next steps:</p> <ul style="list-style-type: none"> • Awaiting funding confirmation through Tay Cities Deal – Scottish Government Financial Agreement to be confirmed in 2018 		

Project: MaaS for Highlands & Islands	Project Lead: HITRANS	Area: Inverness & CNP
<p>Summary:</p> <p>Local partners (Highland Council and HITRANS) have secured funding – ERDF matched by Highland Council and HITRANS - to support the implementation of MaaS solutions in the Inverness City Region. Phase 1 of the Project – Cairngorms Connected – will include:</p> <ul style="list-style-type: none"> • Review and assessment of the following: <ul style="list-style-type: none"> o Data, payment/ticketing, existing services and systems • Engagement with Public Transport operators <ul style="list-style-type: none"> o Within Inverness o Between Inverness and CNP o Within CNP • A new Real-Time Passenger Information and Data Management System that will: <ul style="list-style-type: none"> o Act as a single point of access for smart/mobile ticketing and journey planning o Include multiple modes and have the capacity to communicate information regarding disruption to services o Provide foundation for reliable, up-to-date service information which will support a future MaaS system 		
<p>Expected impact:</p> <ul style="list-style-type: none"> • Important step towards achieving vision of a connected, low carbon Highlands and Islands • Smart Mobility projects will allow phased roll-out of technological solutions to transport issues in Inverness City Region • Improving real-time information and data management systems will ensure availability of data and inter-operability of systems to facilitate entry of prospective MaaS Operator • Streamlining and integration of public transport system <ul style="list-style-type: none"> o Public transport more convenient, attractive, flexible o Socially inclusive o Economic and environmental sustainability o Potential to reduce the number of private car journeys (esp. single occupancy) • Generation of data giving insight into travel choices <ul style="list-style-type: none"> o Potential to adapt services as a result • Integration with tourism <ul style="list-style-type: none"> o Important to H & I economy and to encourage entry of MaaS provider 		
<p>Current status:</p> <ul style="list-style-type: none"> • Phase 1 scoping and planning to be finalised 		
<p>Next steps:</p> <ul style="list-style-type: none"> • Expand area and extend network in which MaaS Service is available – Phase 2 • Prioritise key corridors used by both residents, business visitors and tourists <ul style="list-style-type: none"> o Loch Ness/Great Glen, Ullapool - Western Isles, Orkney Skye • Aim to attract MaaS Operator to run the system commercially <ul style="list-style-type: none"> o Address issues with interoperability, open data and digital connectivity 		

<p>Project: Orkney MaaS Project</p>	<p>Project Lead: Simply Connect</p>	<p>Area: Orkney</p>
<p>Summary:</p> <p>Acting as a high-profile demonstrator of how to transform travel in rural areas and small towns, this project will show how Orkney, an island group of 20,000 people, may provide all residents, local businesses and tourists with a comprehensive demand-driven transport service that meets all their travel needs, as a realistic alternative to single-occupancy cars.</p> <p>The project establishes a ‘mobility platform’, within a community-management framework that takes responsibility for all aspects of travel within the County. The approach blends digital delivery and innovative business models, with multi-modal service patterns wrapped around large scale deployment of shared small vehicles, using professional drivers, linked to existing buses and inter-island ferries.</p> <p>Key project objectives are to demonstrate how to:</p> <ul style="list-style-type: none"> • Offer travel opportunities (with quality equivalent to car user) for residents and visitors, including the digitally excluded, disabled, and less well-off • Save substantial amounts of public funds (post-project) • Improve multiple outcomes, especially sustainability of remote communities where high current support costs may be unsustainable in future • Transform travel in rural communities across UK and beyond • Through members of MaaS Scotland, achieve world-leading capability for UK businesses in Intelligent Mobility across massive, yet barely tapped rural markets. 		
<p>Expected impact:</p> <ul style="list-style-type: none"> • Develop business (and public sector) partnerships, including operators • Establish a sustainable business case • Launch and operate a mobility platform, then build sustainable demand <p>Service will initially prioritise residents, with their local travel integrated with fixed ferry and air services, then extended to serve the large tourism market. The key innovation is to demonstrate how technology can be harnessed to deliver the objectives, recognising that real gains from ICT require transformative business models.</p>		
<p>Current status:</p> <p>Phase 1 of the project will cover feasibility studies and trial deployment of small vehicles carrying fare-paying passengers. This forms part of a funding submission to Innovate UK as part of their current Infrastructure and Systems call. Application was submitted on 31st January. MaaS Scotland is a named partner on the application.</p>		
<p>Next steps:</p> <ul style="list-style-type: none"> • Await confirmation of funding from Innovate UK – early 2018 • A transitional Phase 2 (possibly funded within Scotland) that would lead to full implementation as replacement of the current service delivery model • Deployment of successful model in Stirlingshire – Phase 1 will include modelling of Stirling area but without practical trials 		

Project: Stirling Rural Pilots	Project Lead: Stirling Council	Area: Stirling Area
<p>Summary:</p> <p>Stirling Council has initiated a series of small pilot projects that will examine solutions to rural transport problems experienced in the Stirling Area. These problems have been identified through extensive consultation with rural communities in Stirlingshire and a small amount of funding has been allocated to run projects in financial year 2017-18. Projects will begin in Dec 2017 and run for approximately 6 months. Pilots include:</p> <ul style="list-style-type: none"> • Modernisation of Demand Responsive Transport (DRT) System <ul style="list-style-type: none"> o Implement full online booking system with integrated scheduling o Explore Smart Ticketing to provide seamless travel between different modes o Datalab commissioned to analyse and map DRT journeys to identify improvements • Micro Local Volunteer Hospital Transport <ul style="list-style-type: none"> o Work in progress with Forth Valley Hospital/Scottish Ambulance Service to identify the best way for Stirling Council to support micro communities to set up their own volunteer network to transport people to hospital. • Social Bus connecting young people in rural Stirlingshire to amenities in Stirling <ul style="list-style-type: none"> o Run a bus service from Stirling – Callander leaving 10.45pm on 2nd & 4th Sat of every month. • Shopping Bus connecting those in rural communities without access to cars <ul style="list-style-type: none"> o Run a bus service from Tyndrum, Crainlaraigh, Killin, Lochearnhead, Kinghouse, Strathyre, Callander, Stirling leaving 10am on 1st & 3rd Sat of every month. 		

Project: Isle of Arran	Project Lead: SPT	Area: Arran
<p>Summary:</p> <p>This is a project led by Strathclyde Passenger Transport Executive with potential partners including Calmac, Nevis Technologies, Stagecoach and Abellio/Scotrail. This is an ideal application of MaaS as it brings together road, rail, bus and ferry into one MaaS system. The objective is to develop one mobility account and ticketing system which includes an incentivisation model. Customers would be incentivised to arrive by bus or rail but if they chose to arrive by car then they would be given an option of parking their car at Ardrossan and booking an electric car at Brodick, booking a taxi or using the bus. This would allow Calmac to shape the demand, free up ferry space, which is at a premium at present, and offer capacity to freight operators on and off the island. The mobility package would offer a door-to-door service under one account and one ticket. This could be linked, in future phases, to incentivise local spend on the island, smooth demand and encourage tourism spend on the island. A number of value added services could be included to generate additional revenue such as luggage transfer, car valeting, etc. The first phase of this project is to develop a MaaS eco-system on the Island of Arran encompassing bus, peer2peer car share, car clubs, bike share/hire and taxi offering residents and visitors one mobility account giving door to door multi-modal service.</p>		

Project: Connected Highway	Project Lead: AESIN/Siemens	Area: TBC
<p>Summary:</p> <p>MaaS Scotland has a strong link with AESIN, part of the Techworks network. AESIN and Siemens are keen to expand the UK CAV programme to Scotland and are exploring a possible connected strategic road. One possibility which has recently been put forward by Transport Scotland is the A82. This is a corridor that is important for tourism, freight and local communities. MaaS potentially offer mobility packages for each of these groupings, allowing the mobility provider to communicate directly with the user to give advice, update on current conditions and incidents and incentivise users to change their travel plans. The project could also examine links to the vehicles to obtain weather and road conditions in real time.</p>		





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