Exploring Mobility as a Service

Summary Report

26th January 2016

Exploring Mobility as a Service

The WMITA considers that the challenge of meeting future travel demand will require investment in public transport, active modes, limited highway capacity improvements and fundamentally *smarter use of transport infrastructure using technology and greater integration of transport services*.

Delivering Mobility as a Service (MaaS) can help WMITA achieve their ambitions around this challenge and this report provides a review of the MaaS opportunity and a series of recommendations for how WMITA can deliver MaaS success.

MaaS is a new concept in the transport sector; it provides a new way of approaching how the delivery and consumption of transport (or mobility) is managed. There is a golden opportunity for the WMITA to look to the innovation in 'as a Service' businesses that are successful in other markets and take that innovation and apply it to the challenges that the West Midlands transport sector faces. A successful MaaS system is envisaged to offer a range of economic and social benefits and will support many of the objectives of the West Midlands Strategic Transport Plan.

MaaS relies on the personal computing power of smartphones for data and communication exchange between consumers and suppliers of mobility and has only recently been made possible following the growth in smartphone use (forecast to grow to 81% UK penetration by 2017). Given the MaaS opportunity is new, there is great potential for the WMITA to be seen as progressive and innovative in how they adopt and deliver MaaS success.
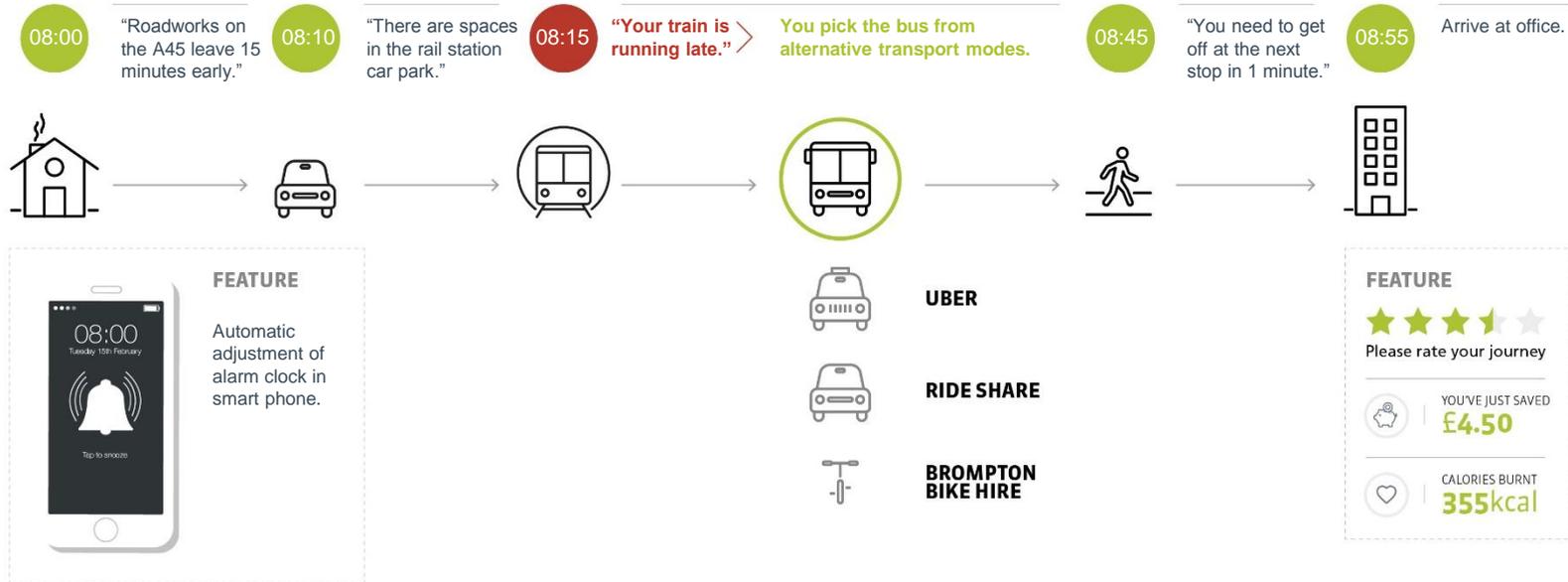
Exploring Mobility as a Service

MaaS is a powerful concept that offers value to both the user (or consumer) of mobility and the supply chain (which includes WMITA and all existing and future transport operators). From the user's perspective MaaS offers an attractive value proposition as demonstrated by the recent MaaS pilot projects that have been delivered abroad – the value proposition is build around providing a better customer experience in terms of:

- **Journey Planning** - real-time journey planning allows a user to plan their journey, choosing from multiple modes that are 'intelligently' suggested based on their personal preferences - for example, cost, comfort, time.
- **Ease of Transaction** - The user can access mobility using a range of payment channels for example a phone, watch, smartcard or bank card regardless of which modes of transport they use.
- **Flexible Payment terms** - The user can pay for their mobility choice via pre-pay, post-pay or pay-as-you-go.
- **The User Experience** – Data analytics will enhance the overall user experience. This feature may be seen as a virtual "concierge service" that provides the user with the best possible whole journey experience by managing the choices they make.
- **A Personalised Service** - A fully personalised service that builds a relationship between the user and the MaaS provider by allowing two-way communication. The MaaS 'service' will be highly customer relevant and focussed and will react to user feedback.

Exploring Mobility as a Service

A conceptual example of the user's experience when commuting with a MaaS operator is shown in the figure below.

08:00 — "Roadworks on the A45 leave 15 minutes early."

08:10 — "There are spaces in the rail station car park."

08:15 — **"Your train is running late."** → **You pick the bus from alternative transport modes.**

08:45 — "You need to get off at the next stop in 1 minute."

08:55 — Arrive at office.

FEATURE

Automatic adjustment of alarm clock in smart phone.

08:00
Tuesday 15th February

Tap to snooze

UBER

RIDE SHARE

BROMPTON BIKE HIRE

FEATURE

★★★☆

Please rate your journey

YOU'VE JUST SAVED
£4.50

CALORIES BURNT
355kcal

Exploring Mobility as a Service

MaaS delivers a number of benefits to users, businesses and the public sector as outlined below.

Consumers	Economic	Social
• Personalised, easy to use service • 'Best-price' potential cost savings • More efficient use of time • Fully integrated system removes the hassle from travelling • Easier access to more modes of travel • Subscription payment	• More efficient use of transport networks • New business opportunities to capture user spend on travel services • Greater amounts of user data generated which can be used for multiple purposes e.g. targeted advertising • Mode operations gain revenue. • Efficient management of operator contracts through central MaaS procurement framework and business model.	• Ability to enable MaaS so that it supports Policy goals e.g. more efficient use of the transport networks, better air quality etc • New business opportunities generate economic growth and job creation • More reliable transport network through a combination of effective journey management and traffic control systems • Greater amount of user data generated which can be used for multiple purposes, e.g. better understanding movement through a city • There will be a public sector benefit in bridging the policy and legislative gaps to deliver integrated services.

5

The above benefits will not be realised without the effective use of the WMITA's powers and capabilities to create the right market conditions for MaaS to attract investment and derive the above benefits.
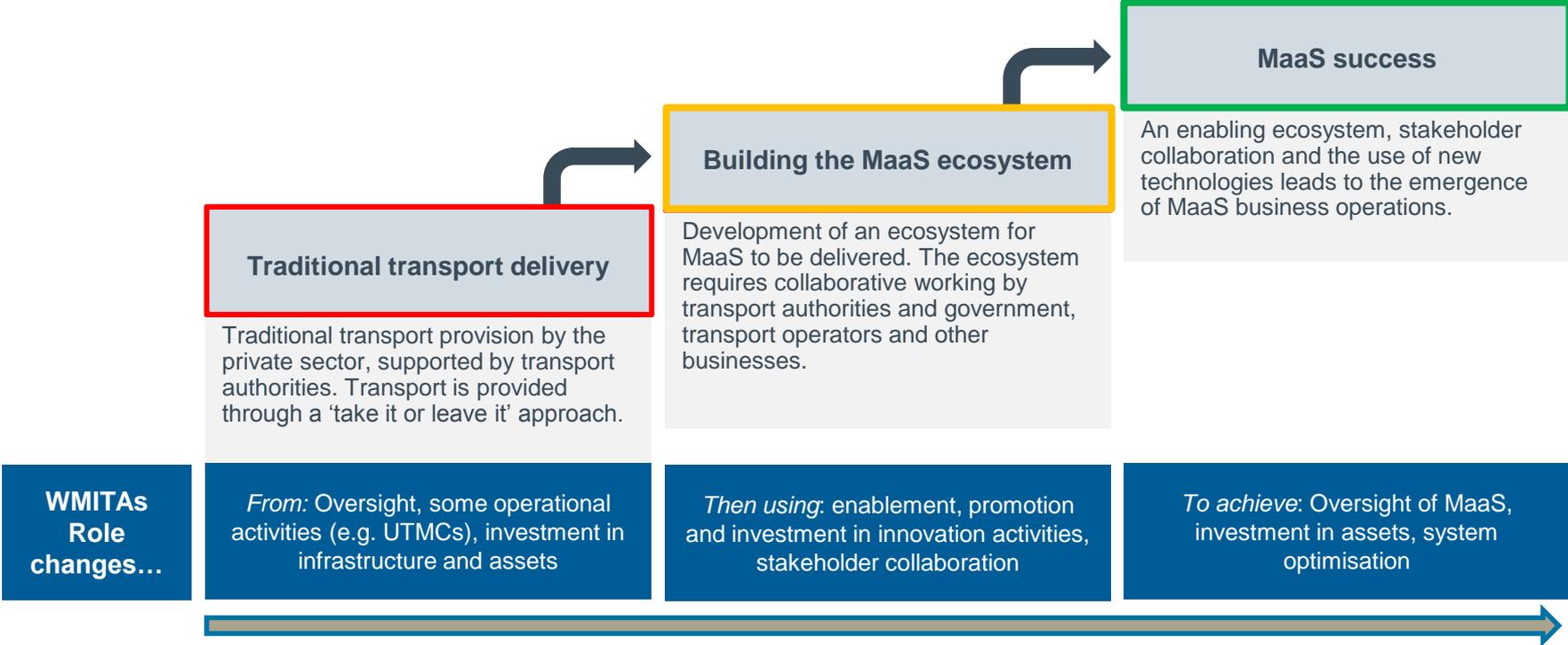
Exploring Mobility as a Service

As with any major change from 'business as usual', MaaS will lead to significant change in existing transport operator business models. There will be a move from transport operators providing their own services to their own customers, to a smorgasbord approach where MaaS consumers have easy access to all transport modes using a service based model. The MaaS operator will be seeking to gain those customers who currently choose to use their own vehicle or use public transport.

There are two distinct business models that could be used to supply the MaaS *service* model, namely the 'reseller' (that sells access to transport modes) and the 'integrator' (that joins transport modes together in a connected way). It is likely that a blended business model will emerge over time to meet market need. It is likely that there will be a number of integrators and resellers that offer MaaS to different markets in the West Midlands.

The MaaS operator(s) will rely on access to a wide range of complex and inter-dependant technical capabilities that involve ICT (where the private sector has strong capability) and mobility assets (traditionally managed by the public sector). Therefore through their role as policy makers, the WMITA is well placed to facilitate how the capabilities that MaaS requires are supplied, such that investment in MaaS can be achieved. To do this WMITA will need fulfil a multi-faceted role to create a MaaS ecosystem of partners that complement, and to a degree *compete* to provide a world class MaaS system for citizens in the West Midlands.

Exploring Mobility as a Service

The role of the WMITA in relation to building the MaaS ecosystem to deliver MaaS is shown below.

MaaS success

An enabling ecosystem, stakeholder collaboration and the use of new technologies leads to the emergence of MaaS business operations.

Building the MaaS ecosystem

Development of an ecosystem for MaaS to be delivered. The ecosystem requires collaborative working by transport authorities and government, transport operators and other businesses.

Traditional transport delivery

Traditional transport provision by the private sector, supported by transport authorities. Transport is provided through a 'take it or leave it' approach.

WMITAs Role changes…	*From:* Oversight, some operational activities (e.g. UTMCs), investment in infrastructure and assets	*Then using*: enablement, promotion and investment in innovation activities, stakeholder collaboration	*To achieve*: Oversight of MaaS, investment in assets, system optimisation

Exploring Mobility as a Service

We have identified a number of enabling activities that the WMITA should undertake in order to build a MaaS scheme in the West Midlands. The enabling activities have been identified through our domain knowledge of MaaS, a literature and case study review, as well as discussions with key individuals involved with the development of MaaS.

These enabling activities have been analysed in terms of their features, benefits and the process than can be taken to realise the benefits. Each enabling activity has been themed under four roles for the WMITA: *Service Provider, Regulator, Facilitator and Leader.*

A delivery roadmap has been developed which provides a high level view of the sequence and management approach that should be used by WMITA in their role to support delivery of MaaS.

As well as the opportunity to attract private sector investment, there are a number of strategic opportunities to attract public sector funding to support the delivery of MaaS to support it becoming commercially sustainable.

It is concluded that MaaS will provide the WMITA with a new and effective opportunity to achieve Policy aims, attract public and private sector funding and demonstrate that the WMITA is continuing to innovate to provide world class solutions to their transport policy challenges.

The following two slides provide a summary of the enabling activities required to deliver MaaS and a high-level roadmap is described that provides information on the programme for enabling each required capability.
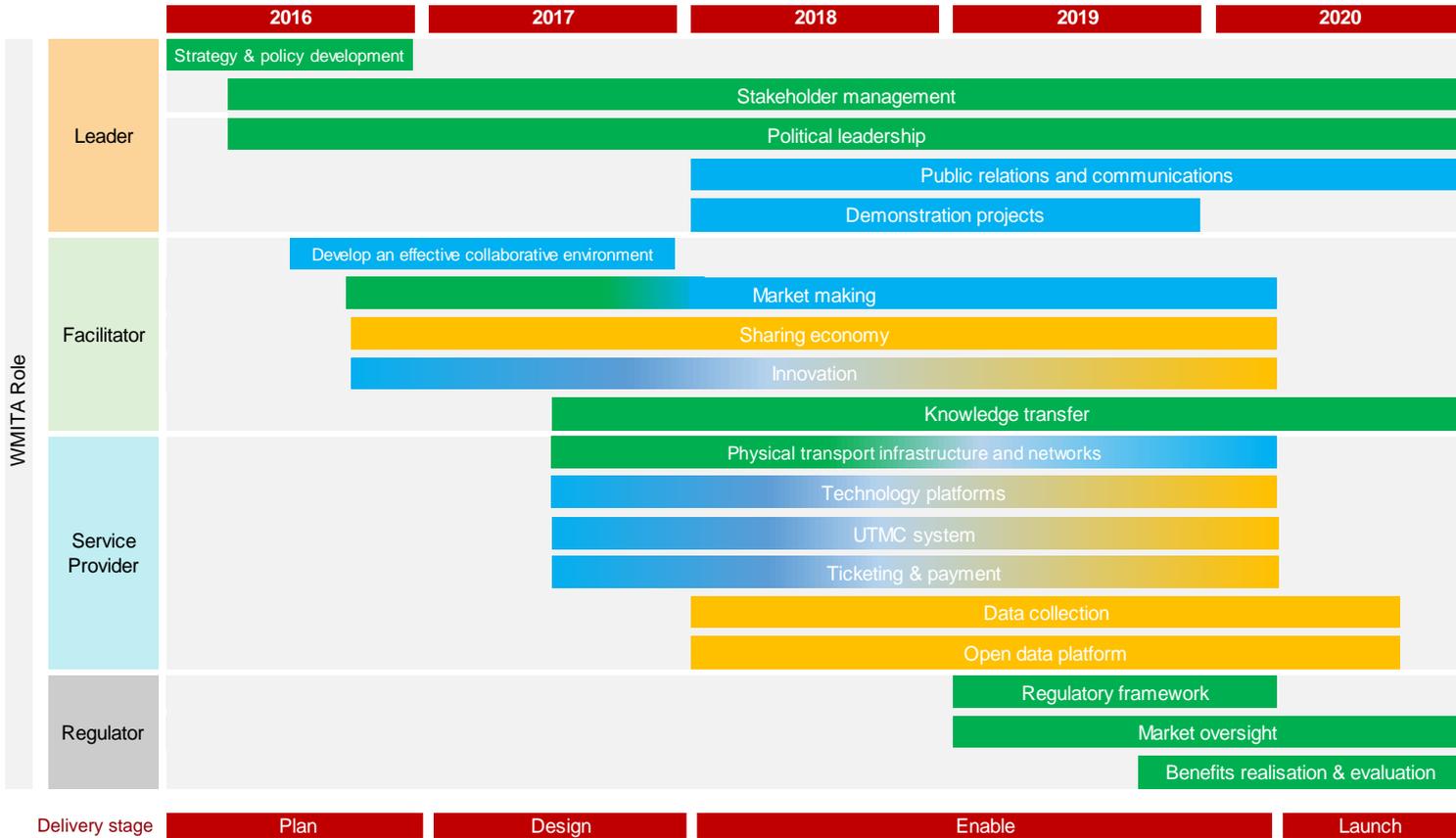
Exploring Mobility as a Service
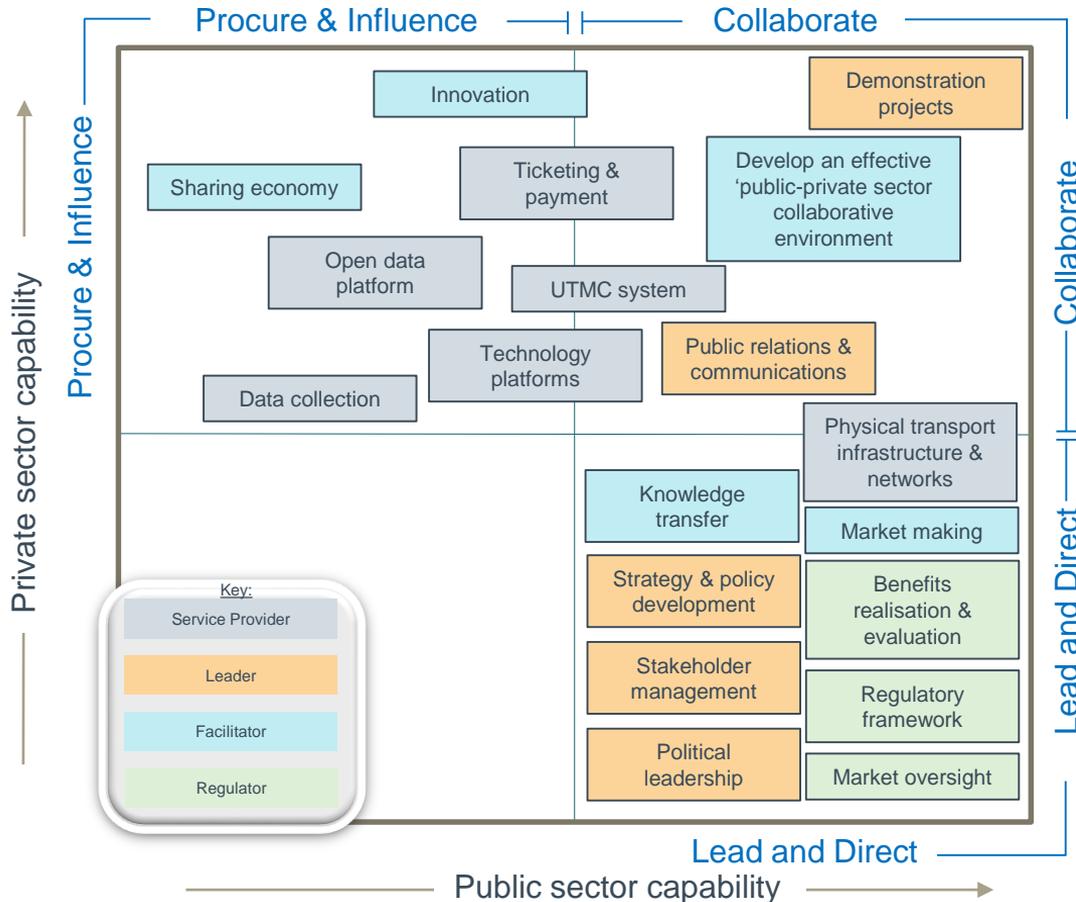
Each MaaS enabling activity (boxed) has been assigned to a management approach based on our understanding of the WMITA and private sector supply chain that would form the MaaS ecosystem. The three potential management approaches are *Lead/Direct*, *Collaborate* and *Procure/Influence*.

The matrix framework has been designed to support the WMITA to develop a strategy that builds on their comparative strengths relative to other stakeholders in the MaaS ecosystem.

Exploring Mobility as a Service

WMITA Role		2016	2017	2018	2019	2020
	Leader	Strategy & policy development				
		Stakeholder management				
		Political leadership				
				Public relations and communications		
				Demonstration projects		
	Facilitator		Develop an effective collaborative environment			
			Market making			
			Sharing economy			
			Innovation			
				Knowledge transfer		
	Service Provider			Physical transport infrastructure and networks		
				Technology platforms		
				UTMC system		
				Ticketing & payment		
				Data collection		
				Open data platform		
	Regulator				Regulatory framework	
					Market oversight	
					Benefits realisation & evaluation	
Delivery stage		Plan	Design	Enable		Launch

Roadmap for Delivering MaaS.

The WMITA has already made progress with certain workstreams e.g. the partnership with enable-ID (ref the Market Making workstream) and their Open data policy (ref. the Open data platform).

Key
- Lead
- Collaborate
- Procure & influence
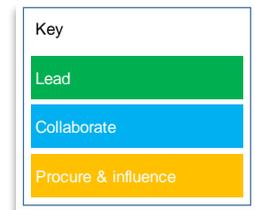
Exploring Mobility as a Service

The analysis and findings provided in this report demonstrate that there is a considerable amount of work to do in order to deliver MaaS in the West Midlands. However there is a huge opportunity offered by MaaS and the WMITA should unlock this.

The challenge, although significant, is by no means insurmountable as we see other world class cities making real progress towards realising the benefits of MaaS e.g. Helskini.

It is recommended that WMITA sets up a MaaS delivery team to make progress against the roadmap. The first stage will be to explore the 'enabling activities' described in this report and refine them as appropriate by consulting with the wider MaaS ecosystem and stakeholders. Further details on the recommended next steps are provided in Section 14 of the Main Report.

Exploring Mobility as a Service

There are 3 key reasons **why the WMITA should support the development of MaaS in the West Midlands.**

Reason 1: Achieving Policy Aims

- MaaS provides users with a better journey experience and enables a strong customer relationship.

- MaaS aligns with WMITA policy objectives.

- WMITA must ensure that supernormal profits are not made and social equity objectives are delivered.

- WMITA must ensure that MaaS will be interoperable with other MaaS models regionally or nationally.

- MaaS enables 'big data' to be collected on consumers/users and this data can be very valuable in helping the WMCA to optimise how it plan, invest in and operate its transport networks.

- Where trialled, MaaS has been highly successful - 97% of participants stated that they would use the service if it were launched again.

Exploring Mobility as a Service

There are 3 key reasons **why the WMITA should support the development of MaaS in the West Midlands.**

Reason 2: Benefiting from Funding

- Funding opportunities for MaaS are available – through LSTF, Innovate UK, H2020 or from WMCA's local transport budget.

- This joined up 'smart data' approach will be valuable to the WMCA to help them prioritise within their transport budget and also across the whole WMCA investment portfolio.

- By developing an enabling environment, existing transport operators and new players will have the confidence to invest and develop in MaaS.

Exploring Mobility as a Service

There are 3 key reasons **why the WMITA should support the development of MaaS in the West Midlands.**

Reason 3: Benefiting from Innovation

- Strong political support will attract private sector investment to help deliver MaaS success.

- It is incumbent on WMITA to be a significant shareholder/stakeholder in how MaaS is operated by the private sector to ensure citizens and the public sector also gain a return from the historical investment made transport infrastructure.

ATKINS

James Datson   *Project Manager*

James.Datson@atkinsglobal.com

07815 243 901