

travelspirit

Whitepaper

Open or closed?

The case for openness in Mobility as a Service

May 2017

Summary

TravelSpirit is championing the role of “open” in the emergence of new mobility services. This is necessary for the evolution of Mobility as a Service (MaaS) as a global resource rather than an individualised business.

This white paper sets out our position and frames the debate around ‘closed’ and ‘open’ developments in mobility, and their impact on shaping the new mobility frontier.

In this paper, we identify concerns about a world where closed models of transport are developed and highlight the risks that this direction of business development poses and how technology-driven innovation may pose a serious threat to the vitality of our society. We then suggest that an open model offers significant advantages and what these may be.

We make specific recommendations about how this open world could be supported. The role of the TravelSpirit Foundation in developing an open world is outlined as well as our actions to support this world in the coming year. Finally, we call on likeminded businesses in the UK, and the rest of the world to support or directly work with us.

Table of Contents

The New Mobility Frontier	4
What is TravelSpirit?	4
‘Closed’ and ‘open’ in mobility services	5
A world of ‘closed’	6
Examples of closed	6
Closed in the world of mobility	6
The impact of “closed” on transport	7
TravelSpirit and the world of open	8
A change in mind-set.....	9
Envisioning open	9
Starting with open data.....	10
Moving on to open source	10
Growing your talent pool	10
Is it safe?.....	10
Benefits of creating an open culture	11
The scale of opportunity from big cities to smaller communities	12
Openness does not mean an absence of regulation	12
The Mobility as a Service travelling experience	13

Mobility as a Service in a closed world.....	13
Mobility as a Service in an open world.....	13
The implications of implementing MaaS in an open vs closed approach	14
Moving from closed to open.....	14
The TravelSpirit path to openness	15
Measuring openness	15
Supporting open business models	15
Building the Open Internet of Mobility	16
What should happen next?.....	16
How to engage with us	16
References:	18

TRAVELSPIRIT

MAY 2017

Open or closed?

The case for openness in Mobility as a Service

May 2017

The New Mobility Frontier

Around the world new ways of providing mobility are appearing in our cities and towns each and every day. From autonomous vehicles to e-bikes, new technologies are bringing our science fiction dreams to life. At the same time, rapid adoption of mobile internet access is creating new business models and service offerings that change the way we access existing modes. We can see the start of changing travel behaviour as car clubs in the UK have grown to 250,000 members across the UK in the last 10 years, whilst public bike share schemes have reached 17 towns and cities. There are several different models of ridesharing services serving people from festival goers to urban commuters.

Recently, Mobility as a Service (MaaS) has emerged from within this exciting frontier to offer travellers a powerful new alternative to car ownership in the form of seamless multi-modal transport. It provides a range of mobility offers across modes and locations, all linked through an integrated user interface.

This is a real step forward. But MaaS also has the potential to upend existing business models and greatly disrupt local economies. We must ensure that the world of new mobility does not take substantial value and profits out of local communities. Instead it must add value and improve citizens' wellbeing. To do so, we need to challenge assumptions that the development of new mobility models will be proprietary, monopolistic, and closed to outsiders – whether they be from the public or private sector.

What is TravelSpirit?

The TravelSpirit Foundation was established in Manchester in 2016 to provide an open framework for the provision of new mobility services. To successfully achieve our ambitious aims for the emerging mobility sphere – within the UK and across the globe – we set out to build a global network of transport operators, software developers, businesses, policy

makers, planners, and activists across the mobility and technology sectors. Naturally, this global network is diverse, featuring a range of entities with different aims and objectives, so we are united by our four core values:

Universal Mobility as a Service: We believe that an integrated, connected, multi-modal MaaS system provides the needed path to sustainable and equitable transportation for all people and communities.

Open Innovation: We believe in an open innovation model, that rewards sharing of information that serves others, even our competitors, and brings benefits to all.

Global Community: We believe that by connecting coders, planners, activists, and policy-makers through a global network, we are better equipped to tackle the toughest mobility and transport challenges.

Local Benefit: We believe that our work must be grounded in its ability to demonstrate positive change by and for local communities and regions.

TravelSpirit is championing the role of “open” in the emergence of new mobility services and the evolution of MaaS as a global resource rather than an individualised business.

‘Closed’ and ‘open’ in mobility services

There are many elements involved in the provision of mobility services:

- transport operators on the ground,
- fixed route and scheduled bus and rail services at the core of public transport,
- new disruptors in bike-share, car sharing and flexible on-demand transit; and
- platform providers which serve up travel options to individual travellers.

Serving these elements are various forms of data collection, provision and aggregation, along with many components of back office journey planning, routing, payment and ticketing systems.

The technical openness we look for can be achieved via the provision and use of open data, standards and open source software components. It can include the growth of local ecosystems of providers who use these open tools to create new businesses and business models. In addition, an open approach allows all potential operators and innovators to engage, whether they be large operators, community transport providers, or other new market entrants.

There is an essential public benefit to openness. We believe that sharing the data on transport provision and use is intrinsically necessary to a full functioning and sustainable community of mobility services. This enables effective public policy to be debated and developed as well as societies that are equipped to deal with issues of sustainability, fairness, equity and equality. These are not just ‘nice to have’ elements of society, but core to our values.

An open ecosystem will enable a wide set of partners, large and small, traditional and new, to participate in the provision of mobility. While the market potential for Mobility as a Service is already beginning to shape policy and service provision in our large towns and cities, the open approach we are championing will enable similar choice and policy development within suburban, rural and isolated communities, locations that could otherwise continue to suffer from relative transport deprivation.

A world of 'closed'

On first inspection, there appears to be a logical business incentive to develop and maintain closed technology systems and data. Closed technology creates proprietary systems that in order to obtain competitive advantage will not work with other functionally similar systems within the same sector.

EXAMPLES OF CLOSED

An historic example of closed systems is the early mobile phone industry. Phones were locked into a single network provider and not interlinked between networks or foreign countries. Since then the industry has transformed itself over the years and in most markets.

The mobile phone industry also saw a plethora of unique chargers and cables which were nearly comparable, but subtly different. European legislation eventually led to consolidation in provision and simplification for the consumer – as well as the manufacturers. However, this situation continues in many other global markets.ⁱ

Analogously closed data is not shared between organisations, and often not even within large organisations. It has typically been created for a single purpose and is used for only specific applications.

Yet convergence is often desirable to enable efficiency and transparency, because it is demanded by consumers, or is required by public policy and enforced through legislation.

Think how only a decade ago Microsoft and Apple documents were stubbornly inaccessible by the other operating system. Since then the value of some degree of openness to users became clear and it is increasingly easy to transfer documents between systems.

CLOSED IN THE WORLD OF MOBILITY

For mobility, a “closed” system or product is developed by businesses or organisations in order to provide commercial or public sector benefits, but each organisation considers and manages those benefits for its own purposes. This can include market advantage, greater ridership, data capture and resale, profit generation, etc.

At the top level, the use of this knowledge is difficult or impossible to share between businesses or organisations. At lower levels the impacts are on consumers who, for example, may have to use different tickets for each service, or different journey planners for each mode, and different methods for receiving real time travel information.

Closed organisations are not unique to the private sector. A public and publically funded organisation is equally able to close its knowledge to other partners or competitors whether they are in the public or private sector. In a vacuum, closed public systems can provide simplicity to the consumer and resources to scale up services, and they can help to meet key public policy goals. A worthy example is the Oyster ticketing system in London and its evolution to the contactless ticketing back office provided by Transport for London.

Closed leads to silos of knowledge and information, constricting development and innovation. Users are confronted with difficult journey planning, services do not mesh and infrastructure is created without the benefit of the full potential insights that could be unlocked from various information silos.

THE IMPACT OF “CLOSED” ON TRANSPORT

It is easy to predict the impact of closed ecosystems on transport. Some effects can already be seen. These include:

City planning and data analysis. Cities are complicated and diverse living ecosystems that are difficult to understand and predict. Without high quality and comprehensive data sets our cities will struggle to plan for adequate and sustainable transport. This will result in poor public and private investment decisions including those around new light and heavy transport infrastructure. Historic and future demand will be harder to predict. Furthermore, it will become more complicated to plan interventions to deal with public policy goals such as sustainability, environmental quality and addressing social needs.

Public space and road space in cities is limited. The available infrastructure must satisfy the needs of competing users – including cyclists, buses, parking and drivers as well as the movement of goods and other service vehicles. Unlike in many other industries it is not generally viable in terms of transport to create unrestricted capacity. In fact, cities that have attempted this have realised their folly – for instance Los Angeles and Dubai. In order for this allocation to be based on rational needs as well as to allow for equality in society, an arbitration of road space needs to occur. This is traditionally the role of the state through public authorities and elected officials. Our proposition, is that this is an essential debate for a properly operating city to function and that this debate needs to be informed by robust data and factual knowledge. Arbitrary policy decisions based on immediate road conflicts will create poor policy outcomes. We are increasingly in the era of data in most aspects of our lives and we must take steps to ensure that the evolution of our cities and their limited space is also informed by robust data and informed decisions. This requires, we believe, an open ecosystem.

Private monopolies (or oligopolies) can emerge to dominate local transport services. This might be through a service or technology monopoly and preclude the growth of alternative businesses. Commercial needs may be met by these businesses, although there are long standing public subsidies throughout the transport system. In the long term, however, we believe that innovative commercial business models and new services encourage innovation, but that transport must remain open to a range of participants and be guided by the overall needs of society as is expressed by those society’s representatives. Mobility is a basic need that enables contemporary life to effectively exist.

Public organisations can stifle innovation. Public organisations, and particularly large ones, are just as adept at seeing themselves as protecting the public via operating a closed system. While they may see themselves protecting the public from other larger private systems, or enabling the development of technocratic “good” policy, or even enabling public goods to be eventually commercialised for public gain, these organisations can, in effect, act to protect their own role in an era of painful disruption.

Perpetuating the status quo through regulation means that monopolies and oligopolies are naturally self-defending. They will attempt to protect themselves against new entrants. While there may be some advantages in oligopolies in single modes, across the wider mobility ecosystem, there is a legitimate need for encouraging and enabling a wide set of participants, such as car sharing, buses/trams/ metros, cycle hire, cycle sharing, remote working, and telematics.

Long term innovation will be stifled if new entrants are precluded from entering the market. Also the overall efficiency of systems will be difficult to review and analyse making it difficult to consider the role of new market niches in a closed world.

In a closed world the individual has limited control of their personal data. This data is, in effect, given to organisations on a transaction basis and then locked within the confines of each organisation that they use for this businesses need. Some organisations may allow interrogation of their data within the context of their business. Others will define aggregate customer data as proprietary business knowledge and a useful competitive advantage.

This issue can be seen in the UK bus market outside London where local authorities as well as policy bodies have historically struggled to fully understand the dynamics of their local public transport market, and thus design fully comprehensive transport solutions across all modes and in a way that treats all travellers fairly. An auxiliary example would be in the mobile phone market where it has not been possible to fully obtain device location data which would be a huge boost for the transport planning capabilities of cities and the real time management of traffic.ⁱⁱ

The world of closed will ultimately stifle knowledge, innovation and the ability of our communities to face the complex mobility challenges they will face in the future, including sustainability, inclusion, an ageing society and the need for economic efficiency. TravelSpirit is fighting to challenge all of the assumptions about the world of closed.

TravelSpirit and the world of open

At times, transport has been a trend setter in opening up data and realising a range of benefits for the sector and the public. However whilst other industries are already operating in an open model, the mobility industry is falling behind. This is highlighted by obstacles to providing geographic comprehensive travel information or in opening certain key datasets such as fares. By regaining its leading role and seizing the benefits of a fully open ecosystem in relation to MaaS, the transport industry can bring a new series of benefits to consumers and generate new business models for the wider public.

To date, operators have taken significant steps in integrating different forms of public transport in specific areas (for example consolidated payment through the Oyster Card in London, or multi-modal trip planning through Citymapper and Google Maps), However, the integrators at this level are not necessarily moving towards building total transport integration, any degree of interoperability between themselves, interoperability on a national scale, or enabling diverse innovation in the mobility ecosystem. This is symptomatic of the longer term difficulty of escaping from a “closed” mind-set of managing or controlling an ecosystem.

Likewise, at the operator and regulator level, new transport solutions have a less secure footing in the transport structures. The assumption that shared bikes or shared cars will be included in public transport integration is not widespread. The business models to make this viable are deemed to be very difficult to negotiate and operationise. Even the UK leader in integration, London’s Oyster card, could not develop a viable business model to include bike share, let alone car sharing, in its offer.

Openness is not necessarily easy, and TravelSpirit will not pretend that it is straightforward!

A CHANGE IN MIND-SET

An open world demands a shift in corporate thinking and in many cases challenges thinking in the transport industry. It asks businesses and public organisations to derive results and value based on the use of data and code and not by making it inaccessible to others.

This is a new type of business model and operational culture for many to consider. Partnership, extra added value, market expansion, royalties or new businesses and business models may all be more viable means of deriving revenue in the open world. This is, perhaps, a more complex business to operate. Managers need different and relevant skills to lead and thrive in this new business environment. It will take time to develop these skills in an existing organisation or, to assemble this talent in a new business.

The corporate benefits and profits may be smaller in the short term, but more sustainable and possibly much larger long term. Mobility is an inherent human need. Having integrated travel options enables this need to be met sustainably. This is a huge opportunity to grow the mobility market.

Notwithstanding the benefits, the open world is complex. There are a range of options in how this world can be delivered and it is crucial for organisations to consider the most appropriate model to adopt regarding their own context and needs.

ENVISIONING OPEN

In its simplest form ‘open’ in mobility enables all interested parties to share and use data for collaboration and the development of services. The open mobility eco-system creates sustainability, efficient services for the user, and a choice of mobility options.

Starting with open data

Opening up data is in some ways the easiest starting point. Although many organisations in the mobility industry place value on the control of their data - such as fares in the UK train market – opening data is the simplest step to openness. An API system that enables access to some business information without providing deeper access to the core data or to the frameworks that manage it (for instance fare tables and journey algorithms) is a preferred option for some and deals with some of these legacy business issues.

MOVING ON TO OPEN SOURCE

There are numerous examples of open source software in operation.ⁱⁱⁱ The most accessible example is Wikipedia, a controlled database, but open to those who fulfil certain criteria to amend and expand. In theory, no one single person controls the content which then evolves over time. It is hard to argue that this makes Wikipedia “inaccurate”, or less accurate than other sources, or unstable or insidious.

Other models include numerous examples of open source software code, with the most notable successes including Linux Operating System and Wordpress website publishing platform, and numerous examples of open database systems, graphic packages, word processors, etc. In all cases, the content and software evolves and develops based on the needs of the community.^{iv}

Open source might include access to the rationale behind transport information – for instance pricing or frequency.

GROWING YOUR TALENT POOL

Another way of looking at open source, is that it is a pool of content that can be used by coders to answer specific questions or tasks that the coder would otherwise need to develop bespoke code to solve. An example would be the code that is used to integrate payments into a simple retail website. It would not seem logical to develop bespoke and unique code every time that this was a user need.

IS IT SAFE?

The often quoted comment about open source, however, is that this is unsafe and not suitable for a large “grown up” business. Furthermore, if you don’t fully own the code, your intellectual property is decreased and the business application is less valuable.

Taking these points in turn:

Potentially, any coding solution poses risks. It is also risky to ask coders to develop bespoke, and unproven, solutions for every need. In fact, by using proven solutions organisations can manage and reduce risks. Also, by widening the pool of people looking at specific issues via a wider coding community, more robust solutions to problems can be developed and tested. Businesses need to examine and manage their risks in a way that meets their specific and sectoral needs. Open sourcing is not applicable, or realistic, for every business and every

situation. Many small or micro businesses don't use open source. However, many large corporations have found it useful as part of their coding needs.^v

Inherent in the choice to use open source software is the choice to enable and utilise a community to solve coding needs. The community are not employees, may be widely dispersed around the world and, in the main, personally unknown to the person asking the question or posing the challenge. What they will have in common is the desire to solve a business challenge for a variety of reasons. This could be addressing a complementary business need, for academic reasons, out of personal interest, or even for the intellectual challenge. To many traditional business leaders this seems like a dangerous risk.

The modern social world is a complex organism. People post, blog, comment upon and provide support across a wide range of issues on the web for a variety of reasons and sometimes this support is extensive and detailed. This applies to code as well. As in any transaction in our complex world, care needs to be taken. Nevertheless, making use of the worldwide coding community to solve business challenges, can in certain situations make the business's own teams more productive, efficient, empower and motivate them and accelerate business development.

Open source isn't the sole solution for all business needs. It is an exciting and empowering approach for businesses to accelerate growth and deployment of new opportunities. Risks are apparent, but they are also in every coding process.

The benefits can be great. Bitcoin is an example of the strength of open source development. This alternative currency developed trust and safety through open source block chain code and has become part of the financial system used in millions of transactions worldwide.

The support and promotion of open source is a core part of the TravelSpirit Foundation. By equipping a global community with strong open source tools, we can accelerate new mobility models and empower a wider network of existing and new service providers to enter the market and work together to solve the challenges of making our cities, and rural areas, more efficient and sustainable. Closed proprietary code is limited and limiting and one provider cannot, and should not, be expected to solve all of our mobility challenges.

BENEFITS OF CREATING AN OPEN CULTURE

Creating an open world isn't solely about data or code, however. A business can create a culture of openness in partnering with other organisations and share insight, partner in new ventures and share business and resource opportunities. In the longer term this can create the thinking that will allow more complex open models to develop such as were described above. The culture of open will also support over time the implementation and development of further open thinking across the organisation. This will likely encourage further business opportunities. Organisations should start from a culture of open.

THE SCALE OF OPPORTUNITY FROM BIG CITIES TO SMALLER COMMUNITIES

There is an inherent challenge in engaging the innovation community particularly for areas with a less robust business case for deployment. Large cities have significant movements of people and goods and inevitably constrained capacity, congestion, and conflicts in transport use. The world is also faced with the rise of global mega-cities with population in the tens of millions.^{vi} This is a ripe market for new solutions and tends to attract both global business leaders as well as a vibrant start-up culture. New mobility activity is intense in Berlin, Paris, Barcelona, London, New York City and Tokyo.

Bringing this level of innovation is much more of a challenge to smaller cities and in particular those cities with challenging economic conditions. However, many such cities are indeed successful, with MaaS innovations coming from Helsinki and the sustainability models being deployed in Copenhagen or Oslo. However, it remains a significant challenge for many cities to engage with the market and develop a vibrant ecosystem.

The problems of engagement are, usually, even more acute for rural areas, where for example, the mobility challenges as a result of an ageing population are significant or economic opportunity remains limited.

It is possible that incentives will be needed in some cases to stimulate new transport ecosystems in areas where demand for transport is lower, and encourage the use of these data sources.

OPENNESS DOES NOT MEAN AN ABSENCE OF REGULATION

Our vision of open defends the role of the “public” in public transport, by allowing a wider understanding and debate about the transport services within a community. It will also be critical to protect the rights and data of consumers in this digital transport world, and give individuals and communities the power over their data.

In fact, to enable this open world and give consumers the confidence that they are not being abused by the market and dominant actors, access to and control of how their data is used will, we believe, be desirable and essential. This consumer confidence will also offer businesses the confidence to deploy operating models on the basis of consumer awareness and acceptance.

New regulations on data control from the European Commission – The General Data Protection Regulation (GDPR) will shortly be implemented and set ground breaking new protections on personal data control and access. This should shift some of the control of personal data back to the individual and create a more transparent marketplace in personal data.^{vii}

As the mobility market develops and new business models are deployed, there may need to be further interventions to maintain fairness, transparency and a well-functioning mobility market. As previously stated, transport is a constrained resource. Government cannot and should not ignore its role in making the transport marketplace operate effectively.

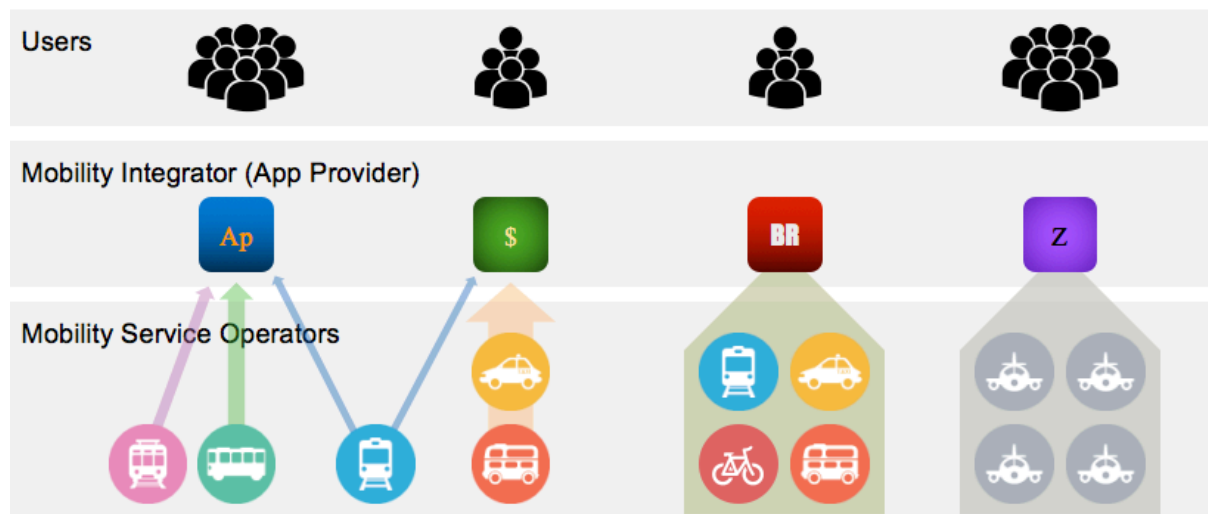
The Mobility as a Service travelling experience

Mobility as a Service will only transform transport and the public realm if it also transforms the experience of travelling. It is by providing a simple, seamless, cost effective and viable way of accessing travel to individuals.

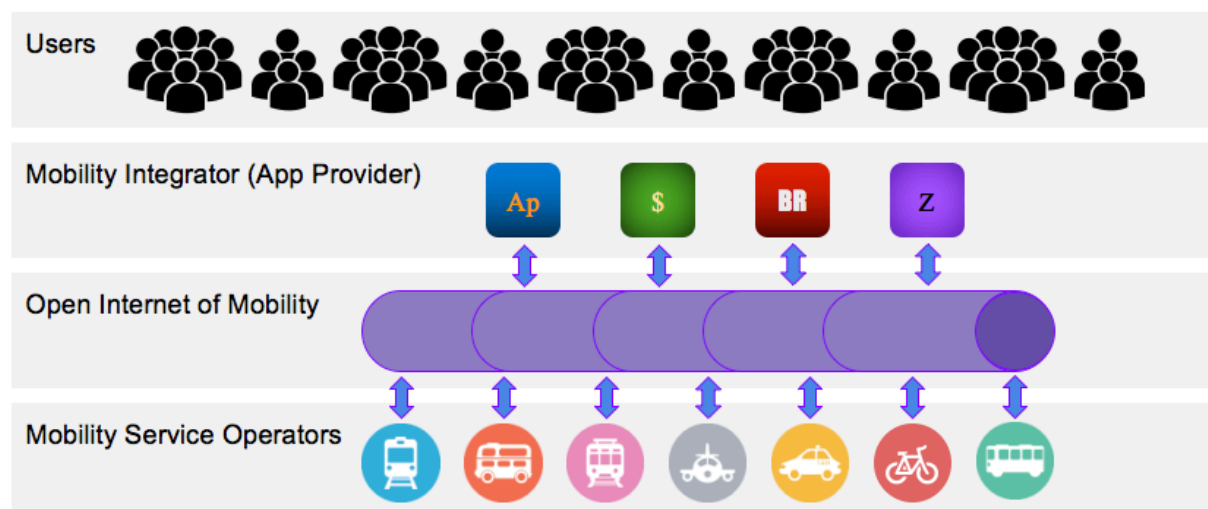
This experience will only truly work effectively and smoothly in an open system.

MOBILITY AS A SERVICE IN A CLOSED WORLD

In a closed world, MaaS apps compete based on access to services and access to markets (customers). Some apps corner certain transport markets (airlines, trains), some corner geographic markets, some overlap with public transport, but otherwise lots of exclusive arrangements. This can be a tough proposition for consumers and make the jump to 'shared mobility' more daunting.



MOBILITY AS A SERVICE IN AN OPEN WORLD



In an open world, MaaS apps have access to all mobility services, through an Open Internet of Mobility, which establishes a global open marketplace that all MaaS providers can access in order to provide services to their customers. Built on open source architecture, it would enable MaaS providers to compete in a transparent market that is truly focused on providing individualised customer-centric services to anyone and everyone.

THE IMPLICATIONS OF IMPLEMENTING MAAS IN AN OPEN VS CLOSED APPROACH

Open system	Closed system
MaaS platform app can aggregate a route plan and prices from a full menu of transport operators	The MaaS platform app plans a route using only a closed list of affiliate operators
Transport operators help assess demand and forecast traffic and tailor services so that they will dovetail well	The operators only know details of their section of the journey
Aggregated for transport planners to assess demand, traffic, and capacity issues	No provision of data to external organisations
Aggregated data provided to policy makers to monitor environmental impact of transport, economic cost benefit ratios of subsidies or operator licences	No provision of data to external organisations

Moving from closed to open

The emerging space of Mobility as a Service (MaaS) brings great potential for addressing economic, environmental, and social challenges created by the current transportation status quo. But the breadth of impact that MaaS can have depends on the degree of openness applied.

Closed systems don't stay closed forever and in the long term 'closed' is usually indefensible. There is a progression in many sectors who have attempted to protect their closed business model.

This is sometimes provoked by crises and systematic failure, sometimes by consumer campaigning or government insistence that inefficiencies be removed for the public good (for instance environmental impact or economic stimulation). New challengers and business models can either generate alternative data or access closed data via other technical, albeit less than ideal means.

For example, at present, mobile phone networks are ‘closed’ in the UK allowing users to make and receive calls only via their subscription provider; however poor their network coverage at that location is. Simultaneously, after campaigning and resulting EU regulation these networks are ‘open’ abroad so that UK callers make and receive calls on the most appropriate network for their needs at a fair cost. The inefficiency of the position in the UK has not escaped consumers, or the operators who are lobbying for a change.

There are also many examples where closed and open systems mesh.

The banking sector is generally closed. Yet banks provide sufficient data to credit scoring agencies to enable lending decisions to be made by other banks and the broader financial system to operate. Banks also allow credit and debit cards to be used across most cashpoints and of course, payment is enabled by organisations such as Visa and Mastercard. Consumers simply would not accept a fully closed world of banking.

The TravelSpirit path to openness

It is the view of the TravelSpirit Foundation that, if we allow our public services to be casualties of innovation, and, in particular, our public transport networks, it will be very difficult in the future to rebuild these services in a viable and effective manner.

We also recognise that the transport situation in our largest cities such as London, or Paris or Barcelona, is very different from the regional cities not only in the UK, but around the world. Outside of these very large cities, the set of alternatives – to private car use - are often very limited, if not non-existent.

TravelSpirit sees transport as a right – and a right that needs defending from monopolistic processes that take transport within the private confines of large organisations that don’t have a public remit or control and that may lead to cities being run for benefit solely of large corporations in key organisational sectors.

MEASURING OPENNESS

We believe that openness is the key to ensuring public benefit from transport systems.

To this end we have developed an Index of Openness tool to assess the openness of any MaaS system. Without information it is difficult to analyse how developing integrated transport and MaaS will help develop public transport, the extent to which it is open and positive. This work will be initially trialled in the UK’s West Midlands in the spring of 2017.

This index of openness can be used to shape mobility services for the future to ensure that they offer the maximum social and environmental benefit.

SUPPORTING OPEN BUSINESS MODELS

We are actively supporting open source projects and businesses that champion open in their business models. These include RidePilot, an open source scheduling and dispatch platform for community transport operators; as well as Simply Connect which is deploying small

vehicle transport services based on a community controlled model and open principles in regard to data interoperability and sharing with other modes.

BUILDING THE OPEN INTERNET OF MOBILITY

We are actively recruiting partners and funders to develop and pilot the Open Internet of Mobility for global, accessible MaaS. Built on open source architecture, this framework will enable MaaS providers to compete in a transparent market that is truly focused on providing individualised customer-centric services to anyone and everyone.

What should happen next?

We aim to circulate this paper to key stakeholders in government, local authorities, the European institutions, industry and academia in the coming weeks to gain their feedback. We would like to have an open discussion about our views and proposals and use this to help refine our plans for the coming year.

Specifically:

- We want to explain, elaborate upon and debate our vision for the future of mobility in events, conferences, roundtables and forums throughout the UK, Europe and the world. Please contact us and engage with us;
- We will gather an ecosystem of interested partners around our open agenda at a conference in London, UK in September 2017;
- We will support, however we can, mobility initiatives that embrace and champion our vision. We have already helped Simply Connect launch new in Exeter (UK); we invite more businesses to also come forward and suggest being part of our ecosystem;
- We want to form active partnerships with other foundations, organisations, or government departments where we can work together to further develop our concepts, through activities such as whitepapers, events, research and advocacy;
- We want to enable overseas regional TravelSpirit boards to be established lead local communities and thrive. We need local advocates to come forward and offer to drive these groups forward.

However fundamentally, we are now ambitious and want to challenge an actively changing mobility ecosystem. We are extensive in our network, but limited in our resources. We need support to enable us to meet our ambitions. We need government, business, academia, as well as partner foundations to consider our plans and, if they support them, see how that can assist us in making them a reality.

How to engage with us

We will be participating in and hosting a range of events across the UK and abroad in the coming months. Please come and speak to us and understand what we are doing and how we can support each other. This is our first whitepaper and others, as well as short articles

will be prepared over the coming months. You will see and hear more widely about TravelSpirit, its activities and its views.

In addition, TravelSpirit is supported by a range of professionals in the UK and wider. We would be pleased to attend events to discuss our views on the future of mobility in panels and debates. We are also interested in partnering with other likeminded organisations where we could work together to progress these ideas. Again, please contact us to discuss these opportunities.

References:

- ⁱ The European Commission, Brussels, Belgium
<https://ec.europa.eu/growth/sectors/electrical-engineering/rte-directive/common-charger>
- ⁱⁱ World Bank, Washington DC, USA; <http://blogs.worldbank.org/transport/big-data-comes-transport-planning-how-your-mobile-phone-helps-plan-rail-line>
- ⁱⁱⁱ Wikipedia Foundation: USA, https://en.wikipedia.org/wiki/List_of_free_and_open-source_software_packages
- ^{iv} IBM, USA, https://www.ibm.com/developerworks/community/blogs/6e6f6d1b-95c3-46df-8a26-b7efd8ee4b57/entry/why_big_companies_are_embracing_open_source119?lang=en
- ^v Elite Business, Chelmsford UK,
<http://elitebusinessmagazine.co.uk/technology/item/nine-in-ten-companies-use-open-source>
- ^{vi} United Nations, New York, USA,
<http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>
- ^{vii} European Commission, Brussels, Belgium, <http://www.eugdpr.org/>