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Critical mass for MaaS – Debunking Myths

Søren Sørensen, sos@sfmcon.com
SFMCON ApS, Denmark

Abstract

The advent of MaaS is still in the future. This paper discusses why and identifies some myths about MaaS and how to debunk them.

One myth is that each city should have its own MaaS implementation.

When discussing with public transport and other mobility actors a set of myths also flourish: The MaaS agent takes over ownership of customers, the MaaS agent increases cost of sales, the MaaS agent preys on existing sales volume, MaaS agents will not increase sales of mobility services and finally, the MaaS agent will make competing mobility service offerings visible and comparable.

Finally, the paper introduces why a smart city can benefit from avoiding a city centric MaaS procurement to simply enable MaaS.

The real competition is not between the individual mobility service providers but between the mobility as a service ecosystem and the formidable competitor for mobility: The private car.

Introduction

Today we can navigate the world by air travel from one travel agency app including booking, ticketing and payment in the currency we prefer. We can also navigate from anywhere to anywhere even across borders using the GPS in a car or on an app.

If we want to use mobility as a service whether public transport or private operated mobility modes, we are completely on our own. We have to rely on own skills, abilities and plenty of time to figure out how to get a ticket, book a ride or even more difficult make and navigate a multimodal travel plan.

No wonder that the use of the car and air travel is increasingly popular.

As a user I need a digital twin of the chains of mobility as a service I can consume to get me from anywhere to anywhere as easy as using a GPS.

This should be the goal for the MaaS agencies to come – soon.

The MaaS Ecosystem

While the promise of MaaS intuitively makes sense for the users, it seems that the actors have some difficulties in establishing proper rules of engagement and cooperation to deliver to the promise.

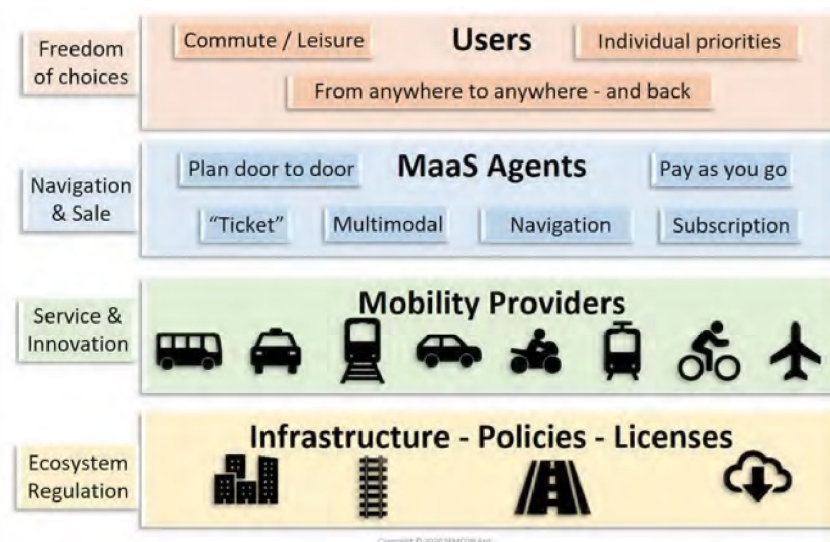


Figure 1 - The four layers of a Mobility as a Service ecosystem

The User layer - promising freedom of choices

Almost all trips start by walking to the next modality that fits your mobility needs.

This also means that the only relevant choices of mobility for you are the ones within walking distance. Walk to your car or bicycle, the bus stop, the shared car, the station, mobility hub and all the other modes of mobility available within walking distance. In some cases, the trip is single modal – you walk all the way to your destination. I would think that many of us have learned our neighborhoods pretty well as exercise have been restricted to walking or running around nearby our homes.

From car owner to car user

If you own a car, you have basically created your own private mobility eco system. No matter what the needs of your mobility, the choice of mobility is your car. You have bought it – it is expensive – better get as much out of it as possible.

However, you don't need to own a car to enjoy being in the driver's seat.

Now you can decide freely if you need to take the driver's seat, cycle, or be transported and relax, work or whatever.

The sunk cost invested in the car are now freed up for consuming mobility as a service.

Moreover, the burdens of car ownership such as fleet management duties, risk of repair costs etc. is history.

This is the promise of MaaS. You should be able to enjoy freedom of mobility at the same or higher level than if you own a car.

But it requires a change of values and mindset. You might have a company car, or you feel you need to flash that you can afford a car.

Mobility choices based on nature of journey

In the figure "Mobility choice based on nature of journey" is a sample of choices of shared mobility modes found in Copenhagen and what nature of journey they fulfil.

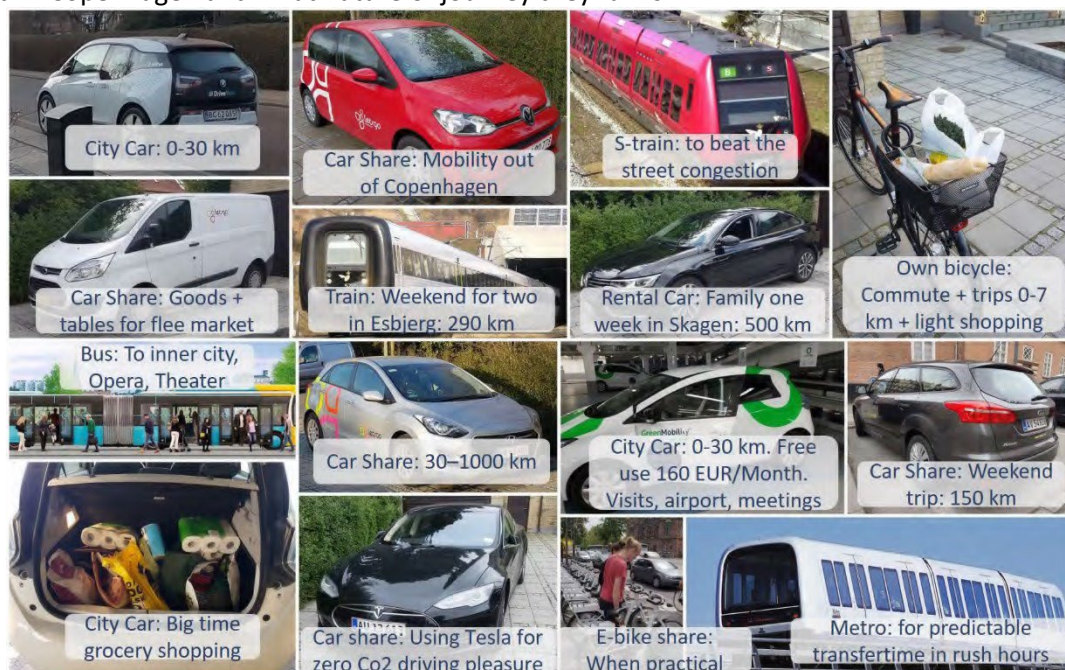


Figure 2 - Mobility choice based on nature of journey.

This is not a one size fits all. Each person/family will have different preferences. The presence of a valid driver's license also weighs in.

In general, if the trip is short (less than 5-10 km) walking, cycling and public transport are obvious choices.

The taxi also plays in here.

If the trip is longer, the nature of the journey and availability of high classed public transport needs to be considered.

If the destination is away from high frequency rail or more persons + baggage is part of the travel plan a shared car

All this is possible even without an open MaaS ecosystem as long as you have the options within walking distance and you put in an effort and patience to explore and find ways to plan, book and pay for the service. In this era, we are all our own MaaS experts.

Navigation and Sale – MaaS Agents

Multimodal Travel information Services – one step closer to true MaaS

The EU regulation for multimodal travel information services is a giant leap towards an open mobility ecosystem.

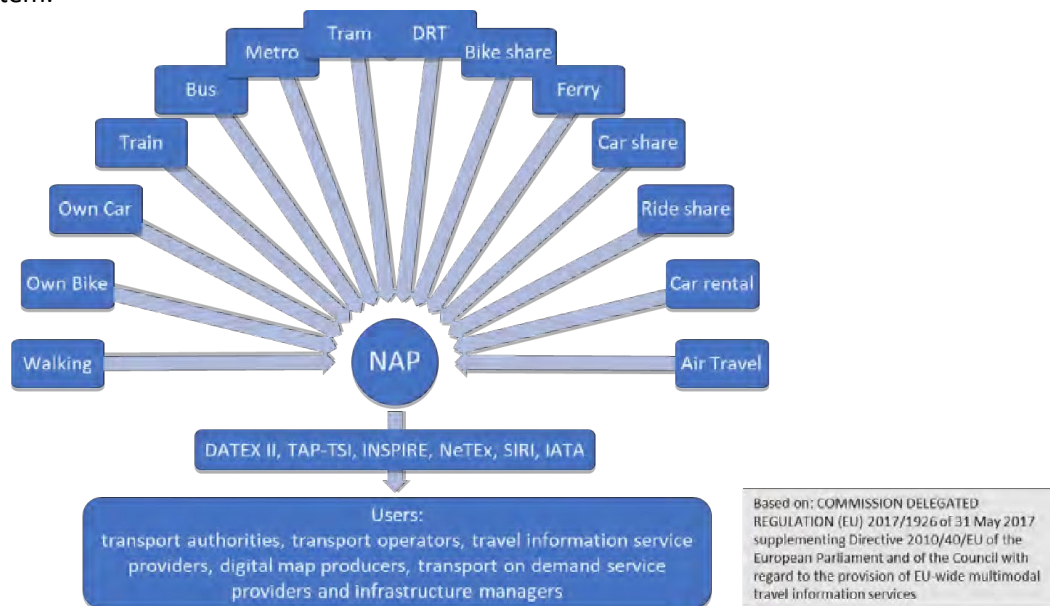


Figure 3 - Multimodal Travel information Services

It requires all modes of mobility services to open their data for third party planning and prices comparisons + many more elements relevant for one stop planning of multimodal journeys throughout Europe. You will also get references to where you can book and pay for the elements of a multimodal travel plan, however you have to book and pay for each individual part your-self.

Important element is that you through travel planning services utilizing open mobility data through the National Access points now can get the full picture of your mobility options within walking distance – in principle wherever you are in Europe.

Now you have an enhanced GPS for all modes of mobility showing you the many options of mobility and prices for going from anywhere to anywhere.

The only element missing now is the regulation of mandatory multimodal booking and single payment of public and private mobility services.

The Ecosystem regulation layer

The rules and regulations covering mobility on land, water and air are made by city councils and other authorities. The regulators control the framework for the mobility providers to deliver their services to the customers.

The regulation scope of control is on a municipality, regional, national, or even multinational level. A city/region will be keen to regulate and invest in mobility within its territory. However, outside the territory the interest drops quite natural as this is another regulators turf.

Unfortunately, this has resulted in that public transport in reality operates as walled gardens. You might have learned to navigate your local public transport system, but the neighboring regions public transport just works differently, and you have to build up your public transport user expertise from scratch.

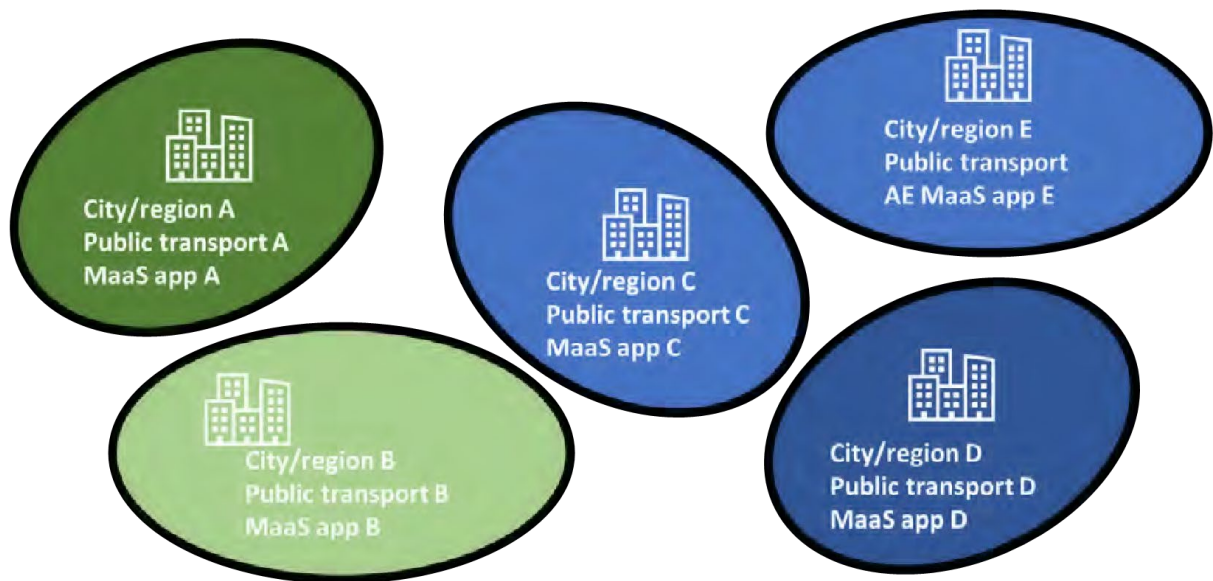


Figure 4 – City centric public transport and MaaS

Now if a MaaS Ecosystem becomes city centric it means that we again are faced with a set of walled gardens - now of MaaS ecosystems.

Hence the true MaaS Agent will be multi regional or maybe even multinational. Expectations are that third party booking and payment of mobility services will be mandated EU wide in 2022.

Even though quite some hype is made in the market that each city needs to have its own MaaS system, it is questionable whether this is the best way forward or a myth to be debunked.

The City centric MaaS concept counteracts the ambitions of the EU Multimodal travel information Services regulation.

In fact, there is no difference in taking a bus in Rome, Aalborg or Stockholm, except the challenges public transport authorities have established forcing people to learn again in new ways how to obtain the right ticket and understand zonal systems, borders and complicated fare rules and restrictions.

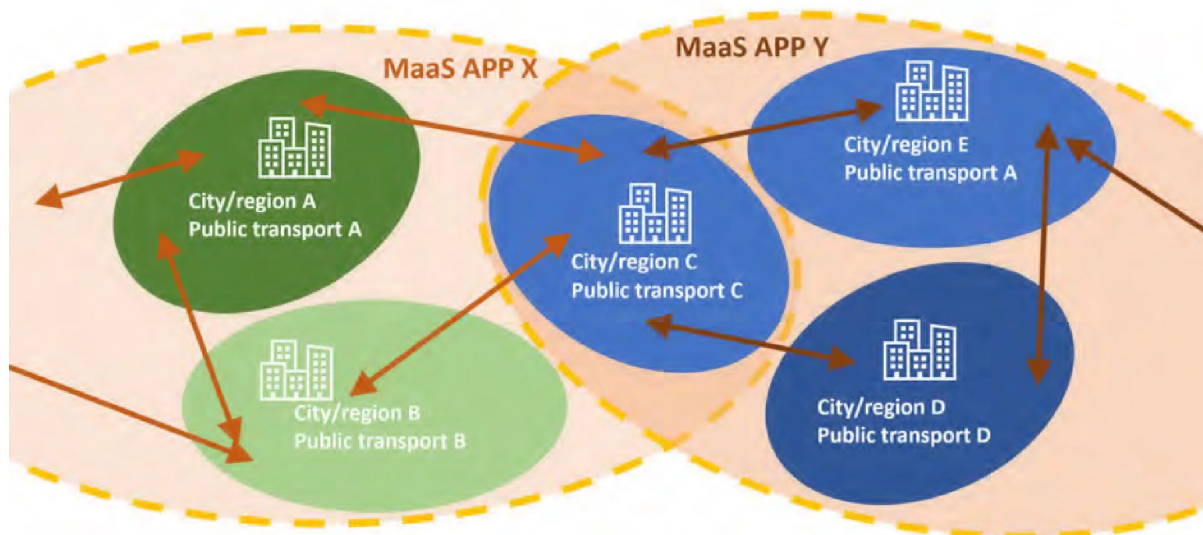


Figure 5 – City enabled multi regional/national MaaS

The next generation of MaaS agencies based on open mobility and multinational multimodal travel planning, booking and payment will allow users to travel freely around locally as well as across regional and national borders as a one stop shopping experience – just as we already know it from flying globally using the service from our favorite digital air travel services.

The MaaS agents are even required through the MMTIS regulation to cooperate to make multimodal travel plans for journeys extending scope of a MaaS agent.

The Service & Innovation layer – Mobility providers – the business case

Why should mobility service providers embrace MaaS?

Public transport actors and other mobility-services actors for some reason do not see benefits in having third party channels for multimodal planning, booking and payment for their services. Here are 5 myths and an attempt to debunk them:

Myth 1: The MaaS agent takes over ownership of my customers.

Response: Ownership of a customer is an internal commercial way of thinking. In reality GDPR and other rules ensures that a customer relationship may only exist for the duration of the transaction. Also, travellers have rights to travel anonymously.

Mobility providers may invite into programs and offer special services, but only if having consent from individual persons.

The MaaS agent does not take over all sales of services. The mobility providers own channels are unchanged by the introduction of MaaS

A MaaS agent also has to allow people to use the sales channel without enrolment in any commitments extending the transaction at hand.

Myth 2: The MaaS agent increases my cost of sales:

Response: Using a commission only compensation the MaaS agent only gets paid for delivering a sale of a mobility service.

The internal cost of sales on the other hand is typically fixed and independent on sales volumes. Most of the cost goes to the cost of ticketing/sales systems. Suppliers of sales systems are not sharing risk of the system's ability to sell tickets and DRT services.

The MaaS agent on the other hand is taking the risk of providing a competitive sales channel and is motivated to increase sales as this is the only way to more revenue.

Indeed, the Mobility providers can benefit from having many MaaS agents competing in delivering the most sales.

Myth 3: The MaaS agents will just prey on my existing sales volume

Response: This is likely to happen mostly if the MaaS agents services are perceived better than the mobility providers own sales channel.

In the case where the MaaS sales channels carry a lower cost than the internal cost of ticketing it should encourage the mobility provider to reduce the internal cost of sales or even remove the costliest sales channels and encourage more sales via third parties.

Myth 4: MaaS agents will not increase sales of my mobility services

Response: The MaaS agent increases the sales outlets for the mobility providers offerings both individually and as part of a structured multimodal journey plan.

By reducing the complexity of finding suitable travel plans, the total offerings of shared mobility modes become more visible on the market for mobility services.

If local modes of mobility can be planned, booked and paid from anywhere in any language and using any currency would that not increase sales? It did for air travel.

Myth 5: MaaS agents will make competing mobility service offerings visible and comparable

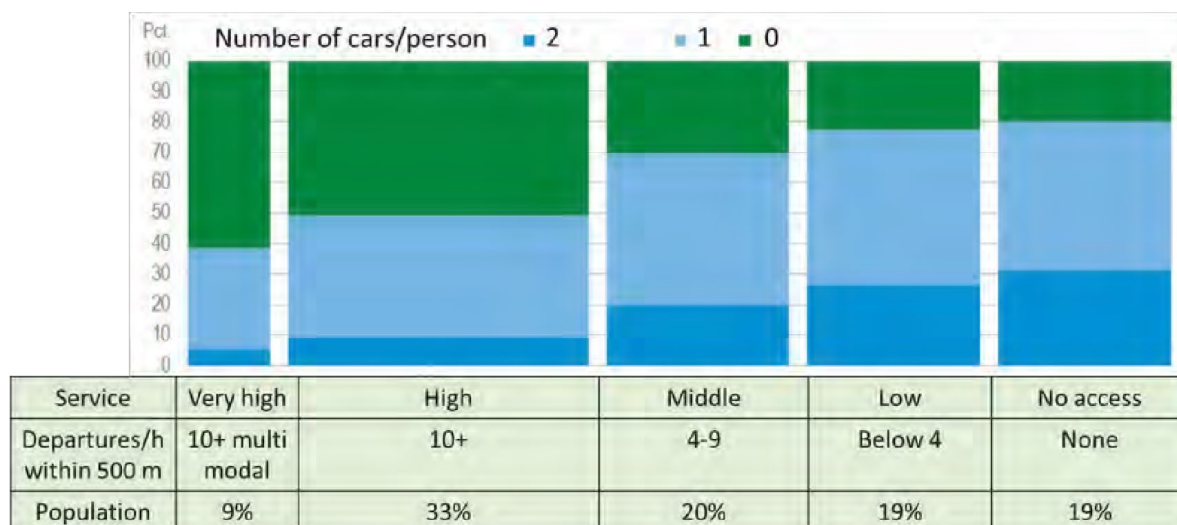
Yes, the whole idea is to make the complete grid of mobility mode offerings available and selectable in a neutral and unbiased manner. Only criteria from the user should determine ranking etc.

This could mean that a train operator "looses" a trip to a bus operator because the schedule/price is now clearly comparable. However, the user, who took the bus ride is still in the market for the next trip.

If the train operator on the other hand "looses" a trip to a person who decides to buy a car because the train schedule is not good enough – A user is lost for good for the whole ecosystem of shared mobility services.

In the end it is the balance of the complete shared mobility ecosystem offerings that determines its competitiveness towards the most dominating mode of mobility: The private owned car.

Car ownership versus the quality of the public transport services and active mobility infra structure



Source: Analysis from Statistics Denmark [Statistics Denmark \(dst.dk\)](https://www.dst.dk): Does access to public transport influence car ownership?

Figure 6 – Public transport service level and car ownership

Public transport is said to be the backbone of a MaaS ecosystem. A Danish statistical analysis shows that car ownership is quite dependent on the service level of public transport.

If the public transport service level is very high most people actually do not own cars. Unsurprisingly if there is no access to public transport most people own cars to get around.

If the public transport service level gives you access to 10+ public transport departures most people will and can get along without having to rely on car ownership. Especially if more modal choices are less than 500 m away.

Also bicycle infrastructure is relative cheaper than what's required for the passive mobility modes. During the pandemic many cities have created safe bicycle lanes simply by shrinking the road space occupied by car lanes. Now many more urban bicyclists experience the real benefit of cycling. It is the fastest way to get around in a city.

From city centric MaaS procurement to city enabled MaaS

So, what can a smart city do to increase use of more practical and sustainable modes of mobility?

Rather than implementing a standalone MaaS system the city/local authority can benefit from enabling the wider true MaaS ecosystem by demand public transport and private mobility service actors to open mobility data and third party selling on fair conditions through MaaS agents.

Smart City mobility initiatives:

- High quality multimodal public transport
- Attractive license conditions for mobility as a service actors
- Demand Mobility as a service actors to open mobility data and third party selling on fair conditions through MaaS agents
- Optimize mobility by person rather than cars
- Prioritize urban road space for persons over cars
- Create safe bicycle infrastructure (socio economic gain)
- Promote return to walking - 15 minute neighborhoods

Resulting in:

- ✓ Freedom of choice of mobility
- ✓ Less noise
- ✓ Less pollution
- ✓ Fewer cars in urban landscape
- ✓ Less road congestion
- ✓ Healthier citizens
- ✓ Higher livability
- ✓ Sustainable city image
- ✓ More business

Figure 7 - Smart city initiatives to increase the quantity and quality of sustainable mobility options

MaaS is just one element on the smart city mobility agenda. It is also about prioritizing mobility by persons rather than cars. This requires focus on a high quality multimodal public transport backbone and safe infrastructure for active mobility such as cycling and walking. After all it is not cars who makes a city liveable – it is its people.

MaaS is not just an app. It is a question about governance and good business sense.

Can we see the value for everybody in creating an open market for shared mobility services?

MaaS by itself is not the magic potion to increase the market share for shared mobility.

Serious private and public investments are necessary to grow and market the total grid of shared mobility options accessible within walking distance.

The private owned car is a tough competitor for public transport and other shared mobility services.

However, using mobility as a service is the more sustainable, active, and smart way to get around. There are tonnes of money invested in private cars that their owners could spend smarter on use of shared mobility services.

Plus, more use of active mobility modes such as cycling and walking actually result in socio-economic gains. Much needed now during and post covid.

Choice of mobility is personal – you can make a difference towards more sustainable mobility today: Buy a bicycle, walk a little more and request more mobility options you can use within walking distance from your home.

And maybe even dropping car ownership resisting the endless commercials for cars promising freedom of mobility.