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To market parties interested in Mobility as a Service (MaaS)

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Our reference
Tender-Ned .....

Date 8 november 2017
Re Market Consultation Mobility as a Service (MaaS) in the Netherlands

The Ministry of Infrastructure and Water Management hereby invites interested, knowledgeable and innovative Dutch and international businesses to participate in a market consultation in preparation for the call for tenders.

The market consultation will be conducted by responding to the questions in this consultation document, supplemented by a market consultation session on November 29. This session will start with presentations to discuss our ambitions regarding MaaS and to explain the tender process. Thereafter there will be interactive sessions in which the regional pilots will be discussed.

The market consultation session is scheduled on November 29 from 10:00 to 15:00 at the Stadsgehoorzaal at the Breestraat 60, Leiden.

Interested parties are requested to register for the market consultation session through this link.

For entering your answers to the questions please follow this link to the online survey on the Dutch Mobility Innovations portal.

We are looking forward to receiving your contribution.

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1 Introduction

In the coming years decentralised authorities and the Ministry of Infrastructure and the Water Management will be investing heavily in resolving mobility bottlenecks. However, the infrastructure (motorways and railways, as well as car parks and airports) cannot keep on expanding indefinitely, because it is often the busy and densely populated junctions/cities that are already the greatest bottlenecks. In view of this, increasingly, we will jointly seek innovative and unorthodox solutions from external sources and we will engage increasingly in discussions with, for example, IT companies and other progressive companies, including mobility companies, able to provide technological solutions. Concrete developments that we are seeing and that deserve a chance are, for example, integrated mobility apps in "Mobility as a Service", the use of drones, self-driving cars (car-share and otherwise) and hyperloop.

The frontrunner's position that the Netherlands now holds in innovative mobility subjects should be further expanded in Smart Mobility. Thanks to knowledge of mobility, ICT, the Internet of Things (IOT), excellent telecommunication facilities and internet coverage and certification, the Netherlands has a good starting position for becoming the Smart Mobility Centre of Europe. This does, however, require continued work, thought and investment, and thus also remaining open to new mobility forms and experiments. There is a need for action and cooperation.

The Netherlands is intent on fostering further automation and computerisation in Mobility (self-driving vehicles, connected cars), electrification (fuel transitions, zero emission transport), connectivity (new steps towards full 5G telecom services) and Smart Logistics (truck platooning, self-driving freight) as well as entirely new transport options (drones, hyperloop) and underlying data and service platforms (Mobility on Demand).

In the context of this policy, the Ministry of Infrastructure and Water Management (I&W) is working with decentralised authorities to prepare a European invitation to tender for a framework agreement for the realisation and wide availability of digitally accessible mobility services for Mobility as a Service (MaaS) according to uniform rules, transparent conditions and requirements, within whose scope a number of regional pilot projects, with specific, distinguishing objectives, will then be put out to tender. These projects will lend themselves to rapid upscaling to national level. The importance of MaaS was recently underlined once again in the coalition agreement from October 2017.

The MaaS pilot projects involve the provision of regional MaaS services in which as many modes of transport as possible are to be offered and to make door-to-door travel possible with a single payment. This entails for each pilot cooperation with governments (regional and other), whereby these authorities will asume responsibility for the cooperation of the service and transport providers within their sphere of influence. The intention is that the pilots will be upscaled to a national level.

This consultation document is structured as follows:

- first, in chapters 1 to 6 provide the following subjects are discussed: the purpose, the policy context, goals and objectives, concepts and definitions, shortcomings of market and government, approach and other aspects of the MaaS pilots.
- chapter 7 provides a short description of the regional pilot projects. including 8 explains how the tender procedure for the framework agreement will work
- chapter 9 provides a listing of the provided external research reports.
- chapter 10 provides a preliminary planning of the tender process.
- and finaly chapter 11 provides practical information on the planning and specifics of the market consultation process.

This consultation has been organised by I&W, partly on behalf of the regional authorities (provinces, region and local authorities) involved in the MaaS pilots. The authorities involved in implementing MaaS pilots are listed in Appendix 2.

2 Reasons for this project

The National Market and Capacity Analysis (NMCA) shows that the number of travel movements in, around and between the cities continues to increase. Regional authorities and I&W face a significant challenge in the coming years in addressing accessibility and sustainability issues. In addition to continued investment in additional infrastructure and public transport, alternative solutions must be devised.

Moreover, the mobility sector must make great strides in the coming years, not only to safeguard the accessibility of cities and regions, but also to become cleaner and more sustainable in order to achieve the targets, both national and international, for climate and air quality.

The hope and ambition is that MaaS, with better informed choices concerning both the mode and time of transport, will contribute to this end. MaaS is being made possible in part by the ever greater availability of data (open and otherwise), travel planners and up-to-the-minute travel information services and the shift from ownership to use, which makes share-concepts, for example, ever more attractive. At the same time, there may be obstacles in current policy that make it difficult to get MaaS up and running.

The Netherlands is keen to become a frontrunner in the field of innovations in mobility. The question is therefore whether we (regions and I&W) should wait or take action. Our answer is the last, whereby the intention is to accelerate the realisation of MaaS. For this purpose, authorities should have shared insight into the preconditions, requirements and wishes that must be defined, at national and regional level. The process for reaching this stage will be based on the performance of regional pilots by regional authorities in cooperation with I&W, in cooperation with the market. These pilots will have specific objectives, and each will offer scope for national upscaling in the short term. The intention is to learn jointly from these pilots in order to serve the traveller better. This means, for example, aiming for better distribution of mobility in one (e.g. densely populated) region, or better insight into available modalities in another region. All providers of

mobility must be included in a MaaS service. Within six months a MaaS service must have at least 1000 active users.

3 Policy context

Potentially, MaaS can enable the realisation of a more responsive, more efficient and more robust transport system for the traveller. But we have a great deal to learn before we reach that stage. For example, insight is needed into possibilities and effects, as well as into obstacles and complications. An overarching question is whether MaaS services can lead to behavioural changes able to bring about social effects, including:

1. **Better product** offering (to traveller): MaaS must be able to offer a platform for all modes of transport, including less familiar ones. This would give the consumer more freedom of choice and the transport provider the option of improving the services, retaining customers and instilling loyalty in new customers, all based on this interchangeability.
2. **Social inclusion**: MaaS would potentially be able to combat the problem of impoverished transport, one the one hand in certain areas and, on the other, for certain vulnerable groups. In more concrete terms: offering transport in situations where it is either not present or has a diminishing presence and contributing to lowering the threshold for using forms of transport (better use). The raises the following points requiring attention: affordability, reliability, the right digital skills and scope for accommodating local bottom-up initiatives.
3. **Congestion reduction**: If MaaS ultimately contributes to the better use of the available capacity, this will lead to reduced peak-time use and, thus, to the reduction of congestion. MaaS should make it easier for travellers to switch spontaneously from, say, congested forms of transport to systems with available capacity and no traffic congestion. In this scenario, comfort, ease of use and price are among the important aspects.
4. **Accessibility**: MaaS can focus specifically on an area's accessibility, and brings together all the information and services that are relevant for the users of those areas, including information issuing from the national government or the area authority (public and/or private).
5. **Sustainability**: The initial results of foreign initiatives seem to indicate that MaaS causes people to more often use forms of transport other than their own cars, which ultimately is the most effective measure when it comes to the transition to sustainability.

In addition, there are still other aims relating to customer satisfaction (taking care of matters for the traveller) and market development (affordability, organising the market) that will determine the context of the MaaS pilots. All these aspects will be tracked in the monitoring process involved in the MaaS pilots.

Question 1: How much of the case as described in Appendix 1 'An inviting future: a day in the life of a modern traveller', in your opinion will be realisable and how long do you think this will take to realise?

4 Objective of the MaaS pilots project

The project aims to accelerate the development of MaaS services in the Netherlands and to gain insight into the effect of MaaS, by performing regional pilot projects that can be upscaled to national level, identifying obstacles that block or delay the successful development of MaaS services. It would be preferable for this to happen before the pilots take place (e.g. the inclusion of as many transport operators as possible in a MaaS app), but if necessary during or in response to the pilots so that policy can be developed to remove these obstacles.

To derive the maximum result from the market consultation, in this chapter we define the MaaS concept and a MaaS Reference Architecture consisting of the most important actors, concepts and processes. The reader is requested to use these bold-printed definitions, roles and concepts in the communication about / your reaction to this market consultation.

4.1 Maas definition

In accordance with the definition in the White Paper 'Mobility as a Service' by MuConsult (2017), the following definition of MaaS is used in this project:

MaaS: the provision of multimodal, demand-driven mobility services, whereby customers are offered tailor-made travel options via a digital platform (e.g. Mobile app) based on real-time information, including payment and the handling of transactions.

Question 2: To what extent do you agree with this definition of MaaS? Why/Why not?

Question 3: What effects do you expect MaaS to have for the (type of) travellers/transport operators/authorities and the mobility system in its entirety? In your answer make a distinction between positive and negative (external) effects.

This gives rise to the following functionalities that are relevant to the MaaS service and thus essential to the pilot projects:

1. **Personal aspects and preferences**: The MaaS app should have 'personal settings', so that the individual is not repeatedly advised of travel options that he/she does not consider relevant or appealing/feasible. A number of pilots are foreseen that will be aimed in part at target groups with, for example, physical (motoric, visual, hearing) disabilities and an assessment under the Social Support Act (WMO). But actually what is wanted for every pilot is an easy-to-use MaaS app.
2. **Planning**: A multimodal travel planner with which customers, based on a particular start and/or destination location and particular times, can plan a trip based on current departure and arrival information for the one or more travel modalities offered by the Transport Providers. In addition to, for example, rented bikes and bikes in a share scheme, this would also involve hire cars and cars in a vehicle-sharing scheme, (shared) taxis,

bus, tram, train, metro, voluntary-service transport, target group transport, water taxis, ferries, etc.

3. **Booking**: A functionality offered with which customers can book or reserve a planned trip involving different modalities all at once with the Transport Provider.
4. **Travelling**: The option of physically travelling with a valid ticket (e.g. e-ticket) provided by the MaaS Service Provider and using the one or more travel modalities provided by the Transport Provider(s).
5. **Assistance**: This refers to comprehensive apps. The MaaS Service Provider provides a total package of far-reaching assistance in various forms to customers at the stages of Planning, Booking, Travelling, Making Changes and Paying for the trip.
6. **Making Changes**: The MaaS Service Provider takes care of matters for the customer if, due to a calamity or unforeseen event, one or more of the travel modalities offered cannot be supplied or must be changed/modified, or if the customer (during the journey) requires an alternative mode of transport.
7. **Paying**: The option provided by the MaaS Service Provider of allowing customers to pay for the entire trip with a single existing payment facility and/or with a mobility card/season ticket that serves as a payment method and/or ticket for all parts and modalities of the trip.

Question 4: Is the list of functionalities in section 4.1 complete? If not, which ones are we missing?

Question 5: Can all these functionalities be realised in the pilots listed in Appendix 2? If not, what obstacles (technical, organisational, statutory) will prevent this?

Question 6: What suitability requirements should apply to a potential MaaS Service Provider seeking to qualify as a signatory to the framework agreement?

4.2 The MaaS value chain

The MaaS value chain is shown in diagrammatic form in Figure 1: MaaS value chain.

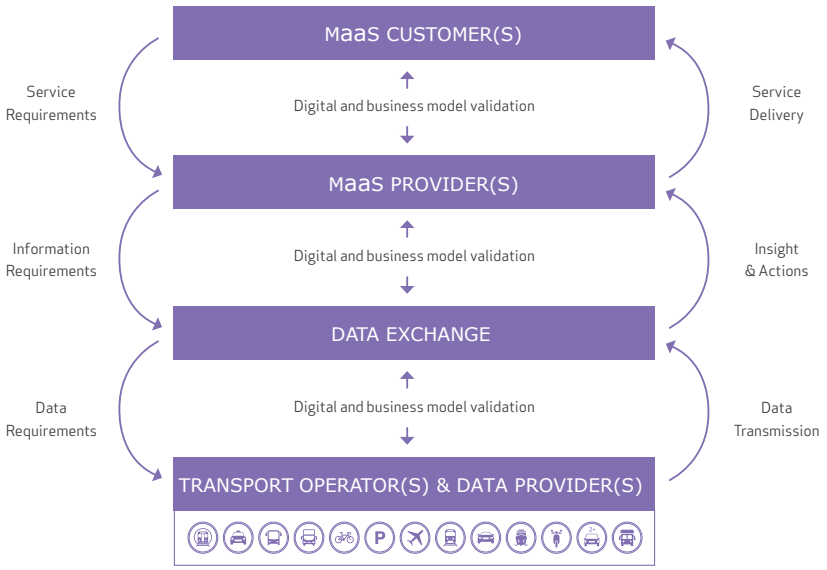


Figure 1: MaaS value chain[1]

In this document the following concepts are used:

- **MaaS Service Provider**: the organisation that is developing MaaS services and which enters into an agreement with the traveller for the supply of these MaaS services.
- **Data Exchange**: facilitating the exchange of data and information between the MaaS Service Providers and the Transport Providers.
- **Transport Operators**: the public or private organisation actually providing the transport services.
- **Data Provider:** public or private organisation that provides relevant data (e.g. Parking data, NDOV, payment information).

Question 7: To what extent do you agree with these definitions? Why/Why not?

4.3 MaaS Reference Architecture

Examining the structure at one level deeper it is clear that a logical separation can be introduced between the functionality supplied for the purpose of effectively assisting the customer via the MaaS app, which is the province of the back office of the MaaS Service Provider, and the functionality required to facilitate the data exchange with the Transport and Data Providers. The data exchange between Transport Providers and MaaS Service Providers is essential to the functioning of the MaaS chain and, in the event of national upscaling, should be capable of linking multiple MaaS Service Providers to a multitude of Transport and Data Providers. The data exchange facilitates, next to the information about the

[1] Courtesy of Transport Systems Catapult, Mobility as a Service – Exploring the opportunity for Mobility as a Service in the UK – July 2016

availability and usage of the transport assets, als transactional data required for the billing process.

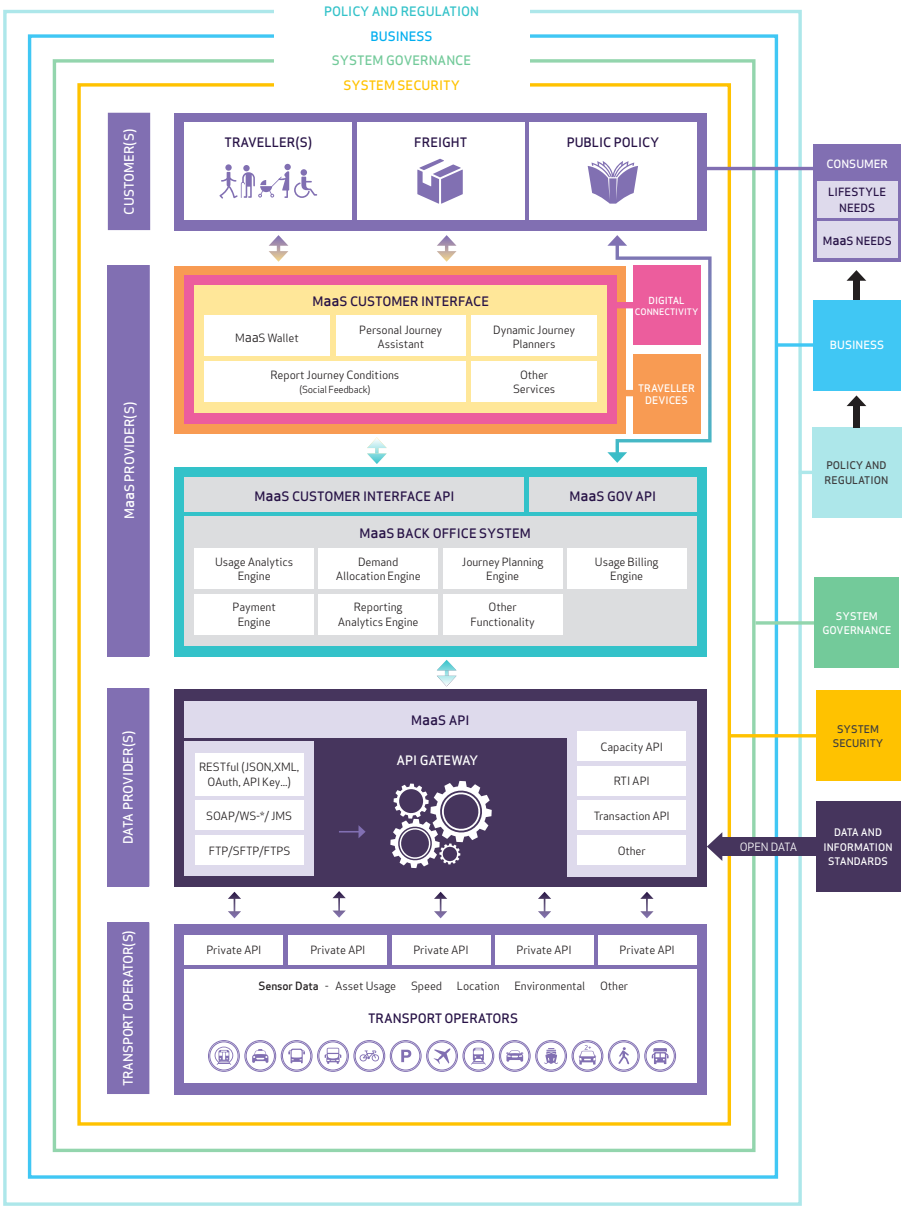


Figure 2: MaaS Reference Architecture[2]

Question 8: To what extent do you agree with this reference architecture? Why/Why not?

2 Courtesy of Transport Systems Catapult, Mobility as a Service – Exploring the opportunity for Mobility as a Service in the UK – July 2016

4.4 Data Provider

Examining the structure at one level deeper it is clear that data exchange between Transport Providers and MaaS Service Providers is essential to the functioning of the MaaS chain. In view of this, one of the crucial questions will be how the Data Exchange process should be implemented. Three options are conceivable:

- Via a (national) data platform for all transport modalities;
- Via agreements about standards, interfaces and APIs,
- Via preconditions / government-imposed data requirements.

Ever present in the background is the question of the extent to which the various elements involved should be organised as public, private or public-private undertakings and/or can be accommodated within existing platforms or standards.

In the alternatives stated above, forms of supervision and/or governance are needed to ensure that essential (to all parties involved) aspects are fulfilled in conformance with agreements, laws and regulations and other specific requirements. Consider, for example, privacy, security, technical standards for the exchange of messages and financial transactions.

Consultatievraag 9: Which data standards and specifications are relevant at a national and international level and who has or should have administrative responsibility for these standards and specifications?

Consultatievraag 10: Opinion is divided on the question of the extent to which a data platform (national or otherwise) should be created. In general terms there are three approaches:
1) a national platform must be established for all transport modalities,
2) to make agreements about standards, interfaces and APIs,
3) it will suffice to have preconditions/data requirements set by government.
Which solution do you prefer and why? What exactly do you take the approach you have chosen to mean? What is essential to this approach? Why are you less keen on the other solutions? How should a national (data) platform be organised? Which public, private or public-private parties do you see playing a role in this? Which management information does the government need? How can this be organised?

4.5 Data definitions

The sharing of data is a condition within the MaaS concept and so the following definitions of data are relevant:

Open Data in government are data that are (definition as per the 'National Open Data Agenda 2016'):

- Funded with public money and generated during or for the performance of a public task, and:
- publicly available, and:
- free of copyright or other rights held by third parties, and:

- computer-readable and preferably comply with open standards, and:
- available for reuse without limitations such as extra costs (i.e. more than the actual costs of provision) or mandatory registration.

Public Data are in particular cases available as Open Data, but then with a licence or SLA that offers more security in terms of e.g. being current, availability, accuracy. The user may be charged extra for these features because they add value.

Private Data are, of course, the opposite of Open Data. These data may be shared with third parties under certain conditions and with due observance of the Personal Data Protection Act by their owner/administrator.

- Data collected from private legal persons using predominately public funding (or the task giving rise to the data is predominately publicly funded) but the status of which is unclear (see e.g. TLS)
- Private data that can be shared with authorities (under conditions and a set of agreement e.g. reciprocity, costs, use)
- Private data that can be share with authorities and other companies (under the same conditions)
- Proprietary data for the owner's use only or that can be supplied to others only under commercial conditions and the conditions are established by the relevant producer or enhancer

Question 11: In view of the pilots listed in Appendix 2, what exchange of data should take place between MaaS Service Providers and Transport Providers? And in which category (see section 4.5) do these data items belong, in your view? Do you foresee any obstacles to this?

Question 12: How should the system of financial settlement be organised between the MaaS Service Provider and the Transport Providers? What role should the government play in this? In your answer make a distinction between private and public Transport Providers.

Question 13: In view of the pilots listed in Appendix 2, what exchange of data should take place between MaaS Service Providers and authorities? And between Transport- and dataproviders and authorities?

5 What shortcomings or failings exist in market, government or system?

To realise the ambitions held by authorities and the market, as many preconditions as possible must be charted. The role of authorities lies in enabling the realisation of a smoothly functioning market for MaaS services. In discussions with market parties and regions there is much talk of obstacles contained in prevailing laws and regulations or structures/customs in the market. This

concerns, for example, the lack of will to share data, disproportionally high transaction fees and the lack of will to cooperate play a part.

To give MaaS a boost and to arrive at the right preconditions (e.g. availability of data, level playing field, privacy, security, overarching payment system), more insight is required. Subsequently, possible obstacles (statutory and otherwise) can be removed (e.g. as mentioned above but also including limitations in concessions, fiscal matters).

Being responsible for the mobility system, I&W is charged with ensuring that the market is organised in an effective way, whereby MaaS can best reach maturity without harming public interests. This is an issue because MaaS services can cause effects in the market (e.g. new relations between service providers and transport providers) and thus can also have consequences for the existing set of instruments governing the organisation of the market, such as concessions, conditions of market access and information obligations. MaaS may turn out differently in each region or for each target group, ranging from providing extra information (pedestrian routes, local information) to improving other sectors whose future MaaS can greatly impact (shared bicycles, self-driving vehicles, parking).

A coordinated, national approach should chart the preconditions that must be in place and the obstacles that must be removed to enable a healthy market for MaaS services to emerge and to remedy the imperfections of markets (e.g. limited data exchange, partitions between modalities, fragmented demand, fragmented supply of services that inadequately meet demand).

More concrete signals that have been received to date include:

- While there may be a data platform for travel planners, there is no uniform, national data platform containing all Transport and Data Providers (certified and otherwise).
- No affordable, uniform payment system.
- Limited availability of real-time data.
- No/insufficient Multi-service Providers.
- As yet no automated hand-over of customers possible between service providers.
- No broad set of agreements between private parties in the chain about data-sharing, open data, data formats, interfaces and clearing-house functions.
- Unequal market positions re. size of players (public transport, contract transport).
- Segments in mobility market showing large discrepancies in market power (providers of schemes to encourage bicycle use versus car-lease companies).
- Fragmented range of services that inadequately meet demand.

Question 14: Do you recognise the challenges and complications identified in chapter 5? If so, can you explain why/why not and which solutions you foresee?

Do you foresee others? How, in your opinion, can the concession holders best play a role in MaaS? What changes or modifications, forms, scope, limitations should concession-granting authorities offer in this context?

Question 15: Which role do you think would be optimal for the public transport operators in the MaaS value chain? What do you expect from the national and re-gional authorities in respect to the requirements and constraints?

6 Approach: learning through regional pilots

In order to learn what works in practice, we would like to gain a clearer idea of the effects of MaaS and to learn about any obstacles (statutory or otherwise) that could inhibit the development of MaaS, a number of 7 regional pilots will be put out to tender (see Appendix 2).

The pilots will be held in both urban and transport-deprived areas, and will have their own distinguishing objectives and/or target groups. The set of preconditions that all pilots must satisfy will be established using a framework agreement (see next section). If necessary, interim modifications to the preconditions will be made in response to experience learned in the pilots. Any modification will be laid down in an amendment that does not materially change the framework agreement.

The pilots will be experimental in nature. Initially it will be necessary to practise and experiment in order to ascertain what works in practice. The pilots will be set up (in terms of type of services, conditions and business models) such that after the pilot phase a rapid national upscaling is possible.

Questions to which the various regional pilots must provide an answer:

- What changes in behaviour related to movements do or can arise;
- What are the obstacles to integrating the public and semi-public Transport Providers, in particular, in the Maas chain;
- What is the best (lowest costs, easiest to upscale, most reliable) way to facilitate the Data Exchange between de MaaS Providers and the Transport Providers;
- To what extent is facilitation, direction or management by the authorities (regional and otherwise) needed regarding the provision of MaaS services and/or the integration of Transport Providers in these services.
- To what extent should authorities change the necessary preconditions with a view to national application and international interoperability. Consider divergent laws and regulations, organisation of the market and market supervision.

The pilots are intended to provide insight into the effects of MaaS on such factors as policy objectives, behaviour, traffic flows and possible management options. The effects of the pilots will therefore be monitored centrally using joint Monitoring & Evaluation (M&E) (see Appendix 3).

In addition, we wish to use the pilots to gain experience of and a feeling for various possible complications and obstacles (statutory and otherwise):

- Insight is needed into the way in which, and the conditions under which, the public transport concession holders in the Netherlands can or should offer their services as part of MaaS.
- This requires insight into the access to public transport and the payment of a trip on public transport. MaaS and the public transport chip card (*OV-chipkaart*) can't work independently of each other, otherwise, for example, the gates at the station may not open.
- Another question concerns the business case for MaaS. How will the service's revenue model operate? Government funding would seem particularly justifiable to accelerate progress, to foster and enforce uniform agreements about preconditions and data exchange, to overcome obstacles and/or to minimise some of the private risks that would otherwise be beyond our control. In the future, MaaS services should in principle be commercially viable, due in part to the size of the market and the conceivable business models, and should be available without government financial support.

Question 16: In your opinion, what complications and/or obstacles (statutory or otherwise) will occur in the pilots stated in Appendix 2 with their respective objectives?

Question 17: Do you have your own preconditions for participating in this invitation to tender? For example, is there for you a go/no-go moment during the tender process or the pilot? And on what reasons would you base your decision?

Question 18: What will you do to get as many customers as possible within the stated target group and what do you expect from the commissioning authority in this respect?

Question 19: How much time to you think you will need to get the pilots up and running smoothly and when could the first effects become evident?

Question 20: What do you think of the pilots described in Appendix 2? Do you have suggestions for these specific pilots or ideas for additional pilots or the design of the pilots described?

Question 21: What is required to get international Transport Providers involved and to include them in a MaaS service?

Question 22: What is the minimum of data necessary (historical data, real-time data) and at what level in order to launch the MaaS pilots listed in Appendix 2 in the market? To what extent does the (un)availability of certain data hinder the effectiveness of the pilots?

7 Short description of regional pilots

The pilots are explained further in Appendix 2. As stated earlier, the various pilots will have their own distinctive objectives so that learning opportunities are maximised.

Specifically, there are pilots that focus to a greater or lesser extent on:

- Area in decline
- Border area
- Target groups/the less able/people with reduced mobility
- Vinex neighbourhood
- Congested area
- Airport
- Etc.
- All the pilots should aim to be as high volume as possible and to achieve maximum impact. MaaS parties should also aim to achieve rapid national upscaling.

8 The framework agreement

The objective of the tender(s) is to procure regional MaaS services in which as many modes of transport as possible are provided and using which the traveller can travel door to door having made a single payment. Each pilot will involve cooperation with authorities (regional and otherwise). These authorities will ensure the cooperation of players in their sphere of influence. It is intended that the pilots will lend themselves to national upscaling and that experience, in a pilot lasting about two years, will be gained of these MaaS apps, one of the outcomes being an understanding of the appropriate management measures. National upscaling can start during this period.

In preparing for the market consultation, an analysis (legal and otherwise) was conducted of the various options for the market strategy for the MaaS pilots and for choosing how to place the commissions for the pilots in the market.

In this analysis it was decided that the starting point for designing the pilots, certainly in the initial phase, would be the commissioning of temporary assignments by the government among market parties for the development of MaaS services.

The following possibilities were compared:

- individual tendering of the pilots by I&W;
- individual tendering of the pilots by the regional authorities ;
- designing the tender as a competition or individual competitions;

- an innovation partnership for all pilots together, which is organised by I&W and the regional authorities together;
- a competitive dialogue whether or not for each separate pilot;
- a framework agreement which is put out to tender by I&W, partly on behalf of the regional authorities , with further agreements that are tendered by means of minicompetitions held by the regional authorities.

In order to give the regions maximum flexibility regarding the timing and content of the MaaS pilots, as well as to ensure that business contractors have sufficient access to the pilots, it has been decided – partly in view of the cohesion between the various pilots – to use a framework agreement to structure how the tendering process for the performance of the regional MaaS pilots is presented to the market.

In deciding to use a framework agreement, the following considerations were pivotal:

- Regional authorities may design the MaaS pilots at different tempos; the form of tender should offer scope for this;
- MaaS providers will harbour the wish to upscale to the national level during or after the pilot; this requires that the conditions, rules and the playing field are made uniform;
- I&W needs a diversity of target groups and focuses in the pilots but its national responsibilities and ambitions mean there is a desire to reach a uniform underlying set of agreements with all MaaS providers so that the co-investment is spent wisely;
- Maximum market development and diversity of services, so that sufficient mass and freedom of choice are offered, and a distinguishing profile in the market place is realised, are important to I&M and co-authorities;
- For I&W and co-authorities the prevention of 'winner-takes-all' consequences are highly desirable.

I&W will issue a European invitation to tender, partly on behalf of the regional authorities, for a framework agreement for potential MaaS Service Providers, for the purpose of developing MaaS services related to the MaaS-pilots.

The potential MaaS Service Providers will be invited by way of the familiar platforms (e.g. TenderNed) to tender for the framework agreement. The market parties must demonstrate that they satisfy minimum requirements and suitability requirements, which will enable service providers to become parties to the framework agreement. In the tender they should also demonstrate that they (will) satisfy stated conditions (e.g. concerning privacy and monitoring and evaluation, see Appendix 3).

Appendix 2 lists the regional authorities that intend to issue an invitation to tender for a pilot. The regional authorities that wish to establish MaaS pilots in the market in the coming period will participate in this framework agreement. The initiative for this lay, in principle, with the regions. In principle every region in the Netherlands could participate in the framework agreement. Actual participation by a region in the framework agreement takes place with the conclusion of an agreement between the regional authority involved and the Ministry of I&W. These agreements between regions and I&W will be concluded during the tendering

process for the framework agreement or after this has been concluded, but before the start of a regional tendering process (minicompetition).

This stage is followed by minicompetitions among the framework contractors. These are designed by the regions as and when they see fit. The shared principles and conditions are applied in these minicompetitions (among other things, for privacy and monitoring and evaluation) as laid down in the framework agreement.

In each minicompetition contracts for the regional demand for MaaS services are awarded, geared to the regional need and with national upscaling as the ultimate aim.

Question 23: The proposed approach is that I&W issues a European invitation to tender for a framework agreement partly on behalf of the regional authorities, for which market parties can qualify and whereby the regions, working at their own pace and as they see fit, can start minicompetitions to put MaaS pilots out to tender among the framework contractors. In your opinion, is this a workable form of cooperation? Why/Why not?

Question 24: What degree of openness about their own services may be expected of market parties in order to qualify for the framework agreement? What information do market parties/potential MaaS providers believe is/is not crucial for authorities to receive in order to achieve better use of transport modalities via MaaS?

Question 25: What degree of data openness may be expected of market parties and what conditions of joining would you impose on others in the chain?

Question 26: To what extent, within the MaaS Pilots, do you think Transport Providers can also fulfil the role of MaaS Service Provider? What are the pros and cons related to cooperating in the chain, market development and possibly other aspects that are important to you? And which preconditions should be agreed upon?

Question 27: What kind of business model do you foresee as a MaaS Service Provider? Is a model without government subsidy for, say, transport for target groups conceivable?

8.1 Rules for the framework agreement

a) The tendering process is aimed specifically at potential MaaS service providers.
b) National and regional authorities will make every effort to ensure as many national and regional transport operators as possible participate in the MaaS services.

c) Transport- and Data-Providers are expected to share their information with all MaaS Service Providers. This also applies to, for example, other parties in the chain of relevant data flows.
d) MaaS Service Providers, Transport Providers and the above-mentioned other data providers must share movement data, stripped of personal data and competition-sensitive information, with participating authorities for the purpose of policy preparation and policy monitoring.
e) To prevent vendor lock-in and to facilitate upscalability to the national level, IP rights in the data exchange processes and systems to be developed should be transferred to the State and/or regional authorities and it will be necessary to work as far as possible on the basis of open-source.
f) A point requiring attention for the framework agreement and for the pilots is the good handling of potential conflicts of interests concerning the parties (commercial and otherwise). For example, the following must be prevented:
    - that individual parties are involved in both the performance of a pilot and the advising of government or a pilot's monitoring and effect measurement. Market parties will have to choose which role they are looking to fulfil;
    - that individual parties use the information of others but do not themselves wish to share any information.

Question 28: Could you give us your opinion on rule 8.1c: '*Transport- and Data-Providers are expected to share their information with all MaaS Service Providers. This also applies to, for example, other parties in the chain of relevant data flows.'*

Question 29: Could you give us your opinion on rule 8.1e: '*To prevent vendor lock-in and to facilitate upscalability to the national level, IP rights in the data exchange processes and systems to be developed should be transferred to the State and/or regional authorities and it will be necessary to work as far as possible on the basis of open-source.'*

Question 30: Did we miss anything in this consultatio document? If so, we would apptreciate it if you could share the additional information wit hus through the comments fields, or by uploading a document at the end of the online survey.

9 Appended documents

Appendix 1: Impression: a day in the life of a modern mobilist.
Appendix 2: Structured description of the individual MaaS pilots.

Independent MaaS analyses and reports that may be distributed freely:

- MuConsult (Dutch)
- UK Catapult
- Decision report (Dutch)

10 Planning of the MaaS pilots

- November 9, 2017: start of market consultation with the publication of the consultation document.
- November 29, 2017: market consultation session.
- December 8, 2017: end of market consultation and start processing of the feedback.
- January 2018: start of the European invitation to tender for the framework agreement MaaS Pilots.
- End of Q1 2018: the awarding of the framework agreement and start of the process of tendering the individual MaaS pilots via minicompetitions.

11 Market consultation

On november 29 there will be a market consultation session at the Stadsgehoorzaal at the Breestraat 60, Leiden.

Like Talking Traffic, the Dutch Mobility Innovations portal will used to share information with interested parties. The portal will host next to a download section containing this document (including te appendices), the link tot the online survey.

Supplying the answers and uploading documents will be possible until midnight at Friday December 8, 2017.

Interested parties are requested to register for the market consultation session through this link.

11.1 Rules for market consultation

g) The Ministry of I&W particularly values your participation in and your reactions to this market consultation.
h) It must be emphasised that this market consultation is entirely voluntary and free of obligation. Participation or non-participation in this market consultation has no consequences for the proposed tendering of the framework agreement MaaS.
i) The market consultation consists primarily of answering the consultation questions in writing and the provision of input. The market consultation starts with a plenary session offering limited opportunity for asking questions. This is followed by bilateral sessions with representatives of the ministry and of the regions that are putting out a call for tenders.
j) The aim of the consultation is to collect the vision, experience and ideas of market parties and to incorporate them in both the tendering process for the framework agreement and in the regional call for tenders for the MaaS pilots.
k) The information collected in writing and provided verbally by market parties to I&W is handled with care, but can be freely used by government bodies.
l) I&W will anonymise statements by market parties that are made (both in writing and verbally) in the context of the market consultation.
m) I&W will make public the anonymised results of the market consultation.

11.2 Planning marktconsultation

- November 8, 2017: publication of the publicatie van het consultation document with invitation for attending market consultation session.
- November 29: market consultation session.
- December 8: end of market consultation.
- Publication of feedback from the marketconsultation around Christmas .

11.3 Agenda market consultation session

The programme of the session is as follows (indicative):

09.30 – 10.00 Welcome
10.00 – 10.15 Kick-off by Mr. M.M. Frequin (Director-General Mobility and Transport)
10.15 - 10.45 Highlights of the consultation document (plenary, by I&W)
10.45 - 11.00 Highlights of the tender process (plenary, by I&W)
11.00 - 11.15 Pause
11.15 – 11.45 Round 1 – highlights of the pilots (subsessions, regions & I&W)
11.45 – 12.15 Round 2 – highlights of the pilots (subsessions, regions & I&W)
12.15 – 13.15 Lunch
13.15 – 13.45 Round 3 – highlights of the pilots (subsessions, regions & I&W)
13.45 – 14.45 Round 4 – highlights of the pilots (subsessions, regions & I&W)
14.45 – 15.00 Closure (plenary, I&W)

We hope to meet you on November 29 and to receiving your written reactions.

Yours sincerely,

Appendix 1: An inviting future: a day in the life of a modern traveller

You want to travel from your home in Helmond to a concert in the Melkweg in Amsterdam. You do not have a driving licence so nor do you have a car.
What do you do? You start the MaaS app and enter your starting point and destination. In no time the app shows a number of different travel options.
The fastest option is by taxi, but this is also the most expensive. One of the other options is a combination of walking, the bus, the train and using the bike-share scheme. This is much cheaper and you feel like cycling a short distance. (The option of taking a car-share vehicle is not shown because in your personal settings you have indicated that you do not have a driving licence.)

You choose the option involving the bus, train and bike-share. The MaaS app offers you a single digital ticket that is valid for all parts of your journey. You walk to the nearby bus stop and get on the bus. The entry gates at the train station recognise the ticket on the MaaS app and open. You board the train.
The train arrives in Amsterdam three minutes behind schedule. This delay automatically reduces the journey price and the extra money you have paid is credited to your account.

You then walk to the bicycle shed, where bicycles owned by four different bike-share providers are housed. The MaaS app recognises all four systems. You choose the bicycle you like best and when you stand next to it, your telephone makes a Bluetooth connection with the bicycle lock and the lock clicks open.
The MaaS app starts the navigation app on your telephone, so that you are able to cycle straight to the Melkweg making no wrong turns and you arrive in good time for the concert.

After the concert you want to go home. You look on the MaaS app. It seems there is someone nearby who has a car and will be driving to Eindhoven and has a good rating for previous services to Eindhoven. It is after the rush hour, so the price is affordable. You offer a little under the price. The other person agrees and will come and pick you up within ten minutes. Having arrived in Eindhoven, you collect a shared bike and cycle home.

Appendix 2: Short description of pilots

1 Limburg

Realising sustainable mobility by providing multimodal, cross-border door-to-door transport solutions.

Limburg is the only province in the Netherlands that borders two other countries. These borders hinder multimodal, cross-border mobility, especially for public transport. There are insufficient alternatives available for travelling by car. Limburg is therefore keen to simplify cross-border, multimodal travel and by so doing reduce car use.

2 Utrecht Leidsche Rijn

Enticing residents of Leidsche to use alternative transport options in order to decrease the number of cars and neighbourhood congestion.

Leidsche Rijn is a Vinex neighbourhood (affordable new suburb) where average car ownership is high. With the arrival of another 25,000 residents in the coming 10 to 15 years, it is estimated that the traffic system will be overstrained. To prevent this, an attractive multimodal MaaS service must be put in place. This must encourage both new and existing residents to make more informed travel choices, and tempt residents to make less use of the car (or get rid of their cars).

3 Amsterdam

Improving the accessibility of the South Axis and fostering better use of the city's public spaces by offering alternative transport options.

Amsterdam is becoming increasingly crowded and busy and the city's public spaces are under increasing pressure. Severe traffic congestion is currently an issue at the South Axis, and this will increase in the coming years as major road works get underway. In the inner city, moreover, the city's public spaces are under increasing pressure. The provision of a multimodal transport service can improve the accessibility of the South Axis (e.g. by avoiding the rush hours) and better use can be made of the city's public spaces (e.g. by reducing the number of stationary cars and bicycles).

4 Northern provinces

Improving the accessibility of the countryside in Drenthe and Groningen and making the transport system more affordable, in part by combining transport for target groups with regular public transport.

The affordability and current scale of public transport, especially small-scale public transport and target group transport, are under pressure. A future-proof, innovative and integrated mobility system can be realised by means of the far-reaching clustering and integration of various transport flows and by increasing the accessibility of these transport flows to residents of Drenthe and Groningen (including those eligible for target group transport).

5 Twente

Operating target group transport and small-scale public transport better and more cheaply through the smart combination of transport flows.
In the Twente region regular public transport is diminishing and the aim is to allow those who are capable of doing so to travel independently. Moreover, the transport is in need of innovation and small-scale local initiatives need to be given scope. By combining target group transport and (small-scale) public transport and making them available to all Twente residents, the region aims to realise a smarter, more effective and future-proof transport system.

6 Rotterdam

Improving the landside accessibility of Rotterdam-The Hague Airport for travellers and employees by making the airport more accessible in a sustainable and multimodal way with the aid of door-to-door solutions.
At present the airport is only easily accessible by car. By implementing door-to-door transport solutions, the level of service can be improved for the 1.6 million international travellers who use the airport and the airport's 2,500 employees will no longer be dependent on their cars. At a larger scale, better accessibility should contribute to the airport's position as the engine of the regional economy.

7 Eindhoven

Sustainable and emission-free mobility for employees, and the city of Eindhoven is keen to become a CO2-neutral city.
To this end, all the business movements of the 2,000 employees of the municipality of Eindhoven will become sustainable and emission-free. This will involve the provision of a broad range of sustainable means of transport and transport concepts by one or more mobility partners, whereby the user will always choose the most sustainable means of transport. Outside office hours the vehicles will be available to council employees for their commute and to the city's residents and visitors. Other organisations in the city have adopted this approach, thus creating a larger pool of shared vehicles and making it easier to match supply and demand for sustainable shared vehicles.

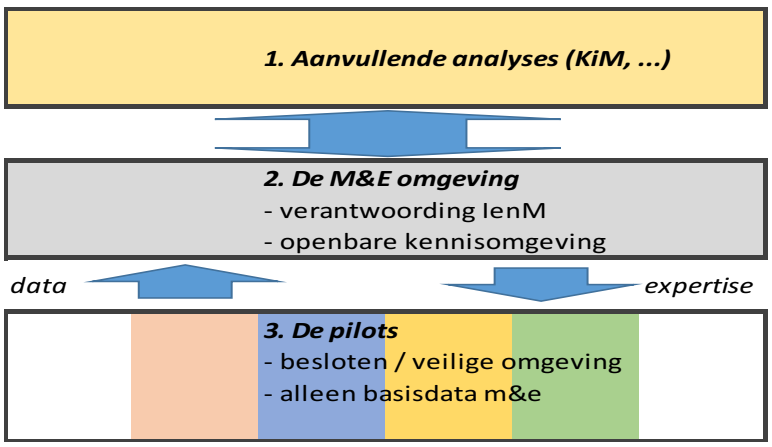
Appendix 3: Monitoring and Evaluation (M&E)

The pilots are intended to provide learning opportunities. Various regional pilots with distinguishing objectives have been chosen so that a broad range of experience can be acquired. The Monitoring & Evaluation (M&E) is intended to provide insight centrally into the effects of MaaS and to enable comparisons between the pilots to be made. The M&E process has three aims:

- To gain insight into the societal effects of MaaS: sustainability, congestion, inclusion, …)
- To gain insight into the business cases for MaaS including customer satisfaction
- To gain insight into contol / management options: preconditions / obstacles / MaaS models

The M&E process around MaaS will be set up by I&W and managed with regions. Responsibility for M&E lies with I&W; I&W will award a separate commission for it. The intention is that M&E will take place on three levels, namely (see diagram):

- The pilots: agreements will be made for each pilot about the supply of basic material and basic data necessary to the knowledge process. When making the agreements, the need to minimise the strain on the pilot will be weighed up against the need to accommodate as far as possible the requirements of privacy and commerce.
- The M&E Water Management: this forms the core of the M&E process and will be entirely the responsibility of I&W. It focuses on the three learning aims. Management will be handled jointly with the regions. The intention is that the M&E Water Management will be of use to both the pilots and others. In the short term I&W will issue an invitation to tender for this M&E Water Management in order that agreements for each pilot can be made in good time.
- Additional analyses. A third level will be established dealing with the wider impact of MaaS (beyond the pilots) and the national and international implications; separate commissions will be awarded for this work.



Figuur 3: overzicht 3 niveau's binnen M&E

The M&E process for MaaS has other features than those of similar programmes under Beter Benutten ('Optimising Use') in the recent past. The main aim of the MaaS pilots is to gain learning experiences of this new form of mobility whereby the interests of national government, the regions and especially the market dovetail with or reinforce each other but can also at times get in each other's way. The aim is not to be able to judge the pilots on their performance or to do advance testing of their ambitions.

The aim is to gain as much insight as possible into future market developments and market potential, to examine whether obstacles must be removed, regulations must be introduced or amended, and to gain a clearer idea of the economic, societal and financial effects and opportunities presented by MaaS. To maximise the contribution pilots can make in this respect, it is necessary that clarity about the monitoring and effect process (M&E) is gained early on.

The M&E process for MaaS concentrates on knowledge questions pertaining to new forms of service provision, emphatically not to the judging of projects on the basis of, for example, the number of rush-hour avoidances. Consideration is being given to working with predetermined reference dates on which the project and the population will be measured in order to track the movements made.

A core set of KPIs will be established in the short term.

For each core KPI consideration will be paid in advance to the practical and legal aspects of ensuring the necessary input. It will be necessary to develop a set of core KPIs relevant to every pilot (number of participants, transport performance of participants by modality/service /time of travel, customer satisfaction, cost development) as well as a separate set of KPIs, which may or may not be applied to every pilot, customised to suit a particular pilot (such as effect on congestion, location-accessibility, sustainability, user-accessibility).