



ENABLING VEHICLE INTERACTION WITH  
TRAFFIC MANAGEMENT

Task Force 26:  
TM2.0 and MaaS –  
the Mobility  
Network  
Management  
(MNM)

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## Introduction

This Task Force (TF) is the third TM 2.0 TF working on TM 2.0 and Mobility as a Service (MaaS) and is a topic studied by TM 2.0 since 2018. In this TF we have focused on the relationship between the TM 2.0 and MaaS Alliance communities. The aim was to enable TM 2.0 and MaaS stakeholders to better understand what are the common challenges and opportunities. This TF focused on cooperation and dialogue.

It is important that TM 2.0 builds a strong link with the MaaS community. This TF served as a channel for discussion, sharing of thoughts and ideas and moderate and organise the webinars with the help of the TM 2.0 Coordinator. This TF particularly focused on data exchange between the stakeholders that are active in multimodal mobility; how it works, what data is currently being exchanged and how this data exchange can be improved. This TF particularly focused on integrating MaaS within the bigger picture, which also presupposes taking into account the traffic management priorities and needs.

As discussed when creating this Task Force, the focus is not on producing reports and working restricted within our own traffic management community and its vehicle-road base scope but rather a matter of creating opportunities for discussion and raising awareness among different stakeholders as the task at hand is the Mobility Network Management (MNM). The latter encompasses those actions that can bring the entire mobility system into a balance, be proactively ensuring that all modes are flowing and congestion in one mode's network does not have a spill-over effect on the network of the other modes.

This Task Force organised one webinar and one workshop on Mobility Network Management (MNM). The details on these two events may be found below.

This topic has also continued to be explored and discussed during several European and world ITS congresses as well as other congresses, under the leadership and coordination of the TM 2.0 community. The focus of this Task Force was on understanding what is happening in practice during the provision of MaaS services which affect road-based traffic management and also understand where are the obstacles are and how to deal with them based on cooperation and dialogue among all mobility stakeholders.

This report gives an overview of the activities organised by the TF over the last few months. Based on the discussions and conclusions, the TF will give recommendations as to the next steps the TM 2.0 community should take concerning this topic.

## Webinar on Mobility Network Management

The focus of this webinar, which took place online on the 15<sup>th</sup> of July 2022, was on how different stakeholders envision achieving Multimodal Network Management (MNM). The invited speakers are part of a community that understand the TM 2.0 values and the importance of deploying Multimodality while considering traffic management.

- Dr Johanna Tzanidaki, Chief Innovation Officer, ERTICO/TM 2.0 co-Chair
- Roelof Hellemans, MaaS Alliance Secretary General
- Cassandre de Froidmont, TM 2.0 Coordinator
- Iuliia Storykova, MaaS Alliance Coordinator
- Martin Dirnwöber, DTI Pilot & Explore expert, Austriatch
- Dr Laura Cocone, Global Innovation Manager at SWARCO
- Jop Spoelstra, Innovation Manager at Technolution

Firstly, the link between Mobility as a Service and Traffic Management was discussed. All speakers agreed that MaaS and TM are indeed heavily interlinked. However, this relation can be considered as relatively new due to the fact that mobility used to be more car centric in the past. Continuous exchange of information and data was therefore not as necessary as it is for multimodal mobility. Having all stakeholders working independently and in silos was manageable. This is one of the reasons why changing the mind-set of some stakeholders is difficult. The reasoning is - working independently functioned in the past so why should this change now?

The speakers however agreed that for multimodal mobility, collaboration between the concerned stakeholders is necessary. This is true especially when it comes to data. Data sharing is key to having a comprehensive overview of cities and therefore improving them.

The question is which data needs to be shared exactly? Jop Spoelstra mentions that from a private company point of view, although it is agreed that sharing data would be beneficial, only the data that is essential to share and would not compromise their business activities is likely to be given open access to.

In addition to this, organisations spend resources collecting and making data usable. Would these organisations be somehow compensated for doing the work that others no longer need to do if they shared their data with them?

Roelof Hellemans believes that it is the Public Authorities who should take on a coordinating and leading role in the deployment of MaaS. They should therefore be responsible for determining the data, its classification, and standardisation. It is also important for the authorities to be aligned beyond borders hence the importance of National Access Points.

Roelof Hellemans also believes that MaaS should take a user centric approach. This means that it is the needs and demand of users of the mobility system that should determine its developments. For example, users' preferences in terms of the modes included in the Multimodal Network should be prioritised.

However, due to their influential role, if necessary, public authorities have the ability to nudge users in a certain direction, which would benefit the overall population in the short and long term. Generally, this means creating an efficient and environmentally sustainable mobility system. Martin Dirnwöber presented the example of Austriatech, which is nudging commuters to use their private cars less in the city centre and take public transport instead, by offering a large parking available at the entrance of the city. The idea here is to give drivers a practical solution to use more sustainable modes of transport.

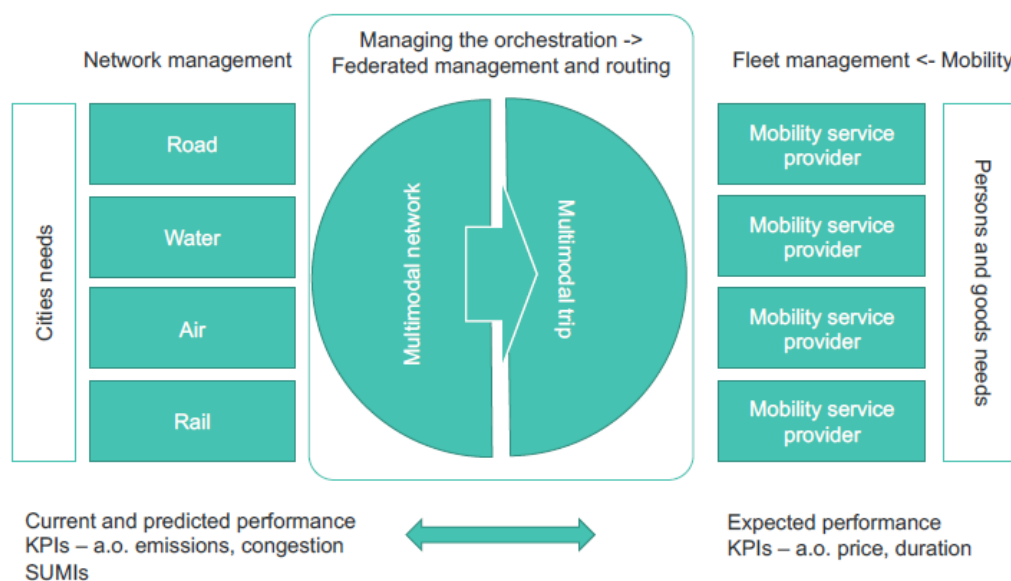
The MaaS and Traffic Management communities both agreed that climate change is indeed very important and should be a driving factor in terms of mobility developments. With the precise environmental targets being set by the Public Authorities based on their knowledge of the city and region and its priorities. Indeed, adapting policies and solutions to the local context is a widely accepted concept throughout all industries. This should not be forgotten even when taking a coordinated approach.

Dr Johanna Tzanidaki concluded the discussion with the following statement “The discussion among the mobility stakeholders on MNM has started five years ago and is a topic also put on the table at all our ITS European and World Congresses. The smart mobility community is more and more convinced that smart, efficient and sustainable cannot happen unless the stakeholders recognise and respect each other’s needs and priorities and work together towards creating a balanced mobility system. This is the system approach that Mobility Network Management is taking”.

## **Workshop on Mobility Network Management**

In this workshop, which took place online on the 18<sup>th</sup> of October 2022, the architecture for Mobility Network Management (MNM) was further discussed. The goal of the workshop was to facilitate the cooperation between the traffic management community and the MaaS Alliance community in setting up a scheme/architecture for Mobility Network Management in a way that prioritises the end user/customer and takes into account the accessibility and liveability of the city. Ultimately, these are interlinked and generally go in the same direction as the accessibility and liveability of the city have a direct impact on the end user.

The following model was presented by Coen Bresser, Senior Manager at ERTICO during the workshop as a suggestion for the architecture of Mobility Network Management. Although the mechanism of the architecture needs to be further defined, it gives one an idea of the necessary loop of information in the mobility network management value-chain.



As discussed in the previous webinar, the question of who should manage the mobility network was established to be of key importance. In the model above, it is suggested for the City to manage the mobility network and be the final decision maker in terms of priorities set for mobility stakeholders to respect and follow (TM 2.0 principles of cooperation and trust & see also scheme of levels of cooperation within the TM 2.0 concept). However, a type of ‘Council’ with the concerned stakeholders (mobility service providers) should be created in order to allow the local mobility stakeholders to be in regular contact with the City and give regular input (in the form of regular exchange and dialogue) on the management of the mobility network.

This would avoid a situation where unrealistic measures from the City are imposed on mobility stakeholders and unnecessarily hurting their core business. Discussion and exchange are key to make sure the decided/agreed (depending on how flexible the city is in this dialogue) measures are respected and as successful as possible.

As opposed to the previous webinar, here the idea was to open to discussion to organisations who are not necessarily part or aligned with the TM 2.0 community. A mix of TM 2.0 and MaaS Alliance members were invited to share their thoughts on the presented scheme.

- Dr Johanna Tzanidaki, Chief Innovation Officer, ERTICO/TM 2.0 co-Chair
- Roelof Hellemans, MaaS Alliance Secretary General
- Cassandre de Froidmont, TM 2.0 Coordinator
- Iuliia Storykova, MaaS Alliance Coordinator
- Coen Bresser, Senior Manager at ERTICO
- Dr Laura Cocone, Global Innovation Manager at SWARCO
- Jop Spoelstra, Innovation Manager at Technolution
- Marjolein Masclee, Coordinator international affairs for Traffic Management at RWS
- Mario Busillo, MaaS and Territory Projects at Pluservice
- Lingyun Xia, Operational Excellence & Business Intelligence Senior Manager at ARRIVA
- Mihai Chirca, Head of European Affairs at Transdev Group
- Jonna Heikkinen, Public Transit Lead EMEA at Uber

When presenting the architecture model above, the author of the proposed model, Coen Bresser mentioned that, the orchestrator of the Mobility network Management should in fact be fully objective and neutral. However, this is currently not the case for any stakeholder. Public Authorities are the ones who come closest to that role and therefore why they are suggested to take the lead. Some scepticism towards this was voiced from the private sector's side. Dr Laura Cocone from SWARCO states that the influence of Traffic Management is broad, in fact, it can contribute to 3 levels: the strategic level, where it has a role in translating high level KPIs to mobility KPIs. The technical level where it ensures good planning. And the operational level, where it makes the link with the physical infrastructure. Because of this important and multifaceted influence, Laura Cocone believes that it is important for the orchestration of Mobility Network Management to be discussed and decided among all relevant stakeholders.

Although it is logical for all stakeholders to want to have their place in the organisation of a new system and somehow benefit from it, Roelof Hellemans wished to once again emphasize that the priority should be the users and providing them the best service possible. He agrees with Coen Bresser's statement on Public Authorities being the best option to take a coordinating role in managing the mobility network.

Mario Busillo raised his concern on the sensitivity of real time information and the importance of having a trusted source of information. Both of these have a great influence on the efficiency and well function of traffic management but also and especially on the safety of citizens. Mario Busillo suggests regulation as a solution to guarantee that real time information is trust worthy.

The scalability of an integrated multimodal network was also raised. It should be taken into account that all cities and regions are different in terms of size and how they are managed. Therefore, although the overarching concept could be the same everywhere, it should still be adapted to its local context.

The discussion ended on the fact that overall, all stakeholder do not agree on how to align and who should take the lead in this multimodal network.

## **Maas Alliance Plenary: Mobility Network Management Discussion - How to Steer Assets within a City**

This physical event was organised by the MaaS Alliance on the 13<sup>th</sup> of December 2022, following the discussions from the webinar and workshop described above. The aim of this session was to discuss the influence of assets through Mobility Network Management. A mix of TM 2.0 and MaaS Alliance members were once again invited to share their thoughts on the topic.

- Jop Spoelstra, Technolution
- Dr Laura Cocone, Swarco
- Hubert Joseph-Antoine, Transdev
- Dr Johanna Tzanidaki, ERTICO/TM 2.0 co-Chair

- Roelof Hellemans, MaaS Alliance
- Iuliia Storykova, MaaS Alliance Coordinator

In order for cities to optimize assets it was discussed that it was important for there to be benefits of public authorities and the citizens. In terms of how to optimize assets, data sharing and a joined decision making process were mentioned. Cities should influence users to balance the occupation of assets or define where to create new assets to serve the public's needs: accessibility and liveability. Different tools as to how public authorities can influence end users were mentioned: Services: Mobility Mix with Cost, Time, Ease to Use and environment to offer to users to sort the proposition mixture and Real Time Assets Management through Traffic Management for a dedicated usage of assets.

Following this discussion, it was stated that it was now essential to link with cities as to understand their needs.

## Conclusions and Next Steps

Through the work of this TM 2.0 Task Force considerable progress on the topic was made. Firstly, the relationship between TM 2.0 and the MaaS Alliance was further developed and their visions became better aligned. The topic of the TM 2.0 architecture for Mobility Network Management (MNM) was presented and discussed within the two communities who had the opportunity to meet and exchange views. Although not all stakeholders of MaaS Alliance community was fully aligned on all fronts of the approach suggested by the TM 2.0, these discussions are still essential as they raise awareness on how multimodal mobility impact traffic and how traffic congestions impact multi-modal mobility. It is also by having such discussions and exchange of opinions that it will eventually be possible to find a common approach from mobility stakeholders to Mobility Network Management.

The work of TM 2.0 on the MNM has, after 8 years, succeeded in creating an important momentum. The concept of MNM is being discussed in other platforms and organisations than the TM 2.0 and the EC has invited ERTICO, member of TM 2.0 to act as the co-leader of the sub group EGUM (Expert Group on Urban Mobility set up by the European Commission) on "future of transport and urban space". This is a great opportunity to further promote the values of TM 2.0 concerning Mobility Network Management on a wider European level.

In terms of next steps, the Task Force suggests to continue cultivating the relationship between the TM 2.0 and Maas Alliance communities. This may be achieved in several ways including organising workshops and webinars with members from both communities as to continue discussing and exchanging on all mobility related topics.

It is also suggested to continue raising awareness on Mobility Network Management beyond the TM 2.0 and MaaS Alliance communities. This can once again be done by organising workshops and webinars around the topic with platforms and organisations that cooperate with ERTICO in China, Japan, Australia and South Korea. The cooperation with TRB in the US is already taking place as the



TM 2.0 is dynamically involved in the organisation of the 4th International Symposium on Traffic Management (ISFO) taking place in Vienna (26-30 June) and where both the TM 2.0 and the MNM will be discussed with the international community.

Finally, based on the discussions and conclusions presented in this report, the TF suggests for the TM 2.0 Platform to rename itself as the Mobility Network Management Platform. The current name “TM 2.0: Enabling vehicle interaction with traffic management”, is not anymore fully representative of the work done on the platform. The focus of TM 2.0’s work for the last few years goes beyond vehicle interactions; TM 2.0 is taking a systems approach to mobility. This means that it takes into consideration multimodality, multiple stakeholders as well as the spill over effect of mobility on other sectors. For instance, work in the TM 2.0 platform has already recognised (and is working on) that mobility has a spill over effect on the energy sector. One example of such a spill over is the impact of the development and usage of electric cars on the electricity grid. The recent surge of usage of electric cars has caused concerns for the electricity grid and whether it has and will continue to have the capacity to support the charging of electric vehicles in cities.

The change of the platform’s name was mentioned and briefly discussed at the TM 2.0 SB meeting of the 22<sup>nd</sup> February 2023. The members generally agreed with the reasoning behind this suggestion and discussed the possibility of rebranding. An alternative was suggested, renaming the platform as: TM 2.0: Enabling Mobility Network Management.

No final decisions were made during the SB meeting. This discussion is to be continued at the next TM 2.0 General Assembly in June at the ISFO Symposium in Vienna.