TM 2.0

ENABLING VEHICLE INTERACTION WITH TRAFFIC MANAGEMENT

2016

About TM 2.0

The TM 2.0 ERTICO Platform originated in 2011 by TomTom and Swarco and was formally established on 17 June 2014 during the ITS Europe Congress in Helsinki. It now comprises 30 members from all ITS sectors focusing on new solutions for advanced interactive traffic management.

The platform aims to agree on common interfaces, principles and business models which can facilitate the exchange of data and information from the road vehicles and the Traffic Management and Control Centres (TMC), and back, improving the total value chain for consistent traffic management and mobility services as well as avoiding conflicting guidance information on the road and in the vehicles.

TM 2.0 in 2016

The work of the task forces (TFs) in 2015-2016 strongly depended and relied on those of the previous years. The initial five TFs of 2014-2015 have identified key topics for discussion and analysis and have helped advance the TM 2.0 platform to where it is now and where we wish to be tomorrow. There are currently 2 ongoing task forces that have launched their second phase and four new ones starting in the autumn of 2016.

Ongoing Task Forces 2016:
1.   Exchange of traffic management pans (TMPs)
2.   Role of Automation in traffic management

NewTask Forces (2016 -->):
1.   The implementation of TM 2.0 in real traffic
2.   Traffic Management and links to other modes and interfaces
3.   Exchange of Best Practices on deploying TM 2.0
4.   Contractual agreement and schemes

What our members see as being the value of TM 2.0

"TM 2.0 will enable the provision of innovative services and may improve human and goods mobility in ways beyond today's imagination, taking into account all new trends including automation and green mobility."

Angelos Amditis, ICCS

"Public and Private stakeholders are joining forces to complement and connect existing traffic management plans which will ensure a higher level of service in terms of increased traffic efficiency on the network and improved safety in terms of incident response and mitigation measures."

Lina Konstantinopoulou - ERTICO - ITS Europe

"Deploying the TM 2.0 concept results in a win-win cooperation of traffic management centres and information services providers with clear benefits for customers involving all transportation modes."

Karl Rehrl, Federal State of Salzburg

"TM2.0 is not only about next traffic management collaborative paradigm, but also about opening new business challenges that the need to be tackled with new forms of synergies among main categories of stakeholders in the mobility field – boasting complementary knowledge, data and skills – in a completely interconnected environment."

Laura Coconea , Swarco

"We are fast proceeding towards an evolved system of Traffic Management that involves all stakeholders and respects their needs. Based on a common belief in the value of interactive Traffic Management , TM 2.0 members work on new Business models and think out of the box."

Johanna Tzanidaki,TomTom

"The open and productive sharing of ideas leads us to new insights in how road operators and service providers can strengthen each other by exchanging Traffic Management information."

Jop Spoelstra, Technolution

"TM 2.0 is the reaction on disruptive changes related to future of mobility, which started already. Connected and cooperative mobility based on TM2.0 will lead to improved safety and higher throughput in transportation networks."
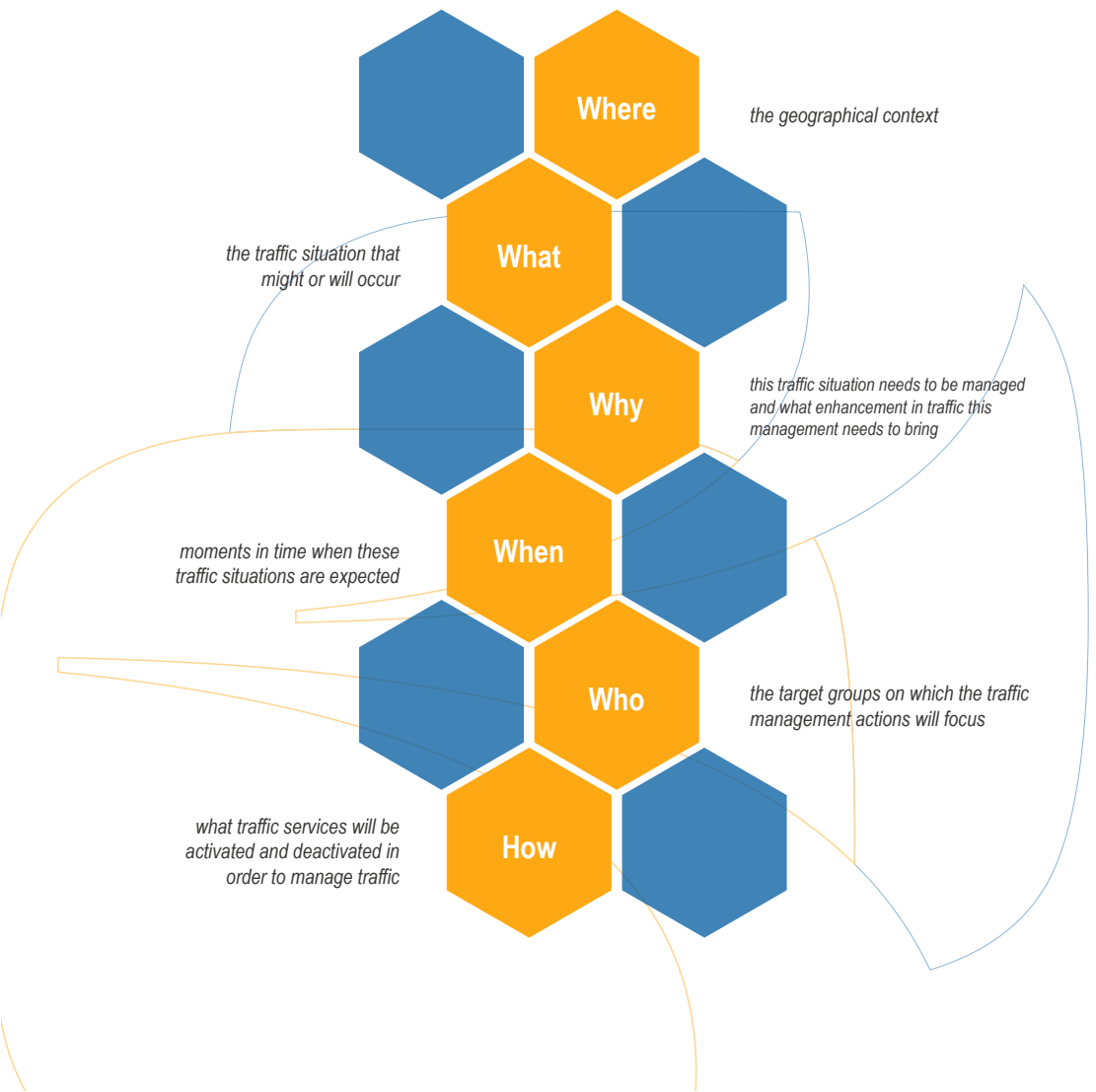
Robert Sykora, Siemens

Traffic Management Plans

Traffic management solutions are often not directly interchangeable between different urban areas or regions. It is, therefore, necessary that they are tailored to local requirements and should be reflective of local priorities and sensitivities. Traffic management requirements often have direct policy implications. Thus policy decision makers will be fully involved in decision making regarding traffic management strategies and actions.

Elements of a Traffic Management Plan

Where

the geographical context

What

the traffic situation that might or will occur

Why

this traffic situation needs to be managed and what enhancement in traffic this management needs to bring

When

moments in time when these traffic situations are expected

Who

the target groups on which the traffic management actions will focus

How

what traffic services will be activated and deactivated in order to manage traffic

The win-win

All members in the Platform believe that that cross sector collaboration (on both strategic and operational level) can result in a win-win for all actors in the system: road network users, traffic management centres and public authorities and data and infrastructure service providers.

Road network users will benefit from a more relaxed and better informed driving experience by avoiding congestion, receiving relevant information, and improved road safety.

Traffic management centres and public authorities will be able to better manage their traffic flows and avoid traffic collapse and congestion, unnecessary emissions, providing enhanced traffic information accuracy.

Finally, **data and infrastructure** will be able to provide the best route options for their users, provide solutions rather than inform on problems, and be able to provide regional information as a part of an integrated traffic information service.

TM 2.0 Members

Public Authorities

Research

Users

Traffic & Transport

Service Providers

Supplier

Vehicle Manufacturer

Associations
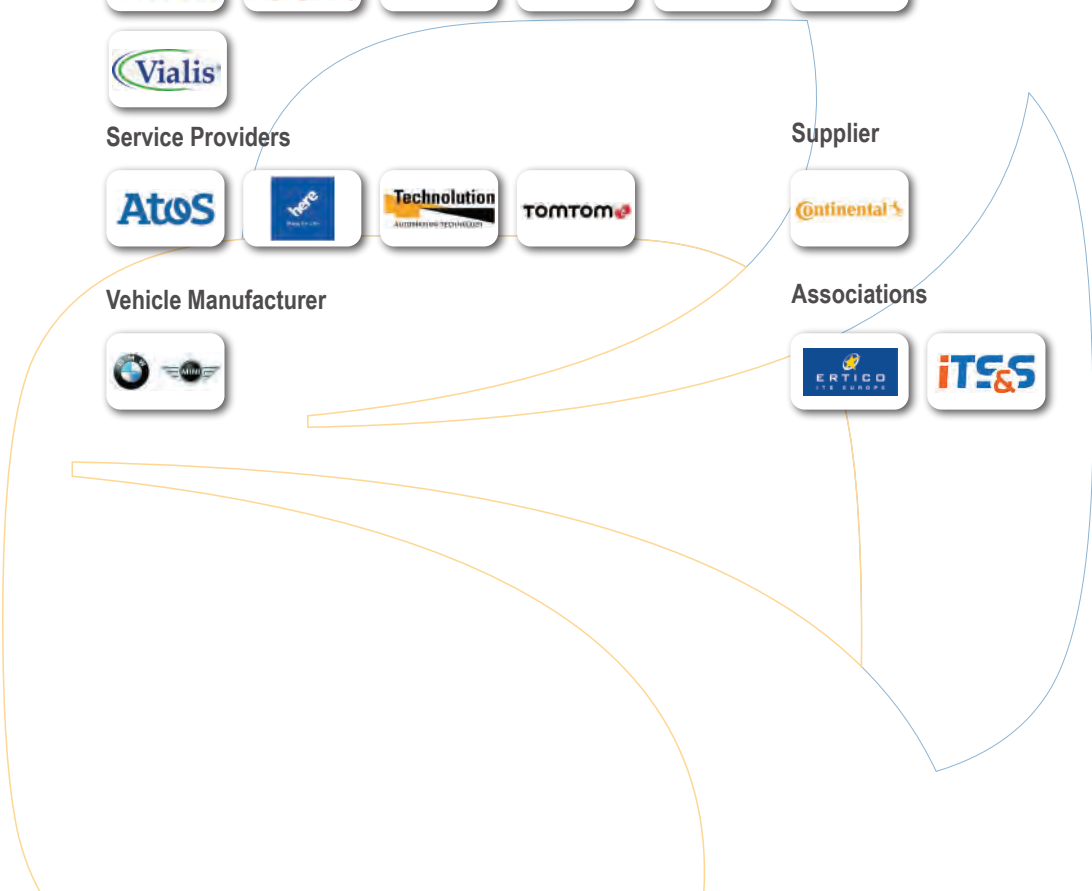
Benefits of TM 2.0

The benefits of the TM 2.0 platform have been assessed and summarised by the Task Force on Value Proposition during its course of work 2015-2016.

In order to assess the diversity of needs, and ensure that the 'win-win' principle is followed, the TF on Value Proposition examined four cities / regions in Europe, namely the city of Thessaloniki, the region of Helmond – Eindhoven – Tilburg, the federal state of Salzburg and the city of Barcelona and assessed their common vision in how TM 2.0 can help in coping with the different challenges in their respective traffic management practices.

City administrators / traffic managers	Drivers	Traffic informaiton service providers
- *avoid congestion and traffic collapse* - *avoid unnecessary emissions* - *improve TMP complementing or replacing loop detectors and enhancing accuracy* - *TMPs measures reach driver directly* - *FCD-enabled TM even in roads with no ITS (scalable)*	- *avoid congestion: more relaxed driving* - *receive relevant regional information in-vehicle* - *improved road safety through smoother traffic flow* - *best route options aligned with TMPs*	- *provide best route option for the destination (not only fastest)* - *provide information that goes beyond congestion* - *provide solution (best route option) not the problem (congestion info) well in advance* - *regional information becomes part of an integrated service*

The TM 2.0 ecosystem:

The Task Force on Viability Analysis (active 2014 -2015) produced the following organisational model architecture representing the ITS ecosystem as well as the stakeholders of the platform.
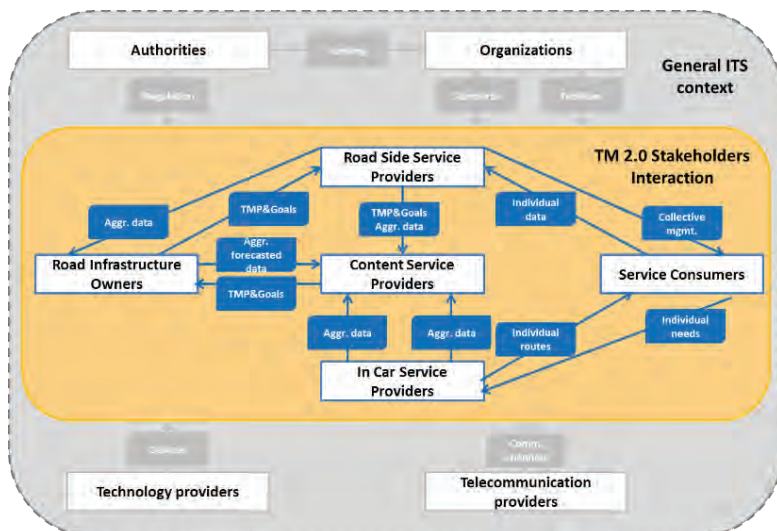
Task Force on Exchange of Traffic management Plans
(Leader: Technolution & Siemens) 2015-2017

The TM 2.0 Task Force on the exchange of Traffic Management Plans (TMPs) aims to enable, facilitate and accelerate the information exchange among traffic management stakeholders and in particular the access to policy and strategy based plans and actions as these are set by the public authorities and road operators. The TM2.0 taskforce on the exchange of TMPs aimed to define what is included in traffic management plans (decisions, procedures and strategies), and how these should be exchanged. The TF succeeded in defining what traffic management plans encompass, which stakeholders are involved in exchanging these plans, and described current pilot cases of exchange of TMPs between service providers and infrastructure operators. The TF found that traffic management solutions are often not directly exchangeable among different urban areas or regions due to differences in local requirements, priorities, sensitivities but also due to differences in technical capabilities, infrastructure and lack of standards. Ideas on how these traffic management plans are to be exchanged and how these procedures might work must incorporate these versatile aspects of TM2.0. Currently the TF is identifying case studies so that TISA can help with the work on specs and standards needed. Specs and standards are of course beyond the scope of this TF and of the TM 2.0 Platform. The TF will only attempt to define the relevant case studies where gaps are seen and where TISA can be seen as contributor.

In its second phase, the TF is looking to further develop the concept of TMP exchange by analyzing the 'why' in the exchange of ''TMP'' in rerouting and explore if this exists already in TPEG or TPEG extensions are needed. More to that, a closer link is being established with the DATEX II community, which will help TM 2.0 to understand how the Public Authorities will be communicating TM 2.0 messages (using the same set of case studies identified for the cooperation with TISA).

A final report summarising the key outcomes is expected in June 2017.

Task Force on Role of Automation in Traffic Management (Leader: ICCS) 2015-2017

Automation along the entire chain of road transportation and services will play a key role in future transport systems. Traffic Management has to be ready to accommodate the circulation of automated vehicles. The main objective of this TF is to assess how the gradual road presence of automated vehicles, at automation level 3 and above, will affect the current Traffic Management practices. Another objective is to analyse how new Traffic Management practices can facilitate the smooth integration of automated vehicles in real traffic, while gaining the maximum benefits from this introduction. Moreover, the TM 2.0 TF aims to explore the interaction between Traffic Management, automated vehicles and human drivers. The TF works under the principle that in order to establish an efficient and valuable interaction, "both ends" of the Traffic Management chain need to be prepared to communicate not only in the same language but also on the basis of similar technical and functional quality levels.

A survey was conducted initially among the members of the TF, and then expanded to external stakeholders. The survey revealed that road automation is expected to enable the provision of more reliable, effective and efficient Traffic Management services, which will increase road safety and efficiency and enhance environmental protection. Still, high quality, detailed data of the current status of the road network and of the whole transport system should be always available, covering the whole road network. The survey showed that traffic environment should be harmonised, while data privacy and security should be also safeguarded. New communication means for automated vehicles should be conceptualised and designed, replacing the traditional communication means that took the presence of human drivers for granted, and this may require changes in the physical infrastructure as well.

The Task Force on "Role of Automation in Traffic Management" has finalised its first phase report. The second phase of work of this TF currently focuses on requirements for Traffic Management Centres and Infrastructure and analyses specific use cases involving mixed traffic in urban and highway environments. A report is expected on the outcomes of Phase 2 by June 2017.

Upcoming Task Forces
(starting in September 2016)

Task Force on "The implementation of TM 2.0 in real traffic" :

- Deploy TM 2.0 through real life business cases
- Put to the test the results of the TF on ''Quantification of Benefits'' and those of the TF on '
  'Value proposition'' by observing the benefits in real-world field studies (effects of different
  measures, driver reaction,…)
- Possibility to link with H2020 MG 4.1 proposal and proceed to project

Task Force on "Contractual agreement and schemes":

- Suggest elements facilitating contractual agreement and schemes facilitating win-win
  cooperation and development of Business Models for the relevant stakeholders.
- Define why TMCs would exchange TMPs with Service Providers (different levels of
  cooperation: mandatory forwarding of TMPs to optional forwarding of TMPs) and related
  Business Models
- Define practical steps for cooperation with German pilot project Lena4ITS, URSA Major 2,
  NAVIGAR
- Contribute with guidelines and recommendations

Upcoming Task Forces
(starting in September 2016)

Task Force on "Exchange of Best Practices on deploying TM 2.0" :

- Exchange of Best Practices on deploying TM 2.0 at city and region level.
- Speed up the development of innovative solutions for advanced active traffic management by supporting the TM 2.0 Innovation Procurement process
- Implementation of the TM 2.0 a market place focussing on new solutions for advanced active traffic management.

Task Force on "Traffic Management and links to other modes and interfaces":

- Speed up the development of innovative solutions for advanced active traffic management by linking to intermodal and syncromodal interfaces.
- Link with relevant initiatives and projects (DTLF, CO-GISTICS, URSA MAJOR, INTERCOR)
- Possibility to link with H2020 MG 4.1 proposal and proceed to project

Join us!

- To experience the front lines of building the next generation of traffic management
- To meet and learn from like-minded enthusiasts
- To experience real-life implementation of C-ITS
- To learn and understand the perspectives of both public and private stakeholders
- To get involved in a variety of task forces providing short and long-term results

Shape the next generation of traffic management!

For further information and membership enquiry please contact us

www.tm20.org   info@tm20.org

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