

TECHNICAL COMMITTEE 2.1 – MOBILITY IN URBAN AREAS

2.1.1. Accessibility and mobility facing land use in urban and peri-urban development

Strategies / Objectives

- Data collection and analysis of inhabitants' mobility daily needs and accessibility and adequate level of urban and peri-urban mobility.
- Take into account low development areas with a high growth rate of population and lack of urbanization planning.
- Analyze the use of road infrastructure in urban areas by different vehicles: private cars, public buses, taxis, urban services (cleaning, ambulance, police, fireman...), bicycles, scooters... and role of road infrastructure in enhancing mobility policies.
- Identify good practices of integrating transport planning and land-use planning to optimize modal split.
- Identify good practice for building public support for sustainable urban mobility initiatives.
- Encourage coordination with other TCs and TFs, such as *T.C. 1.2 - Planning Road Infrastructure and Transport to Economic and Social development*, *T.F.B.2 – Automated vehicles – challenges and opportunities for road operators and authorities*, *T.F. 2.1 – New mobility and its impact on Road Infrastructure and Transport*, *T.C 3.1 – Road Safety*, *T.C.2.4 – Road Network Operation/ITS* and *T.F.3.1 – Road Infrastructure and Transport Security*.

This Technical Committee will focus on inhabitant's mobility needs in the commuting areas in order to make sure that all transportation trips in relation with the services delivered by cities will be taken into account.

This issue will be faced taking into account the work of *T.C. B.3 – Sustainable Multimodality in Urban Regions* (SP 2016-2019). Some of their findings are gathered below:

“Globalization and specialization have enabled cities to flourish and have led to the concentration of activities and populations, resulting in an increase in urban transport needs and a scarcity of public space. In these urban areas characterized by high population and employment densities, congestion of transport systems is the rule and the sharing of public space is a necessity. Moreover, in a context of scarce public finances, new developments were becoming increasingly difficult to implement, especially since in the past they had not succeeded in solving all travel problems. Thus, in these dense areas, it became necessary to organize and optimize existing transport systems.

Then, with the development of means of transport, more and more inhabitants have taken advantage of these new offers to reconcile the attractiveness of the city's jobs with the lower housing costs in the outskirts, or even the quality of life in the countryside. The result has been a rapid expansion of the area of influence of cities in terms of employment, which extends well beyond the urbanized area, well beyond congested networks, and a rapid increase in transport needs for everyday travel. PIARC's Strategic Plan has taken this phenomenon into account by requesting that the reflection on the city be extended to metropolitan regions, focusing on mobility needs and services (and no longer only on transport needs) and multimodality. Thus, in addition to the reflections on the density and scarcity of space, it was necessary to add a reflection on the links that unite rural territories, of very low density, to the dense areas of the city. What transport needs? How can access to jobs in the city center, and more generally access to the city's amenities (education, care, culture), be made possible under good conditions of social equity and cost? How can development be guided in order to limit transport needs without forgetting the essential needs of the inhabitants of the outskirts?

Finally, the 21st century has seen the rapid growth of digital technology and its many applications in the field of mobility (networking applications, car-sharing and carpooling services, electric bicycles, renewal of electric motor vehicles, autonomous driving, etc.) and the emergence of new behaviors

(sharing economy, circular economy, etc.). PIARC wanted these trends to be included in the scope of the reflection.”, etc.

“Some of the themes developed in the previous report have not been further developed. This is the case, for example, for active mobility, for which the reader may wish to refer to the reports "Strategies to balance the modal share of urban transport in order to improve mobility and reduce road congestion" and "Key issues to improve mobility strategies in large urban areas". However, new services such as bicycle sharing or electric bicycle are covered in this report.”, etc.

“At the end of this four-year cycle, the committee wishes to share some questions but also one certainty.

The questions concern the future of mobility. We have seen in this short introduction that our societies have moved in less than a century from a traditional model with two types of living environment (cities and village communities) practically independent in terms of daily mobility, to a model of peri-urbanization where hundreds or even thousands of village communities located more than a hundred kilometers from a city live in close relationship with it, a relationship that translates into daily exchanges for access to employment, education, care or leisure. The question that arises today is whether this model of spatial occupation, consisting of a mosaic of geographically separated territories closely linked by daily exchanges, will continue to expand, stabilize or multiply?

Since digital technology already allows remote working, will we see a further dispersion of living and working places with less physical presence in the workplace? It will also bring essential services (education, care, etc.) closer to living spaces: it should therefore lead to a reduction in mobility needs. But it also makes it possible, in particular, thanks to the autonomous vehicle, to reduce transport costs, driver time lost and travel discomfort: the result should therefore be a rebound effect consisting in transforming these innovations (as has happened with each innovation in the field of transport) into new desires to travel further (or more often) to access new opportunities. Finally, how can we take into account the challenges of climate change and the scarcity of natural resources?

Certainty relates to the need to continue sharing observations, good and bad practices at the international level, and the multiplicity of views on these practices. It also addresses the need to broaden the transversally of reflection by confronting it with new approaches, particularly through the social sciences.

May these contributions help the road authorities to provide a sustainable response to the needs of the inhabitants of these territories.”.

As a consequence, for *T.C 2.1* we should ask case studies, good practices, or policies, both in the field of local daily needs (urban mobility needs) but also in the field of daily needs between cities and their hinterland (i.e. commuting area which includes rural areas). In addition, a briefing note and a full report are expected to be completed during this cycle.

Outputs	Expected Deadlines
<ul style="list-style-type: none"> • Collection of case studies 	<ul style="list-style-type: none"> • June 2021
<ul style="list-style-type: none"> • Briefing note 	<ul style="list-style-type: none"> • December 2021
<ul style="list-style-type: none"> • Full report 	<ul style="list-style-type: none"> • December 2022

2.1.2. Integrated transportation systems, multimodality

Strategies / Objectives

- Identify good practices of optimization of road networks through better integration with other forms of transport (rail, active modes, etc.) in terms of efficiency, resilience and sustainability.
- Focus on multimodal transit center, collect data and analyze the efficiency, the resilience and the sustainability.
- Encourage coordination with other TCs and TFs, such as *T.C. 1.1 - Performance of Transport Administration*, *T.C. 1.2 - Planning Road Infrastructure and Transport to Economic and Social development*, *T.F.B.2 – Automated vehicles – challenges and opportunities for road operators and authorities*, *T.F. 2.1 – New mobility and its impact on Road Infrastructure and Transport*, *T.C.2.4 – Road Network Operation/ITS*, *T.C 3.1 – Road Safety and T.F.3.1 – Road Infrastructure and Transport Security*.

Sustainable urban mobility is today a priority for all city administrations and governments. Concern for the organisation of all transport circulating in the city is therefore of paramount importance. Making cities less congested, cleaner and ecological does not consist in trying to eliminate the means of transport available to us, but in knowing how to use them more efficiently. In other words, treating all forms of transport equally, in order to guarantee access to citizens according to their needs. This is the starting point for the development of sustainable and environmentally friendly cities. This is how multimodality emerges, which is beginning to be applied in urban transport management plans as a way of promoting more sustainable and less polluting mobility, given the possibility of combining several forms of public and private transport on the same route, including, in addition to the private vehicle, active mobility (walking or cycling) and car-sharing platforms.

To be able to say that a city has a sustainable urban transport mobility plan and promotes multimodal mobility, it will be necessary to plan not only public transport logistics (transport cards, information systems, etc.), but also urban infrastructure (car parks, stations and stops, routes). The key lies in connecting all infrastructures and integrating services into one.

This is, for example, someone could leave the car in the dissuasive car park at the train station, go to the city centre by metro, and end the journey with a shared bicycle. All coordinated in an efficient way and with accessible costs for the population.

In fact, the key is to connect all infrastructures and integrate all services into one. For example, being able to make all payments (car parking, public transport voucher and shared bicycle fare) with a single transport card. Or connect the times and schedules of the different sections of the same route.

The challenge is therefore in the connection and integration of infrastructures and public services.

An additional challenge is posed by the orography of cities and peri-urban areas (with the problem of significant slopes or elements such as mountains or rivers), as well as geography (near the coast or in islands).

T.C 2.1 should ask case studies and good practices on multimodality in several cities and peri-urban areas. These case studies will be summarized in a briefing note.

Outputs	Expected Deadlines
<ul style="list-style-type: none"> • Collection of case studies 	<ul style="list-style-type: none"> • March 2022
<ul style="list-style-type: none"> • Briefing note 	<ul style="list-style-type: none"> • December 2022

2.1.3. Evaluating impacts of new mobility in urban and peri-urban areas

Strategies / Objectives

- Evaluate impacts and challenges of new mobility (automated driving, sharing, MaaS) on urban environment and social inclusion.
- Identify good practices of smart cities using ICT Technology.
- Analyze the ITS contribution to urban mobility.
- Encourage coordination with other TCs and TFs, such as *T.C. 1.1 – Performance of Transport Administration*, *T.F.B.2 – Automated vehicles – challenges and opportunities for road operators and authorities*, *T.F. 2.1. - New mobility and its impact on Road Infrastructure and Transport*, *T.C. 3.1 – Road Safety*, *T.C. 2.4 – Road Network Operation/ITS* and *T.F.3.1 – Road Infrastructure and Transport Security*.

For the last few years, the appearance of new mobility formulas is producing a trend change in urban areas, which far from decreasing will increase in the future. There are two reasons for this:

- “Millennials” are used to the current Digital Era, and are betting on this new form of mobility, even having less purchasing power than previous generations.
- Ageing of the population is leading us to prefer forms of mobility than to do not require great physical capacities.

Other factors also have an influence, such as the growing awareness of the need to reduce the emissions produced by vehicles in urban areas. This leads us to an increase use of non-polluting vehicles, public transport, bicycles and other similar elements, and, therefore, to the promotion of intermodality, increasing the need to develop the concept “Smart Cities”.

The impact on urban mobility needs to be analyzed, as well as which factors can contribute to its greater integration, such as ITS.

An analysis of how to tackle the problem of vulnerable users (pedestrians, cyclists, etc.) whose number is expected to rise considerably in cities, is necessary, considering the measures for their coordinated, and compatible with other modes, integration.

T.C. 2.1 will analyze this impact through case studies, considering cities of different sizes, as well as the impact on peri-urban areas, identifying good practices.

In this Cycle, a briefing note based on the collection of case studies is expected to be completed.

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<ul style="list-style-type: none"> • Collection of case studies 	<ul style="list-style-type: none"> • March 2022
<ul style="list-style-type: none"> • Briefing note 	<ul style="list-style-type: none"> • December 2022