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## Economic Commission for Europe

Inland Transport Committee

Working Party on Transport Trends and Economics

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Urban mobility and Public Transport

### Urban mobility and Public Transport: challenges and prospects\*

#### Note by the secretariat

## I. Mandate

1. The Inland Transport Committee during its seventy-sixth session (25–27 February 2014) encouraged governments and municipalities to support further research on urban transport and mobility provided by the United Nations Economic Commission for Europe (UNECE), and suggested that this topic be addressed in the agenda of the Working Party on Transport Trends and Economics (WP.5) (ECE/TRANS/240, para 11). Furthermore at its seventy-seventh session (24–26 February 2015) decided to regularly review the developments in urban mobility and transport, and particularly, the inter-linkages between urban, regional, national and international transport networks and services. In this regard, the Committee requested WP.5 to follow-up on this matter (ECE/TRANS/248, para 18).

## II. Challenges and prospects

2. As it is being mentioned in ECE publication of 2015 Sustainable Urban Mobility and Public Transport in ECE capitals Cities, which are hubs connecting various markets, will continue to grow, especially if they are governed to address the various diseconomies that come along with the growth. These diseconomies are usually related to increasing costs of land, labour, housing, accessibility or pollution.

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3. The conditions that can facilitate the growth and make sure that such is sustainable are established often with the legal and regulatory frameworks at the state level. However, these frameworks need further complementary policies at the city level to help create even more favourable conditions for enterprises to do business and for citizens to enjoy a good quality of life.

4. The complementary policies are related to public infrastructure and services provided at the city level, in particular: transport, housing, water and sanitation, waste management as well as access to work, information, education, i.e. access to opportunities.

5. Urban transport policies should be oriented at enhanced mobility for ensuring better accessibility to the various “markets”. At the same time, they should help reducing the transport externalities such as traffic congestion, road crashes and environmental pollution.

6. Many cities across the globe and the ECE region continue, however, to face challenges in reducing externalities. Due to traffic congestions the markets accessibility within urban areas deteriorates rather than improves. Road crashes and pollution cause not only large costs but also reduce the quality of life of citizens and hence impact negatively their well-being.

7. While challenges are faced, a knowledge base is developed to help authorities in implementing policies to foster more sustainable systems for urban transport and mobility. It addresses the role of public transport and non-motorized transport for urban mobility and transfers. It specifies how the quality of public transport and its infrastructure and networks as well as the infrastructure for non-motorized transport can impact the preferences for citizen's mobility. It further shows the conditions necessary for preventing a false distribution of demand for mobility and urban transfers between the various transport modes.

8. Sustaining an effective and efficient transport system requires that the appropriate authorities transform the available land and financial resources, both limited capital inputs, into relevant transport infrastructure and networks to provide, what is considered, the right combination between the various motorized individual or collective/public and non-motorized transport modes, as well as easy transfers between them to meet the mobility demand.

9. The development of the infrastructure and networks, thus creating the urban transport supply side to meet the mobility demand is not the end of the challenging task. While the available transport options created through available infrastructure and networks can influence the shifts of the population between the various modes of transport, this in itself may not be sufficient to create an effective and efficient transport system. The authorities also need to create a relevant culture for mobility and through it influence the shifts between various transport modes. They can hence create demand for what is considered the right combination between the various motorized individual or collective and non-motorized transport modes.

10. Furthermore connectivity should be ensured among different public transport modes with the national transport networks. Good connectivity is a prerequisite for efficient functioning of urban and national transport systems. Efficiency of urban transport for various transport modes depends on their interconnectivity and connectivity with national transport, especially in urban areas where people may choose to live outside the metropolitan areas and to commute every day. Often, these commuters are actually using the national or regional transport. No wonder that transport terminals started to become commercial centres where a number of daily life services are provided. Beyond the fact that these terminals became extra revenue sources for railways and for metro operators they facilitate commuters' life by covering daily needs while commuting.

11. What are the features that characterise high quality service for urban public transport? To such count in particular:

(a) Good accessibility: Urban public transport offers good accessibility if it connects the locations where the citizens live with locations where they go to work, study, shop or go for recreation or medical care. These connections can be direct or interconnected within urban public or national public transport networks but they need to offer an overall satisfactory ride time. Moreover, these connections need also to be adequate in terms of options, capacity and intermodality they offer, expressed respectively by number of means of transport in the network and the number of multimodal nodes with which they are interconnected and by number of seats and circulation frequency. Sustainable accessibility requests public transport connection with other transport modes such as bicycles and cars or walking through providing dedicated routes to access to the stations and parking infrastructure at the stations.

(b) High reliability: Urban public transport is reliable if it runs in accordance with the itineraries. Both the departure time from the station and the ride time between the stations to ensure the interconnectivity need to keep to the itineraries.

(c) Appropriate comfort, safety and aesthetics: Urban public transport is comfortable, safe and appealing if the means of transport are in appropriate technical and safety condition, clean, air-conditioned or heated, and protect from outside noise, etc. Moreover, the stations infrastructure should be such that protects from unfavourable weather conditions and it is separated from traffic to prevent from traffic injuries or fatalities. Availability of real-time information and monitoring in the vehicles and at the stations provided through intelligent transport systems (ITS) also adds to comfort and safety. So does the different variety of options for purchasing tickets. The vehicles and the stations should further have agreeable visual appearance and aesthetics.

### **III. Some actions taken**

#### **A. Transport, Health and Environment Pan-European programme (THE PEP)**

12. The Transport, Health and Environment Pan-European Programme (THE PEP) addresses key challenges to achieve sustainable transport patterns. Through a dynamic network of academics, experts and Member States of UNECE and WHO, THE PEP engages all three sectors on an equal footing in sharing best practices in sustainable and healthy transport and mobility, particularly in urban areas.

13. The Fourth High-level Meeting on Transport, Health and Environment (4HLM) was held in Paris from 14-16 April, hosted by the Government of France, under the auspices of THE PEP. The 4HLM adopted the Paris Declaration which included the following priority goals to be achieved:

(a) Priority Goal 1: to contribute to sustainable economic development and stimulate job creation through investment in environment- and health-friendly transport;

(b) Priority Goal 2: to manage sustainable mobility and promote a more efficient transport system;

(c) Priority Goal 3: to reduce emissions of transport-related greenhouse gases, air pollution and noise;

(d) Priority Goal 4: to promote policies and actions conducive to healthy and safe modes of transport;

(e) Priority Goal 5: to integrate transport, health and environmental objectives into urban and spatial planning policies.

## B. European Commission

14. An Action Plan on Urban Mobility was adopted by European Commission on 30 September 2009 and provides today a coherent framework for 20 concrete EU-level actions, which can be implemented by the European Commission in the coming years and through existing instruments and initiatives. These actions all aimed to support and enable efforts at the local level, rather than prescribe one-size-fits-all or top-down solutions.

(a) Action 1 — Accelerating the take-up of sustainable urban mobility plans: the Commission will support local authorities in developing sustainable urban mobility plans covering freight and passenger transport in urban and peri-urban areas.

(b) Action 2 — Sustainable urban mobility and regional policy: To increase awareness of the funding available from the Structural and Cohesion Funds and the European Investment Bank, the Commission envisages issuing information on the link between sustainable urban mobility measures and regional policy objectives under the current Community and national framework conditions.

(c) Action 3 — Transport for healthy urban environments: Sustainable urban transport can play a role in creating healthy environments and contribute to reducing non-communicable diseases such as respiratory diseases, cardiovascular diseases and injury prevention.

(d) Action 4 — Platform on passenger rights in urban public transport: The Commission will moderate a dialogue with stakeholders, including organisations representing operators, authorities, employees and user groups, in order to identify EU-wide best practices and conditions for strengthening passenger rights in urban public transport.

(e) Action 5 — Improving accessibility for persons with reduced mobility: Persons with disabilities have the right of access to urban transport on equal terms with the rest of the population but in reality access is often insufficient and sometimes non-existent.

(f) Action 6 — Improving travel information: The Commission will work with public transport operators and authorities on facilitating the provision of travel information through different media, including information addressing the needs of disabled persons.

(g) Action 7 — Access to green zones: The Commission will launch a study on the different access rules for the different types of green zones across the EU in order to improve knowledge on how the different systems work in practice.

(h) Action 8 — Campaigns on sustainable mobility behaviour: Education, information and awareness-raising campaigns play an important role in the creation of a new culture for urban mobility.

(i) Action 9 — Energy-efficient driving as part of driving education: Energy-efficient driving is already a mandatory part of the training and testing of professional drivers.

(j) Action 10 — Research and demonstration projects for lower and zero emission vehicles: The Commission will continue its support for research and demonstration projects funded through the Seventh Framework Programme for research and technological development (FP7) to facilitate the market introduction of lower and zero emission vehicles and alternative fuels, aiming to reduce dependency on fossil fuels.

(k) Action 11 — Internet guide on clean and energy-efficient vehicles: The Commission will continue to develop an internet-based guide on clean and energy efficient vehicles, including an overview of the market, legislation and support schemes.

(l) Action 12 — Study on urban aspects of the internalisation of external costs: the Commission will launch a methodological study on the urban aspects of the internalisation. The study will look at the effectiveness and efficiency of various pricing solutions, including implementation issues such as public acceptability, social consequences, cost recovery, availability of ITS (intelligent transport systems) tools and how urban pricing policies and other green zone arrangements can be effectively combined.

(m) Action 13 — Information exchange on urban pricing schemes: The Commission will facilitate information exchange among experts and policymakers on urban pricing schemes in the EU.

(n) Action 14 — Optimising existing funding sources: The Structural and Cohesion Funds, with over 8 billion Euros allocated to clean urban transport during the current financial planning period, are a very important EU funding source for investment in infrastructure and rolling stock.

(o) Action 15 — Analysing the needs for future funding: The Commission will continue to financially support the successful CIVITAS Initiative beyond the third generation of projects that started in 2008.

(p) Action 16 — Upgrading data and statistics: To address the lack of data and statistics, the Commission will launch a study on how to improve data collection for urban transport and mobility.

(q) Action 17 — Setting up an urban mobility observatory: The Commission will set up an urban mobility observatory for urban transport practitioners in the form of a virtual platform to share information, data and statistics, monitor developments and facilitate the exchange of best practices.

(r) Action 18 — Contributing to international dialogue and information exchange: Local and regional authorities across the world are confronted with similar mobility challenges. Tackling climate change, facilitating international trade, addressing the security of energy supplies, securing seamless transport flows and ensuring social equity are issues of global relevance.

(s) Action 19 — Urban freight transport: The Commission intends to provide help on how to optimise urban logistics efficiency, including on improving the links between long-distance, inter-urban and urban freight transport, aiming to ensure efficient ‘last mile’ delivery.

(t) Action 20 — Intelligent transport systems (ITS) for urban mobility: The Commission envisages offering assistance on ITS applications for urban mobility to complement the ITS Action Plan.

## C. UN-Habitat

15. UN-Habitat has developed the Urban Electric Mobility Initiative (UEMI) with the specific objective of achieving the widespread adoption of electric vehicles in cities to reach a target where travel by electric vehicles makes up 30 per cent of total urban travel by 2030.

16. UEMI will be implemented in the overall context of better urban planning and a balanced Avoid-Shift-Improve scenario, where accessibility is at the core of urban mobility and access for all to services, amenities and goods is considered as the overall goal of all

transportation ( UN-Habitat: Global Report on Human Settlements 2013: Planning and Design for Sustainable Urban Mobility).

17. The initiative will contribute significantly to:

- (a) Reducing emissions from transport and limiting the increase in global mean temperature to two degrees Celsius;
- (b) Reducing local air pollution and improving health;
- (c) Delinking economic growth and prosperity from greenhouse gas (GHG) emissions.

18. The UEMI calls for complementary actions by “supply side” and “demand side” actors. The supply side actors comprise Electric Vehicle (EV), battery and automotive component manufacturers. Energy suppliers and distributors are also important supply side actors since the widespread transition to Electric Mobility should be accompanied also by the transition to cleaner energy sources. “Demand side” actors comprise city and national governments, people and also businesses. Multilateral Financial Institutions such as the World Bank and the Regional Development Banks are also important demand side players due to the potential investments they can make in EV infrastructure. International organisations including UN-Habitat, other United Nations agencies, the International Energy Agency and other knowledge and research based organisations will play a facilitating role through knowledge sharing, capacity building and support through UEMI demonstration initiatives. A “CEO Electric Mobility Mandate” formed amongst industry leaders under the aegis of the United Nations Global compact will enable knowledge sharing to increase the market penetration of EVs within a sustainable development framework.

## D. International Association of Public Transport (UITP)

19. The International Association of public transport (UITP) is the international network for public transport authorities and operators, policy decision-makers, scientific institutes and the public transport supply and service industry. UITP brings together 1,300 member organizations from 92 countries around the globe.

20. UITP worked with the International Energy Agency to develop two urban mobility scenarios for 2025. These mobility projections for the year 2025 show the enormous economic, environmental and social benefits of doubling the market share of public transport worldwide. However, the figures also provide a stark warning, as they illustrate the potentially disastrous impact of failing to take action on urban mobility. To take up these challenges, UITP goal is to double the market share of public transport worldwide by 2025.

21. Through UITP’s Declaration on Climate Leadership, launched specifically for the United Nations Summit, it confirms the sector’s willingness to be climate leaders and highlights the responsibility of all to achieve a doubling in the market share of public transport worldwide by 2025 – from every city government, every organization and every person with the capacity to do so, both individually and collectively.

22. The key to the role of public transport in the overall sustainability picture is that of carbon avoidance. Three factors play significant roles:

- (a) Mode Shift – urban transportation generates approximately 40 per cent of all GHG, with a large proportion coming from single occupancy vehicles. On a per passenger-kilometre basis, emissions from single occupancy vehicles are up to four times higher than

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the per-passenger kilometre emissions of public transport and these figures are even higher during peak times.

(b) Land Use – A local public transport system allows higher density communities. For example, a trip to a child's school in a public transport serviced-community tends to be shorter — and frequently is short enough to walk — than a similar trip in an automobile-dependent suburban community. This land use factor is a major contributor to avoided carbon.

(c) Congestion Factor – Because a local public transport systems decreases vehicle traffic, those that remain on the roads are able to travel faster and more efficiently. When public transport trips are transplanted to roads, congestion goes up dramatically, causing engines to run more inefficiently and longer for the same trip and increasing GHG emissions.

#### **IV. Guidance by WP.5**

23. WP.5 may wish to consider the above analysis proposal and may wish to provide guidance to the secretariat on further action in this field.

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