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Item 5 of the provisional agenda
Preparation of the Fifth High-level Meeting on Transport, Health and Environment

Mobility during and after an epidemic in the short-medium term

Recommendations for Green and Health Sustainable Transport*

Note by the Task force on the development of green and healthy sustainable transport principles, chaired by Austria

Summary

At an extraordinary meeting of the Transport, Health and Environment Pan-European Programme (online, 22 April 2020) member States agreed to develop principles for green and healthy sustainable transport. The principles were to consider the experiences of the coronavirus disease (COVID-19) pandemic that could shape the (urban and suburban) passenger transport sector to be more resilient, efficient, greener, healthier and more sustainable. The principles would be linked to the achievement of the Sustainable Development Goals.

A task force comprising representatives of member States, international experts and researchers was established to develop the draft principles. The task force met online, on a monthly basis from the first meeting on 29 May 2020.

The Bureau of the Steering Committee of Transport, Health and Environment Pan-European Programme (THE PEP) (online, 29 June 2020) reviewed the work of the task force.

* This document has not been formally edited due to late receipt of the draft from the author.

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It also requested the secretariat to present the draft principles as official document for the Eighteenth session of THE PEP Steering Committee.

The present document was submitted by the task force to the secretariat. It is a draft based on the last input after the fourth meeting of the task force (online, 27 August 2020).

I. Introduction

A. Background

1. At the meeting of Bureau of the Steering Committee of the Transport Health and Environment Pan-European Programme (THE PEP) in April 2020, member States discussed at length the COVID-19 situation and the impact that it was having on the transport environment in their countries and the need to take action. Participants agreed to establish a THE PEP Task Force on: "The Development of Green and Healthy Sustainable Transport Recommendations" to facilitate the return to a new normal with sustainable transport solutions at heart of decision making to ensure a green and healthy future for all.

2. The objective of the Task Force was to make a synthesis of the "main lessons" learned from the Covid-19 crisis and to propose a set of recommendations in order to support countries in making the transition to green and healthy sustainable transport through the development of principles related to sustainability and resilience, taking into account the feedback and the sharing experiences of COVID crisis.

3. The Task Force was composed of over 50 experts from national Ministries, International Organizations, City Authorities, Inter-governmental and non-governmental organizations, Academia and industry experts. The Task Force was chaired by the Chair of THE PEP Steering Committee, Mr. Robert Thaler – Austria.

The Task Force met virtually as a group over 8 monthly meetings and, based on an agreed term of reference:

(a) exchanged experiences and best practice from national actions to counter the effects of COVID-19.

(b) established a framework under which the Task Force would function.

(c) developed common views on what the key themes for discussion in the recommendations should be.

(d) agreed a set of recommendations for the final document.

During this period, smaller drafting groups were set up to address the key themes fundamental to the development of the Recommendations.

4. The first draft of the Recommendations was discussed at the Steering Committee meeting of THE PEP in November 2020 and, following further consultations, was finalized in [INSERT]. [The recommendations identified in the Conclusions have also been annexed to the Vienna Declaration.]

5. The remainder of this chapter provides an overview of the current situation of the transport sector looking at the pre COVID-19 situation as well as the transport effects during the lockdown and reopening phase. It also sets out in the last section of this chapter a call for action for the future as a framework for the discussions in later chapters. Chapter 2 sets out the main themes that have been identified as key areas for recommendations. Chapter 3 sets out the conclusions and recommendations for member States going forward.

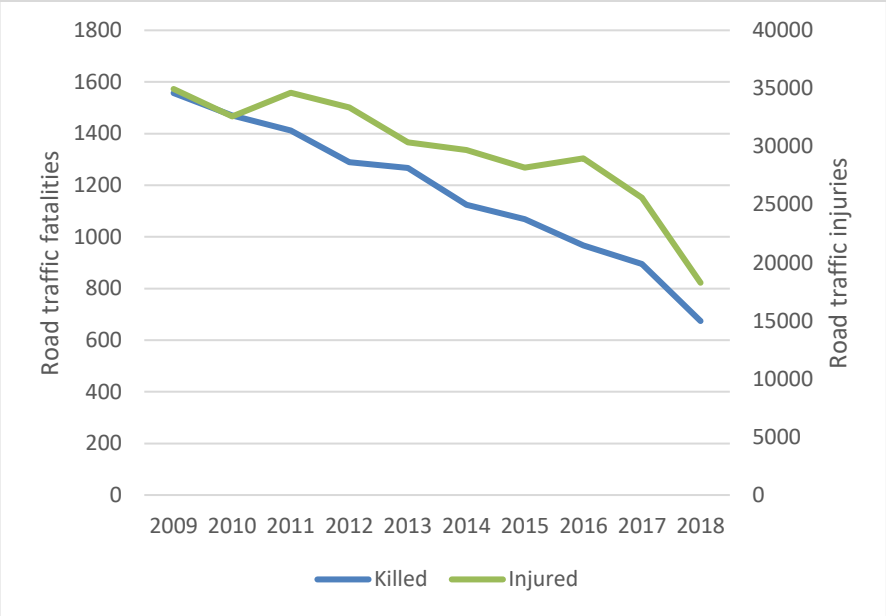
B. Current situation and outlook

1. The transport sector pre-2020

6. Although many steps have been taken in recent years to increase the sustainability of inland transport the car remains the main mode of transport across the region. According to Eurostat, in relation to EU-28 member States, the market share of passenger car transport in relation to all passenger transport was 83.3 per cent in 2018 and this has increased from 82.5 per cent in 2000. This compares to the other passenger modes where whose market shares are 8.0 per cent in 2018 compared to 7.1 per cent in 2000 and buses which has fallen from 10.4 per cent to 8.7 per cent over the same period. The share is usually lower when looking at cities only, but car transport usually remains the highest mode in terms of share.

7. The freight sector is slightly different with rail having a significantly higher share in many countries across the region, but as a whole, the road sector remains dominant. In this case the urban example is even more pronounced as only a small portion of freight traffic is undertaken off the roads.

8. According to data from the EEA, inland transport is one of the largest contributors to greenhouse gas emissions, responsible for about 22% of all emissions in the EU, in 2017, with the road transport sector covering more than two-thirds of that. Coupled with this, the road sector remains one of the biggest polluters of other emissions including NO2 and Particulates.



**Note:* Only partial data available for 2018
Figure 1: Fatalities and injuries per 100 000 passenger cars, UNECE region, 2009-2018*.
Source: UNECE Statistical Database

9. In addition to the negative effects of a lack of road safety across the region, the urban population is suffering from a lack of movement and physical activity resulting from the use of the car on a regular basis and increased congestion. According to INRIX in the ten most congested cities in Europe last mile average traffic speed varied from 12.9 km/h in Palermo to 24 km/h in Moscow. A similar ranking compiled by TomTom for 2019 shows that congestion levels in Europe decreased only in 30 cities out of 239 cities listed compared to 2018.

Table 1
Last mile average speed in the ten most congested cities in Europe

Rank	City	Last mile average speed (km/h)
1	Rome	17.7
2	Paris	16
3	London	16
4	St Petersburg	22.5
5	Dublin	16
6	Moscow	24
7	Brussels	14.5
8	Palermo	12.9
9	Lisbon	16
10	Turin	14.5

10. Air pollution is a major health threat in Europe causing premature deaths and disease, according to the European Environment Agency. One of the sources of pollution is transport. Although, air pollution from transport has been steadily declining in the European Union in the past decades (see figure 2), it still remains a concern.

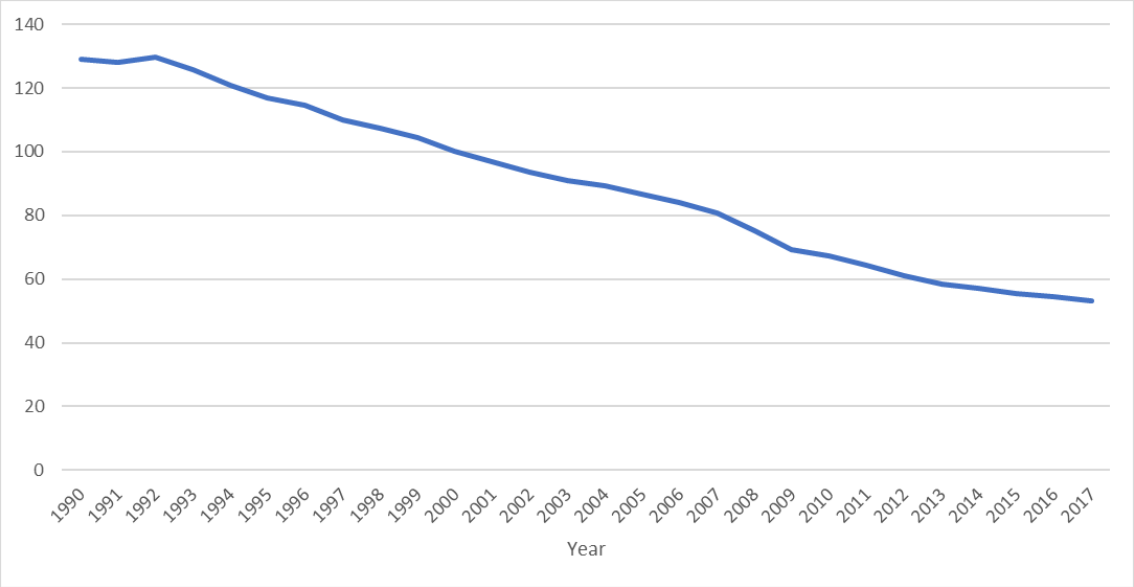


Figure 2: Pollutant emissions from transport (nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs) and particulate matter (PM10)) in EU-28, 1990-2017, (index 2000=100). Source: Eurostat

11. This data shows that the transport sector still has a long way to go to improve its sustainability. THE PEP has been working on a number of initiatives aimed at improving this sustainability in particular through a number of partnerships including on cycling, transdanube, green jobs, eco driving and related activities such as on managed mobility.

2. The impact of COVID-19 on transport

12. The COVID-19 pandemic triggered a drastic response in countries around the world, with many cities going into complete lockdown. The imposed restrictions on people's movement directly impacted traffic and the use of transport. GPS and traffic volume data show that in many normally congested cities traffic levels dropped 70-80 per cent, in some cities even as much as over 95 per cent. For example, in Manhattan, New York, vehicle miles travelled fell from 50 million to less than 10 million within a week, following the adoption of restrictions on schools, businesses and mobility (see figure 3).

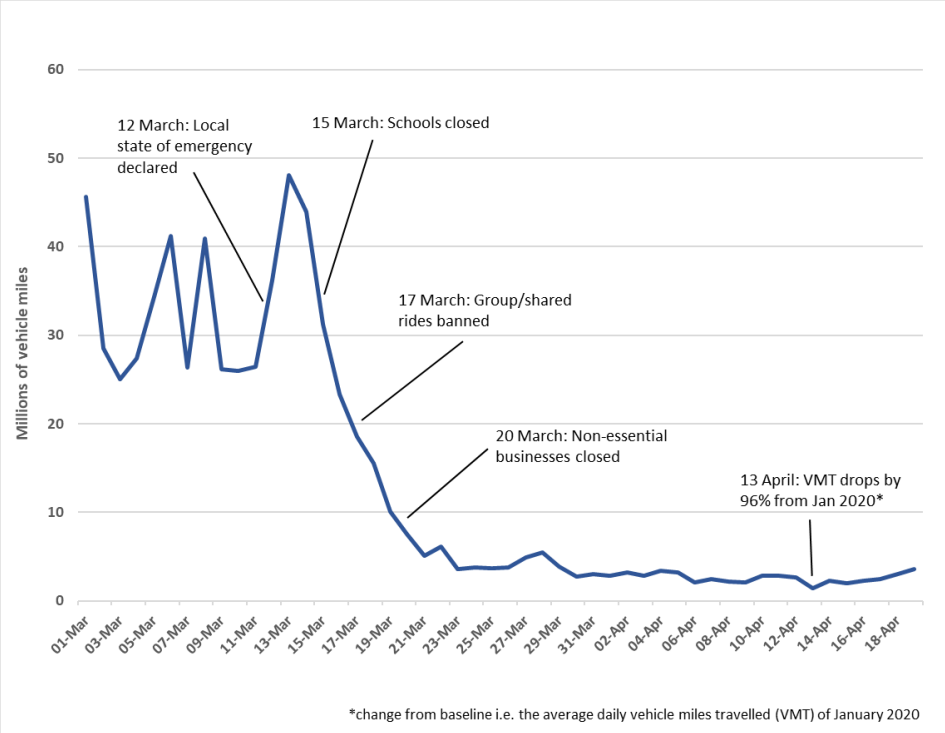


Figure 3: Vehicle miles travelled in New York county (Manhattan), 1 March-19 April 2020.
Source: Streetlight Data VMT Monitor.

13. The freight market was not immune to the effects of COVID-19. According to Sixfold, a freight tracking company, truck traffic declined more than 50 per cent in Spain, 46 per cent in France and 37 per cent in Italy due to lockdowns. In April, Transport Intelligence estimated that the road freight market in Europe could decline as much as 17 pe cent in 2020 and even in the most optimistic scenario almost 5 per cent.

14. Similar impacts were reported on public transport. A mobility-as-a-service company, Moovit, tracks the usage of public transport in cities around the world. Their Public Transit Index shows a considerable fall in public transport use due to COVID-19 (see figure 4). According to public transport data from London bus and tube usage fell to only about 15 and 5 per cent, respectively (see figure 5).

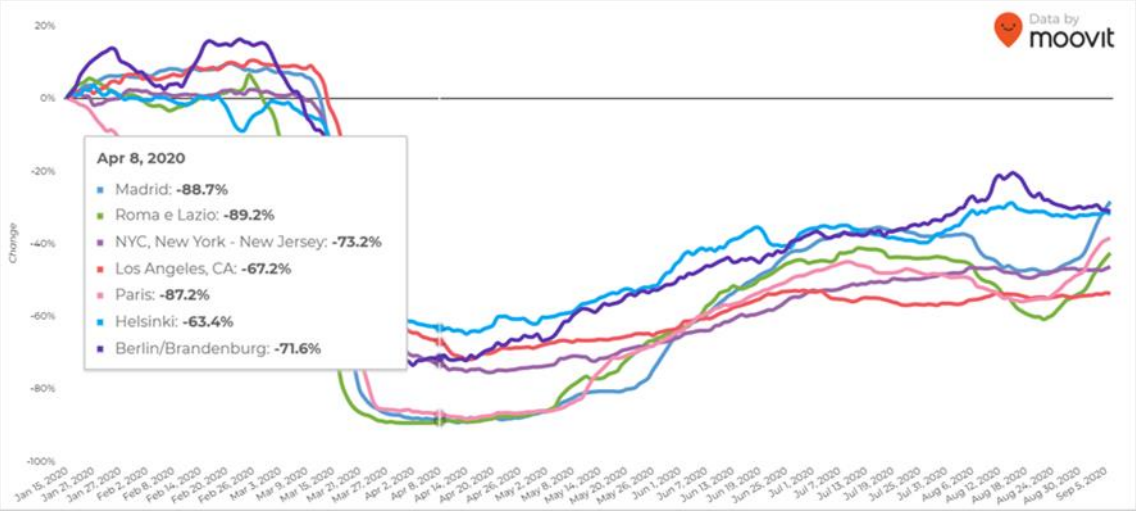


Figure 4: Use of public transport in selected cities 15 January – 5 September 2020.
Source*:* Moovit

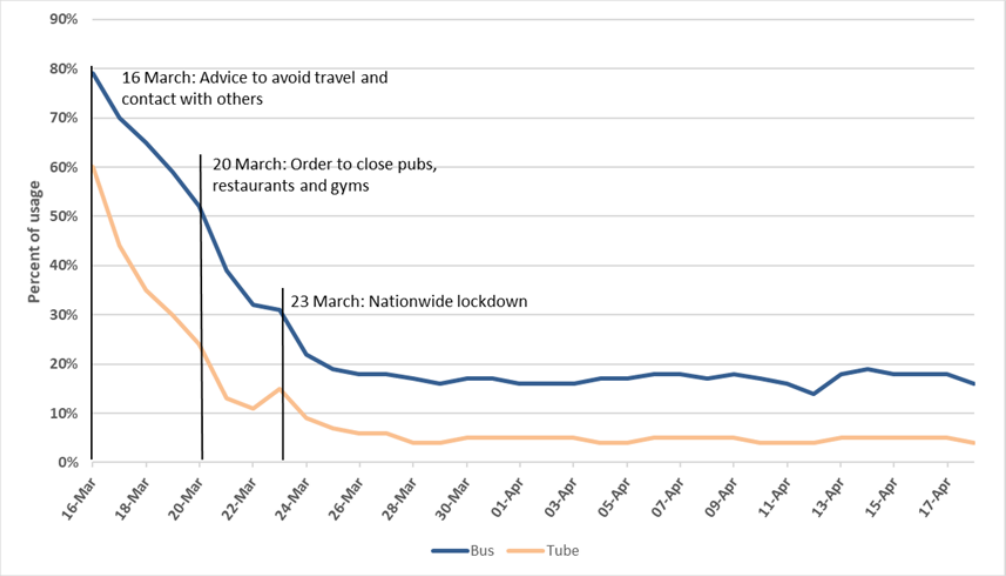


Figure 5: Use of bus and tube in London, 16 March-17 April 2020. Source:GOV.uk

15. Research on the impact of COVID-19 on transport in Budapest shows that the demand for transport halved during the lockdown, with public transportation experiencing an 80 per cent decline in demand. There was also a significant shift in transport modes: the use of private cars grew from 43 per cent to 65 per cent compared to a 2018 baseline. Similarly, the share of public transport decreased from 43 per cent to 18 per cent.

16. During the pandemic many people have shied away from using public transport in fear of contracting the COVID disease. Some of these passengers have shifted to using a private car, as shown in the case of Budapest, but in many areas, there is evidence of growing enthusiasm for cycling. Several cities have responded positively to the increase in cycling by improving infrastructure, although in some cases solutions have been temporary. The European Cyclist Federation follows measures taken by authorities to promote or facilitate cycling in cities. To date, over 2000 km of infrastructural measures have been announced, of which about 1000 km have been implemented.

17. A study looking at different transport scenarios in Italy estimates the social costs and benefits of different policy choices. Under the assumption that there are no policy interventions, in the most optimistic scenario after the lockdown the modal split between private cars and public transport is assumed to be 50-50. In this case, car-related social costs and congestion costs are estimated to be about 11 billion euros annually. In a worst-case scenario, where all public transport users switch to cars, similar costs would rise to 21 billion euros. These costs would arise from increased congestion, longer journey times, and increased risk of road accidents. The study compares the “no policy intervention” scenario to a situation where walking and cycling are encouraged. In this case, the assumption is that a portion of car journeys are instead done by foot or bicycle. In the best case scenario, where public transport would capture 33 per cent of users and of the remaining journeys 38 per cent would be made by car, 50 per cent by cycling or e-cycling and 12 per cent by foot, the study estimates net benefits of 20 billion euros per year. The benefits arise mainly from increased life expectancy, increased productivity and lower health care costs. The authors conclude that there is a strong basis for investing in and promoting walking and cycling in cities.

3. Air pollution pre covid

18. Data shows that the stark declines in transport during lockdowns positively contributed to air quality, with NO_2 levels dropping in many countries. Menut and others (2020) look at United Kingdom, the Netherlands, Germany, Spain, France and Italy and show that the impact of the lockdown measures on NO_2 concentrations ranged between a reduction of 20 to 50 per cent. Slightly smaller declines were visible in $PM_{2.5}$ and there was almost no change in O_3 levels.

19. Indeed, in several European cities NO_2 levels halved due to lockdowns (see table 2). However, data collected by CREA shows that pollution levels returned to previous levels after lockdown measures were lifted. Cities with the largest reductions in pollution levels also saw the larges rebounds, indicating that in these cities policies targeting transport related emissions could lead to the largest improvements in air quality, CREA concludes.

Table 2:
Reduction in NO_2 levels in selected European cities due to COVID-19 lockdown measures.

City	Reduction %	City	Reduction %
Bucharest	65	London	33
Paris	60	Copenhagen	42
Lisbon	44	Bern	37
Milan	47	Oslo	34
Zagrab	54	Munich	22
Brussels	49	Prague	29
Madrid	49	Ljubljana	31
Warsaw	35	Vienna	23
Athens	32	Hamburg	20
Barcelona	43	Budapest	16
Helsinki	47	Berlin	18

Source: CREA

C. A new future for transport – a call for action

20. Transport and mobility as we know it today is not sustainable. Traffic is the cause of several environmental, economic, social and health challenges. Moreover, under the influence of global increase of population and welfare, the sector will continue to grow. Some parts of the region are starting to embrace active mobility solutions, but this is still in its infancy across many countries. This makes transforming the transport and mobility for the better fundamental for a better future.

21. While the COVID-19 pandemic has done untold damage to the economies of the region it has created some short-term benefits in terms of reduced air and noise pollution and increased attention to promoting and providing for active mobility solutions. Furthermore, as traffic has fallen road fatalities have fallen too (although in no way in a proportionate manner). However, it is also true that people have been encouraged to get back into their cars for their commute as the common perception has been that public transport was less safe.

22. These positive and negative outcomes provide the international community with a springboard to take action to facilitate the achievements of the sustainable development goals and the Paris Climate Agreement. We must move beyond business-as-usual and work together to build back a cleaner, healthier and more prosperous system to meet mobility and freight transport needs, focusing on working towards achieving a more sustainable future for the sector, in which accessibility, efficiency, environment, safety and security are given an equal footing. This new reality needs to be embraced by governments and citizens alike by incorporating integrated approaches into planning decisions, understanding the key role that new technologies can have in sustainable mobility and incentivizing the consumer to make healthy and environmental choices. This approach to greening our transport, offers our economies a smart recovery and creating opportunities for green investments whilst recognizing that the private car will still have a key, albeit significantly reduced, role in the transport mix within member States.

23. The Pan-European region has been at the forefront in the development of sustainable mobility solutions focusing on health, environment and prosperity. THE PEP, firstly brings together the countries of the region together, secondly unites three core sectors of the economy – transport, health and environment - and thirdly provides countries with the

opportunity to share best practice and develop new policies thus provides the platform for to accelerate the transformation of the transport sector and make this transformation irreversible. The recommendations developed by the Task Force will allow member States to lock in sustainable transport solutions for the future.

24. A new reality offers opportunities and possibilities. So, let us face the challenges together, by developing a common set of recommendations that can deal with the current situation and stand the test of time to facilitate the transition to more sustainable transport and mobility.

25. The Task Force recognizes that this will not be easy to achieve as the themes and solutions that have been identified in the next chapter will need considerable time, effort and resources for successful implementation. Although it is also true that some quick wins can be garnered from some of the proposed policy actions. The recommendations provided below should be seen as a framework for action as there is never a "one size fits all" solution and good governance and patience, accompanied by tailored language and approaches as well as the involvement of the sectors as a whole will be fundamental in achieving success.

II. Key themes

A. Theme 1

1. Introduction

26. Theme 1 examines social, economic and environmental considerations, reviews the emerging importance of developing practices and explores their impact on mobility and on the communities these systems serve with particular emphasis on public space. The methodology adopted and the conclusions drawn are designed to be practical and specific and, whilst reinforcing positive actions that are already taking place, seek to avoid 'locking-in' existing practice and instead aim to be both ambitious and imaginative in order to rebuild trust in sustainable transport, especially public transport. Wherever possible, the work is illustrated with examples of best practice that highlight where the issue has been addressed successfully.

2. Defining the issue, identifying principles

27. What is the impetus for *Green and Healthy Sustainable Transport?* This Task Force title plainly implies more than a recognition of the interaction between transportation, health and the environment and underlines that the effectiveness and efficiency of transportation between nodes cannot be an end in itself but rather must, of itself, be green, healthy and sustainable in respect of those that it serves. In other words, there is implied a higher purpose to enable mobility for people to access goods and services in a healthy, efficient, comfortable and environmentally friendly manner. That this is true has been clear for some time. In the midst of a global pandemic that shows little sign of abating until (hopefully) a vaccine can be found, this aim becomes an imperative. Nowhere is this imperative more clearly evident than in the need for balanced and well-designed allocation of public space where the day-to-day interactions of people's lives are played out.

28. Today, it is recognised globally that physical activity is important for physical and mental health for all and therefore active travel for everyone becomes extremely important. The mobility systems provided to deliver access to goods and services need to be designed in a manner that encourages *walking, cycling and wheeling* with an emphasis on connectivity at the start and end of journeys and interchange along the route, and which help tackle urban congestion, the costs of which put a drag of several hundreds of billions of €s/$s on the world economy. Of equal importance is the recognition by most countries that decarbonisation must proceed hand-in-hand with this aspiration to deliver widely accessible active and eco-friendly movement systems.

29. There is a need therefore for an ambitious and imaginative aspiration or vision for transportation across the UNECE Region that, within the overarching context of the SDG

connects the issues of decarbonisation, physical activity, environmental consciousness and public health. agree to need to link with the SDGs.

30. The first step in achieving this aim is to realise that all these objectives are inter-related and action in pursuit of their achievement requires to be integrated. It can no longer be the case that programme for decarbonisation, health, and mobility can be seen and addressed as separate matters.

31. As Higgs remarks in his recent book 'if *we are to build the city of the future, it follows that we must first of all imagine it*'. Imagining and delivering such interconnection and integration cannot be achieved only by analysis and quantification, it requires design solutions that places people and their needs at the heart of the process. This means understanding not only the principles of engineering and physical design of artefacts, it also demands that we must master the opportunities presented by both *service design* (*people-centred service design is the activity of planning and organising people, infrastructure, communication and material components of a service in order to improve its quality and the interaction between the service provider and its customers and their quality of life*) and *universal design* (*the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, gender, ability or disability*). The allocation of public space should be designed to meet the needs of all people who wish to use it.

32. Good examples include The Mayor of London Transport Strategy - adopted in 2018 - rotates around the Healthy Street Approach. The Healthy Streets Approach uses 10 evidence-based indicators of what makes streets attractive places. Working towards these indicators will help to create a healthier city, in which all people are included and can live well, and where inequalities are reduced. The overarching goal of the Mayor's Transport Strategy is that by 2041:

(a) 80% of journeys are to be made by walking, cycling and public transport

(b) All Londoners get 2 x 10 minutes of active travel each day

(c) 70% of Londoners will live within 400 metres of the London-wide cycle network

33. The strategy puts public health at the heart of city planning processes, highlighting the link between free movement of people, environmental benefit and public health in every measure undertaken.

34. The Ghent circulation plan adopted in April 2017 is another great example of people centric urban planning. The ultimate goal of the Circulation Plan is to unburden the city centre of car traffic, while improving the livability of the city for citizens and visitors and guaranteeing accessibility for pedestrians, cyclists, busses and trams. To prevent cars from needlessly crossing the city centre, the Circulation Plan divides the city into six sectors and one extensive car-free/pedestrian zone, whoever wants to move from one sector to the other, needs to make use of the inner city ring, therefore freeing up a lot of space within the sectors, space that has been reallocated to public transport, cycling and walking. Thanks to the Circulation plan, also cars that absolutely need to be in the city centre - such as suppliers, health care providers or elderly people - can reach their destination faster. One of the most inspiring aspects of the Ghent work is that little new building new infrastructure was built and instead space was repurposed and given over to people for walking, cycling and wheeling.

35. It is only by these processes that we may properly achieve the interconnected and integrated design we seek. This vision needs to be supported by action intended to deliver on its aim. Beyond action, it is imperative to describe the outcomes that we seek and the enabling processes and actors that can deliver.

36. The current crisis is setting the scene for doing what so many cities wanted but lacked the opportunity to do. Through transport-oriented development, the need for motorised travel and the trip length can be reduced. Residential, work and leisure districts must become more closely connected and intermixed. Cities must prioritise accessible, safe, breathable, and walkable streets through urban planning, putting people at the heart, by implementing the

careful coordination of land use and long-term mobility planning with the engagement of all stakeholders from project start. There is now a golden opportunity for policymakers to integrate and strengthen these policies.

3. Outcomes

37. As much as action is important, progress towards good outcomes is essential. The vertical integration of the SDGs (particularly SDG 11, Target 11.2) with policy and design practice at the level of member states and regional and local government will be important. A number of desirable outcomes can be identified with the respective enablers acting as the key recommendations for each outcome with relevance to this theme.

Outcome 3.1: Enhanced accessibility for all including to green, blue and quiet places

Enablers:

(a) Denser development integrating housing, essential services (e.g. education, health, retail, leisure etc) and employment;

(b) Increased digital connectivity;

(c) Ensuring a common and coordinated approach to Integrated spatial and transport planning;

(d) Ensuring transport & mobility impact and cost benefit assessments as a precondition of any significant development.

(e) Having routine assessment in the city by mapping access to green, blue and quiet places, GDP and health to inform future planning decisions

(f) Designing new houses (e.g. social housing) with access to green and blue spaces within walking distance

(g) Creating green corridors that combine the benefits of ecological corridors with active mobility options (e.g. the Brussels Green Belt)

Outcome 3.2: Needs of vulnerable groups secured

Enablers:

(a) Low traffic levels in cities around the world are a fantastic opportunity for tactical cost-efficient investments such as widening sidewalks, establishing dedicated bus lanes to ensure better reliability for bus services to bring down travel time as much as possible, etc.

(b) Balanced social development incentivised by economic, fiscal and regulatory incentives (e.g. provision of social housing);

(c) Ensure that spatial planning guidelines and policy decisions have a strong focus on ensuring the needs of vulnerable users, in particular people with reduced mobility;

Outcome 3.3: Sustainable mobility prioritised

Enablers:

(a) Active travel prioritised for short trips and public transport use prioritised for longer trips;

(b) Easy connectivity hubs for interchange to public transport;

(c) Weatherproofing of, and parcel/push-chair/bike etc. storage facilities at secure and welcoming hubs.

Outcome 3.4: Adverse impact of motorised road vehicles on urban settlements minimised

Enablers:

(a) Focus motorised traffic on fit-for-purpose routes; (Ghent example)

(b) Discourage motorised vehicles through use of fiscal and physical measures and the elimination of 'rat runs' with the aim of internalising external costs; (Ghent and Barcelona examples)

(c) Facilitate the development of urban logistics hubs outside urban centres to enable consolidation of 'last mile' deliveries;

(d) Outcome: Robust financing of active travel, public transport provision and sustainable urban logistics

Enablers:

(a) Assessment of added benefits to land values

Outcome 3.5: Informed public support for the transition

Enablers:

(a) Comprehensive efforts by public authorities to identify public concerns relevant to the future of sustainable mobility

(b) Information programmes directed at showing how active travel and improved public transport, together with appropriate spatial planning initiatives, can ameliorate those concerns

(c) A continuing educational and information campaign analogous to that discouraging cigarette smoking.

Outcome 3.6: Local Excellence

38. It is important to realise that terms and initiatives such as *the city of short-distances*, *the 15 (or 20) minute city*, and *the ecosystem of the last mile* are all, in effect, designed to bring about similar outcomes in social, economic, environmental, health and movement terms: urban and transport planning and design aimed at improving the quality of life for people and meeting their by providing access to everything they need within a 15-minute radius of their home. This should be embraced and encouraged by Government (from member states to local authority), the private and third sector players to embrace this at all scales;

4. Integrated Planning and Design: enabling processes and actors

Processes 4.1

Partnerships 4.1.1:

Creating partnerships with actors in the local community is an essential tool to deliver long lasting transformative change. Examples to be included later.

Engagement 4.1.2:

Participatory consultations need to be initiated with all relevant stakeholders to ensure that there is significant buy-in from the various community members.

Communication 4.1.3:

'The single biggest problem in communication is the illusion that it has taken place.' George Bernard Shaw. While the link between decarbonisation, physical activity, environmental consciousness and public health might seem obvious, there is a substantial risk in making the

assumption that it constitutes general knowledge. While the first step should always be putting in place physical infrastructures that equip people with the possibility of making the right choice - e.g. a well-developed, safe cycling network; park and ride facilities; last mile options etc… - incredible opportunities lie in powerful communication. A great example of integrating vision, infrastructure planning and communication efforts is offered by the work done by TfL in London.

Actors 4.1.4:

Cities: There are over 260 cities of 250,000 or more across the UNECE region. Innovation often happens at this level e.g. the San Francisco metro region.

B: Theme 2

1. Introduction

39. Public transport has been, and remains, the heart of mass urban transport mobility solutions. It is a fundamental tool for ensuring accessibility for citizens to jobs, schools and leisure. According to UITP data, 60 billion passenger journeys are made per year on public transport, it contributes between €130 and €150 billion per year to the economy, equivalent to 1.0-1.2% of GDP in the European Union alone.

40. The central role of public transport in accessibility has been identified in SDG target 11.2 which states: “By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.” The related indicator seeks to measure: “the proportion of population that has convenient access to public transport, by sex, age and persons with disabilities.” The main goal here is to: “Provide access to safe, affordable, accessible and sustainable transport systems for all by 2030.” While there are concerns with this indicator, public transport is clearly the cornerstone of this indicator and highlights the importance of the sector in improving the liveability of cities. In order to achieve this goal, it is essential that key metrics are developed looking at the use and frequency of public transport with the ultimate goal of increasing customer satisfaction, and consequently, increased use.

41. The COVID-19 situation has not changed this but has meant that some important changes need to be made to how it is used going forward. Ante COVID-19 there existed significant underinvestment in public transport solutions across the region, the COVID situation has accentuated this shortfall. While policies towards improving public transport have always been at the heart of the activities of THE PEP (see Priority Goal 2 for example) the COVID-19 situation has pushed the role of public transport in a safe and secure transport environment to the forefront.

2. The issue at hand

42. For public transport to be the effective spoke in the transport wheel it needs to meet the needs of its customers and users. Something that is not always the case across the ECE Region. Furthermore, it needs to be safe and secure for its users and workers as well as providing for likely future needs as demand grows.

43. Public transport does not however exist in a vacuum and needs to be part of an integrated transport and spatial planning system. For this to be effective it needs significant investment, above what is already being made available through current schemes. It also however needs to lead the transformation of transport systems rather than follow as sufficient public transport needs to be in place, and well integrated between modes and in the urban environment, before any user can willing switch away from their private vehicle.

44. Too often the level of investment is insufficient to fund a service that provides minimal offer for customers. Furthermore, it is sometimes not allocated appropriately to meet these needs.

45. Increased investment in public transport can lead to a number of benefits for the community. For example, the recent study on Green and Healthy Jobs in Transport showed that a doubling of investment in public transport would lead to an increase of employment across all sectors in the ECE Region of 2.9 million jobs, of which 1.8 million jobs in the ECE region transport sector alone. A previous study undertaken for UITP showed that doubling the public transport market share would see the number of employees working in public transport operating companies double from 7 to 14 million, including a labour productivity increase of 1%.

46. However, it is not only an issue of insufficient investment. The ultimate purpose of public transport is to provide a service focused on facilitating accessibility to jobs, schools and wider opportunities. Therefore, it is important to also ensure that there are better targeted investments in public transport focusing on ensuring accessibility for all, which at the same time needs to be affordable for users and for funders.

47. The current pandemic has highlighted the fact that an insufficient public transport network will lead to users switching back to private car transportation. It has also shown that there is a risk of social divisions and inequalities growing as those in disadvantaged groups, with lower income, have restricted choices limiting their mobility choices. Public transport provides the possibility of increasing social cohesion however, this service needs to be affordable, shared and high quality, as well as well integrated into the local environment and with other transport solutions.

48. According to UITP, at the start of the lockdown period, public transport farebox revenue fell by up to 90% while operators maintained between 70 and 100% of services, with an estimated loss in farebox revenue for 2020 of around €40 billion. In many cases, local authorities providing the non-farebox funding have, in many cases, not been able to take up the slack of this shortfall as funding support in this period from central government has been limited.

49. COVID-19 has also had a strong impact on behavioural change and the changing of habits of the working population with many companies embracing smart working, staggered hours and digital conferencing as a replacement for business travel. Many of these changes will remain in place going forward and as such public transport will need to adapt to reflect this change for example by providing a more comfortable and reliable service and offering ancillary services to draw customers out of the private car and back to the bus and train.

50. In this respect, many cities are seeing the death of their urban centres as commuters are staying away and preferring to work at home. Anecdotal evidence has shown that while in most of Europe 70-80% of commuters have returned to city centres, Great Britain has seen a return of below 40%, with London at less than 20%. It has been estimated that for every employee that works from home, there is one person that loses their job in a city centre.

3. Examples of positive investments in public transport

51. To be included later.

4. Recommendation

52. Accessibility for all can only be guaranteed with public transport at the heart of an integrated urban transport system. Policy solutions should seek to maximise the implementation of the Avoid/Shift/Improve principle placing public transport at the centre of recovery strategies facilitating the achievement of the SDGs and THE PEP Priority Goals. Investing in developing and improving public transport is also one of the best strategies to improve road safety. Recent messages encouraging people to avoid public transport for COVID-19 reasons need to be reversed also for these safety reasons, also because there is little evidence to date that the virus has been transmitted through public transport, highlighting the extra efforts that are being made by operators and local authorities in reducing the risk of exposure during pandemics. Cities and countries should invest in recovery and resilience for a systemic socioeconomic transformation, where public transport and active mobility play a key role to build back better.

53. Member States should consider how to maximise the use and efficiency of public transport systems in the post-COVID-19 world considering the following:

Efficiency:

(a) Ensuring appropriate priority is given to public transport in the city environment through dedicated or separated infrastructure to make it faster and more reliable than the private car.

(b) Ensuring that the public transport solutions adopted, as the backbone of urban transport solutions, are planned effectively to create a well-connected and integrated system across transport modes (including active and shared mobility solutions) to facilitate an increase in usage and reduce car use.

Placing the user at the centre of decision making:

(a) Ensuring that accessible solutions are found for all sections of society thus providing easy access to public transport for all communities with particular focus on vulnerable users and persons with reduced mobility.

(b) Ensuring that what is offered is affordable, reliable and offers door-to-door solutions for users, especially given new travel patterns post-COVID-19. A thorough analysis of the change in demand patterns is essential here.

(c) Facilitate the introduction of integrated ticketing solutions across public transport modes and, where possible with active and shared mobility solutions.

(d) Clearly explain the safety benefits of using public transport, also in the post-COIVD-19 environment.

(e) Ensure that accessibility is maximised also through accurate, simple to understand and up-to-date information is provided to users in line with the recommendations in Theme 1 on communication with stakeholders.

Guaranteeing appropriate levels of investment for the creation of safe public transport for passengers and workers through:

(a) Strengthening public transport should be a priority for decision-makers in all countries. Public authorities should take a leading role in this ensuring that there is coordination of funding and planning between local, regional and national authorities, each with their clearly identified tasks.

(b) Identifying alternative sources of funding for public transport such as green bonds, the EU Sustainable Finance Taxonomy, public private partnerships and getting local businesses to invest in public transport to allow them to extract the benefits of greater usage.

(c) Ensuring that existing funding for public transport is focused on ensuring comfort, reliability and frequency to encourage further modal shift.

(d) Re-directing investment funding to sustainable transport solutions such as public transport.

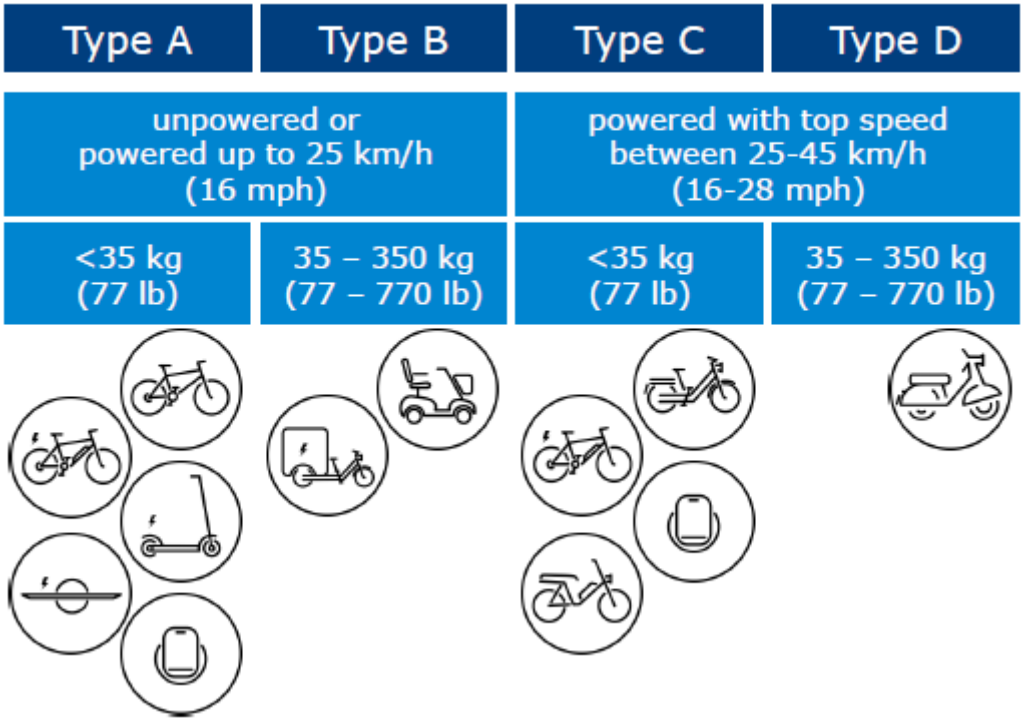
(e) Ensuring that local authorities have funding certainty for public transport (potentially through allowing the creation of ring-fenced funding schemes).

C: Theme 3

1. Introduction

54. Various types of e-micro mobility can be found on the market, a typology of the different vehicles was developed by the ITF in its Safe Micromobility Report.

Figure 1. Proposed micromobility definition and classification



55. E-micro mobility vehicle sales have experienced significant growth over the past years. As an example, about 20 million bicycles and e-bikes are sold in the EU annually. The overall sales value continues to rise due to the increase in pedal assisted e-bikes sold which grew by 23% from 2018 to 2019, reaching 3.4 million units in 2019. This represents 17% of the total bicycle sales in the EU overall and even going up to 50% in some countries like the Netherlands and Belgium. CONEBI expects this positive trend to continue over the next years, predicting e-bikes sales up to more than 6.5 million units in 2025.

56. There are no existing policy documents dealing with the adoption of e-micro mobility yet because there is no comprehensive approach to regulating their accessibility, environmental impact, health, inclusion, infrastructure and safety.

57. A recent study of BCG (Boston Consulting Group) looks at how COVID-19 will shape urban mobility. The study looked at urban resident's movement patterns in China, Europe and the US. During the lockdown the use of nearly every mode of transportation fell strongly, only the usage of privately-owned bicycles, e-scooters and walking increased in all three regions. Bike sharing usage increased in the US and China as some operators implemented sanitizing and other hygienic measures as well as reduced their prices.

58. Looking at the change in urban mobility use immediately post-lockdown it is expected that people will use their own vehicles, be it bicycle, scooter or car, more often. Here it should be ensured that e-micro mobility solutions are encouraged by national and local authorities.

59. Using e-micro mobility devices allows people to spend time outdoors while also making it easy to avoid contact with others. Moreover, the active modes of transport like cycling and walking also lead to numerous health benefits. As a result, in the US bike sales are booming, sales of bikes, related equipment, and repair services almost doubled in March compared with the same period in 2019. British Cycling, an advocacy group, estimates that COVID-19 might prompt some 14 million Britons to choose a bike over a car, according to the World Economic Forum's COVID Action Platform. Despite fewer people travelling

overall during the crisis, the UK has seen around a 100% increase in weekday cycling. At weekends, that increase has been up to around 200%, compared to pre-COVID-19 levels. Cycling usage has seen a big increase in Scotland, Edinburgh for example saw weekday increases of up to 252% and weekend increases of up to 454% in the first three weeks of April. In Glasgow, cycle traffic rose by 74%.

60. Other European countries show similar trends for bicycles, in Paris cycling increased by 40% from March to the beginning of June in Paris. In France overall, cycling increased by 85% in June in comparison to before the lockdown period (January – March 2020). Post-lockdown Germans were cycling twice as much as they did before COVID-19. At one point Germans were using their bicycles even four times as much as usually during this time.

2. The issue at hand

61. The use of e-mobility solutions can be described with the following considerations:

(a) Accessibility: The availability of micro-mobility solutions plays a role in catering for last-mile mobility needs in large cities and widens the catchment area of public transport hubs, reducing the time needed to reach them from across the city. The availability and distribution of shared electric vehicles is key to ensure that it effectively complements public transport networks.

(b) Environmental impacts: When compared to cars and traditional fuel-powered scooters, electric two-wheelers emit both less CO2 and less particulate matter. As part of the urban mobility ecosystem, e-micro-mobility has the potential to reduce end-use environmental emissions. This is crucial as one third of Europe's greenhouse gas emissions and a third of the imported energy come from road transport. There is an urgent need for Europe to decarbonize the transport sector and achieve CO2 reductions by 2030. However, life-cycle assessments (LCAs) are necessary to reveal the total environment cost of large-scale deployment of e-mobility solutions, as shown in recent work at the European and international level, and to be able to compare the costs and benefits of the different e-mobility solutions available. This will help mobility actors understand the upstream impacts of large-scale e-micro-mobility on environmental resources.

(c) Health: People worldwide are becoming more and more sedentary often not meeting the suggested amount of physical activity by the WHO. Encouraging the use of some e-micro-mobility solutions that require physical activity such as e-bikes especially for the first and last mile could make an important contribution to getting people more active. There are many studies that point towards the positive health benefits of cycling including longer and healthier lives, improved mental health, reduced fatalities, reduced serious injuries and reduced light injuries which also proof true for e-cyclists. Moreover, if e-micro mobility solutions replace car trips that would result in a reduction of pollutant emissions and better air quality.

(d) Inclusion and affordability: At the same time, it should also be ensured that the presented options are affordable for everybody. Shared vehicles, easily rented by non-regular users through mobile phone apps, relieve passengers from the burden of ownership and related Ownership & Maintenance costs and make it more attractive to use public transport in combination with shared vehicles than owning a private car. E-micro mobility can be a perfect solution for the last mile where public transport is not available as they are a quick and convenient mode of transport for short journeys in urban areas. Most of these sharing solutions are very user friendly as they are often app-based which can be downloaded on the users' smartphone and from there they can book, pay, and use the light electric vehicle. A switch from driving personal cars to e-mobility in last-mile urban journeys can lead to reducing car congestion, thus improving local traffic conditions.

(e) Infrastructure: Implementing high quality protected infrastructure for e-micro mobility solutions such as e-bikes and e-scooters that can make an important contribution to safer streets and less congested urban areas as well as providing charging infrastructure, assessing the impact of e-mobility solutions on the urban power grid.

(f) Safety: emerging studies point to contrasting views on the safety of micro-mobility solutions.

62. It should be noted that these six issues apply differently to the various categories of e-micro mobility vehicles.

Implications of the issue not being addressed

Both themes 1 and 2 speak of the need to ensure that both planning and public transport take into consideration the role of e-mobility and related solutions.

(a) If urban planning does not incorporate and address accessibility linked to e-mobility solutions as an integral part of public transport systems, the risk is to have low utilisation and uneven distribution.

(b) If public authorities do not carry out research into the full environmental costs of e-mobility solutions to better understand the implications of their production, maintenance and disposal, the unintended consequences of large-scale micro-mobility is more environmental costs than benefits.

(c) Cities need to design e-mobility networks by paying attention to modal shift dynamics – if those who currently walk/cycle replace these with e-mobility, car traffic does not reduce, and the economic and social benefits will be lower than expected.

(d) Addressing safety concerns is crucial to avoid deaths and injuries while maintaining positive support from public opinion, otherwise the rise in accidents and fatalities will undermine trust and widespread uptake of e-mobility solutions.

(e) However, to be of good service to the city and its residents the sharing providers should offer regular maintenance, and if necessary, relocation, of their vehicles authorities should not overlook the needs of people without access to smartphones.

3. Examples of promotion of e-mobility solutions

63. To be included later

4. Recommendation

64. Given the important role that e-mobility is likely to have in future developments of the transport sector, key recommendations include:

(a) Assess the environmental impacts of supporting large-scale deployment of e-micro-mobility solutions, both on the end-use environmental emissions, for which tools such as the Urban Transport Roadmaps can be used, and in terms of their lifecycle costs. Furthermore, prior to the introduction of shared services assess whether users would predominantly switch from active modes and/or public transport or private vehicles to evaluate the potential impacts on emissions, health and congestion.

(b) Linked to the public information accessibility recommendations raised in previous themes, provide support to cities to set up interoperable infrastructure and better cross-modal information. Better infrastructure (both digital and technical) will encourage LEV sharing solutions, such as bike sharing systems. Furthermore, better infrastructure will also encourage intramodality in general, meaning a seamless use of different modes of transport, for instance combination of public transport with e-micro mobility solutions.

(c) Promoting long-term infrastructure investments that make e-micro mobility usage more attractive and safer for users

(d) Apply financial incentives for the purchase and use of e-micro mobility vehicles, if they have a positive environmental and health benefit.

(e) Ensure that there is a good cooperation and coordination between local authorities and sharing providers of e-micro mobility solutions.

(f) Ensuring that the e-mobility, and especially light electric mobility vehicles on the market, have robust standards to make them safe to use and have a good reputation.

(g) Explore public-private collaborations to promote investment in infrastructure and related services.

D: Theme 4

1. Introduction

65. Priority Goal 3 of THE PEP identifies the need: “to manage sustainable mobility and promote a more efficient transport system” thereby already identifying the important role of mobility management in the creation of green and healthy sustainable transport systems. Since the inclusion of this goal as one of the key activities of THE PEP in the Amsterdam declaration in 2009 and following the creation of initiatives such as the European Platform on Mobility Management, the role of incentivising the switch away from private car use through mobility management has grown significantly.

66. The attractiveness of adopting managed mobility solutions in cities and industrialised environments is that they are often low-cost solutions that can have a significant impact on reducing car usage in an urban environment.

67. The solutions that have been adopted over the years have focused on the first and last mile, often on home/work or home/school trips but are increasingly including sharing mobility solutions, green logistics and delivery solutions as well as solutions around major sporting events. Often these solutions have been closely integrated with local public transport options.

2. The issue at hand

68. Even though the use of such solutions is growing, many parts of the ECE Region have yet to implement such practices. The aim of this theme is to introduce mobility management solutions to manage transport demand in an environment-friendly and healthy way taking into account the user-perspective/raising awareness of transport users, to facilitate the switch to greener modes of transport and to make the transport system more efficient.

69. The current COVID-19 situation has allowed for the possibility for alternative managed mobility solutions to be identified, coupling working at home solutions with staggered working hours as well as increased home delivery of goods and services. It has also meant that many people have returned to the private car for fear of using public transport.

70. In this framework it is also important to consider the role of freight movements in the urban environment. Managed mobility solutions have focused historically on passenger movements with only a small number of projects addressing urban freight movements. However, a large amount of traffic is caused by freight deliveries to the centre of cities. COVID-19 has, to a certain extent, decentralised these freight movements away from the city centres to residential areas, potentially reducing congestion, but not reducing overall emissions. On the contrary, emissions from delivery may have increased as a result of this shift as local acquisitions that may have previously been done as a short walk from the place of employment or place of residence are now delivered to homes.

71. Now is the time to accelerate the implementation of such initiatives in order to capitalise on the restructuring of work commitments in light of COVD-19 restrictions as well as the potential evolution of the home-school routine. It is also important to facilitate the adoption of such initiatives so that those who need to return to some form of commute have the tools at their disposal to do so in a sustainable manner.

72. While many of the solutions that have been adopted have been local in nature in some cases, such as in Austria, these initiatives have been coordinated at a national level to ensure that national priorities are pursued when implementing these schemes.

3. Examples of positive implementation solutions

73. To be included later.

4. Recommendation

74. Intensify the use of managed mobility solutions for passenger and freight movements by drawing on existing experiences and coordinating their implementation at a national and international level. Facilitate innovation and investment in managed mobility also to adapt to

the post-COVID-19 situation. Consider supporting the implementation of at least one managed mobility solution in place in all cities with a population of more than 100,000 inhabitants.

E: Theme 5

75. To be inserted

F: Theme 6

1. Introduction

76. Ensuring healthy lives and promoting well-being at all ages is essential to sustainable development. The wellbeing and happiness of our societies are related to the health, safety, freedom and natural surroundings. Sustainable transport and in particular, active mobility, can have a key role in achieving all this.

2. The issue at hand

77. Common transport-related health and environmental problems caused by motorized vehicles include: emissions of air pollutants and greenhouse gases, noise, land-take, traffic congestion, injuries and reduced opportunities for physical activity.

78. Active mobility in the form of walking and cycling as the healthiest and most affordable travel modes can help to mitigate all of these adverse effects, especially in urban areas. Regular walking and cycling as means of transportation:

(a) reduce the risk of hypertension, coronary heart disease, stroke, type 2 diabetes, breast and colon cancer and depression;

(b) improve muscular and cardiorespiratory fitness, bone and functional health;

(c) are fundamental to energy balance and weight control;

(d) improves road safety and air quality;

(e) reduces congestion, noise, energy consumption and CO2 emissions;

(f) reduces need for more expensive infrastructure for cars;

(g) improves accessibility and quality of urban life;

(h) ensures social equality and gender benefits.

79. During the pandemic crisis, the role of cycling and walking has been even more important as it emerged as viable mobility options for essential trips while supporting physical distancing and relieving the burden on public transport.

3. How to support active mobility

80. The measures for enabling the promotion of active mobility can be categorized in the following groups:

(a) ***Division of responsibilities:*** supporting and promoting active mobility require clear responsibilities at all levels of the governance. The responsible authorities should have a specific mandate as well as adequate number of personnel with a strong technical competence to work on the active mobility issues. It also requires inter-agency cooperation between responsible sectors (transport, health, environment, infrastructure, education, tourism, the interior and finance).

Despite the technical, legal and administrative challenges required for improving the conditions for cyclists and pedestrians, during the pandemic measures were implemented almost overnight. This experience has demonstrated that authorities can be responsive and agile in times of need, and that promoting active travel does not always require time-consuming administrative processes. Authorities should have a close look at

these practices and identify lessons learned that will make it easier to set relevant acting during similar situations but also during everyday business.

(b) ***Regulatory issues:*** road traffic and traffic safety have serious influence on active mobility; they are particularly important as pedestrians and cyclists are the most vulnerable road users and they cover all age groups. There is need for improvement in a legislation, especially those which appear to "blame the victim" rather than "protect the vulnerable". Speed limits and rights-of-way to prioritize pedestrians and cyclists, are also important safety aspects.

(c) ***Infrastructure:*** the dense, well-connected, well-designed, safe, and comfortable infrastructure for active mobility are important determinants for choosing this transport mode.

However, for the last decades the transport policy strategy in the majority of the countries in the pan-European region has privileged investments favouring the use of motor vehicles.

The disproportionate distribution of public space for active modes of transport compared to motorized traffic turned out to be even more problematic during pandemic crisis. As a reaction to that many cities have rapidly repurposed streets to provide safe room for pedestrians and cyclists. "Emergency cycle lanes" make essential travel possible and safe. "Tactical urbanism" interventions such as traffic cones, plastic bollards, construction separators help to reclaim street space from car parking and travel lanes and give this space to cycling and walking.

Narrowing the motorized roads can also help traffic calming as wider lanes unintentionally make drivers speed up and make roads more dangerous for non-motorist transport users. Related to this is the fact that pedestrians and cyclists need to be treated as equal road users on the street and public space should be divided equitably for all involved.

Cycling and walking infrastructure should be integrated in the urban planning policies and building regulations (including secure bicycle parking, chargers, wide doors, oversized elevators). This needs to be better integrated with public transport solutions as most public transport trips include at least two walking legs.

(d) ***Economic and fiscal measures:*** monetary instruments for incentivizing or discouraging specific behaviours are very important. For example, some cities and companies implement parking management schemes, or subsidize zero emissions vehicles and bike-sharing systems. Some cities even made bike sharing systems free for use by health sector professionals and other essential workers. For the longer terms it would be essential to provide those people that were using these services during the pandemic crises will be offered incentives for purchasing bikes, e-bikes or cargo bikes. More economic incentives are possible that would indirectly encourage active mobility by directly discouraging car use: for example, pricing parking or congestion charging schemes.

(e) ***Education and communication:*** attitudes, habits, perceived behavioural control, and social and personal norms influence the intention to use certain transport modes; consequently, education, awareness-raising, mass-media and community-wide campaigns related to benefits of safe walking and cycling can play a significant role in encouraging people to shift to active mobility.

It is also important to target specific user groups such as speeding offenders, school children, the elderly or new residents moving into a city. Furthermore, parents can influence and shape their children's travel behaviour - the more parents travel by bicycle, the higher the probabilities of their children going by bicycle.

(f) ***Funding:*** In order to achieve modal shift towards active mobility, it is crucial to provide adequate investments. Allocation of sufficient budgetary resources for the development of the appropriate infrastructure for active mobility and for its promotion should be an integral part of the national development plans. During the pandemic crisis, some local, regional and national governments have actively supported this with new/additional funds for investments in infrastructure or encouraging use.

Providing sufficient budget for the cycling and walking infrastructure will guarantee a high rate of return on investment. Applying the policy tools like HEAT can help urban planners, transport authorities and health practitioners to estimate the value of the reduced mortality resulting from regular walking or cycling. It can make the case for new investment in active mobility and quantify its economic value.

4. Recommendation

The following measures are offered to support active mobility. They should be implemented taking into account the local context.

4.1 Short term (lockdown)

(a) Adapt infrastructure to facilitate the use of cycle lanes whilst ensuring enough space is left for pavements.

(b) Link emergency infrastructure to long term objectives formulated in relevant strategic documents (cycling and walking strategies, strategic network development plans for active mobility etc.)

(c) Reduce speed limits to enable safer, healthier and more liveable environments

(d) Monitor the use of infrastructure and services. Modify them in case of higher demand, problems, deficiencies, etc.

(e) Provide adequate financial support to support the development and use of active mobility.

4.2 Mid- and long-term (post-lockdown and beyond)

(a) Review road traffic rules and practices to encourage cycle use. Ensure enforcement of those rules.

(b) Ensure that responsibility for walking and cycling policies is assigned to specific authorities at the national and/or local level

(c) Facilitate know-how exchange between all relevant stakeholders promoting cycling and walking by establishing knowledge centres like bike academies etc.

(d) Secure bicycle parking places and facilities

(e) Promote cycle training for children and highlight the benefits of safe walking and cycling also through the development of user-friendly guides and manuals.

5. Conclusion

81. As a cornerstone of effective transport and urban planning, active mobility can make a large contribution to resilient city with healthy and happy citizens. It can also help to create vibrant public spaces where people can meet, and local economy can thrive.

82. For a more resilient future with more people having the possibility to cycle and walk safely, it is not about implementing single measures, but about deploying all of them and still others to radically restructure urban space.

G: Theme 7

1. Introduction

83. It is well documented that poor transport systems have negative effects on mobility. However, poor transport systems affect individuals and groups differently. For example, individuals may be disadvantaged by public transport systems which do not provide sufficient access to important destinations, including employment opportunities, everyday services, and social exchanges to allow an individual to fully participate in society. The lack of adequate transport services has a disproportionate effect on individuals living in certain areas, notably rural areas, but also densely populated urban areas for example. In more deprived parts of urban areas, individuals may have limited access to safe, clean and reliable public transport,

as well as to safe environments for active mobility. These areas may also have high levels of air and noise pollution as a result of road congestion, as well as greater risk of injury on road networks, which further exacerbates social disparities related to mobility. Moreover, vulnerable and disadvantaged groups are more exposed to inequalities, such as the elderly, youth and persons with reduced mobility.

84. As these few examples have demonstrated, current transport systems could be considered as unfair and non-inclusive systems which perpetuate social disparities in many ways. This has been further highlighted by the COVID-19 pandemic, which has emphasised social disparities in society and has had a disproportionate effect on the mobility of members of vulnerable and disadvantaged groups. For example, lockdowns implemented by countries drastically changed individuals' patterns of movement, and those individuals who do not have the ability to work from home and those who have less secure labour conditions have been more exposed to the virus. They are often women, migrants and/or racial and ethnic minorities who are disproportionately represented in essential work settings such as healthcare facilities, factories, client facing roles and public transportation. In such settings, they may be in close contact with the public or other workers during their working hours. Moreover, many of these individuals have to use public transport to get to their place of work, and may not have a private car, and are therefore exposed to a greater risk of infection.

85. Socioeconomic sustainability requires such a transition to sustainable modes of transport to be just, so as to ensure that workers and vulnerable and disadvantaged groups are not left behind.

86. Rebuilding the transport system in a way that encompasses all elements of sustainability, but that also takes into consideration the need for a just transition and is also fair and inclusive is indeed a challenge. However, the rebuilding recovery after the COVID-19 pandemic offers an opportunity to move towards cleaner and healthier transport systems which are more sensitive to the needs of vulnerable and disadvantaged groups.

2. The issue at hand

2.1 Rebuilding the transport system

87. The focus should be on public transport in particular, due to the fact that public transport services have been greatly reduced and impacted due to COVID-19 and the fears of passengers to use public transport. Nonetheless, given that road transport emissions contribute significantly to health inequalities, often in already deprived areas, attention should also be paid to major routes, road congestion and infrastructures allowing safe walking, cycling and wheeling.

2.2 In a fair and inclusive way while avoiding social disparities

88. Fair and inclusive in the context of this theme could entail considerations of availability, affordability, time budget, adequacy, and accessibility.

2.3 Vulnerable and Disadvantaged Groups

89. Planning and developing transport policies and infrastructure should be done by paying particular attention to (i) individuals who are part of vulnerable groups and (ii) disadvantaged individuals. This could include tackling the issue of ensuring that the current reclamation of road spaces and public walkways for active mobility and local businesses does not limit persons with reduced mobility.

90. The COVID-19 pandemic has highlighted that individuals who are considered as vulnerable or disadvantaged are subject to change, so these definitions should be sufficiently flexible to address changes in how we view vulnerabilities and disadvantages.

2.4 Social dimension of pandemics

91. The positive and negative consequences of responses to the COVID-19 pandemic have been widely discussed in relation to transport. However, the social disparities related to COVID-19 and mobility have been less documented. In this regard, rebuilding the transport

system could be sustainable but may exacerbate social disparities if it does not take into consideration the needs of vulnerable and disadvantaged groups.

2.5 Just transition towards a green and healthy transport systems

92. Workers and employment opportunities must be taken into consideration in this rebuilding, for example in terms of skills transfer and development, and countries should make sure to abide by the positive and negative obligations of fundamental labour rights.

3. Examples of where the issue has been addressed in a positive manner

93. To be included later.

4. Challenges

94. The most notable challenges to be addressed are:

(a) Governance issues related to rebuilding transport in a fair and inclusive way. This will entail deciding on who will be responsible for addressing social disparities in transport systems, such as which departments at national and local level may be best suited for this task. Civil society can play an important role, though countries should not seek to leave these issues solely to civil society.

(b) Whilst transport systems should seek to address social disparities in mobility, social disparities are affected by a multitude of socioeconomic factors, so rebuilding transport systems may not be sufficient to address these issues.

(c) Lack of data on social disparities in transport mobility and also the lack of capacity for data collection of this kind.

5. Recommendations

(a) Collect data to assess the level of transport inequalities.

(b) Adequately plan transport networks to avoid the development of disadvantaged neighbourhoods.

(c) Focus future transport investments in deprived areas and areas with low levels of transit accessibility.

(d) Work with grassroots and community initiatives on the ground to better understand the social disparities in communities affected by poor transport services.

(e) Design public transport with vulnerable groups in mind, with considerations such as:

(i) Implementing braille in public transport stations.

(ii) Improving audio feedback in public transport stations.

(iii) Ensuring that all public transport and infrastructure is accessible for persons with reduced mobility.

(iv) Consider those affected by the digitalisation of using public transport and offer greater support to users with technological difficulties.