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Consolidated Resolution on Road Traffic (R.E.1)

Personal mobility devices and other devices facilitating sustainable and inclusive mobility

Submitted by the International Federation of Pedestrians (IFP)

This position paper, prepared by the International Federation of Pedestrians (IFP), is a response to the discussion on the challenges and potential benefits of personal mobility devices in a complex traffic environment.

1. Personal mobility devices include different types of vehicles. All of them have their particularities, associated risks and legal frameworks. While the legitimate focus certainly is on e-scooters given their increasing presence, other devices such as motorised hoverboards, segways and monowheels belong to this category too. Although there might be some debate about this, we consider that bicycles (including electrically assisted) and non-motorized devices such as mechanical scooters (kick scooters), taking into account their associated practices, should not be included in the personal mobility device category, as the former are an established category (bicycles) and the latter generally considered as pedestrians. Delivery or “service” robots have also been addressed in the past under this Agenda item. They are a cause of concern for the safety of the pedestrians but will **not** be addressed in this paper.
2. Shared e-scooters and privately owned e-scooters have diverse use cases and associated practices thus raising different issues. Shared e-scooters, when unmanaged and unregulated, pose serious problems related to the occupation and abuse of public spaces.
3. Free floating e-scooters appeared in the last several years and have rapidly proliferated in public space within a legal framework that was not prepared for it. Providers managed to rapidly “occupy the space”. Cities and national authorities first witnessed rather passively, maybe waiting for others to take action first, but they also lacked the knowledge, will or the power to take quick and appropriate actions to regulate and provide a framework enabling to integrate this new technology sustainably into their public space and mobility policies.
4. Regarding the assertion that considers e-scooters as a sustainable alternative to private cars to cover short distances and, as such, to reduce congestion, cut down greenhouse gas emissions and pollution and to fight sedentary lifestyles, studies and peer reviewed articles point out that circumstances vary widely, and more research should be done. To fulfil this objective, e-scooters trips would have to replace mostly car trips. While it is still difficult to properly assess the impact of e-scooters on modal choices, several studies have evaluated which transportation mode e-scooters are substituting. In Europe, shared e-scooters replacing car trips account only for some 6% to 12%^{1,2,3,4} of e-scooter trips. In studies made in the United States, car trip substitution rates are much higher (20 to 30 %⁵, including ride hailing services and taxis). This can be explained by the cities being more dispersed and car dependent. Car trip replacements have been found to be higher when e-scooters are owned by the users⁶.
5. Studies have shown that both in Europe and the United States e-scooters mostly substitute walking trips (and to a lesser degree public transport). Regarding CO2 emissions, if the use of a private electric scooter might have a positive impact on the CO2 balance compared to cars. It is still difficult to assess the impact on CO2 emissions of a shift from cars to shared e-scooters

¹ Fearnley, N. S.H. Berge, and E. Johnsson. 2020. “Shared E-Scooters in Oslo.” TØI report 1748/2020

² Reck, D. J., Martin, H., & Axhausen, K. W. (2022). Mode choice, substitution patterns and environmental impacts of shared and personal micro-mobility. *Transportation Research Part D: Transport and Environment*, 102, 103134.

³ Krier, C., Chrétien, J., Lagadic, M., & Louvet, N. (2021). How do shared dockless e-scooter services affect mobility practices in Paris? A survey-based estimation of modal shift. *Transportation research record*, 2675 (11)

⁴ Christoforou Z., Gioldasis C., de Bortoli A., Seidowsky R.(2021).Who is using e-scooters and how? Evidence from Paris, *Transportation Research Part D: Transport and Environment*, 92.

⁵ Badia, H.; Jenelius, E. Shared e-Scooter Micromobility: A Review of Travel Behavior, Sustainability, Infrastructure, Safety and Policies. 2021.

⁶ Laa, B., & Leth, U. (2020). Survey of E-scooter users in Vienna: Who they are and how they ride. *Journal of transport geography*, 89, 102874.

as it depends on several factors: the life span of the devices, their charging and distribution methods, just to name a few of these factors⁷. In any case, walking, which is the mode of travel most replaced by e-scooters, is the most sustainable mode for short trips, the transport mode with the least CO2 emissions and with enormous public health benefits to the walkers. From this point of view, the sustainability of this mode of transport and the negative impact it has on walking and other more sustainable modes is therefore questionable.

6. E-scooters are not an active mode of transportation. There are no direct health benefits from the use of **motorised** personal mobility devices. Walking and cycling (including electrically assisted) are active modes with large positive externalities to society⁸.

7. Regarding the impact of e-scooters on pedestrians' safety and wellbeing, privately owned e-scooters and shared ones pose different challenges. Sidewalk-parking is much less of a problem for private e-scooters as most owners take their device with them. However, compliance to rules regarding where to ride and the speed are harder to enforce by built-in technology, as geolocation often is lacking and geofencing hence difficult to require. Furthermore, devices on the market might allow toggling the build-in speed limiter on/off in a code-protected manner, such as enforcement teams cannot detect the presence of these devices.

8. Main Message from IFP regarding the use of e-scooter and pedestrians' safety:

- **No e-scooter riding on sidewalks**

A sidewalk is more than a place to move, it is also a place to stand, to talk, to look around, to wait for the bus, etc. More than a form of mobility, walking is a way of taking part in social life; it is characterised by stops and by natural but sudden changes of directions. Designing public space such as to avoid potential conflicts between e-scooters (and bicycles) and people walking is extremely important. Interactions on sidewalks should not include the ones with faster moving vehicles requiring vigilance by the pedestrians. The risks of collisions and serious injuries are obviously to be considered, but the fear of having to interact with these vehicles may push legitimate sidewalk users not to get out or to change their mode of transport. That is why it is important to forbid riding e-scooters on sidewalks. Most cities in Europe and the United States have done so and IFP supports this decision.

- **No e-scooter parking on sidewalks**

Another significant problem posed by free-floating shared e-scooters is parking on sidewalks, both by providers (dropping them there after recharging) and by riders (once their trip is completed). They are severe obstacles that increase the risk of falls, especially for elderly and visually impaired people. They force the walkers to adapt exactly where they walk. On narrow, crowded, or cluttered sidewalks, this often means walking on the

⁷ Reck, D. J., Martin, H., & Axhausen, K. W. (2022). Mode choice, substitution patterns and environmental impacts of shared and personal micro-mobility. *Transportation Research Part D: Transport and Environment*, 102, 103134.

⁸ Gössling, Stefan, Andy Choi, Kaely Dekker, and Daniel Metzler. "The social cost of automobility, cycling and walking in the European Union." *Ecological Economics* 158 (2019): 65-74.

carriageway. This exposes the legitimate users of the sidewalks to unnecessary and unacceptable levels of risk. That is why it is important to forbid **all** e-scooters from parking on sidewalks. When parking spaces are available along the street, the drop-off zone should be located on them and not on the sidewalk. IFP calls upon municipalities to provide ample of such parking areas, while insisting that such parking areas should not be created on sidewalks but on space dedicated to other vehicles parking. In streets without on-street parking, drop-off zones can only be justified in case they do not constitute any obstacle nor reduction in sidewalk width. Specific infrastructures should be offered and may also have a beneficial impact on bicycle parking.

- **Speed limit should be 20 km/h.**

Based on several factors including risks to riders and risks to other road users such as pedestrians, several countries such as Norway, Belgium, Germany and Switzerland have established the speed limit for e-scooters at 20km/h. IFP fully supports this approach and calls on other municipalities to lower the speed limit. The European Traffic Safety Council (ETSC), in a publication on Recommendations on Safety of E-Scooters, published on the 28th of February 2023, also recommends setting a maximum 20 km/h speed, as well as a 250W power limit, for private e-scooters at the factory⁹.

9. Authorities have been working on regulation since the arrival of e-scooters. The problem is in most cases rather, the enforcement of the regulations.

- **Use of Geofencing**

So far, approaches that count on the individual rider to respect speed limits, ride limitations or designated drop-off zones have proven to be inefficient, resulting in clutter and/or danger in pedestrian spaces. All free-floating e-scooters have a GPS-based geolocation capability, so that users and operators know where the scooter can be found. Geofencing is a technique using this geolocation to apply boundaries restricting the operation of shared e-scooters in specific areas. It can be used to restrict access to specific areas such as certain pedestrian zones, to limit the device's speed in specific areas, or to regulate parking in allowing ending the journey only in designated areas. Currently the technology is developing fast, e-scooters providers and municipalities should work together to establish strict geofencing areas and parking spots. ETSC also recommends that shared e-scooter providers, while limiting top speed to 20 km/h, should also apply lower speeds, for example in pedestrian zones (in certain circumstances zero km/h being the appropriate), using geofencing¹⁰. IFP insists that high precision geofencing should be mandatory for operators to apply for a licence.

- **Strict enforcement remains challenging**

Many cities and countries have now started implementing legal frameworks for the e-scooters to operate in. Some rules (speed, space to ride) apply to e-scooters in general, other rules (parking, geofencing) are targeted more on free floating systems. The remaining issue is currently how to properly

9 <https://etsc.eu/etsc-and-pacts-set-out-safety-recommendations-for-e-scooters-and-their-riders/>

10 <https://etsc.eu/etsc-and-pacts-set-out-safety-recommendations-for-e-scooters-and-their-riders/>

enforce the regulations. Regarding the speed, the difficulties to measure speeding and subsequently intercept the rider in a crowded urban setting pose severe restrictions to tackling these issues, especially with privately owned e-scooters. Enforcement officers should be trained and provided with the necessary and specific means to apprehend e-scooter users who do not respect the law. So far it seems that measures mostly include awareness raising, which are also important, but regulations need proper enforcement. Providers need to be included in the process and have to play a significant role in ensuring that the users comply with the regulations by the sharing of data, the prevention and removal of wrongly parked vehicles, the enforcement of speed limits, the definition and enforcement of no-parking and no-go zones through geo-fencing, etc... To improve accountability and awareness, cities should sit at the same table e-scooter operators and civil society stakeholders. Nevertheless, providers of free-floating e-scooters seem to be more aware that the chaotic deployment of the system cannot continue and that a more regulated system also enables a more sustainable business. For instance, some cities have implemented a system of penalty points that are attributed to operators in case of non-compliance with requirements. When an operator reaches a certain limit of penalty points, it loses its licence. Operators of shared e-scooters play a determinant role and authorities should suspend or terminate their licence or apply sanctions in case of infringement of pre-established rules.
