



## 84th session of the Global Forum for Road Traffic Safety (WP.1)



### **Micromobility and Personal Mobility Vehicles The future and the Road Safety Challenges**

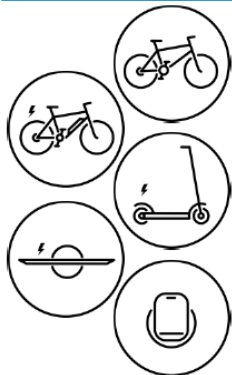
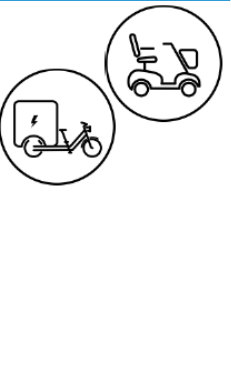


8th March 2022, UNECE (Palais des Nations) Geneva

Vassiliki Danelli-Mylona

- Micromobility
- Facts
- Road Safety challenges
- Legal framework
- RSI's initiatives in Greece & Europe
- Proposed Measures



- The term **micromobility** is used to define transportation with lightweight vehicles operating at low speeds and usually electric powered
- Micromobility vehicles are often called electric **Personal Mobility Devices (PMDs)**
- PMDs can have many different forms. A suggested classification is according to their **maximum speed and/or their weight**

Type A	Type B	Type C	Type D
unpowered or powered up to 25 km/h (16 mph)		powered with top speed between 25-45 km/h (16-28 mph)	
<35 kg (77 lb)	35 – 350 kg (77 – 770 lb)	<35 kg (77 lb)	35 – 350 kg (77 – 770 lb)
			

(Source: OECD/ITF, 2020)

# Micromobility has come to stay!

There are many reasons that micromobility became very popular over the last years

## Urbanization

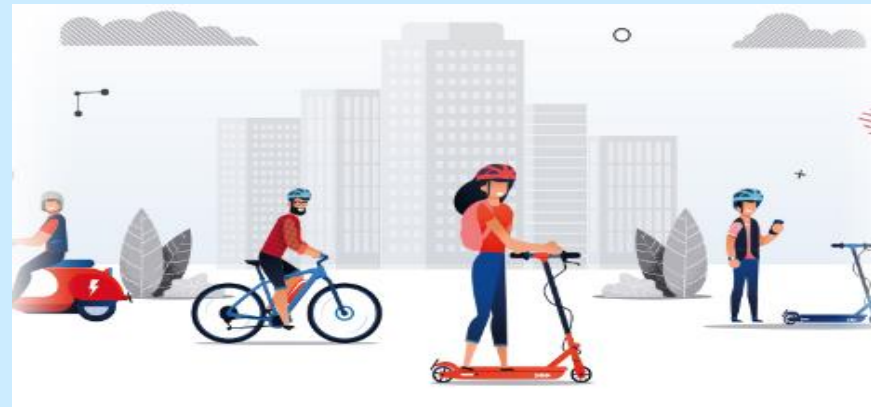
- Congestion – parking
- Overused or inadequate public transport

## The need for sustainable mobility

- Better quality of life
- Reduction of emissions
- Combined-multimodal transportation

## COVID-19 Pandemic

- Need for personal mobility



# Advantages and Disadvantages

## Advantages

- ✓ Zero emissions
- ✓ Reduce traffic density
- ✓ Easy to use
- ✓ Low cost/energy consumption
- ✓ Easy parking
- ✓ No driving license required
- ✓ Ideal for short trips

## Disadvantages

- ✗ “The paradox of the green vehicle” risking to increase traffic incidents
- ✗ Drawbacks in the design of the devices
- ✗ Another vulnerable user in an already congested system
- ✗ Short lifespan (rented/shared e-scooters)
- ✗ It may replace walking instead of car trips
- ✗ A risk for other vulnerable road users (pedestrians, elderly, children)



- In **Germany** 4 fatalities in 5,105 accidents with e-scooters in 2021 (until November) (Destatis)
- In **UK** in 2021 (until June) there were 931 casualties in accidents involving e-scooters, of these 732 were e-scooters users, 3 e-scooter users were killed (Department for Transport)
- In **Greece**, it is estimated that about 50,000 private e-scooters have been sold. The exact number cannot be determined as there is no obligation for registration.
  - There is no major provider of rental-sharing services as they have ceased operations in Greece.
  - There are no official statistics on traffic accidents with e-scooters.
  - In September 2019, the first fatal traffic accident with an e-scooter was recorded in Chios.
  - In September 2020, an 11-year-old e-scooter rider lost his life in Crete.





- **Surveys on e-scooter users and analysis** of user data show that e-scooters **are mainly used by young, employed men**. There is also a significant proportion of users between 45 and 50 years old (ERSO)
- The **results of a survey** on the members of the largest community of e-scooter users in Greece were
  - **Age:** 36% of users are 36-44 years old, 35.3% are 27-25 years old, 13.7% are 21-26 years old and only 7.9% are very young or teenage users, 16-20 years
  - **Use:** 76.3% of e-scooter owner use it daily
  - **Protective equipment:** 39.6% of users always wear a helmet and 7.9% not always but often
  - **Distance travelled:** 60% of users travel with the e-scooter 6-12 kilometers per day, 32% travel 2-5 kilometers, 5% travel 16-20 kilometers and 3% travel 5-8 kilometers.

Source: [www.digitallife.gr](http://www.digitallife.gr)










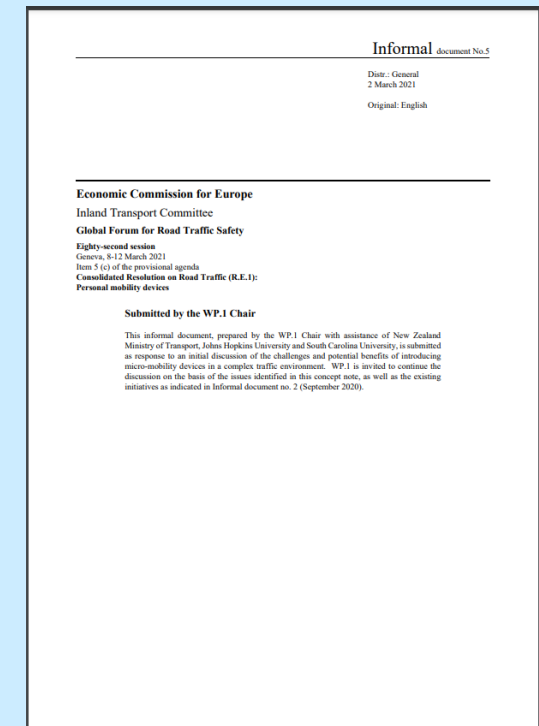
- **Head injuries** are by far the most common injury sustained in crashes with an e-scooter
- Records also often indicate fractures of the **lower and upper limbs, soft tissue injuries** (such as abrasions and bruises) and **injuries and fractures of the face and neck** (ERSO)
- E-scooter crashes are **often unilateral**, where only one road user is involved
- Over 80% of e-scooter rider fatalities, resulted from crashes involving a heavier motor vehicle (OECD/ITF)
- A study in **Denmark** resulted that e-scooter riders have **7 times higher risk** for an accident per vehicle miles travelled compared to cyclists (Færdselsstyrelsen, 2020)
- Almost the same estimated a larger study in **Oslo, Norway** - **10 times higher risk** (Statens Vegvesen, 2021).





- In **Germany**, new research from a hospital in Essen found that hospitalizations after e-scooter crashes were **not reported to the police 74%** of the time (ETSC) 
- Many head injuries are because riders **do not wear a helmet** 
- The maximum **speed of 25 km/h** is high when the e-scooters are moving in pedestrian areas and low when moving between cars 
- There is **no education and training for riders** 
- Lack of infrastructure in cities. 

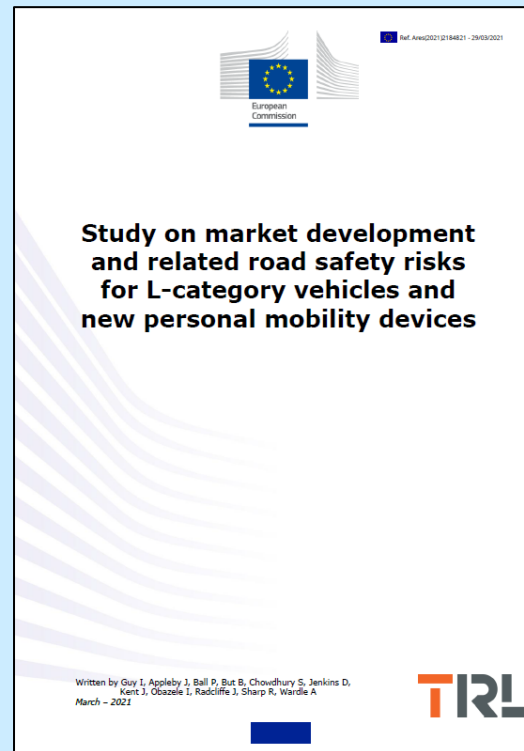
- **Informal document No.5e submitted by WP.1 Chair with assistance of New Zealand Ministry of Transport, Johns Hopkins University and South Carolina University (2021)**
- **Informal document No. 10e submitted by Lithuania (2021)**
- **Presentation 6Pe, by Ministerstwo Infrastruktury, Poland (2021)**
- **Presentation 5e, by RSI “Panos Mylonas”, Greece (2019)**



- European Road Safety Observatory Thematic Report on PMDs



- TRL Study on market development and road safety risks



- Guide to achieve a safer use of micromobility devices in urban areas





- **Different traffic rules apply throughout Europe:**
  - Road use (allowed on footpaths or in road – bicycle lanes)
  - Parking
  - Maximum speed (25 km/h in most countries)
  - Minimum age
  - Rider safety equipment
  
- **Regarding the devices:**
  - Maximum power
  - In Germany number plates and insurance are required
  - In UK are defined as motor vehicles, private e-scooters is very difficult to meet the requirements and used in public spaces



## ***Fragmented Legal Framework***



## Law 4781/2021

- **Two PMD categories** according to maximum speed (a,b)
- Maximum speed **6 km/h (a)** or **25 km/h (b)**
- **Age limit** 12 (a) or 15 (b) years
- **Helmet mandatory** and **reflective equipment** in the night
- **Traffic rules compliance**, they can use bicycle lanes
- **Not on the sidewalk**





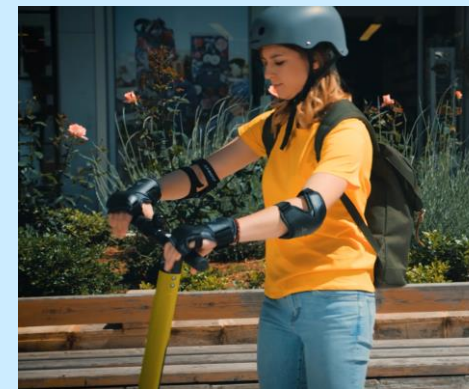
## Involving and Engaging Stakeholders & Policy Makers

- Participated in the public consultation for the legislation on micromobility and presented its positions to the Hellenic Parliament.
- Presented the Global Plan for the Decade of Action for Road Safety 2021-2030 in the Road Safety Committee of the Hellenic Parliament.



## Raising Awareness and Training

- Presented issues on micromobility to the public and stakeholders in conferences in Greece, such as Auto Forum, Electric & Micromobility Forum 2021
- Participated in events and fora and organized actions to inform e-scooter users
- Produced a video spot with road safety advise
- A training module is also under way





## Proposed measures to be considered by National Governments and Regional Authorities:

- Safer **infrastructure** that can accommodate e-scooters, parking zones
- More **30 km/h zones** in the cities
- Rider **training and education**
- Mandatory **safety equipment** for the rider
- **New regulation** for micromobility devices
- **Safety standards** (maximum power, brakes, lights, reflective elements)
- **Enforcement** of the legal Blood Alcohol Concentration (BAC) limit, speeding and positioning on the road
- Consideration of mandatory **insurance**



*Micromobility should follow the Safe System Approach*



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