Micromobility and e-scooters
The future and the Road Safety Challenges

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Contents

• Trends
• Worldwide experience
• Statistics
• SWOT Analysis
• Questions and Concerns
• RSI’s Role in Greece and next steps

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• **Urbanization** and **digital evolution**
• Citizens’ **life quality** in urban areas
• **Sustainability** and “smart” cities
• New technologies for **“smart” transportation** (electric vehicles, autonomous driving, e-scooters)
• **Multi modality** in urban transportation leading to efficient use of resources

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Trends: the urban mobility landscape

- **54%** of the world’s population resides in urban areas
- By 2050, cities are expected to receive another **2.5 billion**
- Cities struggle to meet the growing transportation needs

- Congestion and parking
  - By the 21st century, drivers would spend about 3 times more time in congestion
  - Looking for a parking (“cruising”) can take 20 minutes
- Longer commutes
  - Commuters are trading time for housing affordability
- Inadequate public transportation
  - Public transit systems are either over or under used.

Source: [https://transportgeography.org/?page_id=4621](https://transportgeography.org/?page_id=4621)
E-scooters: The new trend

- Micro-mobility became a trend
  - First in China and the US
  - During the last 2 years in Europe

- Fast emergence of the shared electric scooters (e-scooter)
  - Personal Light Electric Vehicles (PLEV)

- Extremely attractive to the big cities’ inhabitants
  - 70% of users are very positive
  - Agreeable and suitable solution to avoid traffic congestion and stress connected to it

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Statistics

USA
• Since the appearance of 10 companies in California, e-scooters have popped up in over 100 cities worldwide

France (Paris)
• 40,000 scooters estimated by end of 2019 - 2,500 dedicated parking spaces for scooters.

Portugal (Lisbon)
• 6,000 scooters operating at the moment.
• around 13,000 trips a day: locals (57%), tourists (43%).

Sweden
• Founded in 2018, VOI e-scooters are already available in 18 cities in 9 European countries
• Two million rides in eight months
• Expansion into Germany, Belgium, Poland and Italy this summer

Germany (Muenster)
• Shared e-scooters were first allowed onto streets on July—only 200 of them. After a trial period, that number will double

Spain (Madrid)
• Madrid alone has authorized 18 different operators of e-scooters

UK (London)
• Although e-scooters are currently banned, the city is reviewing their status

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Worldwide experience

Television presenter Emily Hartridge dies in electric scooter crash

Lifestyle adviser, with a large YouTube following, was killed in collision in south London

Special report: the rise of the the city e-scooter

Death of expert who fell off e-scooter at East Coast Park a misadventure: Coroner

Los Angeles Times

Column: Bird scooters — so much fun, so damn dangerous

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E-scooters: Road crashes

USA
More than 1,540 road accidents where e-scooters were involved since 2017
249 patients presented to the emergency dept. with injuries associated with electric scooter use during a 1 year period with 10.8% of patients younger than 18 years and only 4.4% of riders documented to be wearing a helmet. The most common injuries were fractures 31.7%, head injuries 40.2% and soft tissue injuries 27.7% Source: UCLA

UK
Emily Hartridge, a famed YouTuber, passed on July 12, 2019, in a crash between an electric scooter and a truck in London

FRANCE
A 25 year old male lost his life when his e-scooter crashed with a van.

SWEDEN
A 22 year old e-scooter user lost his life when hit by car.

SPAIN
A 90 year old woman lost her life while hit by an e-scooter used by two teenagers with speed of 30 km

SINGAPORE
A 22 year old e-scooter enthusiast perished when fell off his vehicle and hit his head.

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E-scooters SWOT Analysis: Strengths

➢ Their **convenience** and compatibility to ‘smart’ cities model
➢ Easy to **ride**
➢ Easy to **park**
➢ Emissions free
➢ Multimodal transportation
  ➢ **last mile ride**
E-scooters SWOT Analysis: Weaknesses

- **Not addressing** all age groups
- **Not easy for family** rides (adults and babies)
- **Speed** range exceeds pedestrians by 4-5 times
- **Rapid expansion not allowing users time to adapt** and comply to safety on the road
- **Vulnerable** road users
- **Short life cycle** leads to its battery disposal and environmental burden.

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E-scooters SWOT Analysis: Opportunities

➢ “Smart cities” that will involve all road users
➢ Sustainable goals
➢ Life quality
➢ Friendly cities

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E-scooters SWOT Analysis: Threats

➢ Lack of **regulatory frame**

➢ **Transition period** for cities’ infrastructure to adopt a new transportation model

➢ Increased risk of **non trained e-scooters’ users**

➢ Another transportation means in a **congested traffic system**

➢ **Lack** of use of **safety equipment** for the users
E-scooters: Questions & Concerns

- Most big cities are not friendly to their inhabitants
  - especially to the vulnerable road users (kids, pedestrians, handicap, cyclists, older people)
- Is current infrastructure appropriate for this new type of transportation?
  - Can cities today follow the pace of this new phenomenon?
- Traffic congestion is enormous
  - Is there space for more transportation means?
- Questions arise about how safe e-scooters are
  - For the users themselves and the other users of the road
- Lack of regulatory framework and rules for basic yet important issues
  - Where should e-scooters go? On the road? On the pavement? At the cycling lane?
  - What is the maximum speed allowed?
  - How old should the user be?
  - Should the user have a driving license?
  - Should the use of helmet be mandatory? And, is this enough?
RSI’s role in Greece and next steps

➢ A desktop research has been performed for the issue globally and nationwide

➢ Participation of RSI experts team in Governmental Bodies (Ministry of Transport), to form legislative framework for Greece

➢ Coordination with involved stakeholders (Technical Chamber Engineers' Association, Traffic Police, private and public entities)

➢ Preparation of educational and training module

➢ Video campaign to promote safety rules on the ride

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