NTUA Athens Mobility Observatory
www.amob.ntua.gr

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**Artificial Intelligence
for Road Safety and Mobility Workshop**

8th UN Global Road Safety Week

Athens, 15 May 2025

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Presentation Structure

1. NTUA Athens Mobility Observatory (4)

2. Mobility and Road Safety Data in Athens (4)

3. Key Mobility and Safety Issues in Athens (2)

4. Action Strategy for Sustainable Urban Mobility (5)

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# NTUA AMOB Mission

Safe, Green, Smart, and Efficient Mobility for All

The **Mission** of the NTUA Athens Mobility Observatory (www.amob.ntua.gr) is:

➢ The collection, processing, and open dissemination of statistics and analyses related to urban mobility in Athens

➢ The scientific support of data-driven decision-making for Public Authorities, Industry, and society as a whole

➢ The contribution to the implementation of a modern and sustainable urban mobility policy in Athens
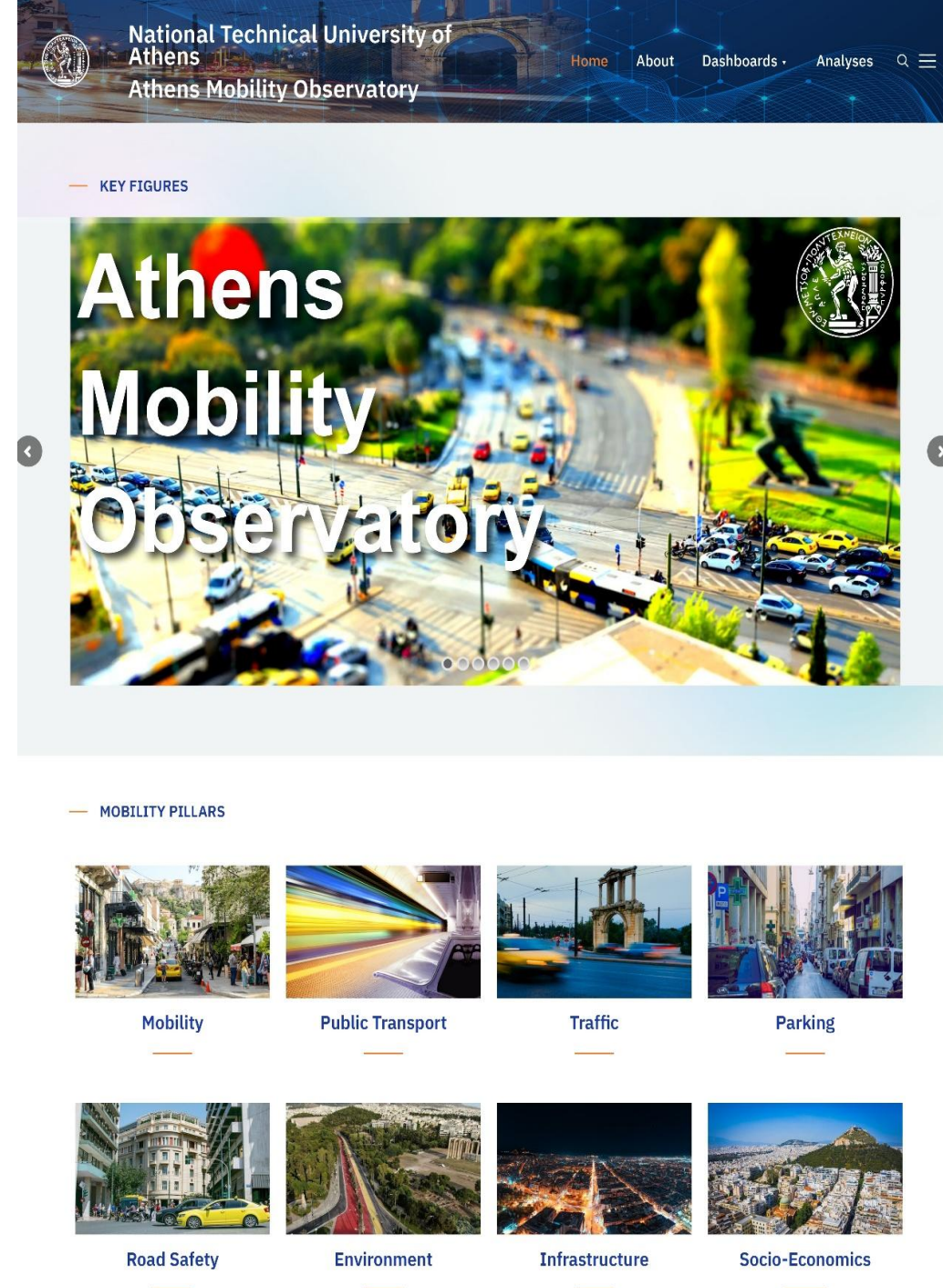
NTUA AMOB Pillars

Mobility

Public Transport

Traffic

Parking

Road Safety

Environment

Infrastructure

Society Economy

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Multi-Level Operational Framework of AMOB

Mobility Data Collection

➤ Data from statistics providers, private companies, and Public Authorities

➤ Large-scale data mining using specialised interfaces (APIs)

Scientific Analysis

➤ Data Processing

- Advanced data cleaning methodologies
- Calculation of metrics and indicators

➤ Model Implementation

- Descriptive statistics
- Application of statistical models
- Machine learning algorithms

➤ Creation of Interactive Dashboards

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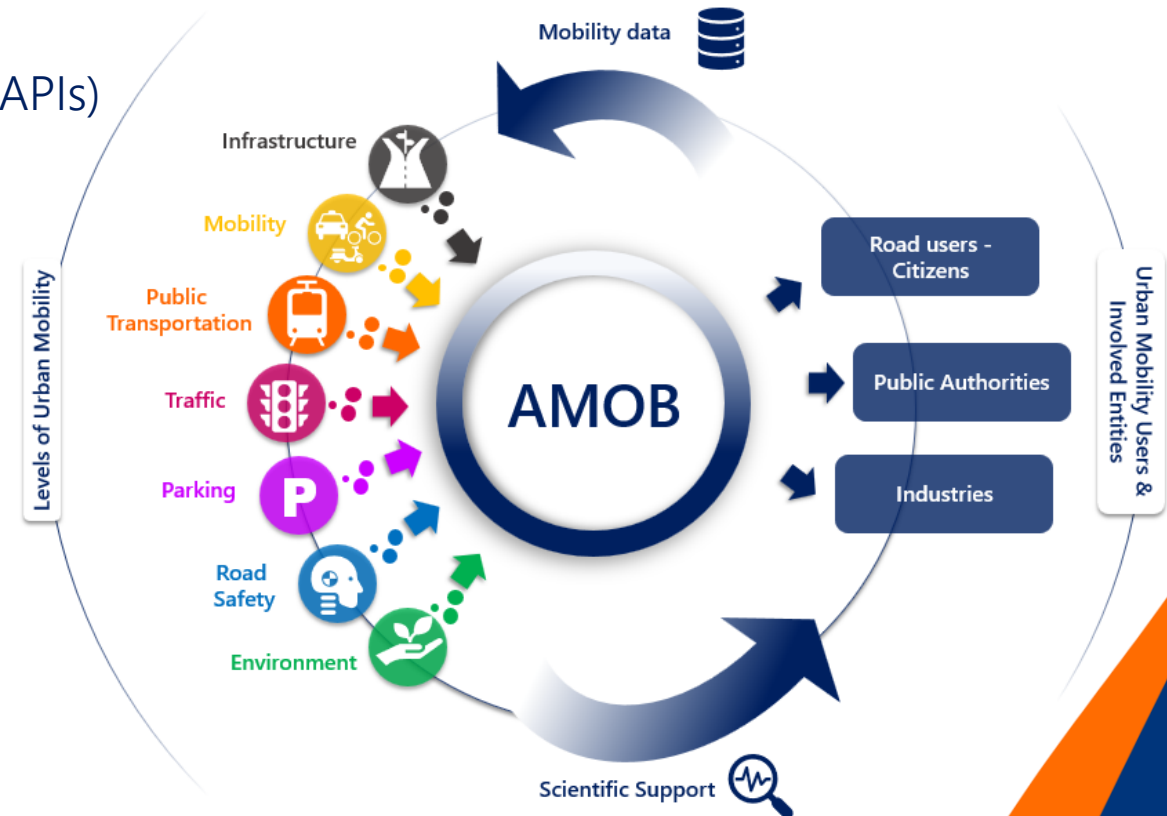
Key Data Sources

Hellenic Statistical Authority

NTUA – Field Measurements

OASA

Google Maps API

Region of Attica

OpenStreetMaps

Municipality of Athens

Strava

Association of Car Importers – Representatives

Providers (Oseven, Citizen, Uber, …)

**Athens Mobility
and
Road Safety
Analyses**

Traffic Speed Trends

Between the years
2022 – 2025 the
average traffic speed in
Athens decreased:

▼ **13** % Primary roads

▼ **8** % Secondary roads

▼ **6** % Cephissus

Traffic Speed Trends in Athens

Athens Mobility Observatory
National Technical University of Athens

Year: (All)   Road Type: (All)

2025 vs 2022

▼**Decline** in traffic speeds compared to 2022

Average Traffic Speed (km/ h)

Cephissus
Trunk
Primary
Secondary

Months

November 2021 · May 2022 · November 2022 · May 2023 · November 2023 · May 2024 · November 2024 · May 2025

Primary — 13.2%
Secondary — -8.2%
Trunk — -0.5%
Cephissus — -5.6%

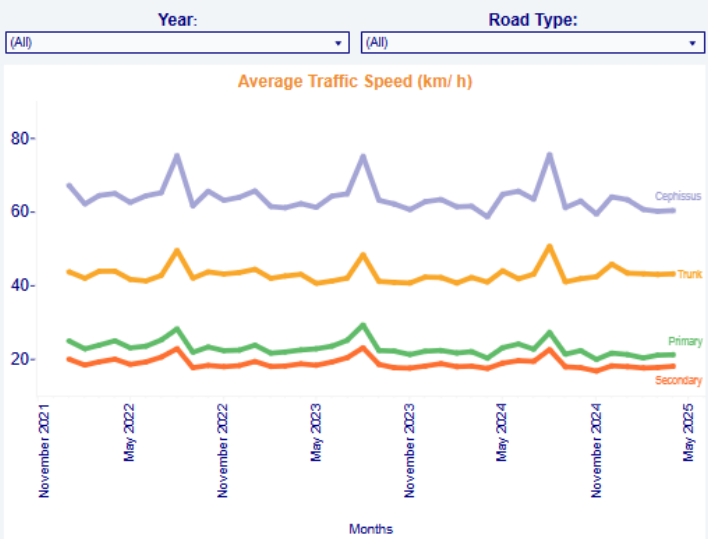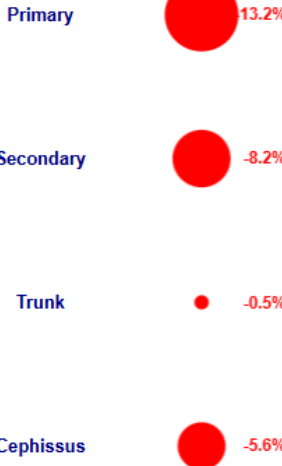**More Congested Conditions in Athens**
Year Over Year (YoY)

⬤ Average traffic speed has steadily declined from **28.5 km/h** in 2022 to **26.8 km/h** in 2025,

⬤ Traffic congestion on **Cephissus has been increasing since 2022**, but at a slower pace compared to other major roads in Athens

YoY Quarterly Percentage Change (%)		2023	2024	2025
	Primary	-2.7%	-3.5%	-6.4%
	Secondary	-1.6%	-1.7%	-4.2%
	Trunk	-2.3%	1.5%	0.2%
	Cephissus	-2.0%	-0.4%	-3.8%
Average Speed		29.2 Km/h	28.6 Km/h	28.2 Km/h	27.0 Km/h

Data Source: Google Maps API
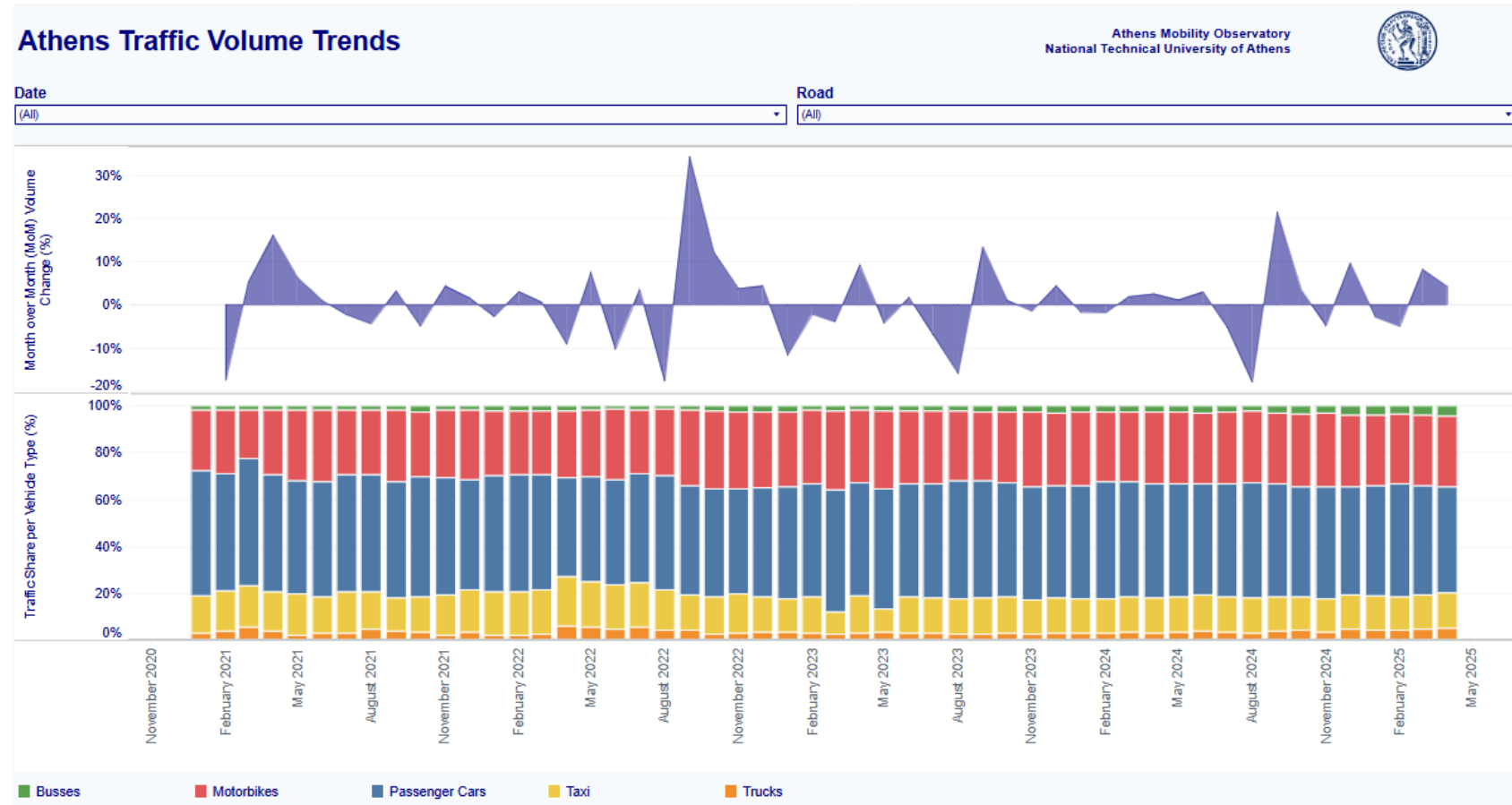Data Analysis: NTUA Athens Mobility Observatory

Traffic Volume Trends

Between the years
2022 - 2024
the average hourly traffic volume in Athens increased:

▲ **7** % Primary roads

▲ **3** % Secondary roads

Athens Traffic Volume Trends

Athens Mobility Observatory
National Technical University of Athens

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Bus Lane Violations

Only 5-15% of traffic on bus lanes is actually bus traffic due to illegal traffic and parking of passenger cars, taxis and motorcycles

When bus lanes are monitored, the **average speed** of buses increases by up to **50%**

Up to **1.5x** more trips
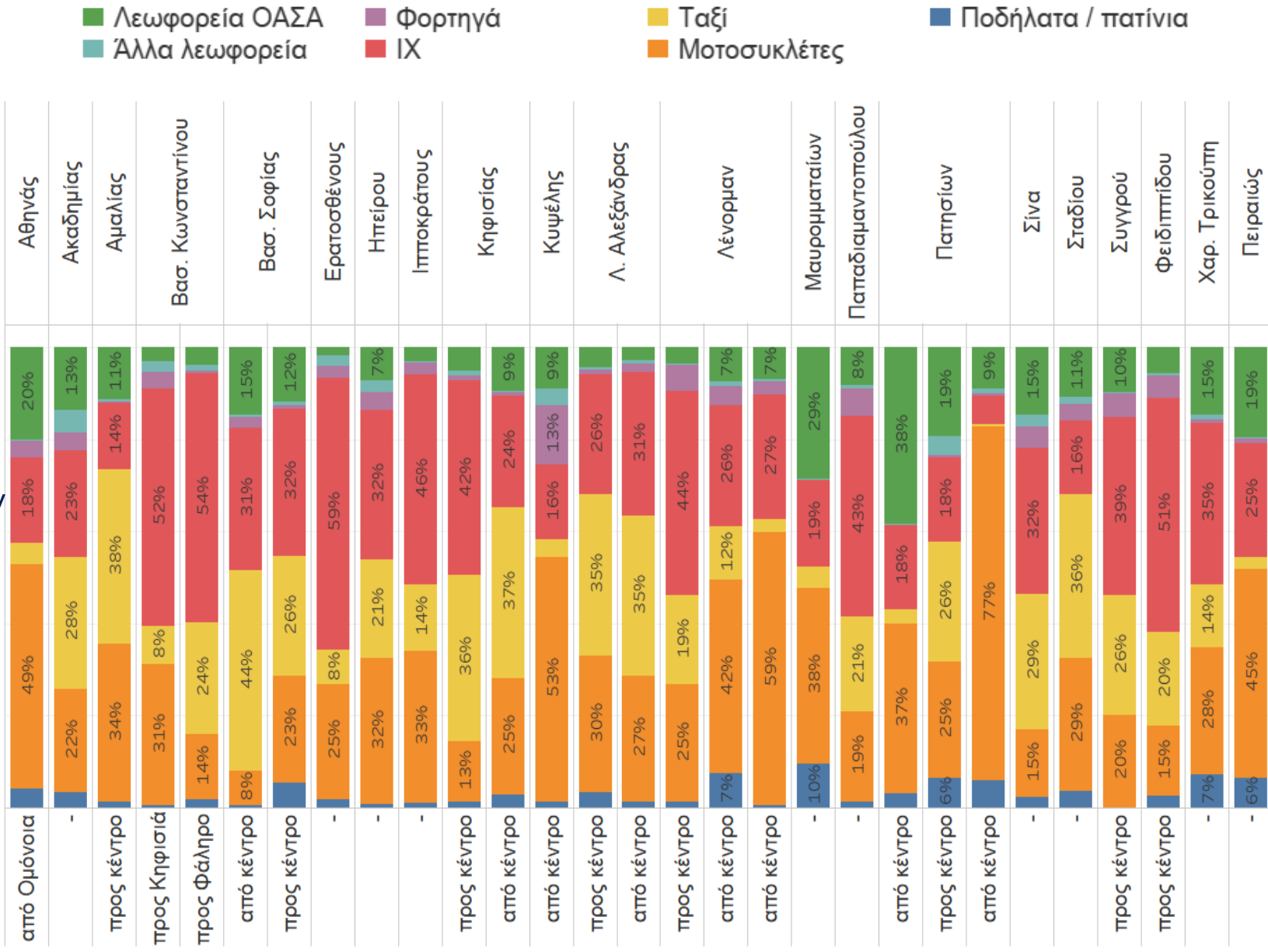
Road Fatalities in Attica

70% of fatalities in road crashes correspond to Vulnerable Road Users
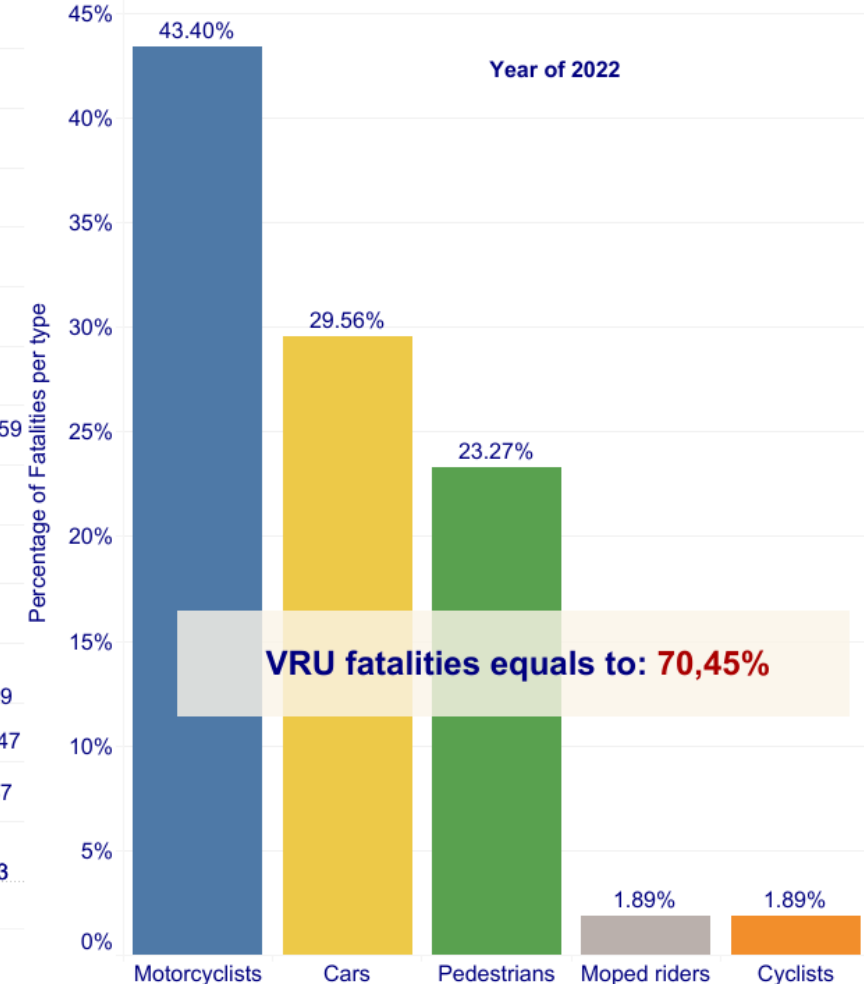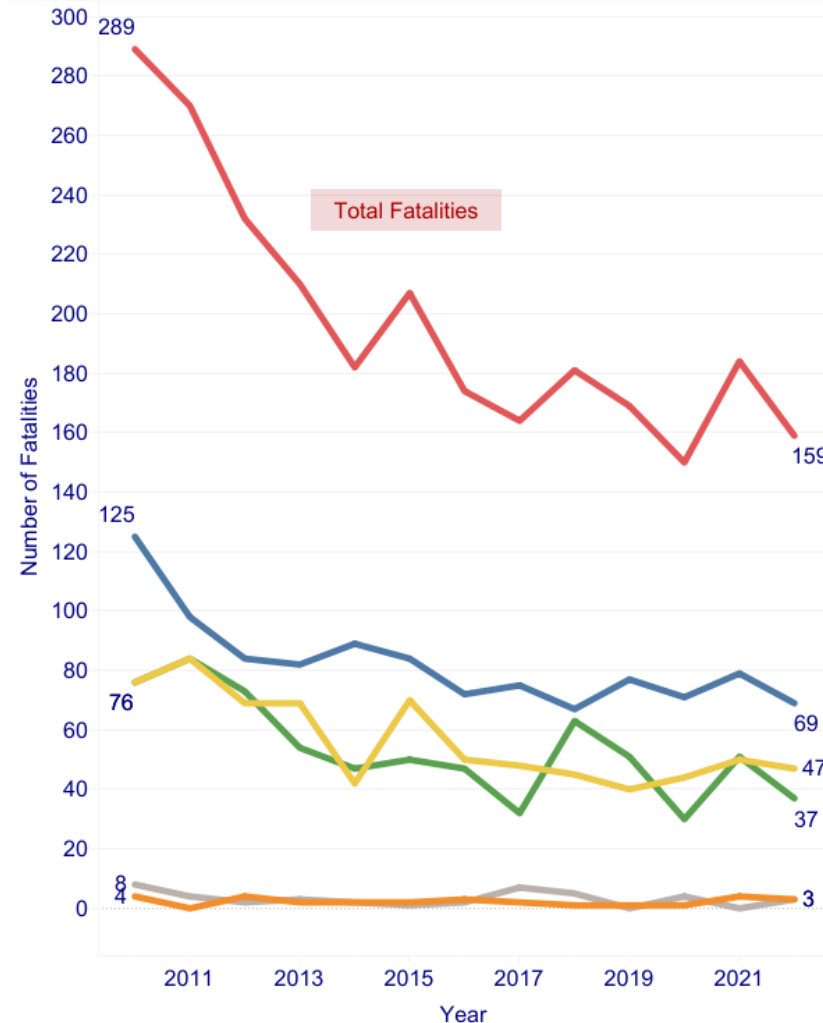
The number of motorcyclist fatalities has **decreased** less than in other categories over the last 10 years

25% Increase in the number of elderly road deaths over the last 10 years


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Key Issues of Mobility and Road Safety

Mobility

➤ In an environment where travel demand is constantly increasing, we focus in vain, on reducing private car congestion rather than on serving the needs of travellers.

➤ Uncontrolled parking of cars and motorcycles leads to increasingly poor service levels.

➤ Bus service is ineffective, and the network of three metro lines covers only certain areas of Athens.

➤ The lack of an integrated system of peripheral road arteries results in through-traffic within central areas of all municipalities.

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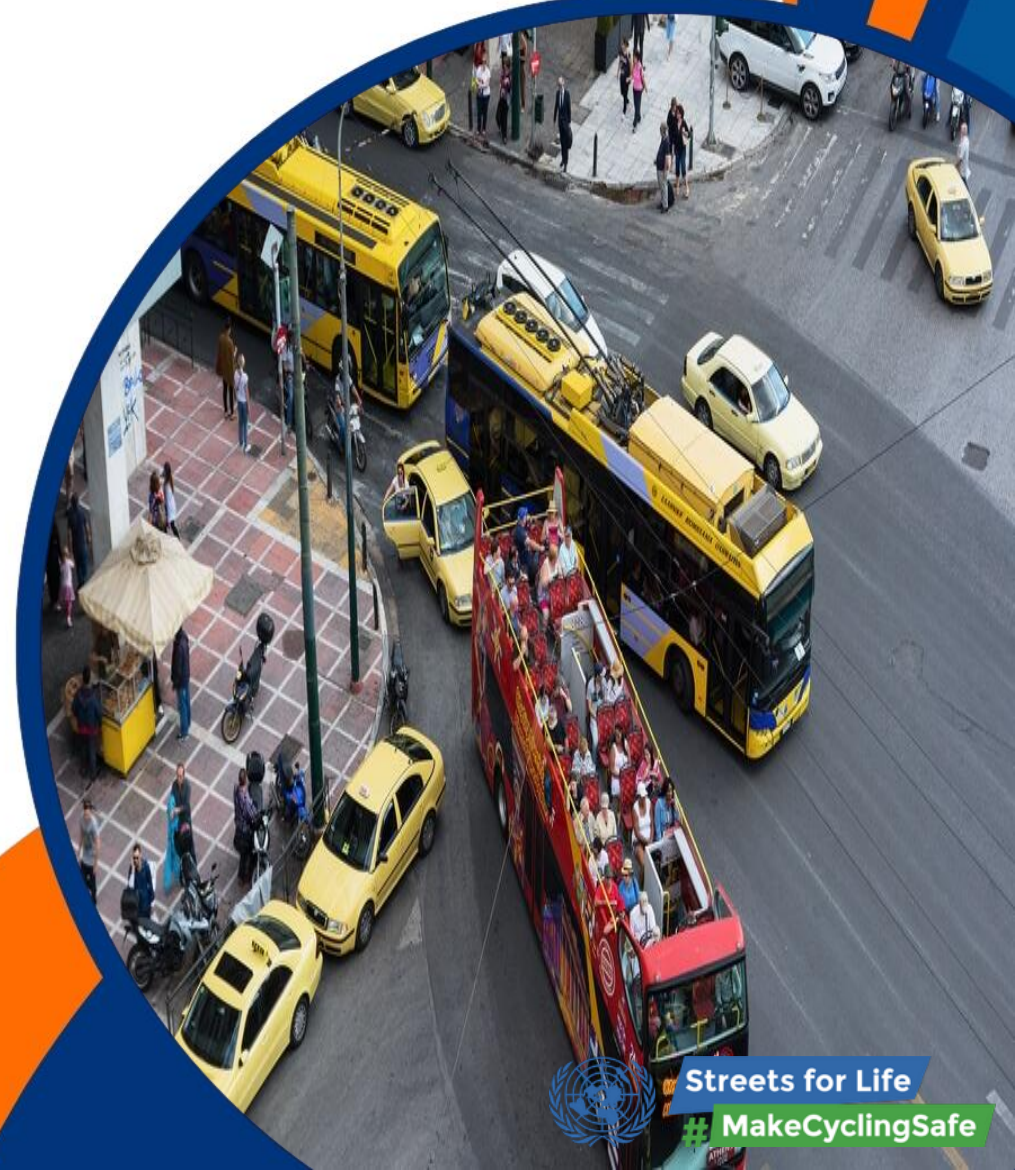
Road Safety

➤ The major road safety problems in Athens are motorcycle crashes and inappropriate speeds.

    ➤ Low helmet usage rates
- 81% among drivers (EU average: 97%)
- 61% among passengers (EU average: 95%)

    ➤ Low seatbelt usage rates
- 83% among private car drivers (EU average: 92%)
- 55% among private car passengers (EU average: 75%)

    ➤ Excessively high speeds
    41% of total road fatalities concerned single-vehicle road crashes (EU average 31%), mainly due to inappropriate high vehicle speeds

    ➤ The number of elderly fatalities has increased by 25% over the past decade

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Sustainable Urban Mobility Policy Framework

Multi-level Actions

In Athens, the fragmentation of responsibilities among Ministries, the Attica Region, and the Municipalities (and their agencies), along with inadequate organisation, staffing, and funding, has led to a vicious cycle of inertia and continuous deterioration in the quality of mobility services and the environment

The necessary set of actions concerns:

➢ Strategic actions

➢ Tactical actions

➢ Operational actions

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Strategic Actions

➢ Definition of clear goals and strategy aligned with European policies: Safe, Green, Smart, and Efficient Mobility – Vision Zero Fatalities

➢ Operation of a Metropolitan Authority for mobility in Athens (and road safety in Greece)

➢ Funding, organisation, and accountability

➢ Evidence based actions and evaluation of interventions

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Tactical Actions

➢ **Management of public space** with significantly more room for pedestrians and cyclists

➢ Policy for organizing and pricing **traffic and parking**

➢ **Speed** management

➢ Priority for **public transport** (travel time) and active modes of transport

➢ Priority for developing a **complete metro network of 8 lines** and 200 stations

➢ Completion of **peripheral high-speed road arteries**

➢ Utilisation of **technology and large-scale data**

➢ Exploitation of **Transport Engineers** and Scientific Expertise

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Operational Actions

➢ Proper operation of numerous bus lanes systematically
➢ More buses that are environmentally friendly

➢ Significant reduction of on-street parking and reallocation of space to pedestrians
➢ Increase in off-street parking spaces
➢ Development of a complete bicycle lane network (>1,000 km)

➢ Speed limit of 30 km/h (except on main roads)
➢ Systematic enforcement with several cameras with emphasis on inappropriate speed and helmet use

➢ Support for fast and comfortable intermodal travel, including the use of digital applications

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Sustainable Urban Mobility Choices

➢ Speed or safety?

➢ Individual or mass transport?

➢ Vehicles or pedestrians?

➢ Cars, buses, motorcycles, bicycles, or pedestrians?

➢ Residents or visitors, or workers?

➢ On-street or off-street parking?

➢ Congestion/Pollution charging?

➢ Goods transport or passenger mobility?

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