



National Technical University of Athens
Road Safety Observatory

Online
workshop
in the framework of

6TH UN GLOBAL ROAD SAFETY WEEK

17 - 23 May 2021



Streets for Life

#Love30



Thursday
20 May
2021

Innovation in Road Safety Research

Traffic and parking arrangements for the Athens Great Walk

Antonis Chaziris

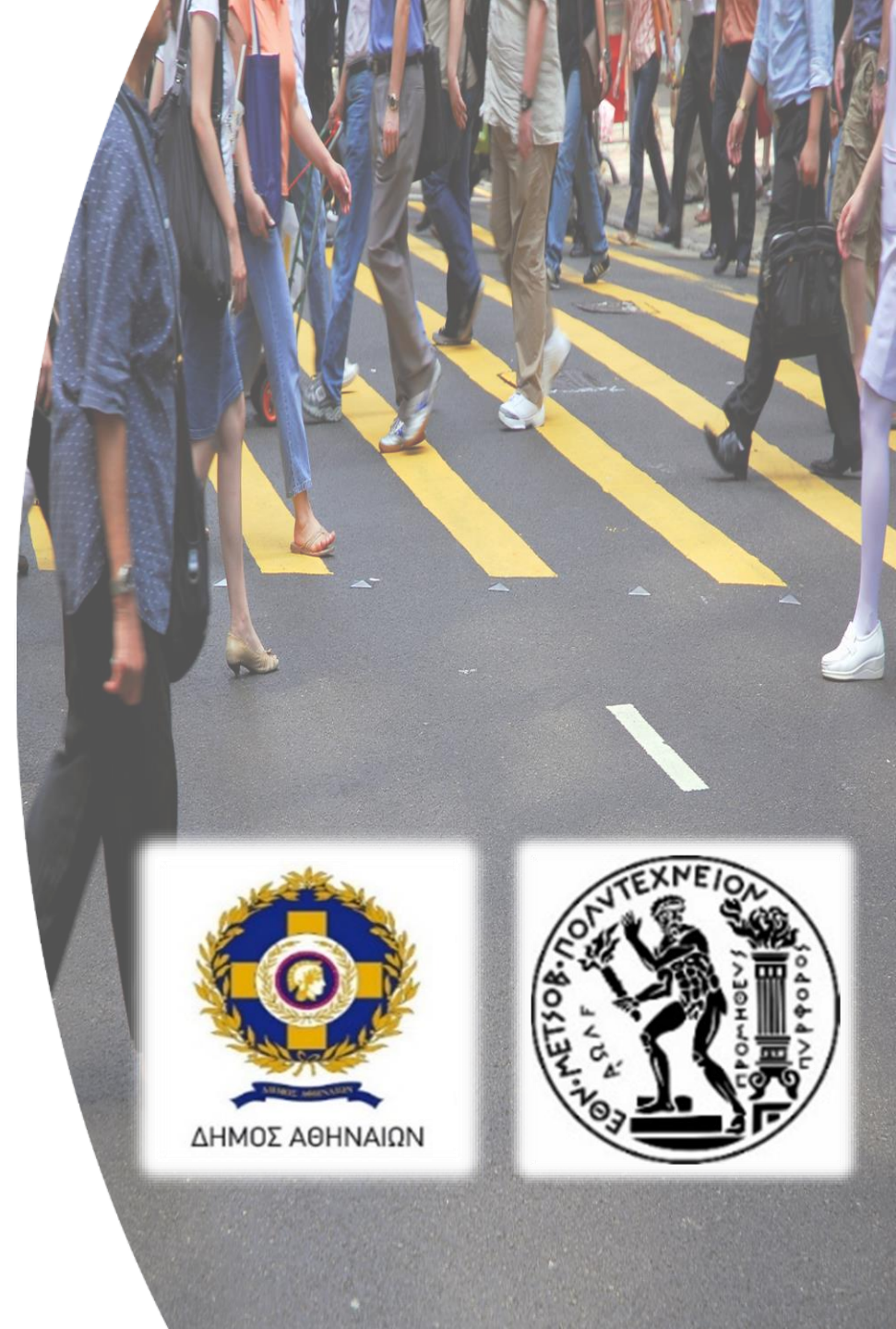
Research Associate

Together with:
Virginia Petraki, Christina Gonidi, George Yannis



Athens Great Walk

- **Objectives:**
Safe green and efficient transport for all
- **Partners:**
City of Athens
National Technical University of Athens
- **Project Duration:**
12 months (March 2020 – February 2021)



Project Framework

Reform public space for the promotion of **public transport** and **active travel modes**

- Harmonized with the **Sustainable Urban Mobility Plan** of Athens and the related trends in European cities
- **Promoting public transport, walking and cycling** through new bus, pedestrian and cycle lanes as well as mixed traffic with low speeds
- **Wider and safer sidewalks** in central axes to increase accessibility
- Streets / areas **free of private vehicles**
- **Parking arrangements**, for private vehicles, taxis, motorcycles and people with disabilities



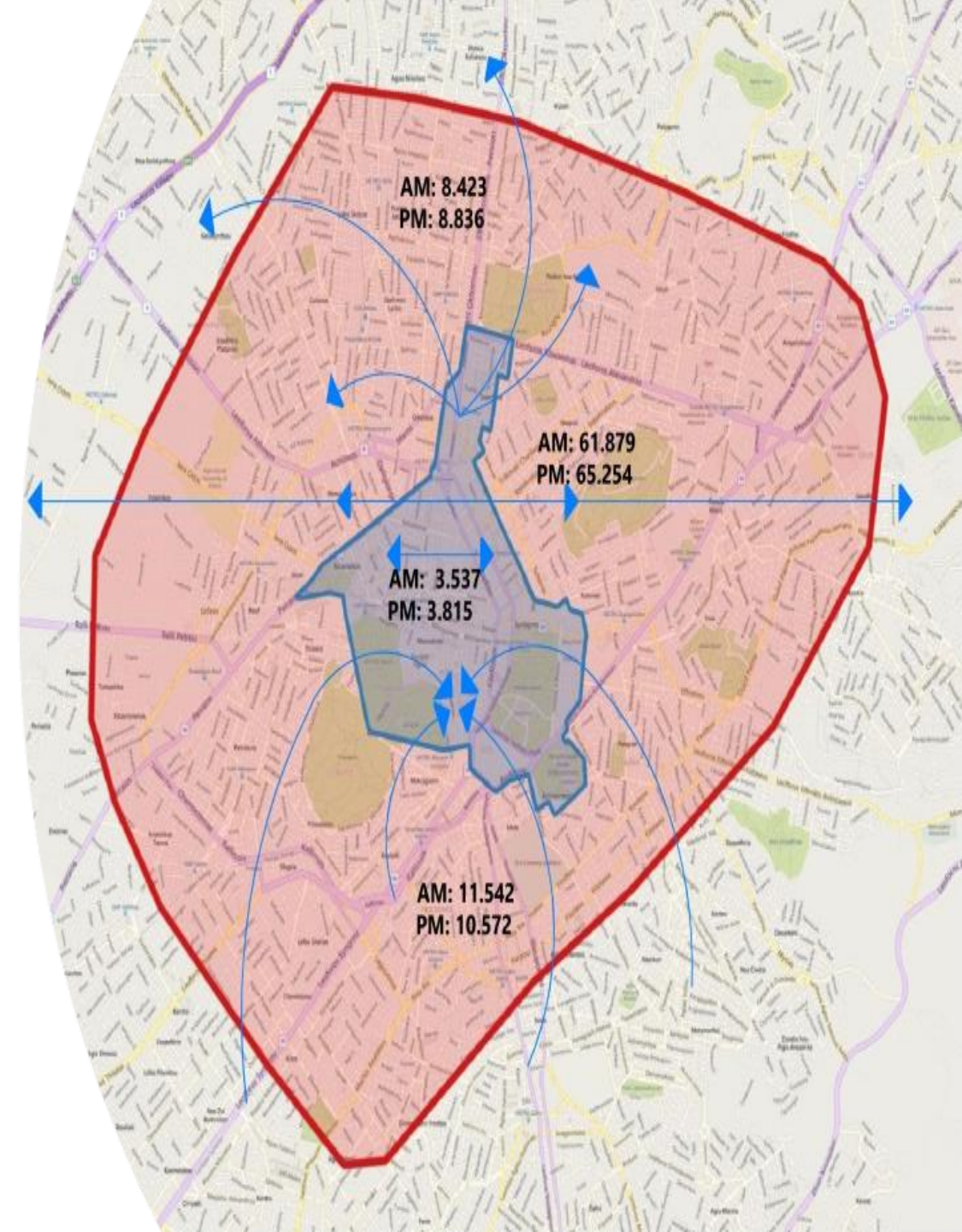
Mobility situation in Athens

- The **average speed for passenger cars** in the morning peak, estimated at 21,4 km/h for 2020
- **Average travel time for passenger cars** increased in 2019, compared to the previous three years
- Approximately **18.000 taxis are operating** in Athens
- **Constant decline in thermal bus ridership since 2009**, while vehicle kilometres remained stable
- **Stable passenger ridership in the metro system** during last years
- **Micromobility** is emerging since 2019
- The pandemic highlighted the need to:
 - ✓ **increase the level of service** in public transport
 - ✓ **increase** public space
 - ✓ **support** active travel modes (cycling, walking)



Traffic Impact Study

- Analysis of the current situation in the city of Athens and the Greater Athens area
- Examination of alternative traffic management schemes using the NTUA Traffic macro and micro simulation models for Athens (Aimsun)
- Calculation of Key Performance Indicators for car traffic, public transport, bicycles and pedestrians - Selection of the best scenario
- The model predictions were successfully validated during the implementation



Mobility Performance Indicators

Passenger car traffic					PT - pedestrians				
	Scenario B3	Scenario B4	Scenario B5	Scenario B6		Scenario B3	Scenario B4	Scenario B5	Scenario B6
ΔA1 Vehicle-hours for private transport (study area)	+7,2%	-22,6%	+4,3%	-22,5%	ΔA4 Urban reforms on road axes (total)	+9ha.	+9ha.	+8.4ha.	+8.4ha.
ΔA1 Average vehicle speed (study area)	-18,1%	-3,1%	-13,5%	-0,4%	ΔA4 Streets with limited access to passenger cars	+4.7ha.	+4.7ha.	+4.7ha.	+4.7ha.
ΔA2 Level of Service (study area)	-7.8%	-4,2%	-6,7%	-5,5%	ΔA5 Bus lanes (affecting 50+ bus routes)	+3,76km	+3,76km	+2,57km	+2,57km
ΔA2 Level of Service (total)	+1.8%	+3,7%	+1.1%	+3,6%	ΔA6 PT average speed (Panepistimiou st.)	+28%	+35%	+32%	+37%
ΔA3 Travel times on selected road axes within the study area	+18,1%	+3,1%	+13,5%	+0,4%	ΔA6 PT average speed (Akadimias st.)	+22%	+26%	+23%	+27%
ΔA3 Travel times on external road axes	+0,4%	-5,0%	+0,9%	-4,1%	PT ridership		+8,7%		+7,8%



Pilot Implementation

- In June 2020, a pilot implementation of a subset of the interventions was decided, following the example of several cities worldwide on the occasion of the pandemic :
 - to support **active travel modes** during the pandemic,
 - to assess the mobility interventions **in practice**,
 - to initiate a **live public consultation and dialogue** based on pilot results
 - to guide travelers towards **better mobility behaviour**
- The subset of interventions implemented were:
 - **Increase of sidewalks** in streets with high pedestrian traffic
 - Exclusive lanes for **pedestrians and cyclists**
 - Exclusive **bus lanes**
 - Motorcycle, taxi and disabled **parking management**
- The evaluation of the pilot implementation led to useful **adjustments** for the final engineering



Evaluation of Interventions

Advantages

- Decrease of the share of passenger cars on Panepistimiou St. (-12%) with a corresponding increase of taxis (+6%) and motorcycles (+6%)
- Improved Level of Service for bus and trolley passengers, as they do not have to get on/off between taxis and other illegally parked vehicles
- Significant increase in walking on central Axes and the area around the center of Athens (+50%)
- Increase in cycling in and around the city centre
- Removal of illegally parked cars and taxis from busy roads without provoking public reactions
- Reduction of car traffic speed on central roads with positive impact on safety and comfort of vulnerable road users
- Significant reduction of traffic noise and air pollution

Disadvantages

- Temporary (4 weeks) traffic congestion on a number of road axes in and around the city centre such as:
 - Panepistimiou St.
 - Vas. Amalias Av.
 - Vas. Konstantinou Av.
 - Alexandras Av.
- Traffic conditions on the majority of the road axes significantly improved after 3 months, at similar levels as before the pilot implementation



Road Safety Improvements

- Expected **great safety improvement** from the suggested introduction of 30 km/h speed limit
- New infrastructure for **better protection of VRUs** (PTW, cyclists, pedestrians)
- **No accidents** were observed during the pilot implementation due to:
 - Appropriate design of the interventions
 - lower average speed
 - reduction of speeding
- Development of a **new culture for safer behaviour** of all road users



Scientific and Social Impact

- **Athens Great Walk** constitutes an emblematic large urban regeneration scheme, transforming city life
- **Sustainable mobility practices** were introduced prioritizing public transport, pedestrians and cyclists
- The implementation of measures aiming to reduce the average speed at the city center showcase a **fundamental choice of prioritizing the protection of human life**, and travelers against motorized traffic
- Paved the way for the implementation of the new **sustainable urban mobility plan**, gradually expanded to the Greater Athens Area



Future Challenges

- Motivate citizens to participate in **public deliberation** to collectively shape the future of Athens mobility
- Build **broad alliances** with individuals, interest groups, private and public sector to further develop sustainable mobility (public transport, cycling, walking, micromobility)
- Make Athens a living example of continuous **sustainable mobility** and quality of life improvement
- Continue (and ramp up) the **collection of quality mobility data** in order to keep supporting and further promote evidence based decision making





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