Traffic and parking arrangements for the Athens Great Walk

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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

<table>
<thead>
<tr>
<th>Passenger car traffic</th>
<th>Scenario B3</th>
<th>Scenario B4</th>
<th>Scenario B5</th>
<th>Scenario B6</th>
<th>PT - pedestrians</th>
<th>Scenario B3</th>
<th>Scenario B4</th>
<th>Scenario B5</th>
<th>Scenario B6</th>
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<tr>
<td>Vehicle-hours for</td>
<td>+7,2%</td>
<td>-22,6%</td>
<td>+4,3%</td>
<td>-22,5%</td>
<td>ΔA4</td>
<td>+9ha.</td>
<td>+9ha.</td>
<td>+8,4ha.</td>
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<td>private transport</td>
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<tr>
<td>Average vehicle</td>
<td>-18,1%</td>
<td>-3,1%</td>
<td>-13,5%</td>
<td>-0,4%</td>
<td>ΔA4</td>
<td>+4,7ha.</td>
<td>+4,7ha.</td>
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<td>speed (study area)</td>
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<td>Level of Service</td>
<td>-7,8%</td>
<td>-4,2%</td>
<td>-6,7%</td>
<td>-5,5%</td>
<td>ΔA4</td>
<td>+3,76km</td>
<td>+3,76km</td>
<td>+2,57km</td>
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<td>Level of Service</td>
<td>+1,8%</td>
<td>+3,7%</td>
<td>+1,1%</td>
<td>+3,6%</td>
<td>ΔA6</td>
<td>+28%</td>
<td>+35%</td>
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<td>Travel times on</td>
<td>+18,1%</td>
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<td>+13,5%</td>
<td>+0,4%</td>
<td>ΔA6</td>
<td>+22%</td>
<td>+26%</td>
<td>+23%</td>
<td>+27%</td>
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<td>selected road axes</td>
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<td>Travel times on</td>
<td>+0,4%</td>
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<td>+0,9%</td>
<td>-4,1%</td>
<td>PT ridership</td>
<td>+8,7%</td>
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### Notes:
- **ΔA4** indicates Urban reforms on road axes (total).
- **ΔA4** indicates Streets with limited access to passenger cars.
- **ΔA5** indicates Bus lanes (affecting 50+ bus routes).
- **ΔA6** indicates PT average speed (Panepistimiou st.)
- **ΔA6** indicates PT average speed (Akadimias st.).
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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