Urban Mobility Planning in the Greater Metropolitan Area of Thessaloniki, Greece

Session 6: Austerity and Urban Mobility Planning

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Presentation Outline

- The financial crisis in Greece
- Transport and Mobility Facts in Greece and Thessaloniki
- The City of Thessaloniki
- Interventions and Policies for Urban Mobility
- S.W.O.T. Analysis
- Questions for further discussion
The financial crisis in the Global Economy

GDP growth rates (2012-2009)
The financial crisis in Greece

- 2009: strong increase of government debt levels reported
- **Global** economic recession of 2008
The financial crisis in Greece
The financial crisis in Greece
The financial crisis in Greece
Transport and Mobility Facts

- Indicative traffic reductions on various Toll roads (2011 vs 2009)

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
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<tbody>
<tr>
<td>Portugal</td>
<td>5% to 10%</td>
</tr>
<tr>
<td>Italy</td>
<td>1% to 3%</td>
</tr>
<tr>
<td>Ireland</td>
<td>1% to 5%</td>
</tr>
<tr>
<td>Greece</td>
<td>25% to 40%</td>
</tr>
<tr>
<td>Spain</td>
<td>15% to 25%</td>
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![Traffic Performance Graph](image)
Transport and Mobility Facts in Greece

- At 12 of the most major urban roads in Athens (2012 vs 2009)
  - The average daily traffic was decreased up to 16%
  - The average daily speed was increased up to 20%
  - The mean travel time at peak hours was decreased by 60%

- At the ring road of Athens (Attiki Odos) the following were observed (2012 vs 2011):
  - Average daily traffic reduction: 14%
  - Veh-km traveled reduction: 12.2%
  - Congestion events due to traffic flow: 42% reduction
Transport and Mobility Facts in Greece

- The figures are more disappointed for the mid-sized cities (e.g. in the city of Thessaloniki the reduction of average daily traffic was reduced by 30%)

- Other mobility phenomena observed

  ✓ Increase of alternative modes usage (specially walking and cycling)
  ✓ Decrease of road accidents and deaths (increase of vulnerable user accidents at urban space)
  ✓ Increase of Public Transport usage (low level of service)
  ✓ Decrease of Public Transport revenues (a lot of people do not validate a ticket)
  ✓ Increase of vehicle occupancy
The City of Thessaloniki
The City of Thessaloniki

- The **second largest** city in Greece
- Severe **traffic** and associated **environmental** problems
- One of the **most atmospherically polluted cities** within the European Union (most polluted city in Greece)
- Probably the only city in Europe populated over 1.000.000 inhabitants remaining **without a fix route transport system** in operation
- Morphology **particularities**
Thessaloniki Area

25% of the Daily Trips has their Trip Ends at the C.D.A. (1999)
Thessaloniki Transport Facts

- Private Vehicle Fleet: 400,000 cars
- Taxi Fleet: 1,870
- One Private Bus Operator: 
  - OASTH Buses: 621 diesel buses (EURO IV&V)
  - OASTH Bus lines: 76 (including 17 regional lines)
- Bus Ridership: ~180 mio passengers
- Bus Ridership: >500,000 daily passengers
- Bus Output: 42 mi. bus-kms (92% serv. kms)
- Public Transport fare: 0,80 €
### Thessaloniki Transport Facts

- **Person Trips**

  - 1,600,000/daily (1999)
  - 2,400,000/daily (2010) +50%

<table>
<thead>
<tr>
<th>Mode</th>
<th>1999</th>
<th>2010*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>44%</td>
<td>52-58%</td>
</tr>
<tr>
<td>PuT</td>
<td>27%</td>
<td>19-21%</td>
</tr>
<tr>
<td>Taxi</td>
<td>7%</td>
<td>3-6%</td>
</tr>
<tr>
<td>Motorbike</td>
<td>6%</td>
<td>6-10%</td>
</tr>
<tr>
<td>Walk</td>
<td>12%</td>
<td>9-10%</td>
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*estimations*
Thessaloniki Transport Facts

- Approximately 140,000 vehicles at morning peak period

- Average network travel speed: 14.7 km/h

- Bus average commercial speed:
  - 14.2 km/h in bus lanes
  - 11-17 km/h in the rest network

- Average daily traffic volume at the Ring Road: 120,000 pcus’

- During Peak Hour:
  - 112,000 liters of gasoline consumed
  - 3 tn of CO emitted
Policies Presented

#1: Sustainable Urban Mobility Plan
#2: The Metro System
#3: Bicycle Network
#4: University Mobility Plan
Policy #1

Development of Sustainable Urban Mobility Plan (S.U.M.P.) for the Metropolitan Area of Thessaloniki, Greece
Policy #1: Thessaloniki SUMP

- Developed by THEPTA (2010-2013)

- Within the Framework of a SEE project called “ATTAC”

- Strategic Plan with Emphasis on Public Transport

- The first SUMP ever developed in Greece

- Following ELTIS + guidelines

- Wide consultation process
Policy #1: Thessaloniki SUMP

- Adapted to particularities of the area

- **Mobility Forum:** Basic Consultation Instrument
  - THEPTA Board
  - Policy Makers
  - Municipalities
  - Institutes
  - Citizens’ Associations
  - Technical Chamber

- Support from the translational partners

Sopot, 12 June 2014
The PTA identified, mobilized and committed all stakeholders involved in the design of the Metropolitan Area mobility and transport. The SUMP elaborated by ThePTA team involves the 10 Municipalities of the Thessaloniki Metropolitan Area, the Region of Central Macedonia as well as the Ministry of Macedonia - Thrace.

Sump Stakeholders ‘Mobility Forum’ members:
- Technical Chamber of Greece
- Institute of Transport Planners
- Athens METRO
- ATTIKO METRO
- Association for Rights of Pedestrians
- ECOCITY – ECOMOBILITY
- Passengers Association
- Cyclists Association
- Aristotle University of Thessaloniki
# Policy #1: Thessaloniki SUMP

<table>
<thead>
<tr>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
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<tbody>
<tr>
<td>Availability of large scale plans</td>
<td>Strong position of road building and cars</td>
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<tr>
<td>Availability of human resources</td>
<td>Lack of knowledge management in larger scales</td>
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<tr>
<td>Interdisciplinary approach (education)</td>
<td>Incomplete reporting of management interventions</td>
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<tr>
<td>Maturity of viable projects (Metro)</td>
<td>Institutional framework of project developments (long periods)</td>
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<tr>
<td>Fuel prices and development trends</td>
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<table>
<thead>
<tr>
<th><strong>Opportunities</strong></th>
<th><strong>Threats</strong></th>
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<tbody>
<tr>
<td>Favorable social climate for sustainable mobility</td>
<td>Development (economic and social)</td>
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<tr>
<td>Create a metropolitan mobility body</td>
<td>Uncertain political developments</td>
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<tr>
<td>Increased private sector participation (in collaboration with the public sector)</td>
<td>Unemployment</td>
</tr>
<tr>
<td>Favorable legal and institutional framework for the implementation</td>
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**Thessaloniki SUMP**

3+1 key scenarios developed

**Scenario 0.**

*Do Nothing*

**Scenario 1.**

*Business As Usual, Do Minimum*

**Scenario 2.**

*Intermediate Development of Public Transport*

**Scenario 3.**

*Intensive Development of Public Transport (UITP Target PTx2 until 2025)*

Sopot, 12 June 2014
Policy #1: Thessaloniki SUMP

Effective Measures

1. Smart and Integrated Ticketing and Integrated Payment System
2. Bus Rapid Transit, Bus priority at traffic lights
3. Awareness campaigns for discouraging the use of private car and promoting use of Sustainable Transport Modes (PT, Cycling, Walking)
4. Promotion of Tram system, complementary to the Metro with new ways of financing, restructuring bus routes and accompanying urban regeneration
5. Intermodality between Metro/Tram/Bus
6. Seaborne Transport System in the Thermaikos Gulf
7. Flexible Transit Systems including restructuring Taxis services
8. Integrated Parking Policy (Park and Ride, controlled on street parking system, Parking charges as deterrent to car use and to raise revenues)
9. Pedestrianization and public space regeneration
10. Cycle lanes and priorities
11. Bike Sharing System (communal city bikes)
12. Congestion Charging and Access Control
Policy #1: Thessaloniki SUMP

SUMP Next Steps

- **Continuation of Mobility Forum**, meeting every 6 months as consultation with all stakeholders
- **SUMP Unit** at ThePTA, to monitor the progress of the strategic SUMP and advise on Municipal SUMP and implementation
- **Surveys**, regarding the proposed packages of measures
- **Financial sources** to be found

9.1: Check the quality of the Plan

10.3: Check Progress towards achieving the objectives

11.2: Review achievements – understand success and failure
Policy #2

Construction and Operation of a Metro System in the Urban Area of Thessaloniki, Greece
Policy #2: Thessaloniki Metro System

Project Scope

• To **offer a reliable Public Transport** alternative to existing PT system (based on buses only)

• To facilitate transport policies towards **less dependence** from private cars

• To offer opportunities for **urban space regeneration**

• To offer opportunities for better **urban and transport planning**

• To secure/strength/promote the **transport system sustainability** (long term intervention)
Policy #2: Thessaloniki Metro System

Thessaloniki Metro – An overview

- Underground system of **9.2 km** length and **13 stations**
- **18 trains** of 450 passenger minimum capacity during the first period of system operations
- The System includes a **50 train capacity depot** and an administration building
- The project cost was estimated at **1.0 billion €** (VAT excl.)
- **A second line** will extent the network to the area of Kalamaria. 5 new stations are anticipated. Additional cost **400 mi €** for **5.5 km** length
- Completion of project (for both lines) **estimated for 2017 (?)**
Metro Passenger Demand – Line 1

Sopot, 12 June 2014
Policy #2: Thessaloniki Metro System

Expected/estimated Impacts

- Changes in modal split (PuT ap. 32%)

- Socio-economic Cost Benefit Analysis
  - Travel Time Savings
  - Operating Cost Reduction
  - Road Safety Improvement
  - Environmental Benefits
  - Other benefits
Metro System effects [1]

- Economic and social benefits to users and non users (reduction of external costs)
- Economic benefits to existing PT operator
- Improved road safety – benefits to all citizens
- Better efficiency of used resources
- Cost internalization (users pay for the metro use for maintenance and operation)
- Employment increase during construction and operation
- Urban space regeneration
- Improved quality of life (reduction of air pollutions and traffic congestion)
Metro System effects [2]

- Positive environmental effects
- **Substitution** of fuel energy from electric energy
- Opportunity for other major changes (PT restructuring, Park & Ride facilities, etc)
- Regeneration of specific areas around the metro stations
- Long term effects – relocation of specific land uses closer to Metro catchment area
Policy #2: Thessaloniki Metro System

Barriers-Obstacles

• Major delays at the construction of the project due to:
  • Financial Crisis
  • Archaeological Excavations

• Initial Date for kick-off
  • 2012

• Negative Impacts
  • Traffic & Environmental
  • Economical
Policy #3

Construction and Operation of a Bicycle Road Network in the Urban Area of Thessaloniki, Greece
Policy #3: Bicycle Road Network

- Operates since 2001

- A single bicycle lane with a length of 2.9 km was built along the city’s coastal zone

- Was mainly used for recreational purposes

- In 2009, the Municipality of Thessaloniki decided to upgrade and extent the bicycle network.
Today, the integrated bicycle network of the city has a total length of 11.7 km (studies ready for another 5 km)

Due to the financial crisis in Greece, the demand for biking is very high

A lot of discussion is active in the city whether the specific network is efficient and well designed to serve this demand or not
Policy #3: Bicycle Road Network
Current Network
Policy #3: Bicycle Road Network
Policy #3: Bicycle Road Network
Policy #3: Bicycle Road Network

User Assessment

- The majority of the users (47%), are doing bicycle for more than 1 hour daily, primarily for healthy/training reasons (43%).

- They indicate (42%) that most important reason to make them not use the bicycle is the lack of appropriate infrastructure.

- 25% stated that they do not feel safe when they are using the bicycle road.

- Among other proposals the users stated most that “they would like to see more bicycle roads at the city” and to have “better/safer integration with the rest road network”.
Policy #4

Development of a Sustainable Mobility Plan at Aristotle University of Thessaloniki (A.U.Th.)
Policy #4: Mobility Plan at A.U.Th.

The University

• One of the largest Universities in the Balkan area

• 42 faculties and departments

• 80,000 active students and 4,000 employees

• 429 square meters at the C.D.A.

• Implementation of a “soft” parking management policy (preferential parking available only to employees)

• Absence of an organized Mobility Management Plan for the Employees (teaching and administrative staff)
Policy #4: Mobility Plan at A.U.Th.

The Plan

- **Objective:**
  - ✓ Development of a mobility management plan for the improvement of mobility profile at the campus

- **Targets:**
  - ✓ Gradual restriction of the private car usage
  - ✓ Promotion of alternative ways of travel (bicycle, walking etc)

- **Priorities:**
  - ✓ Upgrade of existing infrastructure (pedestrian and bicyclists)
  - ✓ Effective management of the demand to/from the campus
Policy #4: Mobility Plan at A.U.Th.

The actions/measures

1. Parking management at the campus
2. Design of pedestrian and bicycle paths at the campus
3. Development and operation of a website for issues related with the mobility from/to the university
4. Routing of 4 university buses to transfer employees and students to the University for free
5. Operation of a Mobility Office to provide information services
6. Awareness and information actions
7. Behavioral Surveys
8. “Car Free Day at Aristotle” at 22\textsuperscript{nd} of September
Policy #4: Mobility Plan at A.U.Th.

Proposed Pedestrian and Bicycle Network at AUTh
Policy #4: Mobility Plan at A.U.Th.

✓ A day Without Car at Aristotle was organized in 22/09/2010 within the framework of Mobility Week
✓ It was the first time since 1950 that cars were not permitted to enter the campus

✓ Two university buses were used to collect the employees and the students
✓ The parking of a nearby theatre was used for P&R purposes
✓ An ex-post evaluation study was conducted
Modal Split to the University – Car Free Day
Car Free Day – Support the measure

- Totally Disagree: 6%
- Disagree: 8%
- Don't Know: 8%
- Agree: 24%
- Totally Agree: 78%

Sopot, 12 June 2014
Car Free Day – To be repeated more often

![Bar chart showing percentages of responses to the question of whether the Car Free Day should be repeated more often.]

- Totally Disagree: 8%
- Disagree: 7%
- Don't Know: 9%
- Agree: 28%
- Totally Agree: 76%
S.W.O.T. Analysis

Austerity and Urban Mobility Planning: Turning Hindrances into Opportunities

Technically, The Glass is Completely Full.
SWOT analysis

Strengths

1. The problem is well known and well documented
2. The financial crisis made people to think different and change behavior
3. Good weather conditions in Greece is in favor of walking and cycling
4. Highly educated and experienced people are involved in decision making and taking process
Weaknesses

1. Limited public funds
2. High financial risk to invest on major (or even minor) infrastructure projects
3. The structure of the public sector usually add obstacles and barries (e.g. absence of a Metropolitan authority to coordinate the actions and measures)
4. Political support and continuation between the parties is not secured
SWOT analysis

Opportunities

1. New financial reality in Greece, turns people to alternative to the car solutions
2. Use of ICT technologies
3. European funds can be used (but first need to be awarded)
4. Good and Bad Practices exchange between countries/cities
SWOT analysis

Threats

1. Lack of coordination between policy takers can make people lose their support to the measures/initiatives
2. Misspecification about the positive impacts of a measure
3. Financial problems continue
4. People can easily turn again to car when their income will be increased
Questions or points to discuss???
Question #1
What business models are usually adopted in your country for the construction of major transport infrastructure projects and what are the provisions to secure them in the case of a financial crisis?
Question #2

By taking into account the current situation in your country as regards the traffic and mobility profile:

What are the "strengths" and "weaknesses" points in order to turn financial crisis into opportunity?
Question #3

How Sustainable Urban Mobility Plans can be developed at a financial crisis and how can be a strategic tool of enhancing financial stability and sustainability?
Question #4
How flexible the regulatory framework is in your country to support mobility planning actions? Are there any barriers?
Question #5

What is the role of the stakeholders? Do they cooperate each other? Is a common way of understanding ? (and commitment ?) Is there any metropolitan authority which coordinate the action?
Question #6

Public Participation: How ready and mature are citizens and the respective associations to participate in a productive and fruitful way in the decision making process?
Question #7
Imagine your country defaults and you have only 20% of the budget you had before. What are the 3 priority actions that you should do for promoting the urban mobility?
Thank you all!!

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