



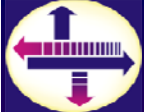
# Cooperation of Local Authorities & Research Organizations for Urban Sustainable mobility

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## Structure of presentation

1. Key enablers for urban sustainable mobility & related problems
2. Levels of support to authorities by research organizations
3. The paradigm of Thessaloniki Mobility Center



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ΜΕΤΑΦΟΡΩΝ

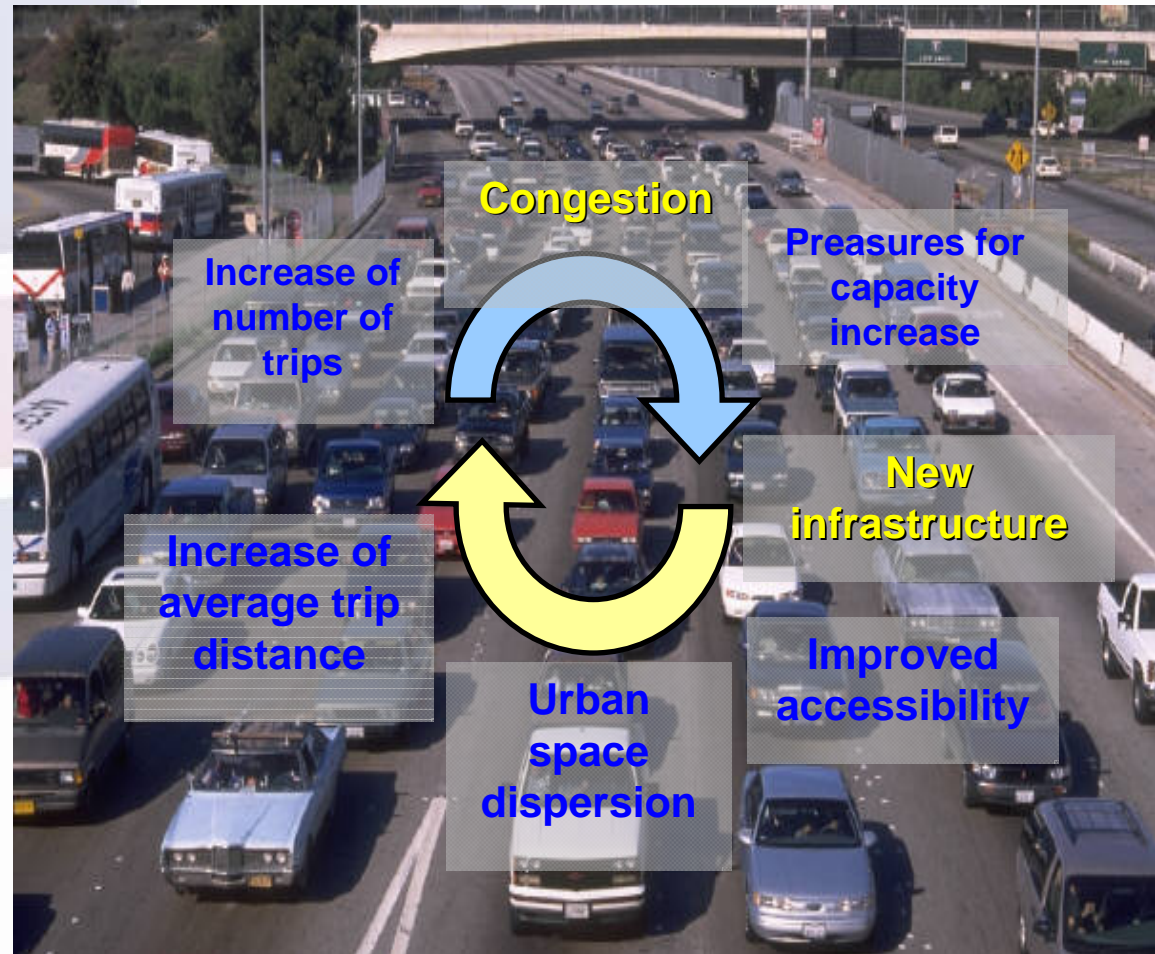
## **A. Key enables for urban sustainable mobility & related problems ....**



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ΤΕΧΝΟΛΟΓΙΚΗΣ  
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# Need for integrated planning process for achieving sustainable cities

- Different land uses and spatial separation create the need for travel and to transport goods.
- The transport system determines the accessibility of places and land uses.
- Thus, **planning and management of the urban system** needs an integrated approach by local authorities



# What integration for sustainable strategies implementation

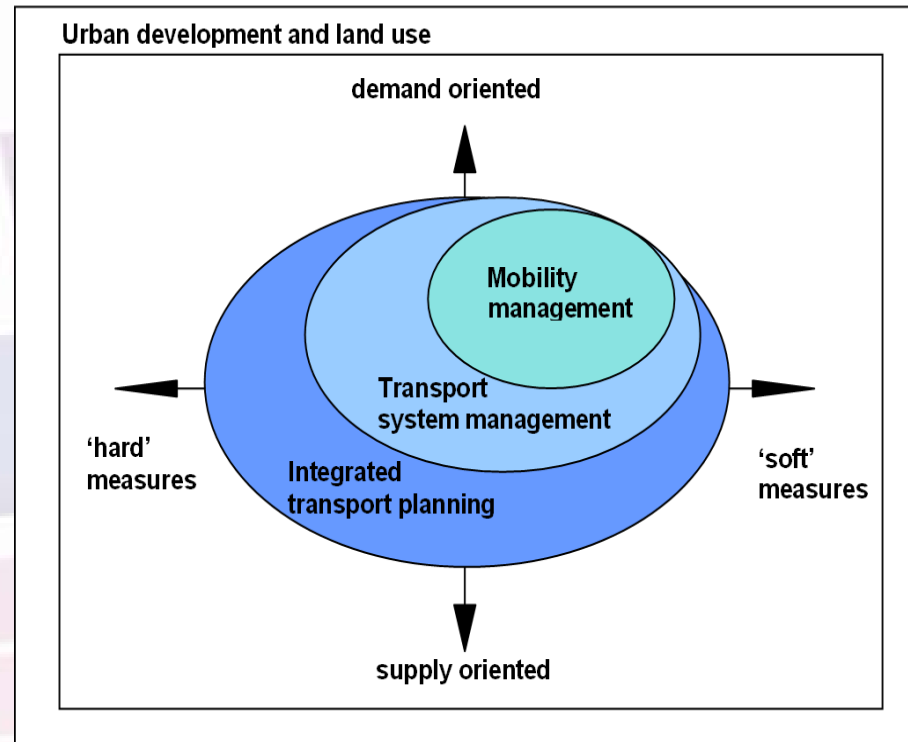
- **Integration** is only realised when it is applied to politics, planning methodologies and organisation of processes or structures.
- Integration is a multidimensional & multidisciplinary task. Not only do different policies need to be integrated, but the supporting tools and the supporting organisational structures of town planning and transportation engineering also need to be integrated.
- Often the strongest integration is found at the policy level. Most cities in Europe try to initiate integrated policies like public transport oriented development.
- However, **integration of the supporting models, monitoring indicators and institutional structures is much less developed.**



# Mobility Management in the holistic approach for sustainability

- Transport System Management refers to network management, including traffic management and mobility management as parts of an integrated and sustainable urban transport strategy.
- These management aspects of transport use different integrated tools of engineering, enforcement, education/information and economy.
- They are aimed at increasing road safety, improving the network efficiency, encouraging inter-modality, and limiting the negative effects of transport on the environment

Plans and measures of higher levels and from neighbouring regions or cities



Source: EUROFORUM state of the art Report



## Mobility Management measures

- Policy measures addressing the whole transport system, specific modes or sectors (parking, access to urban centres, etc.) as well as a wide range of effective measures of mobility management to influence travel behaviour.
- Technical solutions for the management of the transport network, part of the network or dedicated infrastructures (road, rail, bicycle path, etc.) and
- New ITS-options of traffic control and guidance, pre-trip information.
- More managing aspects related to strategies of transport demand management which also include transport pricing as a means of demand management .



# Mobility Management evolution (1/2)

measures focusing on traffic (traffic control centers, guidance systems, parking control).

information on, coordination and organization of existing transport offers as well as communication measures

management of the whole transport network, including public transport, road traffic and the other modes of transport such as cycling and walking

In the future should correspond to an integrated network management strategy





## Mobility Management evolution (2/2)

- Mobility management plays an increasing role in reducing car trips.
- Through information, education and advice in big traffic generators (companies, universities etc) intelligent timing of trips, car sharing, car pooling and increased use of public transport, bicycles and walking are encouraged.
- With better networking of these approaches the so far positive effects could be further improved.
- The cost effectiveness of these measures is very good.
- However, **it seems to be more difficult in cities to raise money for effective soft measures than for expensive (often questionable) hard measures.**
- Comparative evaluation of “hard” & “soft” measures is needed

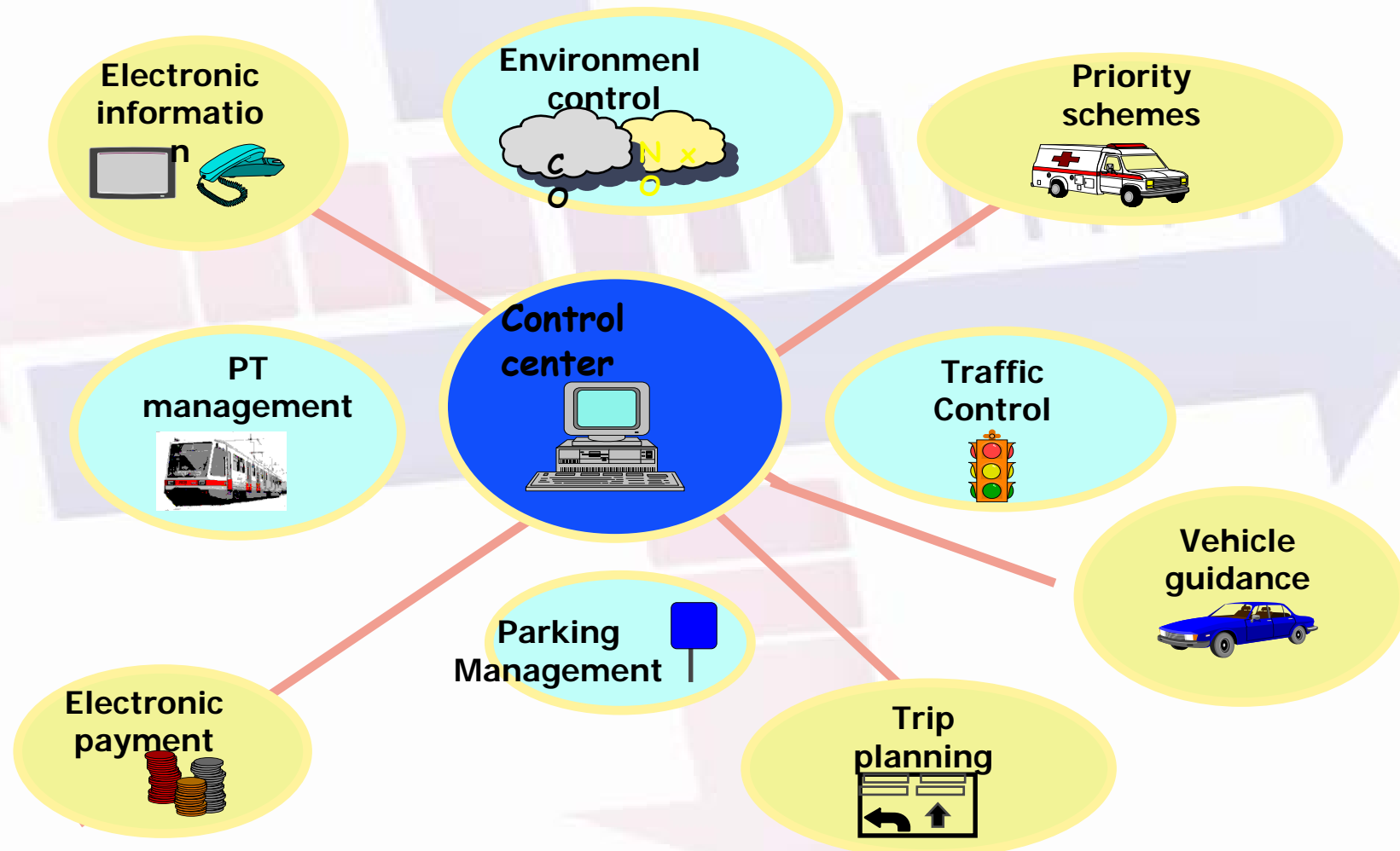


## The Role of the technology in mobility Management

- A recently implemented system is the Traffic Centre of Berlin . From such centres all traffic lights can be controlled 24 hours per day and, combined and coordinated with the telemetric guidance and information systems. The public control centre in Berlin gets most of the relevant data from a privately run traffic management centre in the same building.
- Data from the modern sensor network is combined and processed with information from the police, transport operators and other sources.
- Boards on roads , PT stops, or website and radio stations supply citizens with traffic information.
- Companies can receive transmissions of special services directly to their own distribution systems, to end-user appliances in vehicles and also via GPS to PDA's .



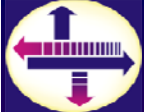
# Technology main enabler of mobility Management (1/2)



## Technology main enabler of mobility Management (2/2)

- Technology interoperability is an open issue
- Technology implementation creates “electronic content” in different public actors
- Provides the opportunity when combining information from different sources to create added value to transport system administrators, the users and private commercial entities.
- However, Authorities often:
  - Overestimate the “value” of their data
  - Are reluctant to share the information
  - Do not invest in data validation, & completion techniques in order the “content” to achieve critical magnitude and value for mobility planning-management-exploitation.





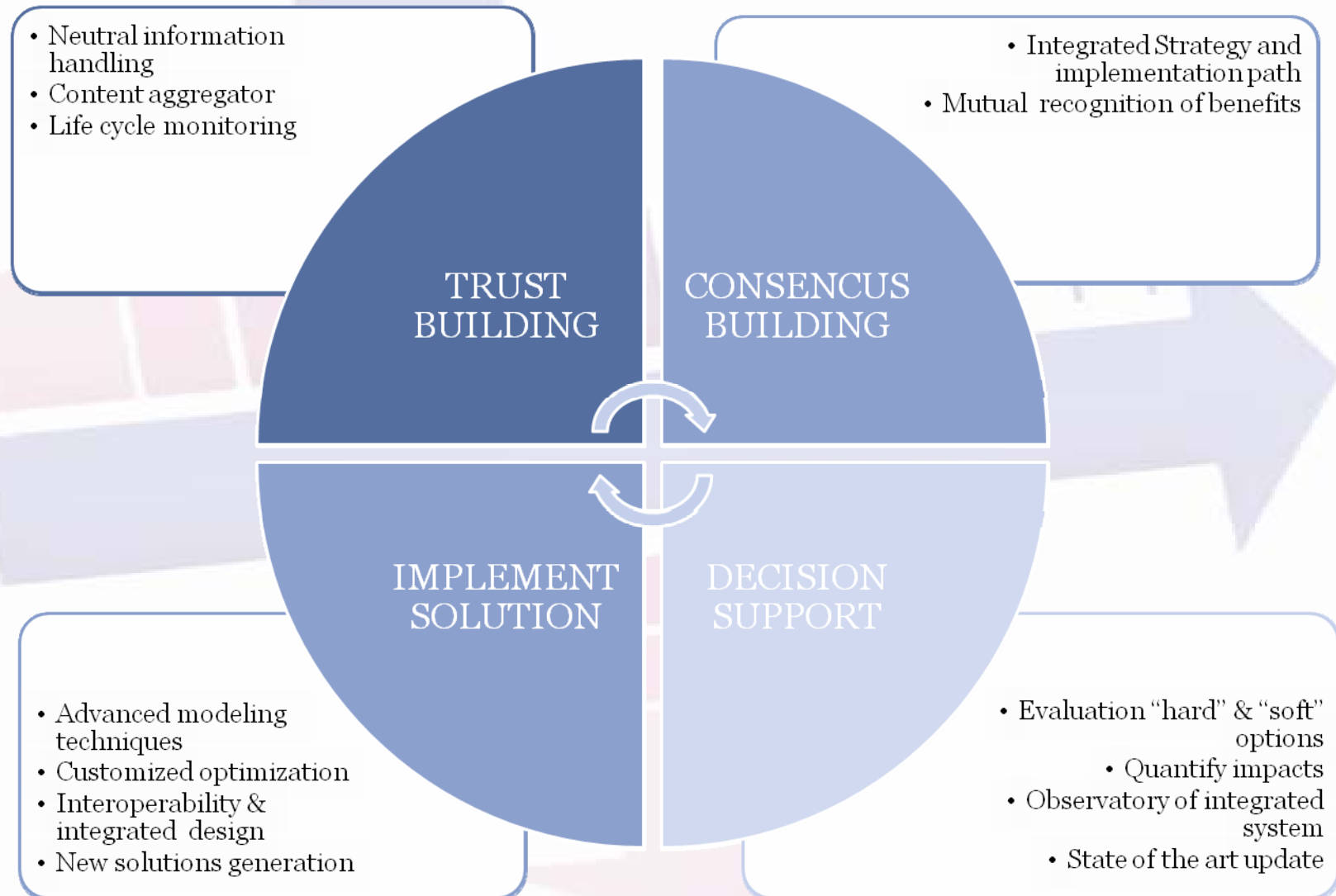
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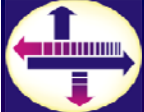
## **B. Levels of support to Authorities by Research Organization ....**



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ΤΕΧΝΟΛΟΓΙΚΗΣ  
ΑΝΑΠΤΥΞΗΣ

# Research Contribution to Authorities for sustainable mobility management





ΙΝΣΤΙΤΟΥΤΟ  
ΜΕΤΑΦΟΡΩΝ

## **C. The Paradigm of Thessaloniki Intelligent Urban Mobility Management & Traffic Control System.....**



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# Project's Objectives



The Intelligent Urban Mobility Management and Traffic Control System of Thessaloniki constitutes a united effort of the main city authorities involved in urban mobility, traffic operations and the environment management :

- the Region of Central Macedonia
- the Municipality of Thessaloniki,
- SASTh, Public Transport Board of Thessaloniki
- Centre for Research and Technology Hellas / Hellenic Institute of Transport

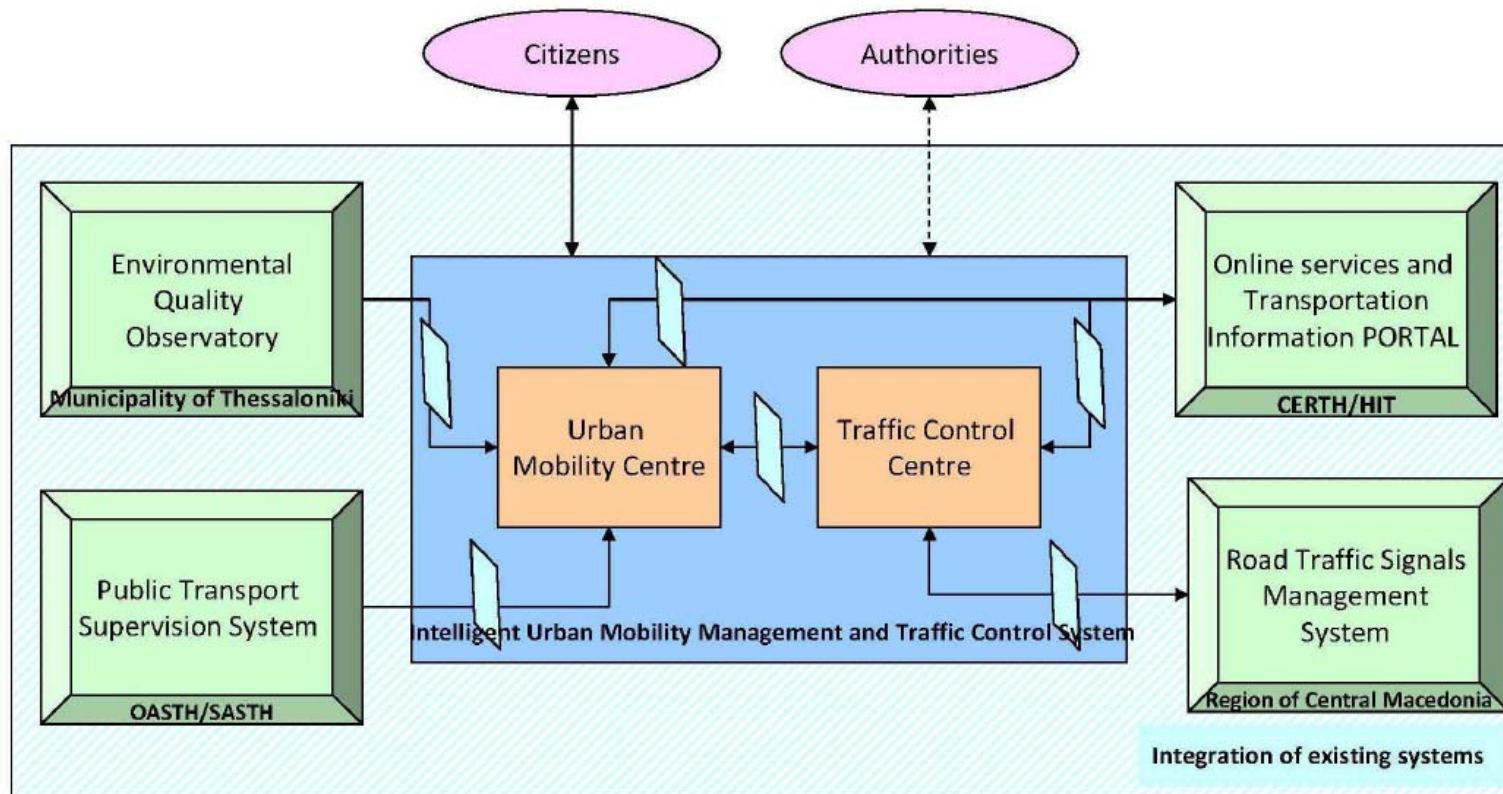
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


- form the environmental awareness of the transported citizens,
- strengthen the Public Transport System,
- reduce the negative impacts on air pollutants through the advanced traffic management,
- directly involve citizens in planning their own trips based on the environmental friendly route and finally,
- train young citizens in order to mould a new urban mobility culture.





# System layout and integration with existing infrastructures



-  :New systems to be developed and become operational within the framework of the proposed project
-  :Existing systems operated by authorities to be integrated within the framework of the proposed project
-  :Interfaces with existing systems to be developed within the framework of the proposed project
-  : Users



## Research Organization Role (1/ )

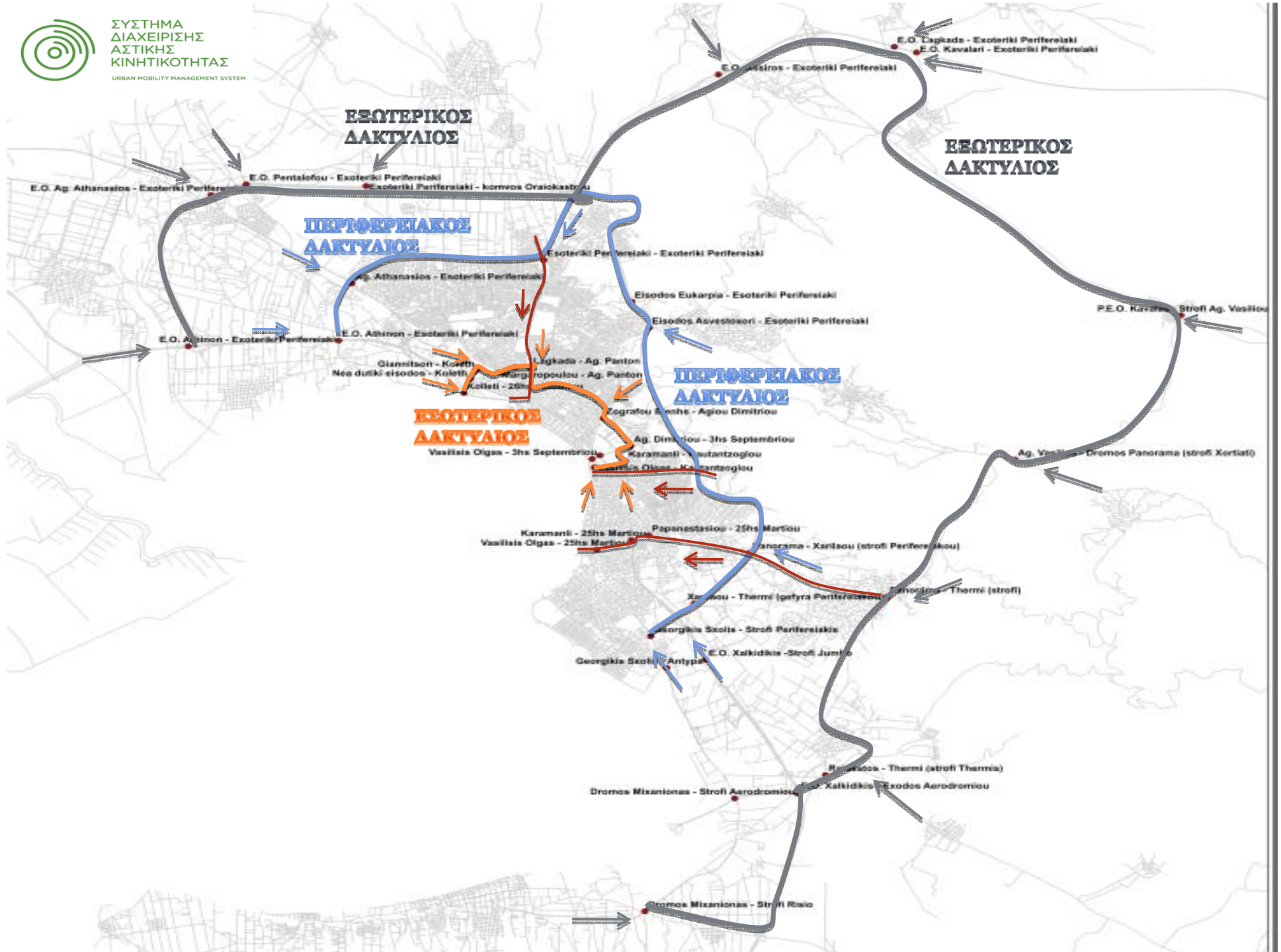
- *Facilitator*
- Propose an integrated strategy and implementation path
- Achieve win-win situation
- Identify Funding Sources
- *Know how & infrastructure provider*
- Prepare state of the art design of Mobility systems & services
- Development of innovative services for sustainable mobility management
- Dynamic simulation model for all agglomeration
- Host mobility services



## Research Organization Role (2/ )

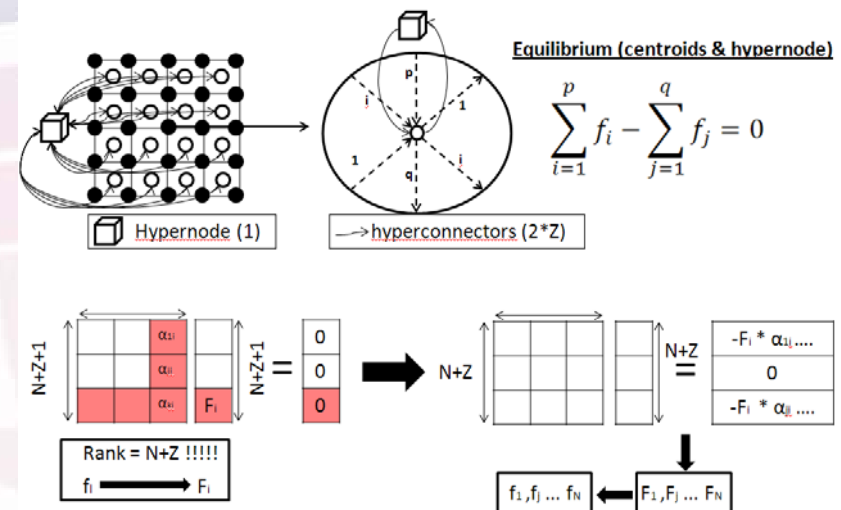
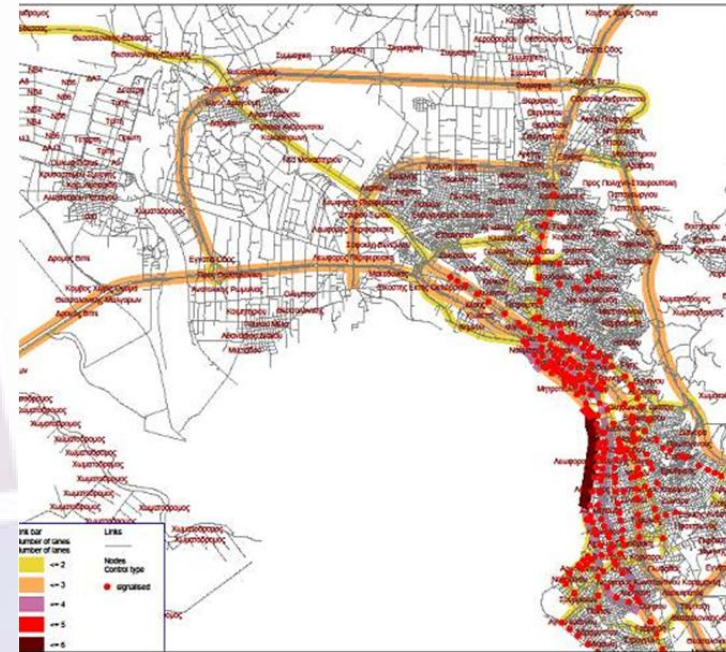
- *Content value generator & content aggregator*
- Update of Transport Demand characteristics data (OD matrix 2011 for all agglomeration)
- Users Opinions & requirements analysis (phone surveys)
- Validation of historical traffic data
- Real time Traffic data management and & validation
- Real time traffic forecasts for the whole network
- Historical data base creation & analysis.
- *Trainer & disseminator*





- Calibrated new static & dynamic simulation model for the whole agglomeration
- Model development based on time series analysis methods for real time forecast of traffic conditions.
- New algorithms for real time route choice for private cars.
- New algorithms for multimodal route planning including park & ride options
- Innovative optimization approaches & algorithms for environmentally friendly routing.

**Available for use by:** Planning local authorities, navigators, infomobility service providers





# ΣΥΣΤΗΜΑ ΔΙΑΧΕΙΡΙΣΗΣ ΑΣΤΙΚΗΣ ΚΙΝΗΤΙΚΟΤΗΤΑΣ

URBAN MOBILITY MANAGEMENT SYSTEM

ΤΟ **ΠΡΟΒΛΗΜΑ**  
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ΜΕΤΑΦΟΡΩΝ

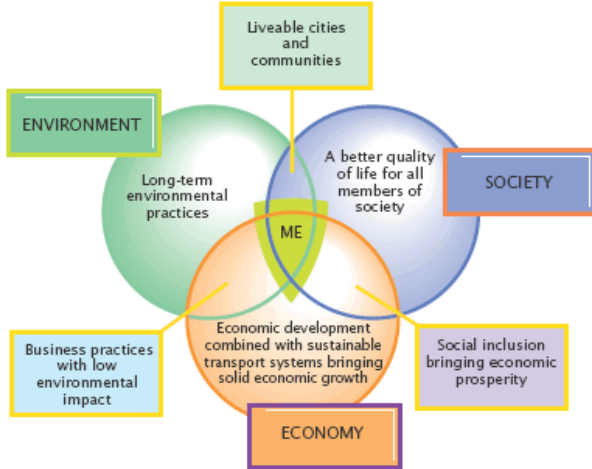
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[Β.Α.Κ.]

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ΑΣΤΙΚΗΣ  
ΚΙΝΗΤΙΚΟΤΗΤΑΣ

**ΑΥΤΟΑΞΙΟΛΟΓΗΣΗ:**  
ΤΙ ΕΜΑΘΑ ΓΙΑ ΤΗΝ  
Β.Α.Κ.;





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ΑΣΤΙΚΗΣ  
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URBAN MOBILITY MANAGEMENT SYSTEM



Have a taste  
of another **mobility**

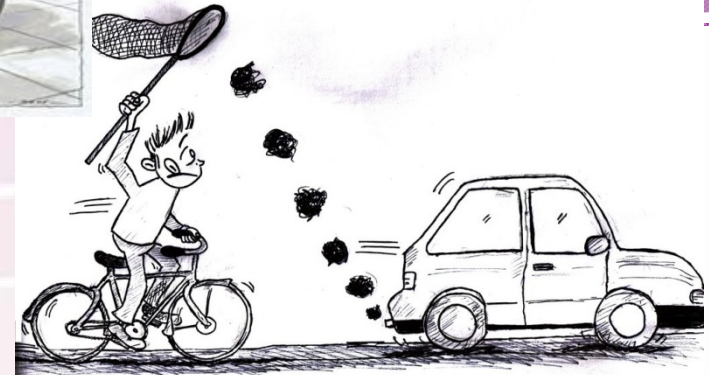


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Μετακινούμαστε, Αναπτύσσεται, Προστατεύεται



# The partnership of today .....and of tomorrow?

## Φορείς υλοποίησης

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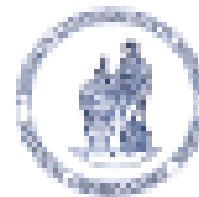


ΔΗΜΟΣ  
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Institute of Transport Economics - TOI



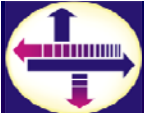
Institute of Transport Economics  
Norwegian Centre for Transport Research





# A cooperation model for the future for economic viable Intelligent Mobility System Operation





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