

# Sustainable Urban Mobility in Europe

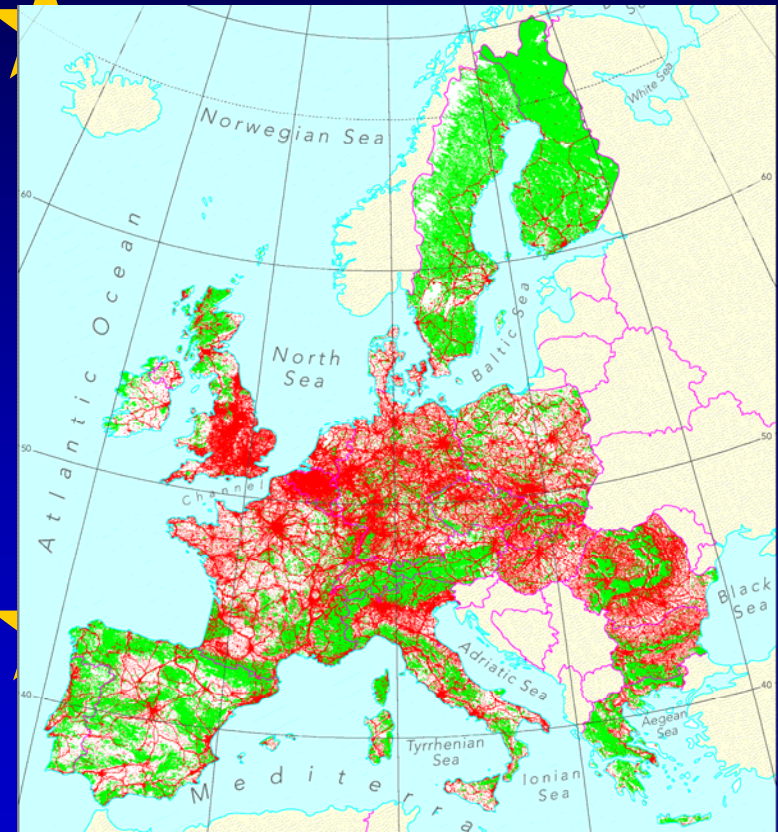


Peter Midgley gTKP



# Europe

- 27 EU Member States
- 494 million people
  - ▶ 74% urban
  - ▶ And 26% in cities 250,000+
- 219.8 million cars
  - ▶ 476 per 1000 inhabitants
- 0.7 million buses
  - ▶ 18 BRT systems
  - ▶ 30 metro systems
  - ▶ 137 tram / LRT systems
- Average trip 32 km/day
  - ▶ Walking: 382 kms/person/year<sup>1</sup>
  - ▶ Cycling: 188 kms/person/year<sup>1</sup>



Source: European Environment Agency

<sup>1</sup> Source: EU Energy & Transport in Figures, 2003 (data for 2000), Eurostat.



# Europe

# Asia

→ 27 EU Member States

→ 494 million people

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- ▶ And 26% in cities 250,000+

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→ 44 ADB Member States

→ 3.6 billion people

- ▶ 41% urban
- ▶ And 20% in cities 500,000+

→ 43.2 million cars

- ▶ 12 per 1000 inhabitants

→ ? million buses

- ▶ 18 BRT systems
- ▶ 35 metro systems
- ▶ 38 tram / LRT systems

→ Average trip ? km/day

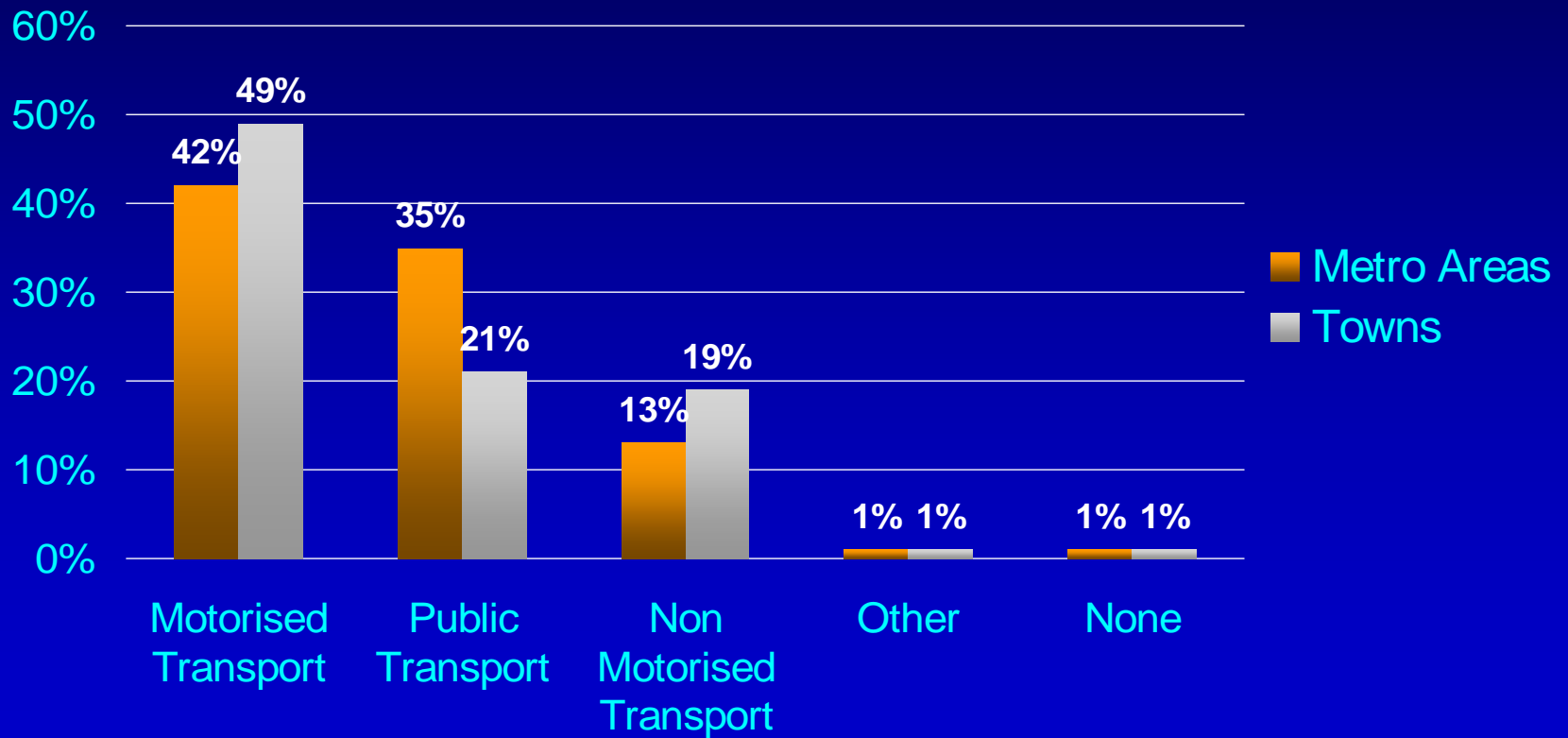
- ▶ Walking: ? kms/person/year
- ▶ Cycling: ? kms/person/year

<sup>1</sup> Source: EU Energy & Transport in Figures, 2003 (data for 2000), Eurostat.



# Europe: Modal split in Urban Areas

Main modes of transport for daily activities in EU  
(EuroBarometer 2007, survey of 25,767 individuals)





# Europe: Mobility

## EU citizens expect high levels of mobility, but...

- The car is by far the dominant urban mode
  - ▶ Contributing about 75% of kilometers traveled in EU conurbations.
- Increases in traffic result in chronic congestion, delays and pollution.
  - ▶ Urban traffic is responsible for 40% of CO<sub>2</sub> emissions
  - ▶ Every year, congestion costs the EU economy nearly 100 billion euros, or 1% of GDP.
- On average, a European citizen makes 1,000 trips per year and half of these are less than 5 km long.
  - ▶ For many of these shorter trips walking and cycling could be a true alternative.
- This requires *developing sustainable urban transport systems*



# EU Commission: 2004

## A sustainable urban transport system:

- supports the freedom of movement, health, safety and quality of life of citizens now and in the future,
- is environmentally efficient, and...
- supports a vibrant, inclusive economy,
- giving access to opportunities and services to all,
- including less affluent, elderly or disabled citizens.



# EU Commission: 2004

## How to achieve sustainability by promoting:

- A more rational use of private cars;
- Energy-efficient vehicles and renewable fuels;
- Public transport systems;
  - ▶ Well linked, regular, frequent, comfortable, modern, competitively priced;
- An increased share of walking and cycling;
- A more efficient use of land;
- Transport demand management;
- Behavioral change and mobility management;
- Integrated management with stakeholder participation;
- The use of quantified targets
  - ▶ and effective monitoring systems.
- **This requires a new culture for urban mobility**



# EU Commission: 2008

## → EU Commission Green Paper 2008

- ▶ “Towards a new culture for urban mobility”
- ▶ Urban mobility is an important facilitator of growth and employment
- ▶ with a strong impact on sustainable development in the EU


## → Consultation process 2007-2008

- ▶ Conferences and workshops
- ▶ Internet consultation (915 responses)

## → Action Plan – due autumn 2008

## → *Reference document*

- ▶ COMMISSION STAFF WORKING DOCUMENT Accompanying the GREEN PAPER “Towards a new culture for urban mobility” Brussels, September 2007

An illustration of a city street scene. In the background, there are various buildings, including a church with a steeple and a modern skyscraper. A dashed line representing a signal or path curves from a tower on the left. In the middle ground, there are trees, a car, a bicycle, and a bus. A large blue circle with a grid pattern is positioned on the right side of the image, containing the title text. Below the street scene, a black road with white lane markings leads to a crosswalk with blue and white stripes. Silhouettes of pedestrians, including a person in a wheelchair, are shown crossing the street. A tram or train is visible in the background. The overall style is modern and stylized.

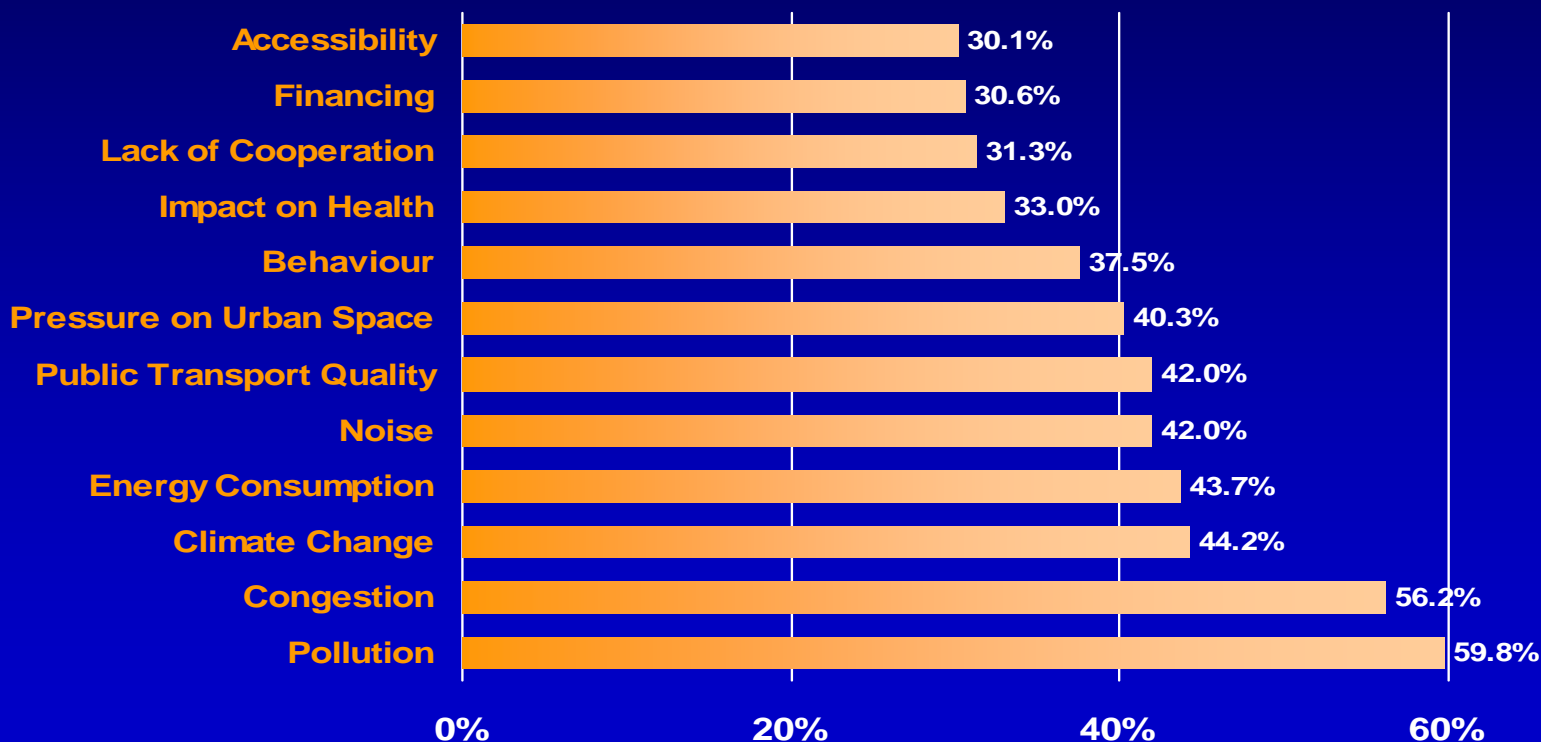
# TOWARDS A NEW CULTURE FOR URBAN MOBILITY

● GREEN PAPER ON URBAN MOBILITY



# Towards a new culture for urban mobility

## Main problems and issues





# Towards a new culture for urban mobility

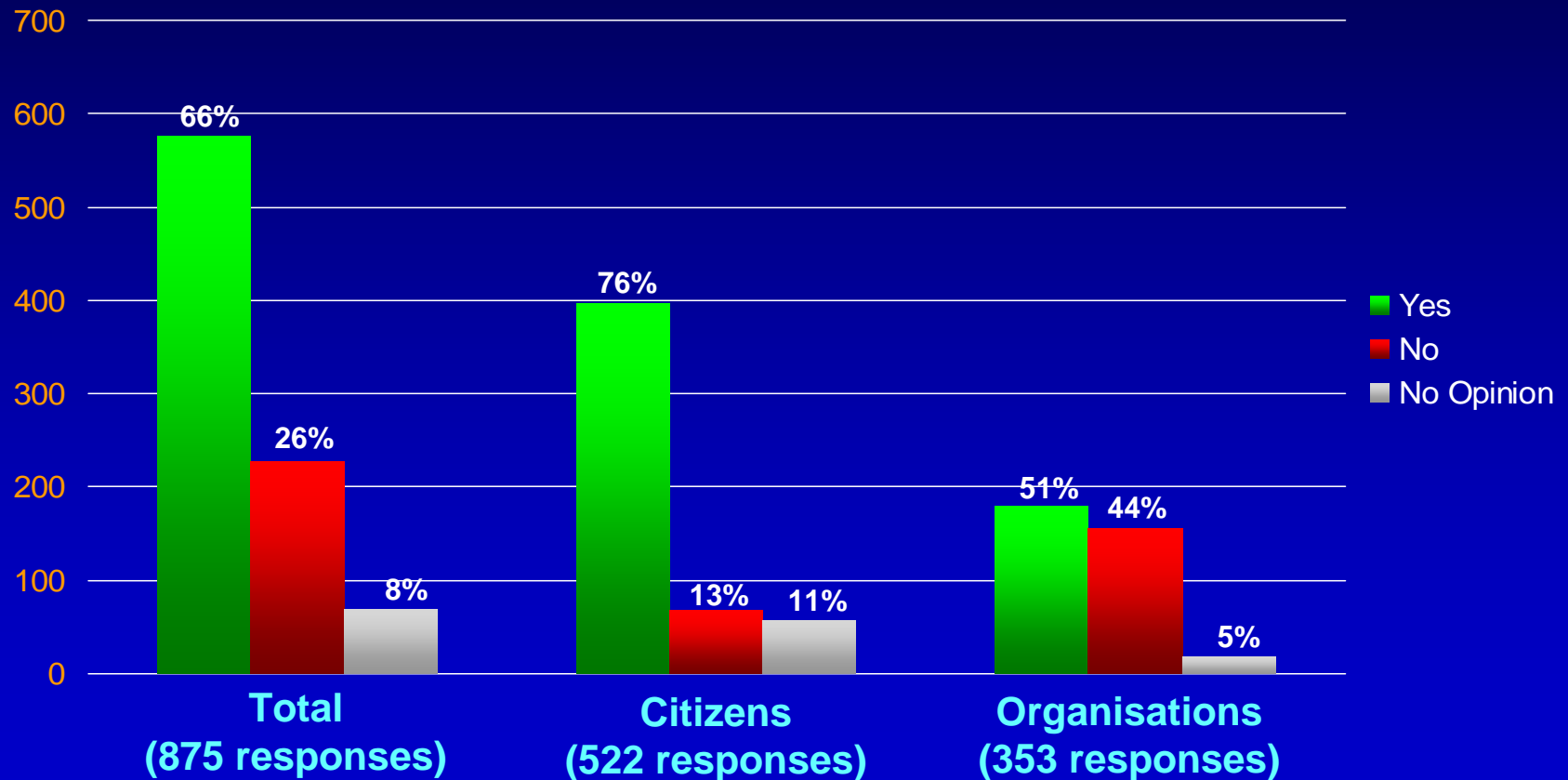
## Main barriers to improving mobility





# Towards a new culture for urban mobility

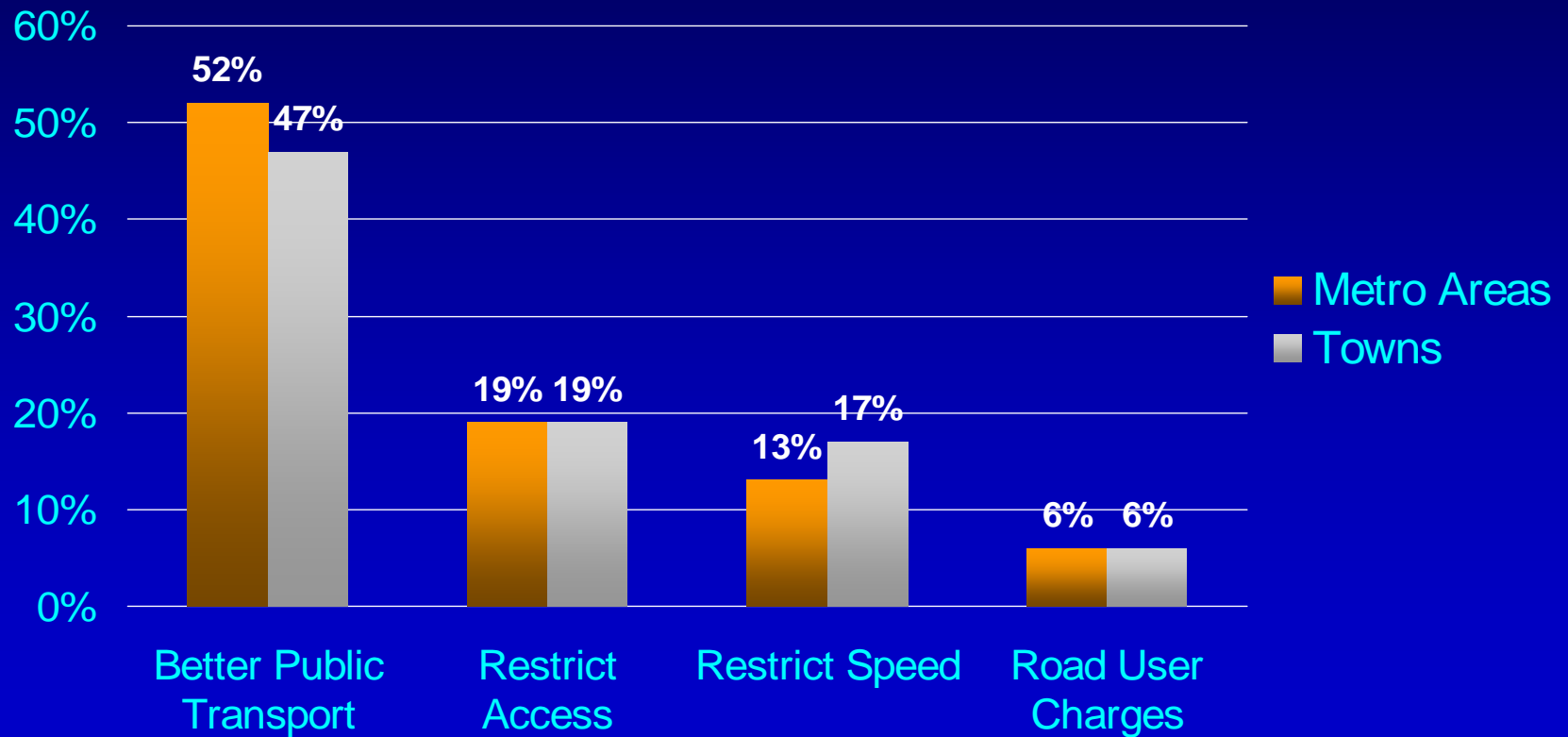
“Should the EU take action to solve urban transport problems?”





# EuroBarometer 2007 (25,767 individuals)

## Which measures could improve traffic conditions?





# EuroBarometer 2007 (25,767 individuals)

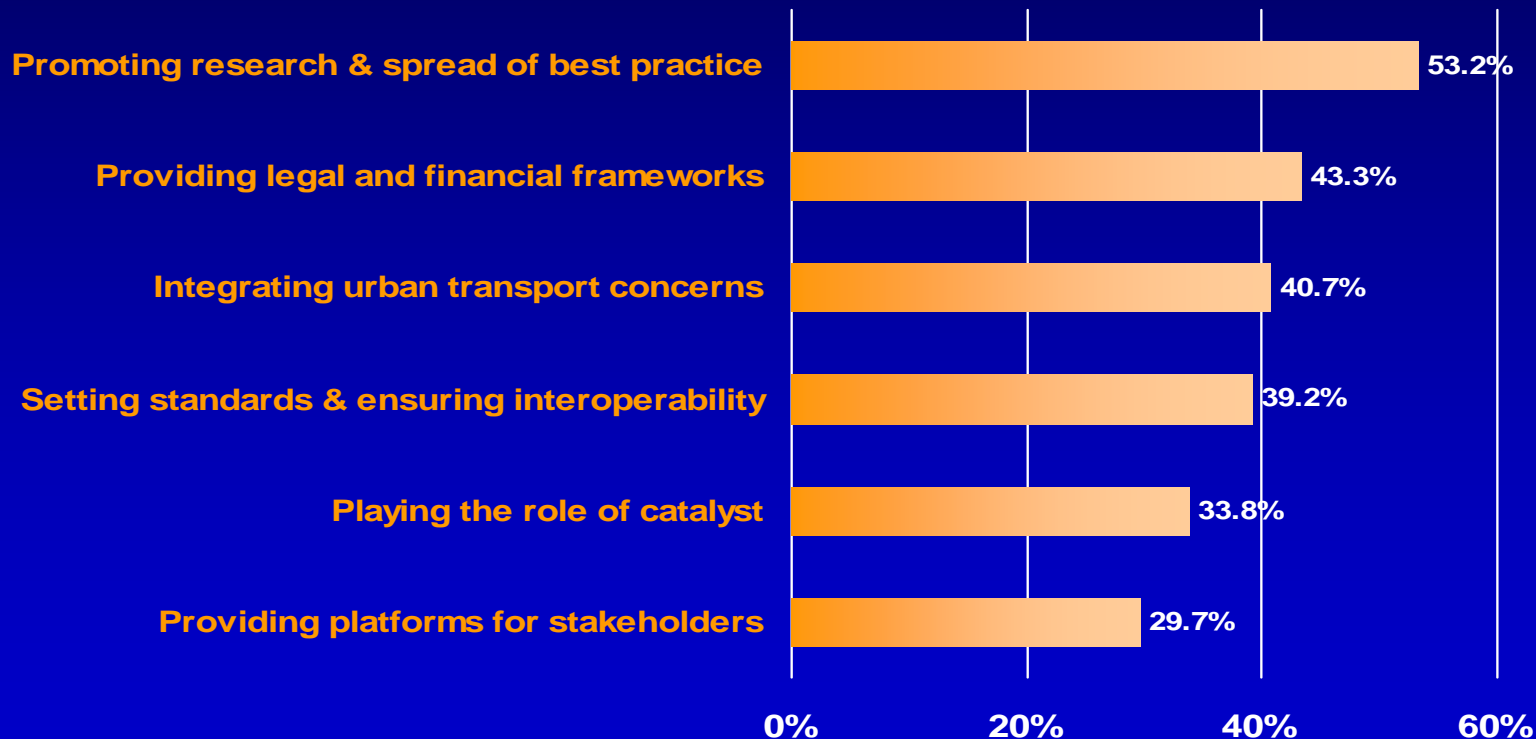
Pay for congestion?    Spend the money on what?





# Towards a new culture for urban mobility

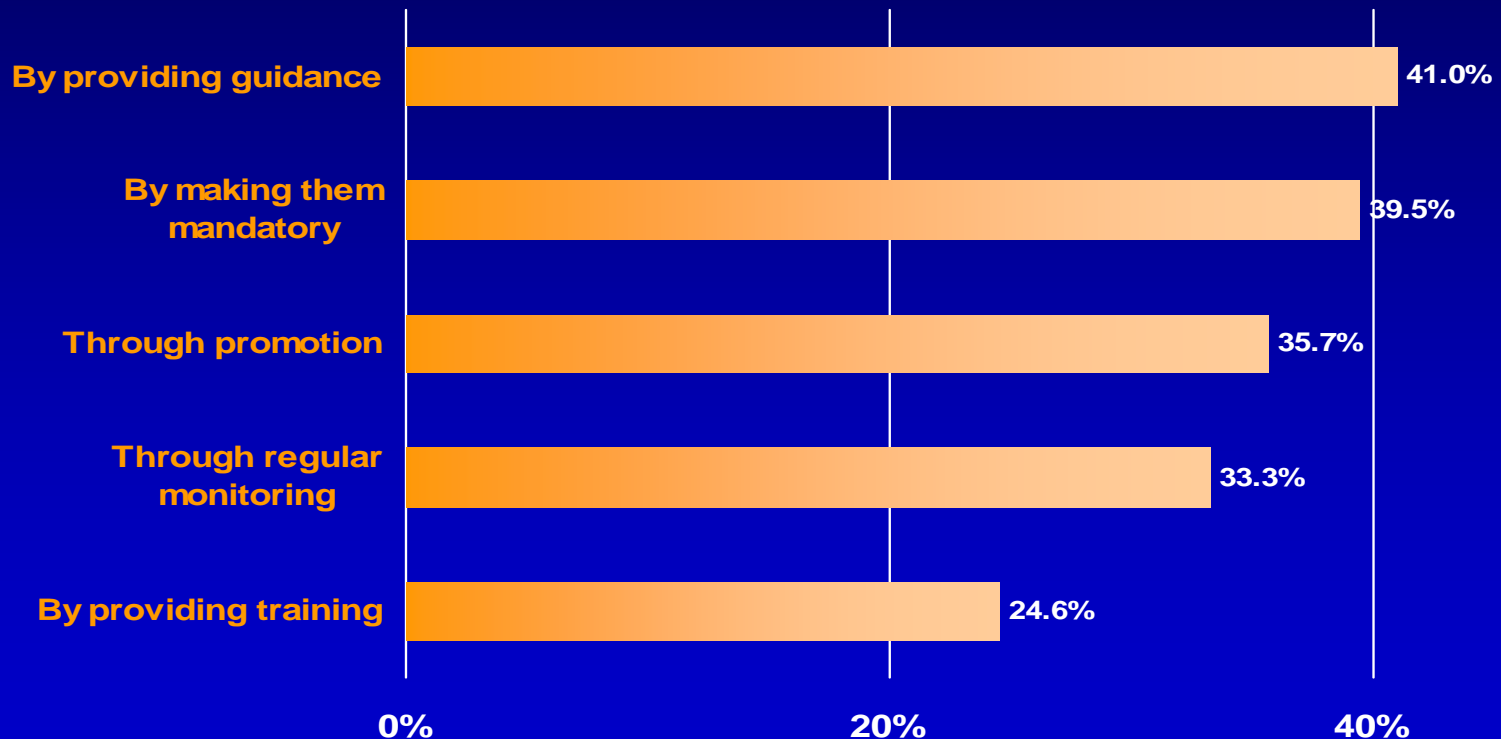
## Possible actions at EU level





# Towards a new culture for urban mobility

“How can sustainable urban mobility plans be developed into an essential tool for decision takers?”





# Towards a new culture for urban mobility

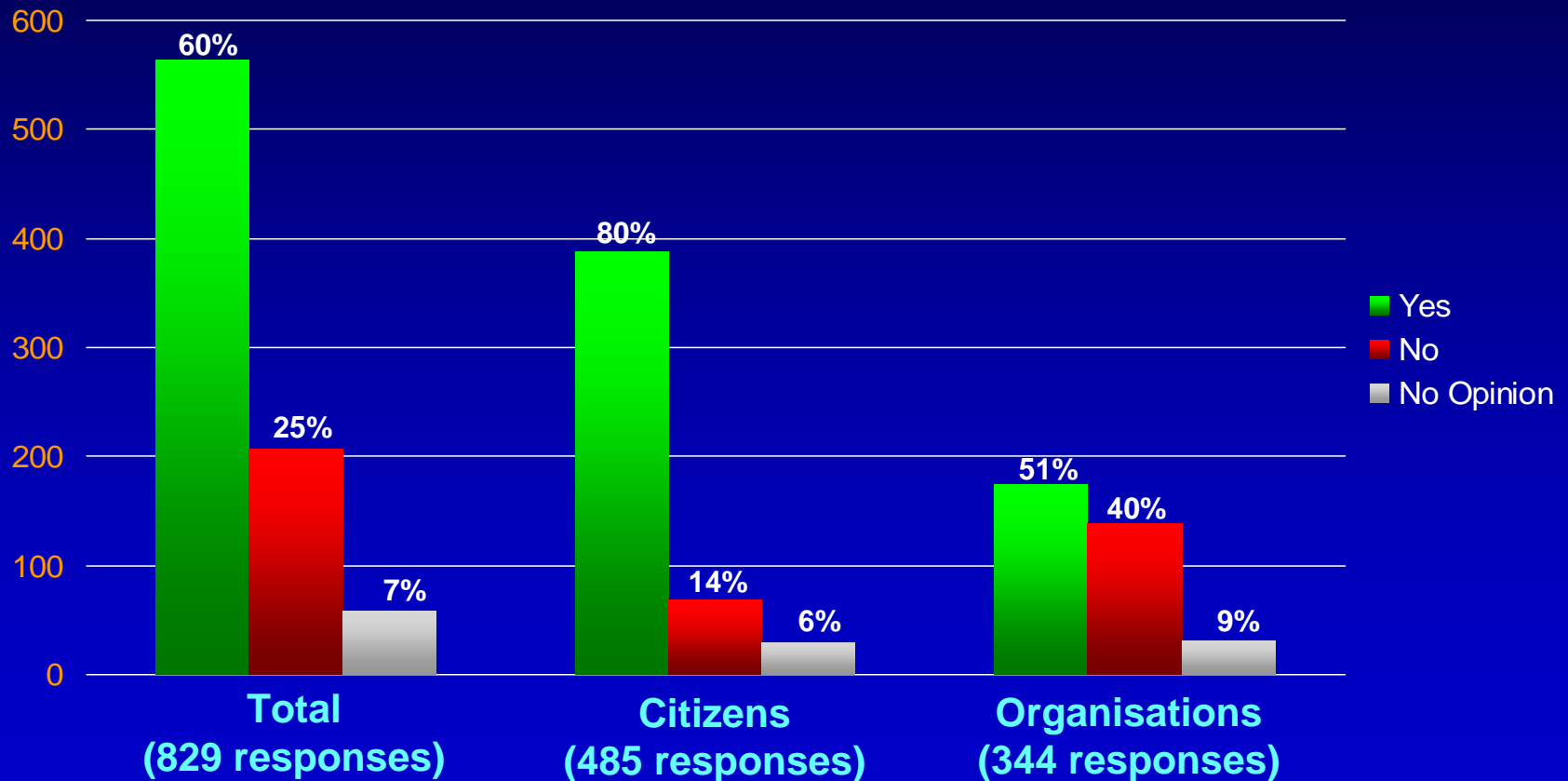
“Is innovative demand management the right approach?”

- pedestrianisation
- limited access zones
- speed limitations
- regulated or restricted parking schemes
- consolidated freight delivery schemes
- or road user charging



# Towards a new culture for urban mobility

“Is innovative demand management the right approach?”





# Towards a new culture for urban mobility

## Addressing the challenge

### → Free-flowing towns and cities

- ▶ Promote walking and cycling
- ▶ Optimise the use of private cars
- ▶ Manage freight

### → Greener towns and cities

- ▶ New technologies
- ▶ Green procurement
- ▶ New ways of driving (Eco Driving)
- ▶ Traffic restrictions



# Towards a new culture for urban mobility

## Addressing the challenge

### → Smarter urban transport

- ▶ Smart charging systems
- ▶ Better information for better mobility

### → Accessible urban transport

- ▶ Meeting citizens needs
- ▶ Balanced coordination of land use
- ▶ Integrated approach to urban mobility

### → Safe and secure urban transport

- ▶ Safer behaviour
- ▶ Safer and secure infrastructure
- ▶ Safer vehicles



# Towards a new culture for urban mobility

## Creating a new urban mobility culture

### → Improving knowledge

- ▶ Education, training and awareness
- ▶ Networking and partnerships

### → Data collection

- ▶ Setting up an European Observatory on Urban Mobility

### → Finance

- ▶ All stakeholders at local, regional, national and EU level must contribute
- ▶ Public-private partnerships
- ▶ Parking charges and urban road user charging
- ▶ Earmarking revenues to finance mobility measures.



# Towards a new culture for urban mobility

## Funding a new European urban mobility culture

- European Regional Development Fund (ERDF)
  - ▶ 2000-2006: €2 billion
  - ▶ **2007-2013: €8 billion**
- European Investment Bank
  - ▶ €2.5 billion for urban transport projects every year
- CIVITAS
  - ▶ 2002-2009: €300 million (EU €100 million)
- Other sources
  - ▶ European Bank for Reconstruction and Development (EBRD)
  - ▶ Seventh Framework Programme for Research and Technological Development (FP7)
  - ▶ Intelligent Energy Europe (IEE)
- Other options
  - ▶ Emissions Trading Scheme (ETS)
  - ▶ Urban “Eurovignette”



# Towards a new culture for urban mobility

## Understanding the concept

- Simulating urban mobility...
- “The Mobility Game”





# MOBILITY- A city in motion

→ Go to [www.mobility-online.de](http://www.mobility-online.de) and download the program “Mobility”



The screenshot shows the website for 'MOBILITY - A CITY IN MOTION'. The header features a banner with a cityscape and the game's logo, which includes a stylized sun or flower icon and a small German flag. Below the banner is a navigation bar with links for 'Imprint' and 'Contact', and a news ticker stating '+++ New Mobility Version 2.20 with italian language now available, Apr'. The main content area is divided into two columns. The left column contains a sidebar with links: 'About MOBILITY' (with sub-links for 'General' and 'Manual'), 'Registration / Download', 'Order the CD', 'Instruction Materials', and 'Support'. The right column has a heading 'Mobility' followed by the text 'A city in motion!'. Below this is a paragraph describing the game as a traffic-simulation where players build a city and manage traffic. Further down, another paragraph encourages planning and building a sustainable city. At the bottom, there are two small screenshots of the game in progress, showing a 3D city view with roads, buildings, and green spaces.

**MOBILITY**  
A CITY IN MOTION

Imprint Contact +++ New Mobility Version 2.20 with italian language now available, Apr

**About MOBILITY**

- General
- Manual
- Registration / Download
- Order the CD
- Instruction Materials
- Support

**Mobility**

A city in motion!

MOBILITY is a traffic-simulation game which requires you to construct a city in a virtual world, bring it to life and control the associated traffic volume. Both your own mobility and that of your city's inhabitants are the central issues you will need to address.

Plan and build your own city and manage the inhabitants' mobility! Design an attractive, economically and ecologically sustainable environment for your citizens. Get to know alternative concepts and administer the local public transport network ... and just watch your city grow.

That's MOBILITY - the traffic simulation game!





€ 101,589,983

Pop: 18,800



Oct. 2001



Consult.



E Q M C



104,297,018



Pop: 19,700



May 2002



You need more parking facilities!

Consult.





# MOBILITY- A city in motion

## Indicators and statistics

### → Effectiveness

- ▶ Kilometers per person, travel times, traffic jams..
- ▶ Mobility costs (transport costs per kilometer), energy consumption per kilometer

### → Quality

- ▶ Exhaust gas, noise, energy consumption per person,
- ▶ City subdivision (the extent to which inhabitant's living space is divided by streets and rail tracks), land used

### → Mobility

- ▶ Accessibility, travel comfort, traffic safety.

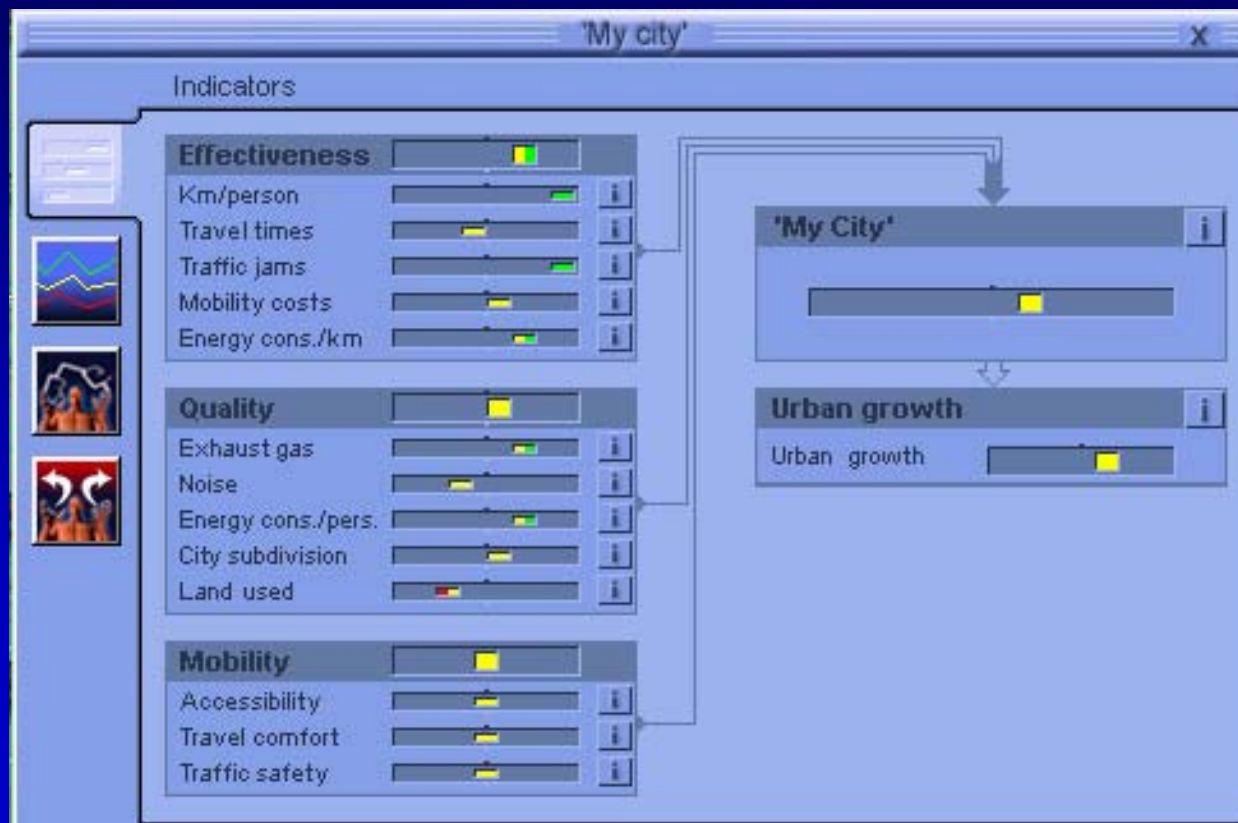
### → Urban growth

- ▶ The extent to which the city is either growing, or losing inhabitants to emigration because they don't find the city attractive.



# MOBILITY- A city in motion

## Indicators and statistics





# MOBILITY- A city in motion





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# Towards a new culture for urban mobility

## Making it happen

- London congestion charge consultation
  - ▶ Road Charging Options for London (ROCOL)
  - ▶ 53% of residents thought it would be a “good thing”
  - ▶ 67% said it would be a “good thing” if money spent on better public transport
- Sustainable Urban Transport Plans (SUTP)
- CIVITAS initiative



# Sustainable Urban Transport Plans (SUTP)

- A participatory approach involving the public
  - in decision making, implementation, assessments and reporting;
  - Stakeholder involvement is an important part of a democratic development of sustainable urban transport.
- A knowledge based approach
  - building on available best practices and results of research
- An integrated approach
  - which strives to integrate relevant policies, strategies and plans with relevant levels of governance and spatial aspects;
- A measurable approach
  - focusing on quantifiable and tailor made targets
- A move towards external costs internalisation
  - taking into account the wider costs and benefits to society at large



# Sustainable Urban Transport Plans (SUTP)

## Guidelines<sup>1</sup>: “Adopt a mix of Mobility Measures”

- ▶ Sustainable urban mobility
  - making best use of transport infrastructure
  - coordination between the various transport modes
  - promotion of the least polluting modes.
- ▶ Successful management
  - requires the city to coordinate transport planning, construction and land-use.
- ▶ Improve affordability, efficiency & effectiveness of public transport
- ▶ Promote cycling, walking & other alternative forms of transport.
  - this includes demand management,
- ▶ Ensure access to jobs and services (for those without cars)
  - to facilitate personal autonomy without reliance on the private car.
- ▶ Active management of congestion, transport demand and public transport networks,

<sup>1</sup>Source: COM(2006)385 final



# Sustainable Urban Transport Plans (SUTP)

## Proposed “push – pull” Mobility Management Measures

1. Coordinating land use and transport planning
2. Promoting and improving collective transport
3. Encouraging cycling and walking
4. Urban freight management
5. Parking management
6. Urban road pricing
7. Traffic calming and reallocation of road space
  - ▶ to most environmentally friendly vehicles and modes of transport
8. Restricting access for the most polluting road vehicles
  - ▶ (low emission zones)
9. Fostering the use of cleaner, quieter and lower CO<sup>2</sup> road vehicles
10. Soft and smart measures
  - ▶ (car-sharing, business and school travel plans, mobility management centers, awareness raising campaigns)



# Sustainable Urban Transport Plans (SUTP)

## Networking

### → BUSTRIP

- ▶ Baltic Urban Sustainable Transport Implementation and Planning
- ▶ 12 City partners:
  - Bremen (D), Gdynia (POL), Göteborg (SE), Kaunas (LT), Kouvola Region (FIN), Liepaja (LV), Pärnu (EE), Sundsvall (SE), Tartu (EE), Turku (FIN), Vilnius (LT), Örebro (SE)

### → PILOT

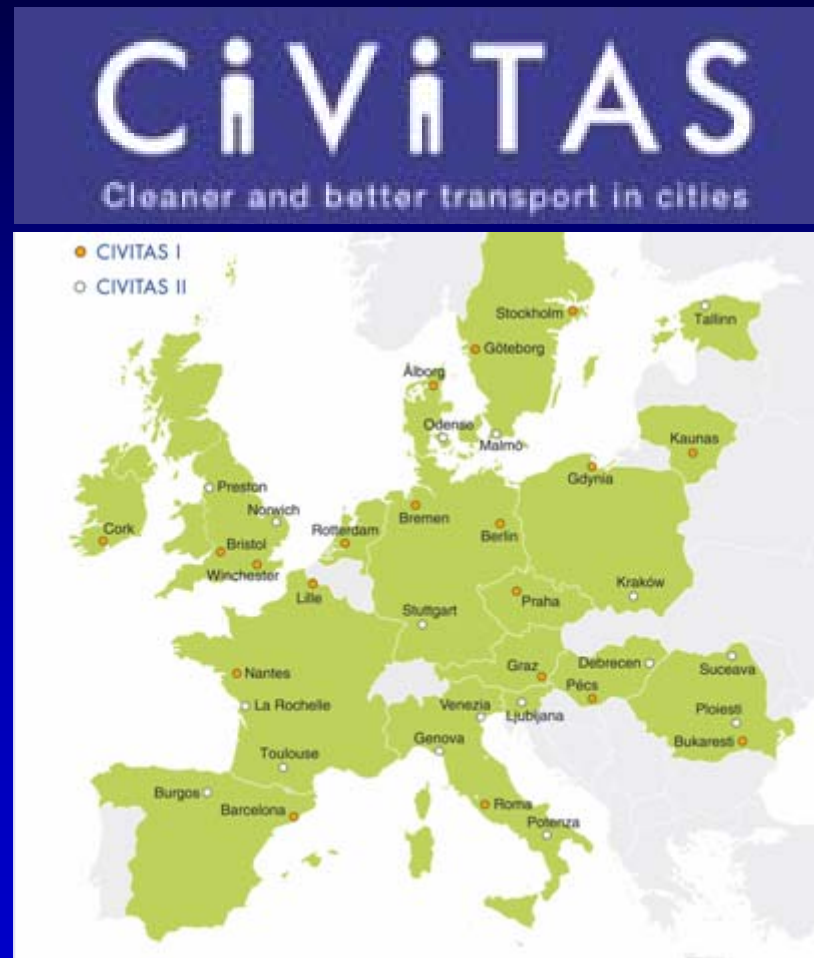
- ▶ Planning Integrated Local Transport
- ▶ 4 Cities:
  - Braila (RO), Evora (PT), Lancaster (UK) and Tallinn (EST)

### → CIVITAS



# The CIVITAS Initiative (2002-2009)

- EU-funded demonstration program
  - ▶ Total budget €300 Million
  - ▶ EU contribution €100 Million
- Brings together policy makers, experts, practitioners, businesses and users
  - ▶ 36 participating demonstration cities
- Supports integrated and bold strategies for clean and sustainable urban mobility





# The CIVITAS Initiative

## Objectives (6)

### → Reduce

- ▶ congestion, energy consumption and traffic emissions

### → Decrease

- ▶ local emissions and improve quality of life in city centres
- ▶ parking pressure

### → Increase

- ▶ the market share of clean vehicles in private and public fleets
- ▶ the efficiency of the transport system
- ▶ the attractiveness of public transport



# The CIVITAS Initiative

## Measures (11)

- Access restrictions
- Car sharing and car pooling
- Clean vehicles and fuels
- Cycling
- Goods distribution and logistics services
- Mobility management
- Multimodal interchanges
- Parking management
- Public transport promotion
- Transport information and management
- Urban pricing



# The CIVITAS Initiative

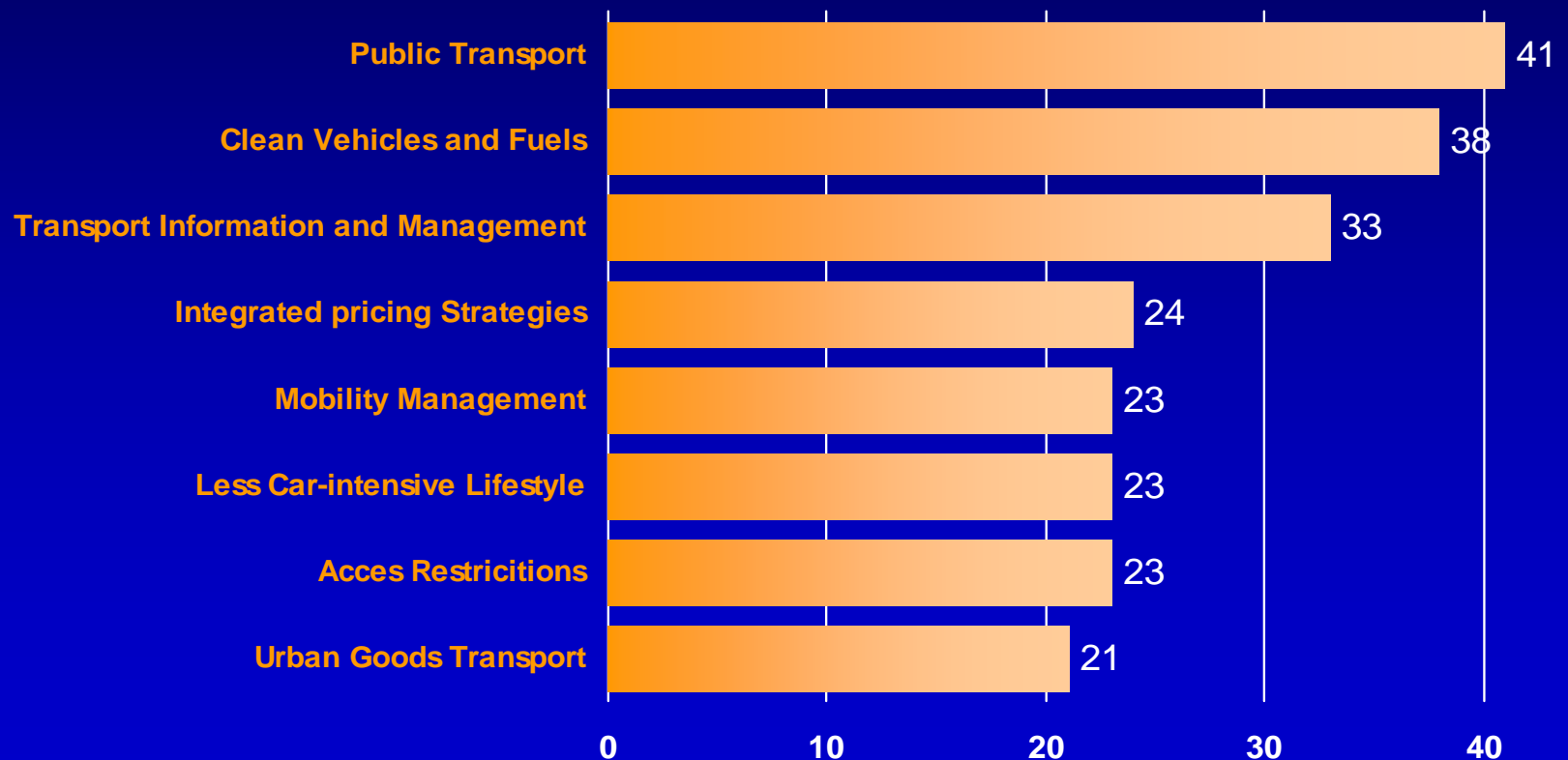
## Objectives/Measures Matrix

Objectives ▸	Reduce Congestion	Reduce Energy & Emissions	Reduce Parking Pressure	Improve Quality of Life	Increase Clean Vehicles	Improve System Efficiency	Improve Public Transport
Measures ▼							
Access restriction							
Car sharing / pooling							
Clean vehicles & fuels							
Cycling & walking							
Goods distribution							
Mobility management							
Multimodal interchanges							
Parking management							
Public transport promotion							
Information & management							
Urban pricing							



# CIVITAS Measures

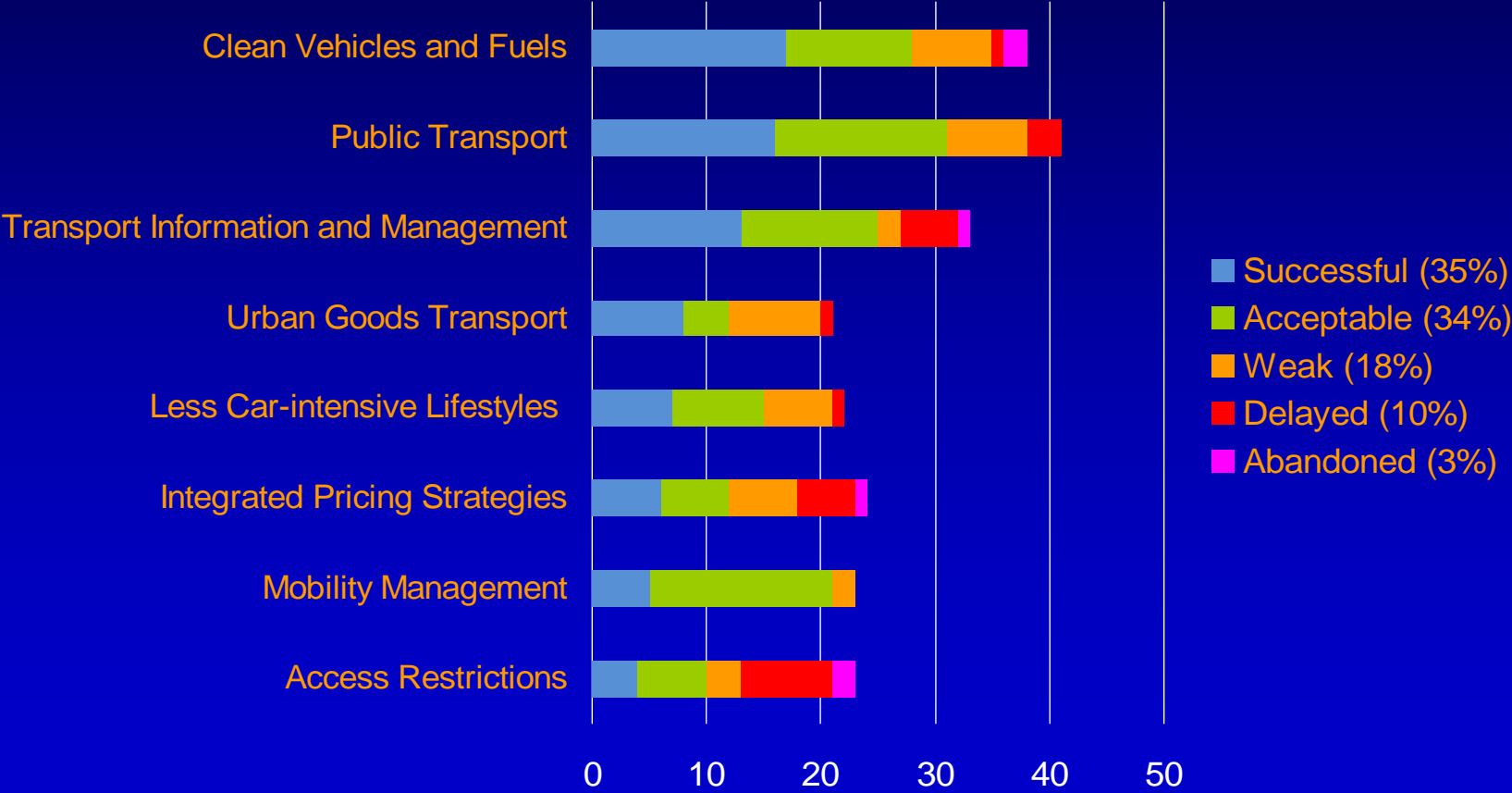
## CIVITAS Measures by Theme





# CIVITAS Measures

## Impact of CIVITAS Measures





# The CIVITAS Initiative

## Results

- more attractive cities
- improved quality of life
- reduced congestion
- lower pollutant and greenhouse-gas emissions
- reduced energy consumption
- lower noise levels



# The CIVITAS Initiative

## The Thematic Leadership Programme

- Cities or groups of cities (joint leadership) who volunteer to take a leading role in one area of expertise, will be called a “thematic leader”.

### A thematic leader means:

- to be a forerunner, demonstrator
- to collect good (and bad) examples
- to be a contact point, share knowledge and to update the information on the thematic web space
- to share knowledge with other CIVITAS actors in the same thematic field
- to organise technical workshops
- to offer a programme for expert visitors
- to edit a thematic brochure and written materials



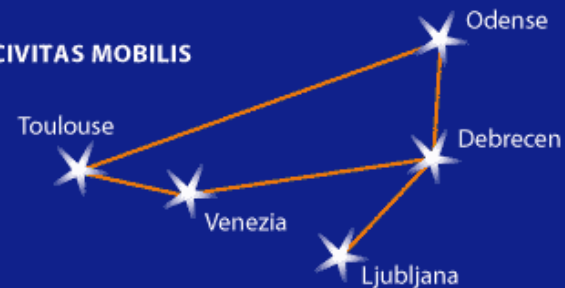
# The CIVITAS Initiative: Networking

## CIVITAS II Family: 4 Demonstration Projects in 17 Cities

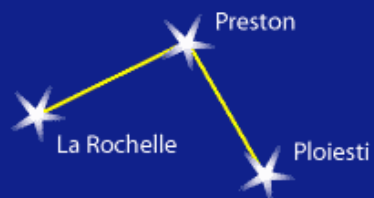
### CIVITAS SMILE



### CIVITAS MOBILIS



### CIVITAS SUCCESS



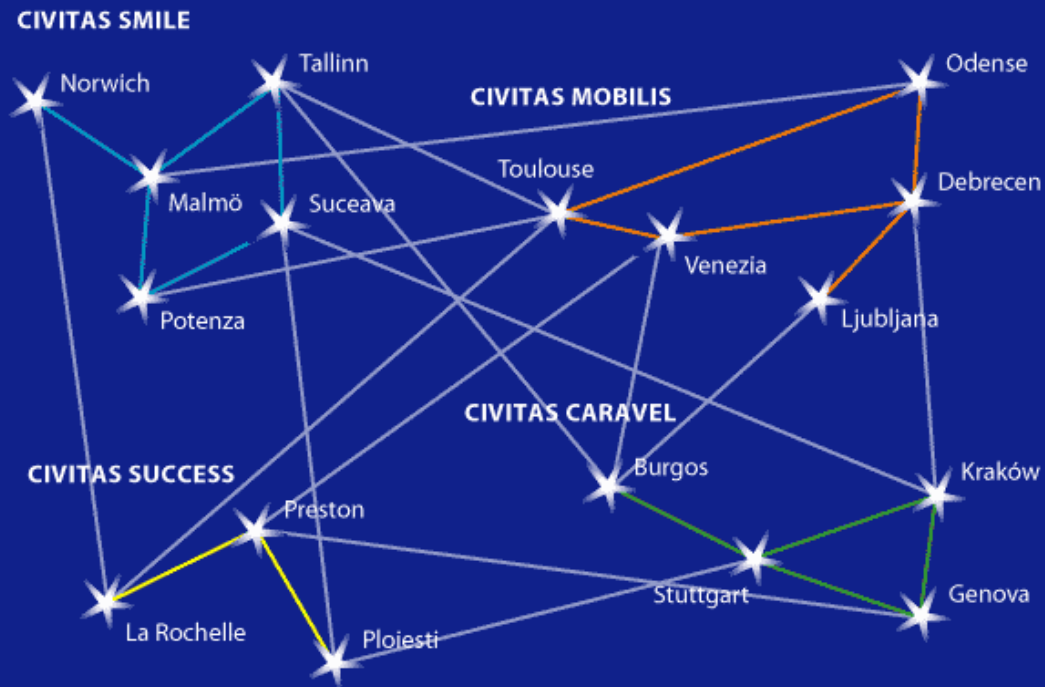
### CIVITAS CARAVEL





# The CIVITAS Initiative: Networking

## Exchange of Experience within the CIVITAS II Family





# Sustainable Urban Mobility in Europe

## Key Ingredients for Success

- Leadership
- Stakeholder involvement
- Consultation
- Experimentation and monitoring results
- Networking and sharing experiences
- Comprehensive approaches
  - ▶ using a core package of measures
  - ▶ tailor made to local conditions



# Sustainable Urban Mobility in Asia

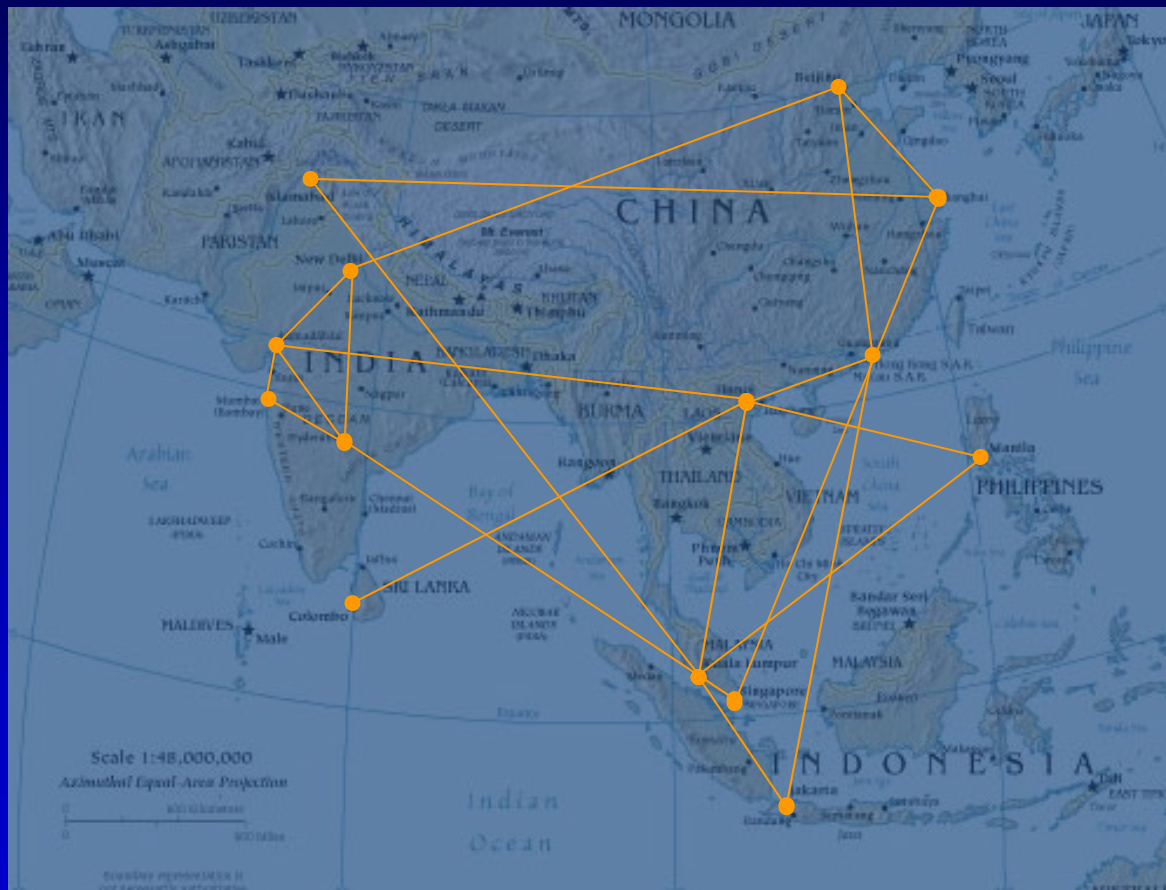
## Key Ingredients for Success?

- Leadership?
- Stakeholder involvement?
- Consultation?
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- Networking and sharing experiences?
- Comprehensive approaches?
  - ▶ using a core package of measures
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# Sustainable Urban Mobility in Asia

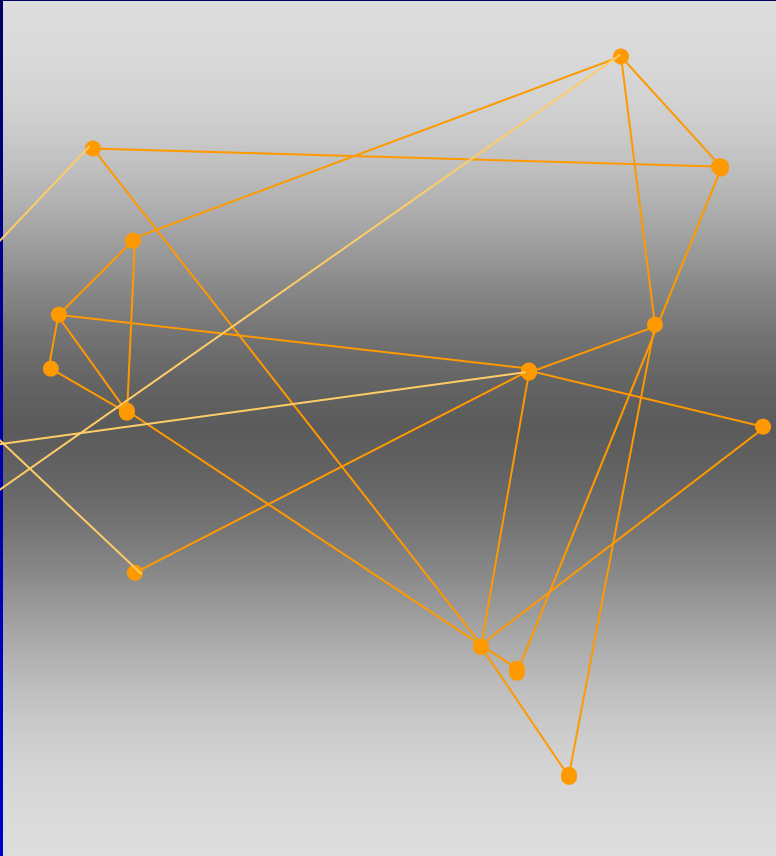
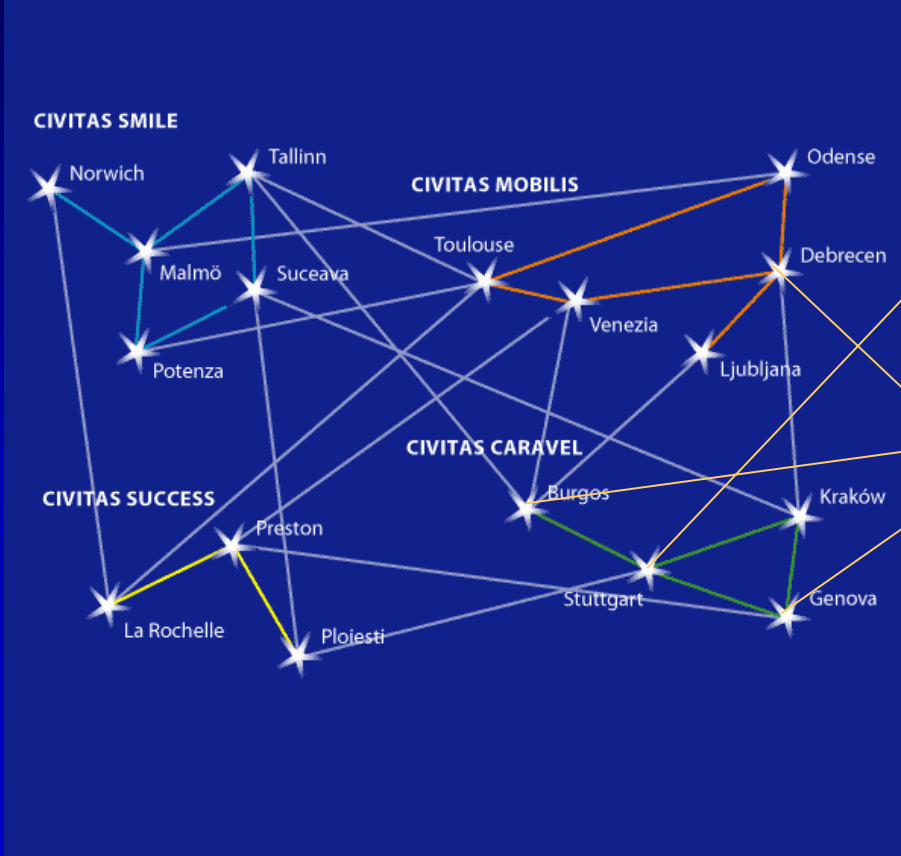
## Adopt the CIVITAS model?





# Sustainable Urban Mobility in Asia

## Work with CIVITAS?





# Sustainable Urban Mobility in Asia

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How can we (gTKP + ADB) help?

Thank You

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