ETSC
European Transport Safety Council

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PIN Talk – Road safety towards 2020

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L'Urban Safety Management: la ricerca per un approccio integrato tra sicurezza, mobilità e pianificazione urbanistica

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STRUCTURE

- Need for funding theoretical research
- Need for co-ordination among policies and actions
- Need for better data
- Integrating mobility and urban planning: an Urban Safety Management approach

Need for funding theoretical research

The European Union has funded several RTD projects about road safety

- **DUMAS : Developing Urban Management And Safety**
- eSUM pdf : European Safer Urban Motorcycling
- I&I Days :Information and Initiative Days
- OSSA : Open framework for Simulation of transport Strategies and Assessment
- REVEAL : Remote Measurement of Vehicle Emissions at Low Cost
- ROSACE : Road Safety in cities: change road safety education in europe
- SAU : Urban Accident Analysis Systems (Sistemas de Análisis de Accidentalidad Urbana)
- TRAINER : System for driver Training and Assessment using Interactive Evaluation tools and Reliable Methodologies
- WATCH-OVER : Vehicle-to-Vulnerable roAd user cooperaTive communication and sensing teCHnologiesto imprOVE transpoRt safety
- SAFETY NET
- DACOTA : Road Safety Data, Collection, Transfer and Analysis
- RANKERS : Road of European road safety measures

Today …

- Most projects are now devoted to dissemination and capacity building
- Good practices dissemination is good but not enough
- Need for funding theoretical research
- Need for better understanding of specific problems

For example …

- We do not know how town scheemes influence road safety
- We do not know the exposure of VRU
- We know little about the influence of new mobility patterns on road safety
- We know little how to reduce risk for PTW

Need for co-ordination among policies and actions

There are several policies influencing road safety: the lever can be …

- Environmental concern: the covenant of Mayors (Kyoto targets) and noise control
- Urban security: the rigeneration of suburbs
- Health: walking and cycling for a better quality of life
- Pomoting quality of historical centres
- Setting visions and targets at local level for urban marketing
- Exploring incentives alternative to legislation (for alcohol-locks, for example)

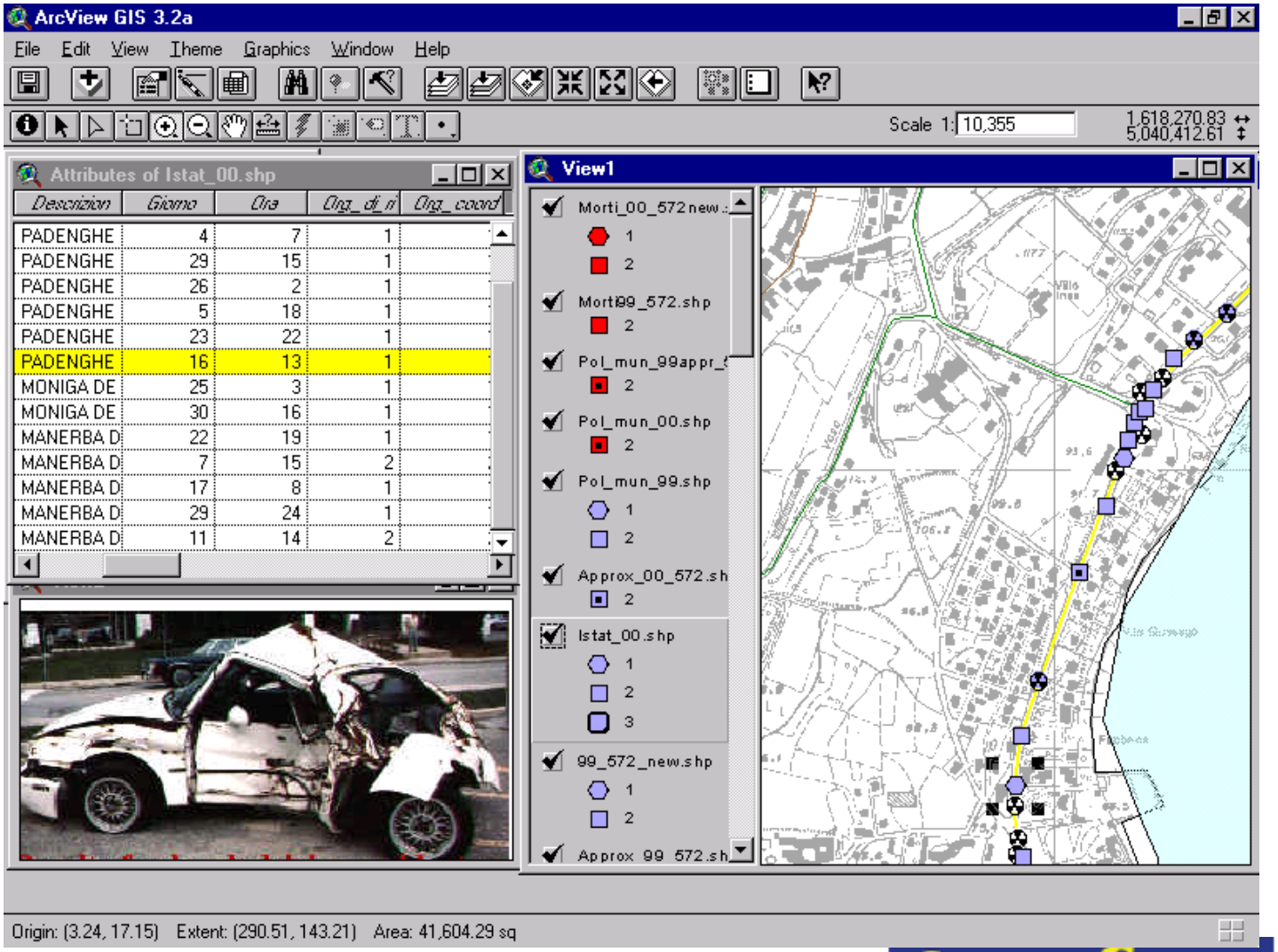
Pedestrian, urban space and health

The ITF/OECD has recently completed the report", addressing the topic of walking from a more comprehensive perspective, also stimulated by WHO

Need for better data

The detailed accident analysis

Accidents mapping

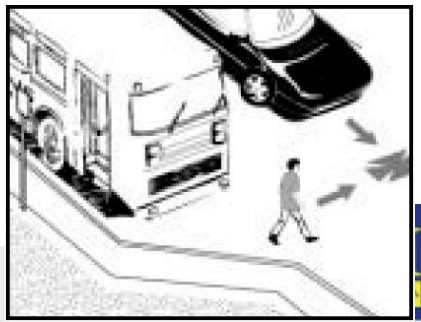


The proto-typical Accident Scenarios

Analysis of Police accident reports occurred in an area, in order to classify their temporal and casual development. Every group of accidents which have particular similarities constitutes a scenario, and for every scenario some solutions are proposed.

Driving situation	Accidents situation	Emergency situation	Collision
A senior citizen is going out from a bus stopped at a bus stop along an high volume street.	Initially covered by the bus, the pedestrian crosses in front of the bus.	Motorist fails to yield to pedestrian.	The pedestrian is hit by the vehicle.

An example of a typical accident scenario involving a senior citizen



The Integration between scenarios and OSR

- the "Accident scenario approach" (accidents database is necessary)
- the "Operational Safety Review" (proactive method)

The Integration between scenarios and OSR

Relevant question #1

Motorist fails to yield to pedestrian or pedestrian crosses during inadequate gap
in traffic due to limited visibility distance at intersection

General Countermeasures

a. Move bus stop to far side of intersection or crosswalk.
b. Install curb extension.
c. Consider an alternative bus stop location.
d. Install pedestrian crossing islands or raised crosswalk.
e. Install or improve roadway lighting.
f. Install crosswalk markings to encourage pedestrians to cross in the crosswalk behind the bus.
g. Mark bus stop area with pedestrian warning signs.
h. Remove parking in areas that obstruct the vision of motorists and pedestrians.

The Integration between scenarios and OSR

Relevant question #1
Motorist fails to yield to pedestrian or pedestrian crosses during inadequate gap in traffic due to **limited sight distance at intersection**.

Relevant question #2
Pedestrian has difficulty walking along roadway and crossing at midblock location with **high vehicle speeds and/or high volumes.**

Relevant question #3
Pedestrian has difficult time crossing,waiting, or walking in the vicinity of school bus stop.

OSR Check-list

Crosswalks	
1	Is the visibility of the crosswalk by motorists satisfactory?
2	At the crosswalk are children visible?
3	Is motorized traffic visible by pedestrians?
4	Is the visibility by night satisfactory?
5	Is there vegetations which in some periods could represent an obstacle to visibility?
6	Are crosswalks and pedestrian areas well coordinated?
7	Is there the distance among crosswalks sufficient to deter crossing road at unsafe locations?
8	Is the crosswalk type adequate to road width (refuges)?
9	Is the speed road adequate to pedestrian flow crossing?
10	Are traffic calming measures necessary to slow down traffic?
11	Is there adequate space for pedestrians to wait on footway?
12	Can vulnerable road users cross within a single phase?
13	Is there special kerb height reduction for disabled at crosswalks?
14	Is there special tactile pavements for disabled at crosswalks?
15	Are there crosswalks next to bus stops?
Pedestrian paths	
16	Are there sidewalks where pedestrian flow is present?
17	Is sidewalks width adequate to pedestrian flow?
18	Are there obstacles on sidewalks?
19	Are there shops that obstacle pedestrian flow on sidewalks?
20	Are there drainage devices that obstacle pedestrian flow on sidewalks?
21	Are pedestrian paths continue?
22	Is pavements of crosswalks adequate?
23	Are restrictions to motorized traffic necessary?
24	Are traffic calming measures necessary to slow down traffic?

The Integration between scenarios and OSR

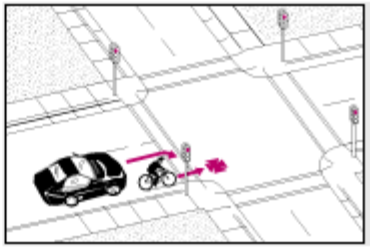
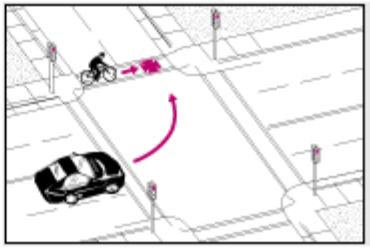
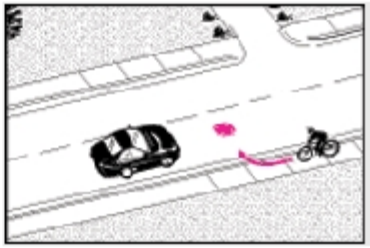
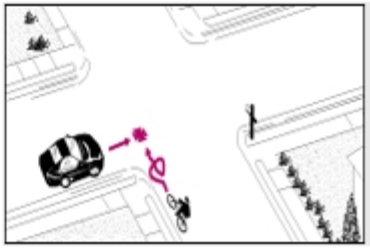
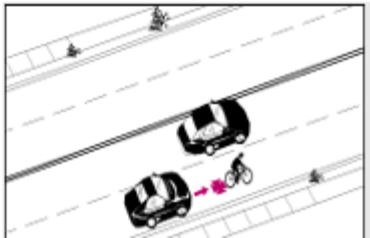
Relevant question #3
Pedestrian has difficult time crossing,waiting, or walking in the vicinity of school bus stop.

17	Is sidewalks width adequate to pedestrian flow?
18	Are there obstacles on sidewalks?
19	Are there shops that obstacle pedestrian flow on sidewalks?

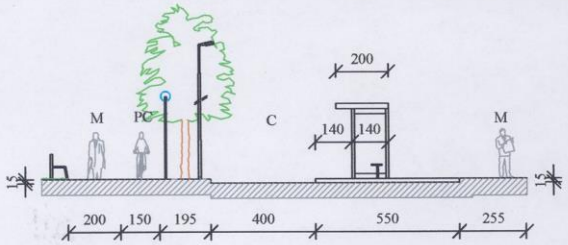
General Countermeasures

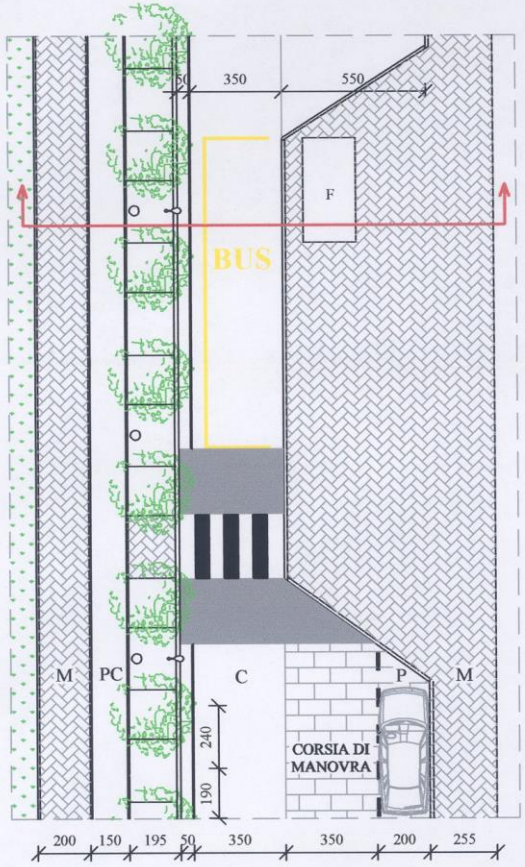
a. Select safer location for school bus stop.
b. Implement pedestrian/driver education programs.
c. Involve school, neighborhood groups, and PTA in promoting enforcement and education.
d. Provide sidewalks.
e. Provide street furniture or other amenities at bus stop.
f. Install or improve roadway lighting.
g. Enforce regulations against passing stopped school bus.
h. Educate pedestrians to cross behind the bus.

An e-book of countermeasures (source: RANKERS)

SC66	The motorist fails to yield to a bicyclist when making a right turn The motorist may misjudge the speed of the cyclist or belive (mistakenly) that the bicyclist should wait for them	
SC67	The motorist turning left hits a cyclist who is traveling straight ahead in the same direction as the motorist The bicyclist is riding the wrong way against traffic	
SC70	The cyclist rides off the sidewalk into the road without stopping and is hit by a motorist.	
SC72	The cyclist is swerving to avoid an obstacle (perhaps a pothole, some debris or a utility cover) and is hit by a passing motorist	
SC77	The motorist detects the bicyclist but misjudges the amount of space necessary to safely pass the bicyclist	

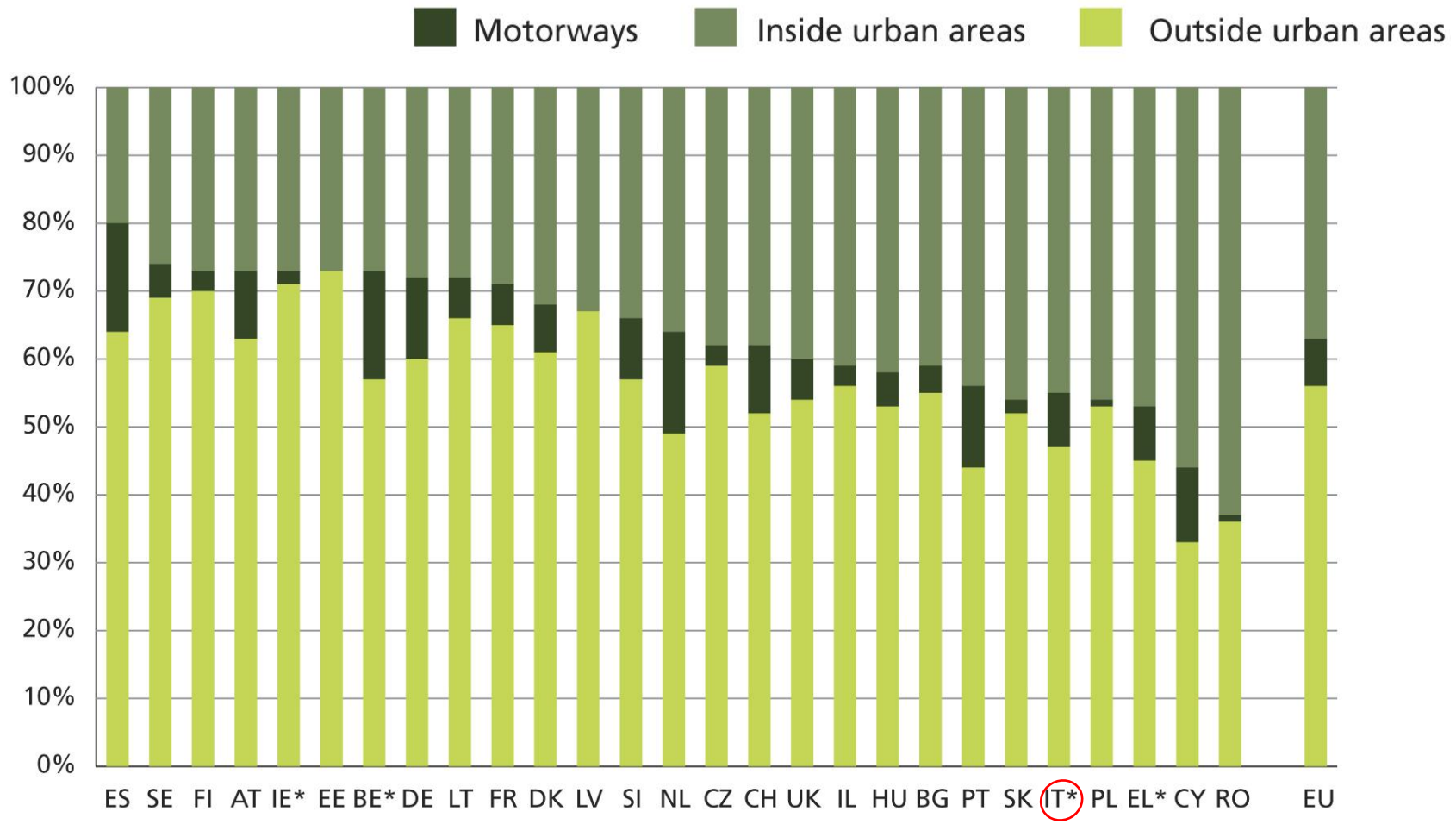
Accident scenario location and solution



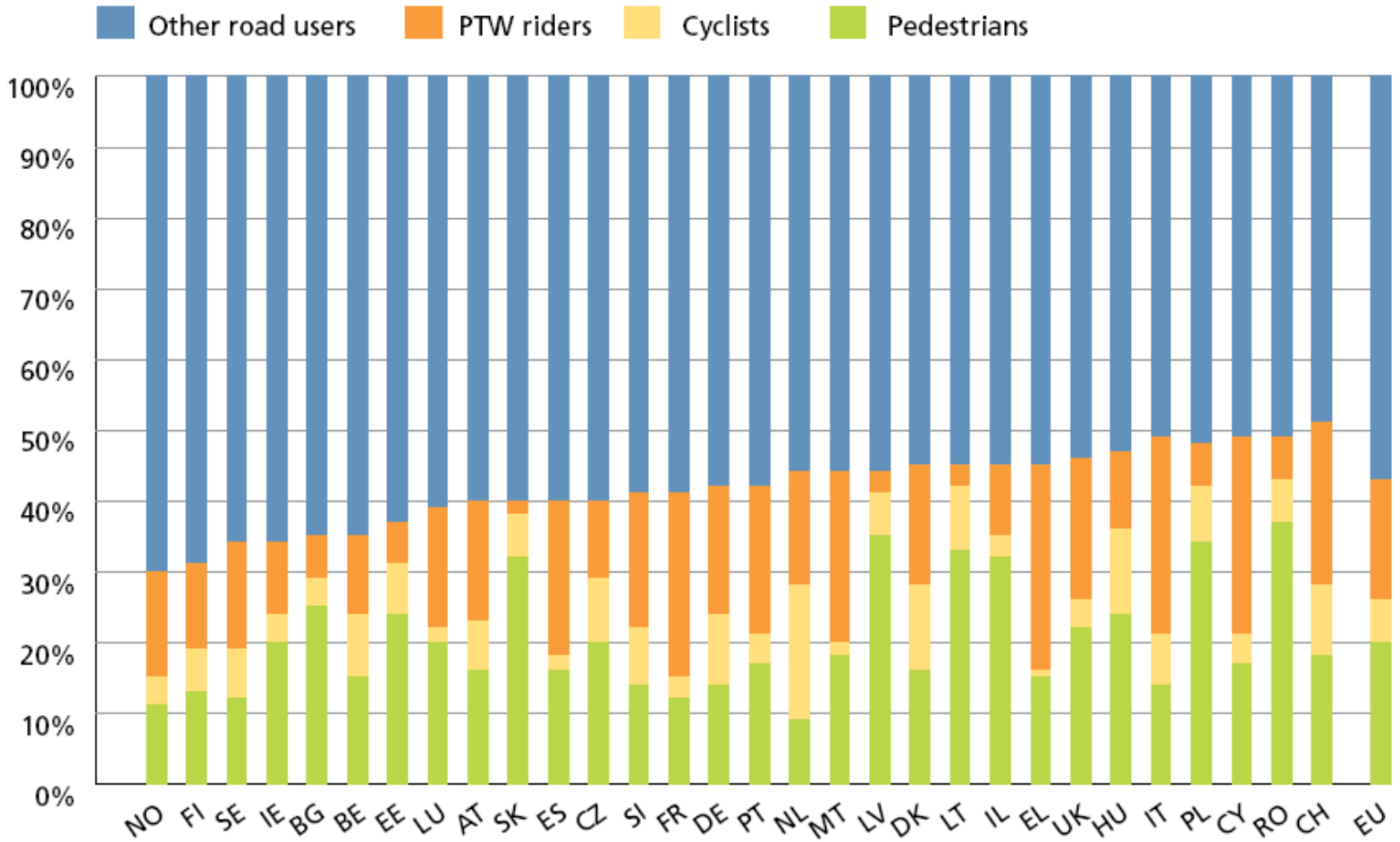


Integrate mobility and urban planning: an Urban Safety Management

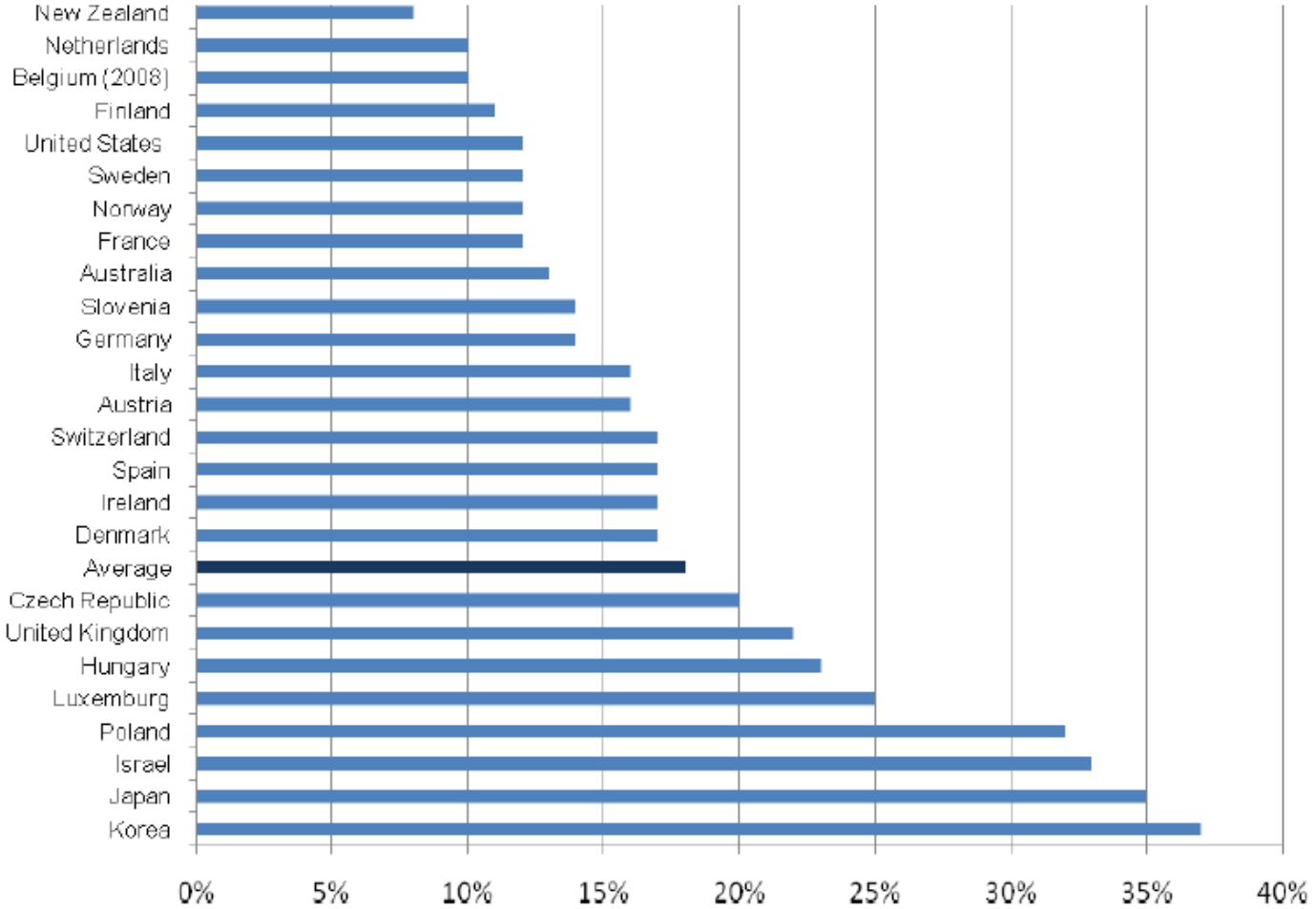
56% of road deaths is on secondary road network



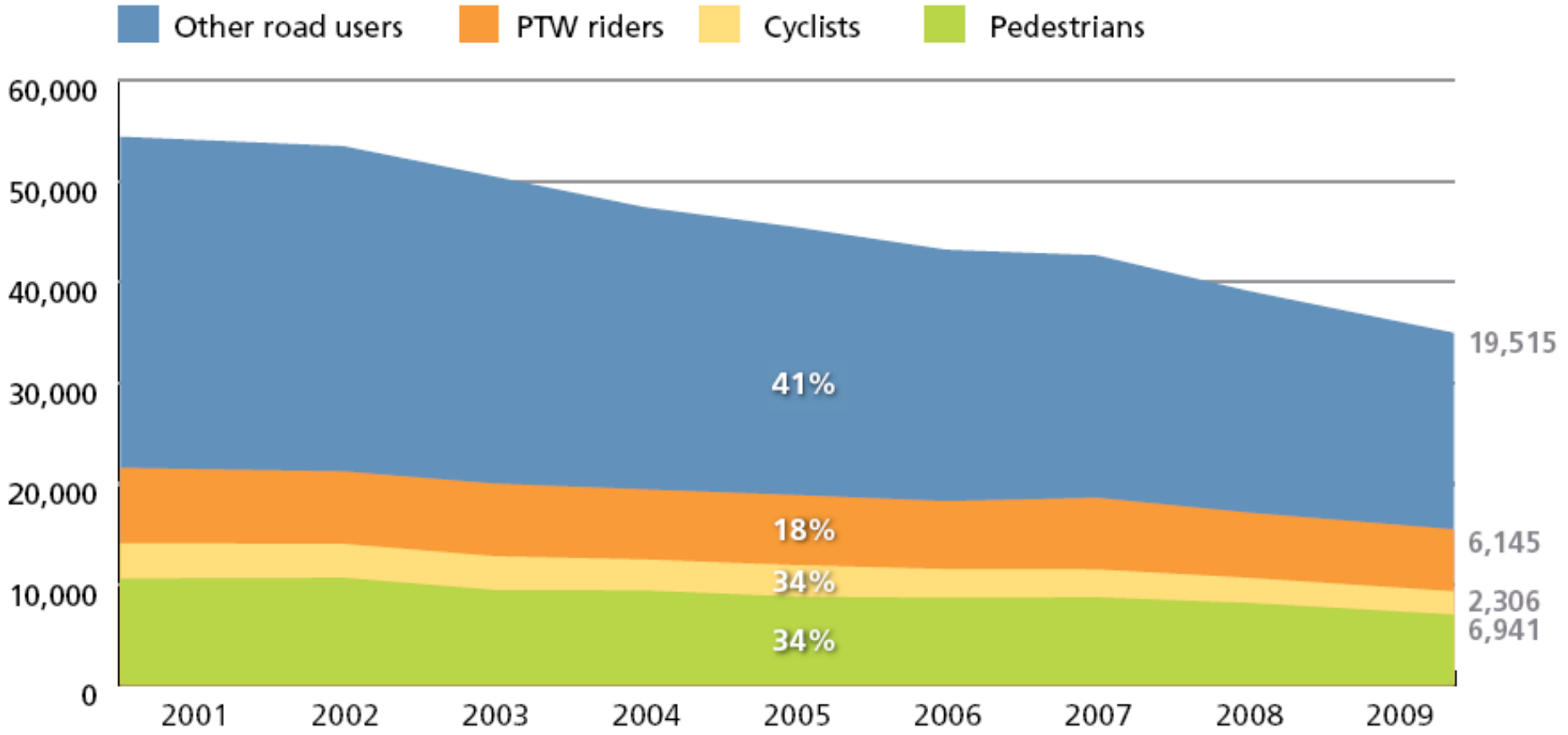
ETSC (2011), 5th PIN Report



Pedestrians, cycle and PTW users' deaths as a percentage of all road deaths ranked by the share of deaths that were unprotected of all kinds taken together (2007-2009 average)



Pedestrian fatalities as a percentage of all road fatalities (2009 , 26 OECD countries); source IRTAD



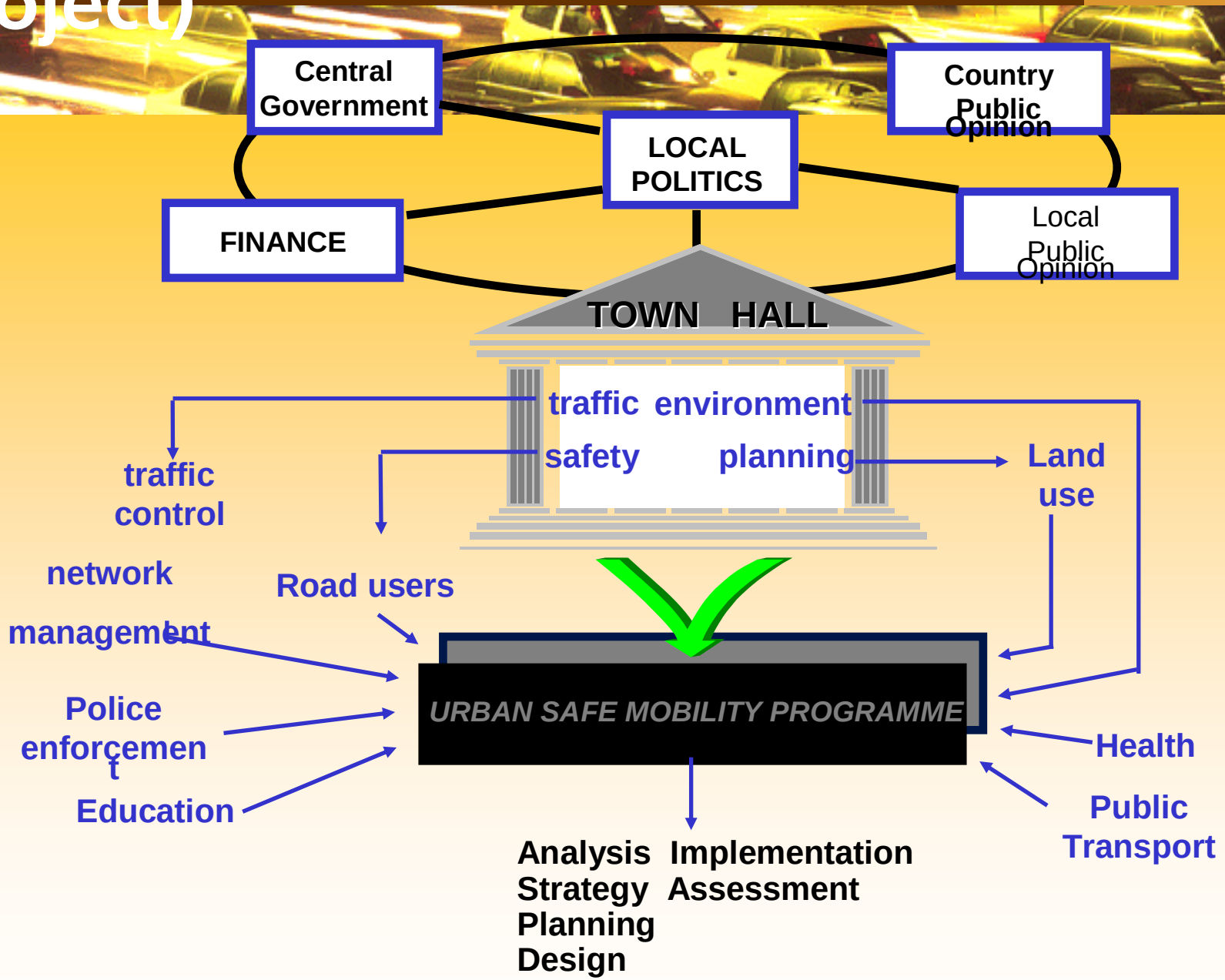
Reduction in road deaths 2001- 2009 for pedestrians, cyclists, PTW and other road users in EU-27 (Source ETSC)

The USM approach (Source DUMAS Project)

The perception of risk is lower when events are scattered in space and non concentrated in time

Among others, the "strategy setting" and 'sharing interests' turned out to be successful safety policies, in those European Countries where applied. It is an approach that looks at urban environment from the point of view of global safety and comfort, pointing them as the

The USM approach (Source DUMAS Project)



For example: loosing proximity influences mobility …. and safety

People walk and cycle less because there are no destinations within a walkable or cyclable distance:

- shopping malls can be reached only by car (for distance and for safety reasons) and parking facilities are greater and free;
- services are concentrated for economic reasons (scale economy);
- public transport have then lost customers and reduced their efficiency
- work places are not fixed, so trips are multi-scope and they need a flexible means of transport;
- the relatively less expensive transformations in rural

The USM approach

- A road hierarchy or classification is the essential basis for the planning process of speed management schemes
- In-depth analysis of non-clustered accidents when assessing sustainability of plans
- Integrating the managing offices of the cities (urban planning, public works, environment, maintenance, …)
- Monitoring procedures and information transfer
- Co-ordination with other strategies,

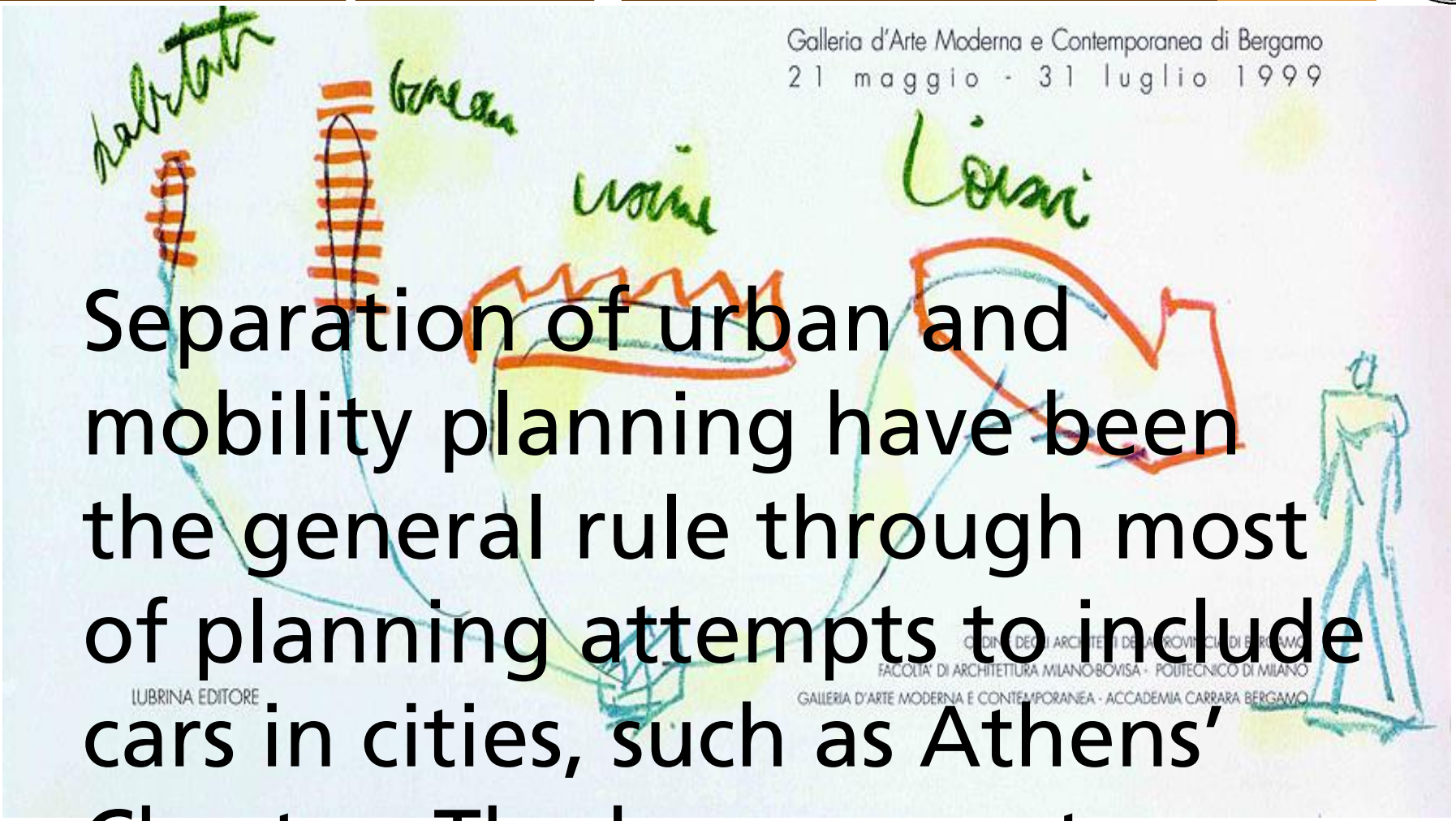
The need for an integrated mobility and urban planning

A huge problem:

middle-sized and small towns, i.e. where public transport facilities are not convenient

What can we do to implement sustainable mobility?

The need for an integrated mobility and urban planning



Separation of urban and mobility planning have been the general rule through most of planning attempts to include cars in cities, such as Athens' Charter. The key concept was the creation of independent

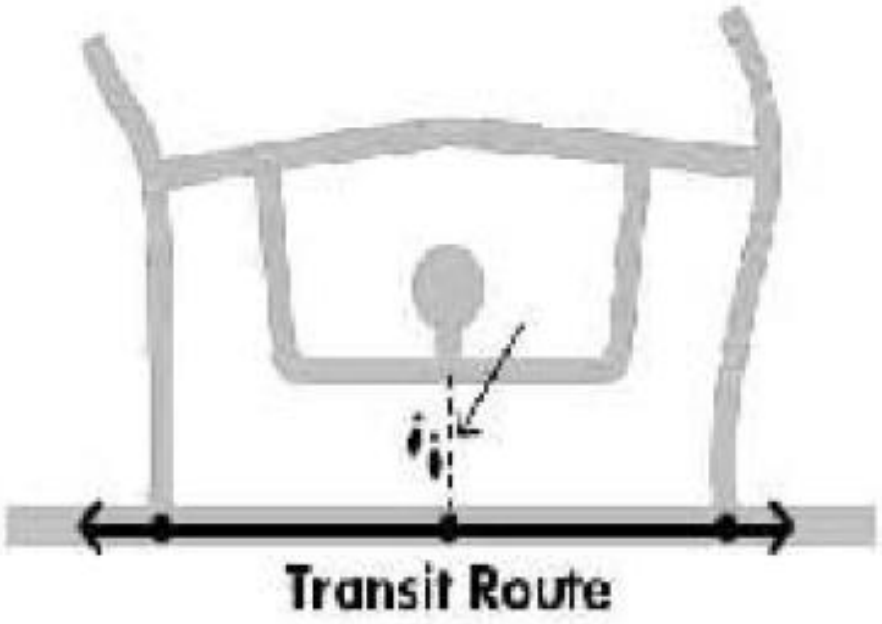
The need for an integrated mobility and urban planning

Some of these concepts have been widely adopted by urban planners, but mainly that of separating urban functions, rather than the inflexible approach to road hierarchy.

Among others …. **"Transit-oriented Developments"** is coming to illustrate new possibilities for integration of transport and land use planning

Transit Oriented Development (TOD) 1

Transit Oriented Development (TOD) 2



Transit Oriented Development (TOD) 3

Transit Oriented Development (TOD) 4

Recommendations

Recommendations 1

Integrate mobility management and urban planning and take better account of the needs of pedestrians and cyclists from the earliest stages of urban development projects and transport investments, with the object of creating

Recommendations 2

Improve knowledge about walking and cycling to adequately inform government policy development in relation to this fundamental aspect of mobility. This requires a standardized methodology for reporting, measuring and monitoring pedestrian and

Recommendations 3

Incorporate public transport services as an integrated part of the development of new urban areas and the regeneration of existing areas, through planning guidance and financial support for public services. This can support a long-term shift towards higher density, mixed-use, walking and transit-oriented

Recommendations 4

Encourage the responsible authorities to give higher priority and more space to non-motorised traffic and public transport in city centres. This includes a number of key actions: providing easy, safe, well-maintained and secure pedestrian access to public transport and to all city centre destinations; development of car-free areas; parking policies to discourage over-use of cars in city centres; and regulations to prevent

Recommendations 5

Implement traffic-calming policies and generalise 30 km/h zones in city centres, residential areas and other high pedestrian activity areas. This should be based on a functional classification of urban spaces, streets and road networks, supported by appropriate

Recommendations 6

Develop a research strategy to better understand mobility trends in a changing society.

This should include evaluating the effectiveness of measures to reduce dependence on private car travel, achieve higher-density urban forms, protect the environment, improve health and

Recommendations (just for Italy)

Consentire di usare le risorse degli enti locali per la sicurezza stradale (preventive) sbloccando il patto di stabilità

Thank you for your kind attention!

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