

INTEGRATED SPEED MANAGEMENT STRATEGIES IN LOCAL COMMUNITIES IN SOUTH EAST EUROPE

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The Framework

-  Speed is one of the **three main risk factors** on roads, the others being alcohol and non-use of seat belts
-  Speeding is a primary factor in about **one third of fatal accidents** and an aggravating factor in all accidents
-  Tackling speed related problems is a **priority at both European and national level** as reflected in the current EU and National Road Safety Programmes 2011-2020
-  **Effective speed management** can lead to fast progress in reducing road deaths



What is Speed Management?

The procedure, which aims to:





-  Deliver a **balance** between safety and efficiency on a road network
-  Contribute to the **reduction** of excessive and inappropriate speeding
-  **Optimize** drivers' compliance with the posted speed



Objective

To present the procedure for the development and the implementation of an efficient integrated **speed management strategy** in South East Europe.

To examine all critical elements of the strategy:

-  Strategy objectives
-  Action areas
-  Implementation
-  Monitoring and evaluation



The ROSEE Project

“ROSEE - Road Safety in South East European Regions”



Speeding was examined as one of the primary risk factors throughout South East Europe



Efforts to tackle this problem through:



Enhancement of road safety professionals' knowledge on speed management











Informational and awareness raising activities



Development of a transnational speed management strategy based on the two-year multi-component speed management strategies for a specific region in each partner country











Framework and Requirements for a Speed Management Strategy

-  Define the stakeholders involved with speed management, and their responsibility areas in terms of
 -  jurisdiction, design, construction, maintenance, operation
-  Identify general road safety legislative framework
 -  Regional road safety strategies
 -  National road safety strategic plans
 -  EU Road Safety Programme 2011-2020
 -  Procedures foreseen by the Directive DIR2008/96/EC
-  Identify the road safety situation in relation to speed



Framework and Requirements for a Speed Management Strategy





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Framework and Requirements for a Speed Management Strategy

Identify general road safety legislative framework

EU Road Safety Programme 2011-2020

-  improved safety measures for vehicles
-  boost smart technology
-  better enforcement
-  a new focus on motorcyclists





Procedures foreseen by the Directive DIR2008/96/EC

-  road safety impact assessments
-  road safety audits
-  management of road network safety
-  safety inspections





Speed Management Strategy in South East Europe

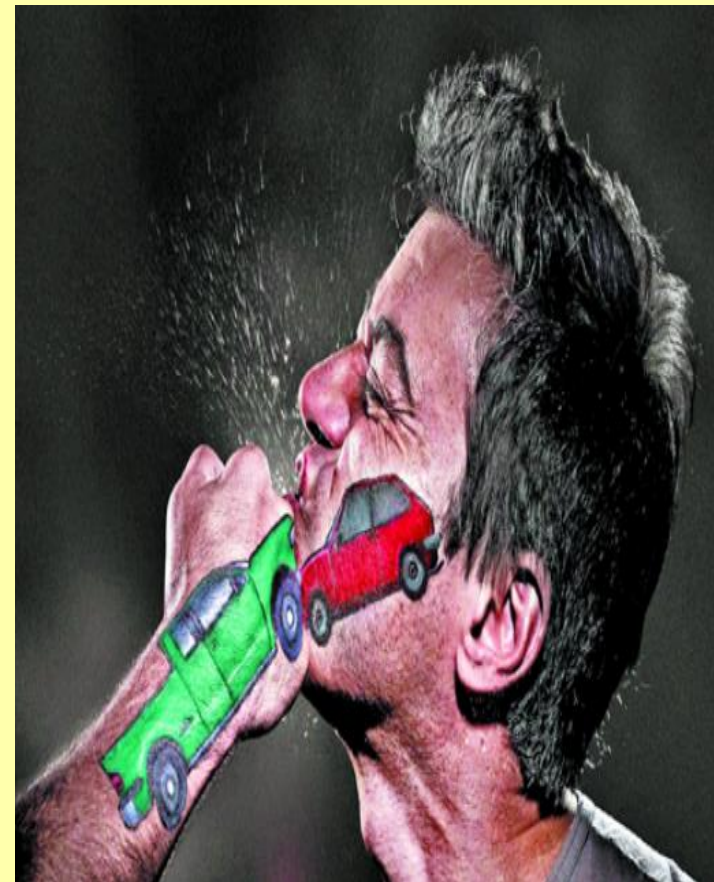
Based on the particularities
of the South East Europe
as identified within the ROSEE project,
the necessary elements include:

-  **Objectives**
-  **Action Areas**
-  **Implementation**
-  **Monitoring and Evaluation**



Strategy Objectives

-  The key strategy aim is to reduce the number and severity of road crashes.
-  In order to be effective, the proposed road safety interventions should be referenced to **human tolerance** in terms of injury ('Safe System' approach)



Action Areas



Engineering treatments

of road infrastructure in order to provide a road environment that supports and encourages road users to drive at safe speeds



Education and Campaigns

on road safety to establish a culture which rejects excessive speeding





Enforcement

to identify and control intentionally and repeatedly speed offenders




Engineering Treatments (Action Areas)

 Effective planning and implementation requires 3 basic principles:

 **Functionality**

 **Homogeneity**

 **Predictability**



 Traffic Calming
and Speed Reduction Measures

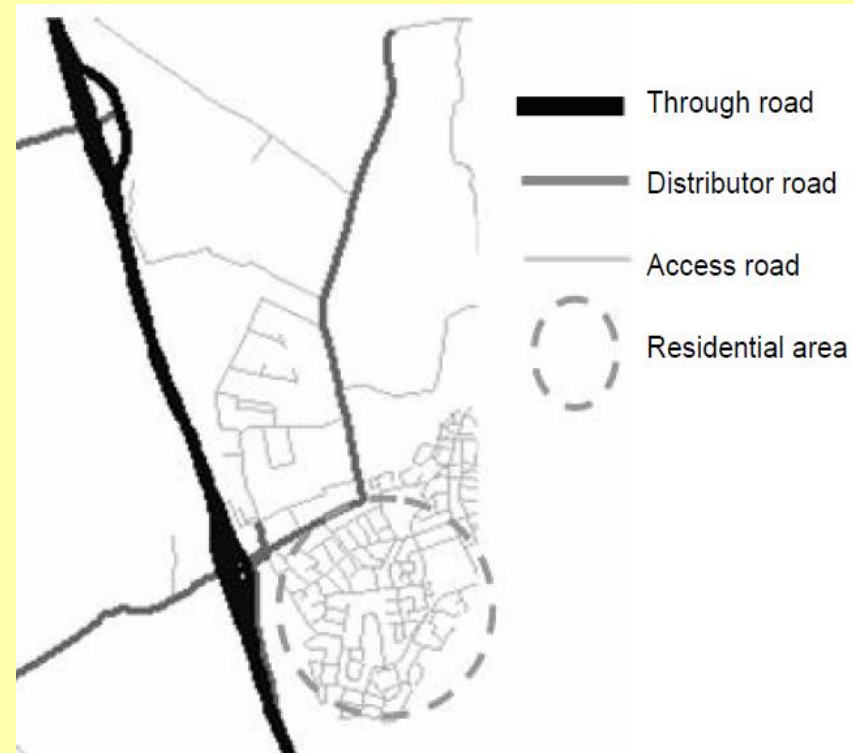
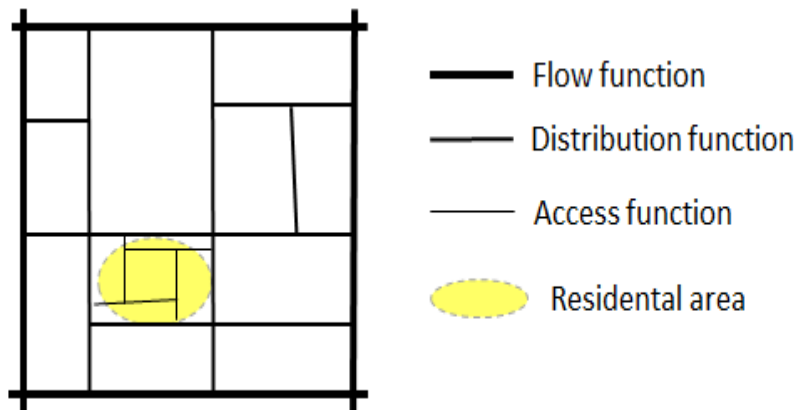
 Speed Limits Design



Engineering Treatments (Action Areas)




Functionality

-  Speed values compatible with the operation of the road
-  Clear hierarchy of road network functions



Engineering Treatments (Action Areas)



Homogeneity

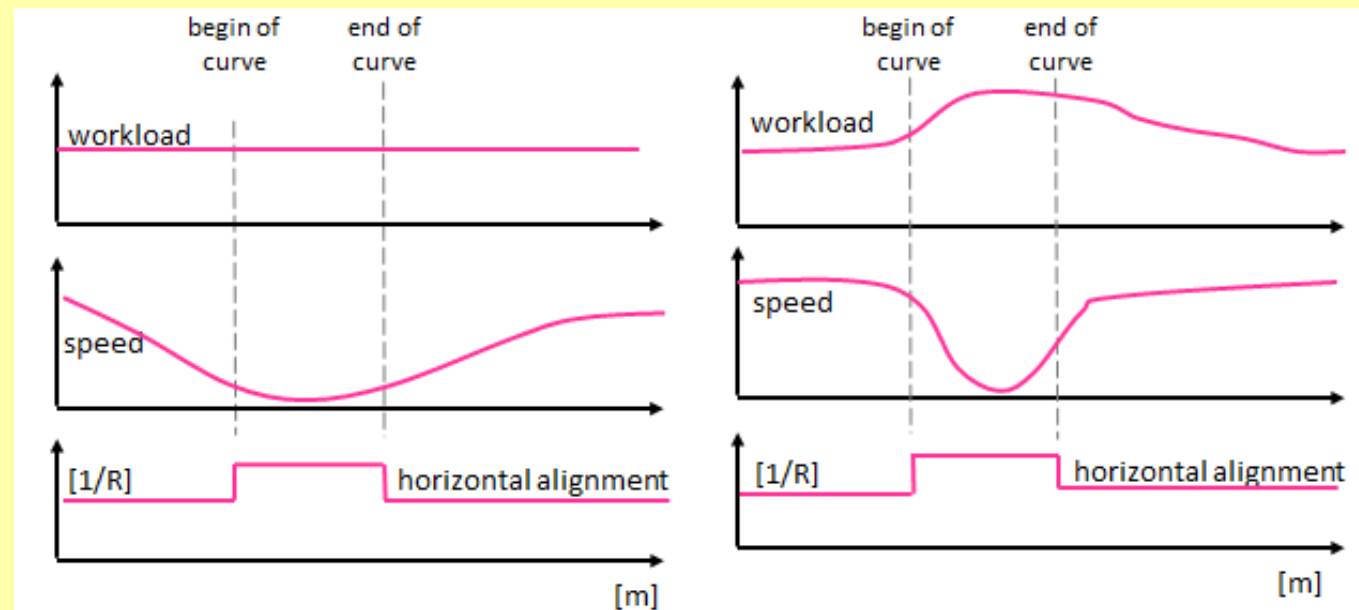
-  Uniformity in the **mass** and **speed** of vehicles using a road element otherwise adequately separated
-  Incompatible road users should not share the same road parts
-  Physical separation not always acceptable in mixed use environments where more interaction between different road users is desirable



Engineering Treatments (Action Areas)




Predictability (1/2)

-  Design of roads should direct drivers to select the appropriate speeds
-  Road environment that satisfies drivers' needs and expectations in terms of safety with a fairly constant, low mental workload



Engineering Treatments (Action Areas)

Predictability (1/2)

-  Design of roads should direct drivers to select the appropriate speeds
-  Road environment that satisfies drivers' needs and expectations in terms of safety with a fairly constant, low mental workload
-  Road environment without violating the drivers' expectancy is the basis of the "self-explaining" road approach



Engineering Treatments (Action Areas)

Predictability (2/2)

Achieved by:



Design consistency



avoidance of abrupt changes of successive alignment elements







assessed by correlating successive elements between operational speeds or between design and operational speeds



Engineering Treatments (Action Areas)

Predictability (2/2)


Achieved by:





-  Design consistency
-  Continuity
 -  ability of road geometry to conform to driver's expectations
 -  closely related to psychological sight distance



Engineering Treatments (Action Areas)

Traffic calming and speed reduction measures

 Engineering measures utilized to assist in traffic calming and speed reduction, especially at the approaches to urban areas:

-  roundabouts
-  design of transitional zones between rural and urban environment which give the visual impression of portal areas
-  speedometers combined with variable message signs
-  rumble strips or speed bumps and raised crossing platforms (urban areas)



Engineering Treatments (Action Areas)

Speed limits



Speed zone design as to eliminate excessive driving conditions based on:



road functional classification



alignment consistency and continuity



skidding on curves
provision



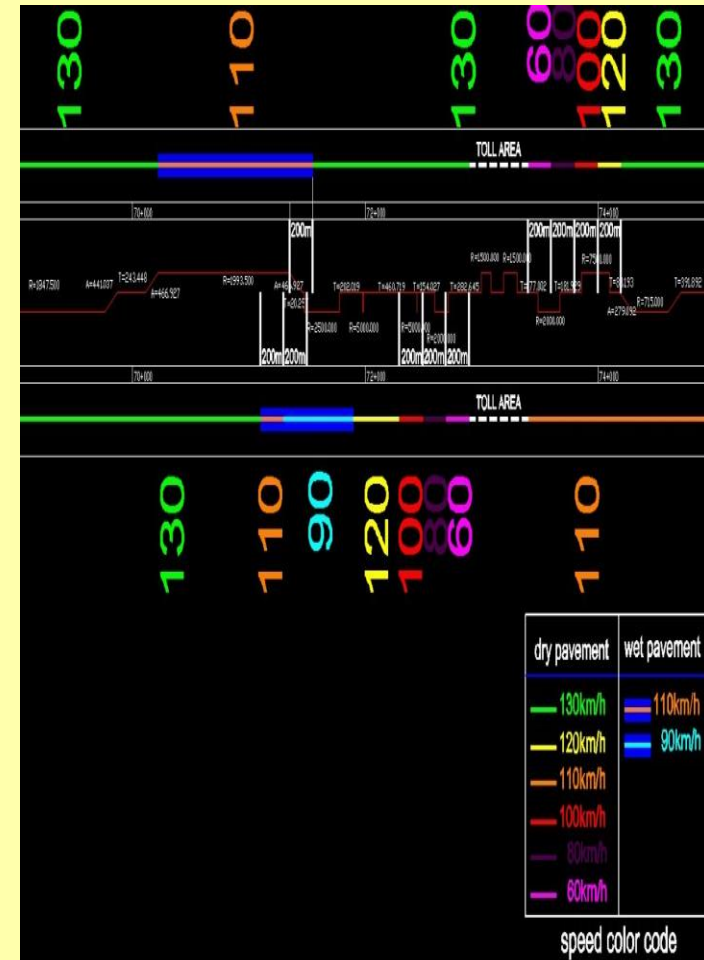
stopping sight distance
provision










intersection and
interchange areas

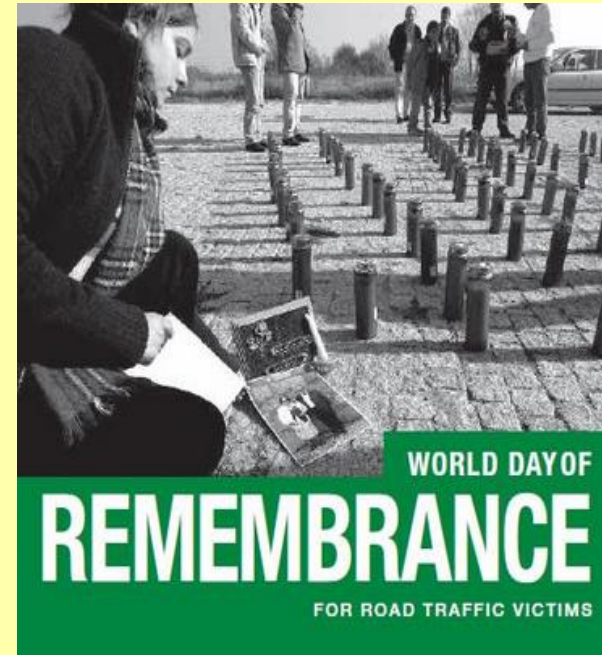


accident data








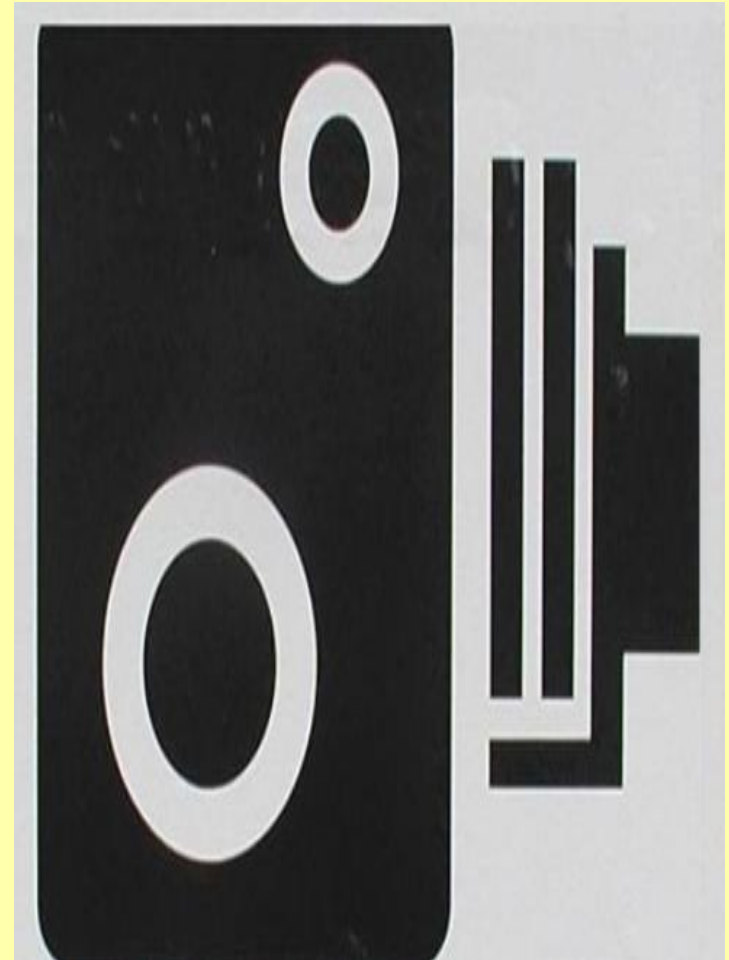
Campaigns and Education (Action Areas)

-  Establishment of a culture which rejects excessive speeding
-  Provide information and influence road users to modify their behaviour
 -  inform road users about the consequences of excessive speeding
 -  persuade road users that excessive speeding is a dangerous and unacceptable behaviour
 -  inform road users that even if their speed is lower than the posted speed limit, it could be excessive if certain adverse conditions are met
 -  help road users realize the necessity of speed enforcement
 -  include road safety education in schools








Speed Enforcement (Action Areas)

-  Most efficient way to control excessive speeding
-  Intensification of enforcement has a direct impact on the improvement of driver behaviour and attitude
-  Automated speed cameras are considered more effective
 -  constant operation
 -  increased percentage of offenders' detection









Speed Enforcement (Action Areas)

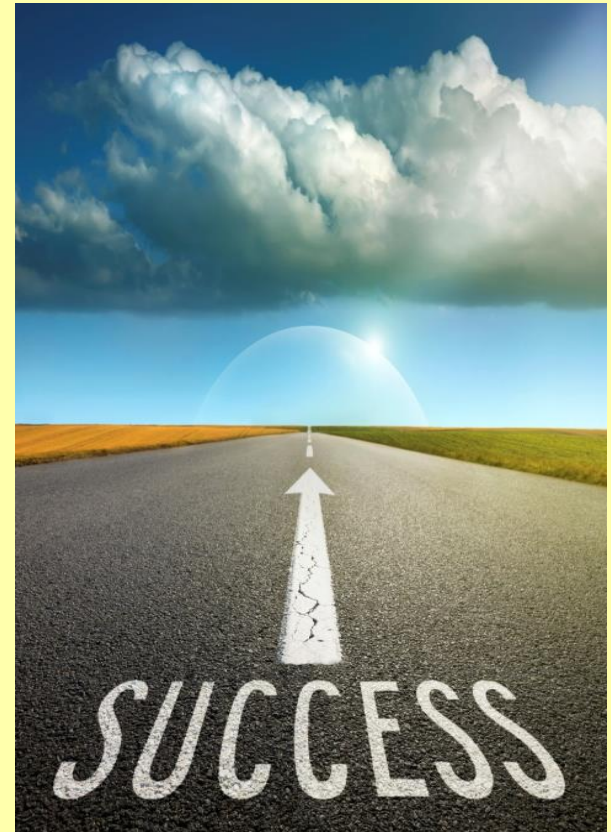
Developing of an efficient speed enforcement system

-  Road users should be aware of speed enforcement activities
-  Speed controls and infringements should be recorded systematically
-  Locations for speed controls and duration of the speed enforcement program should be carefully selected
-  Results should be recorded and be publicly available
-  Acceptability also increases by setting proper speed limits



Implementation of a Speed Management Strategy

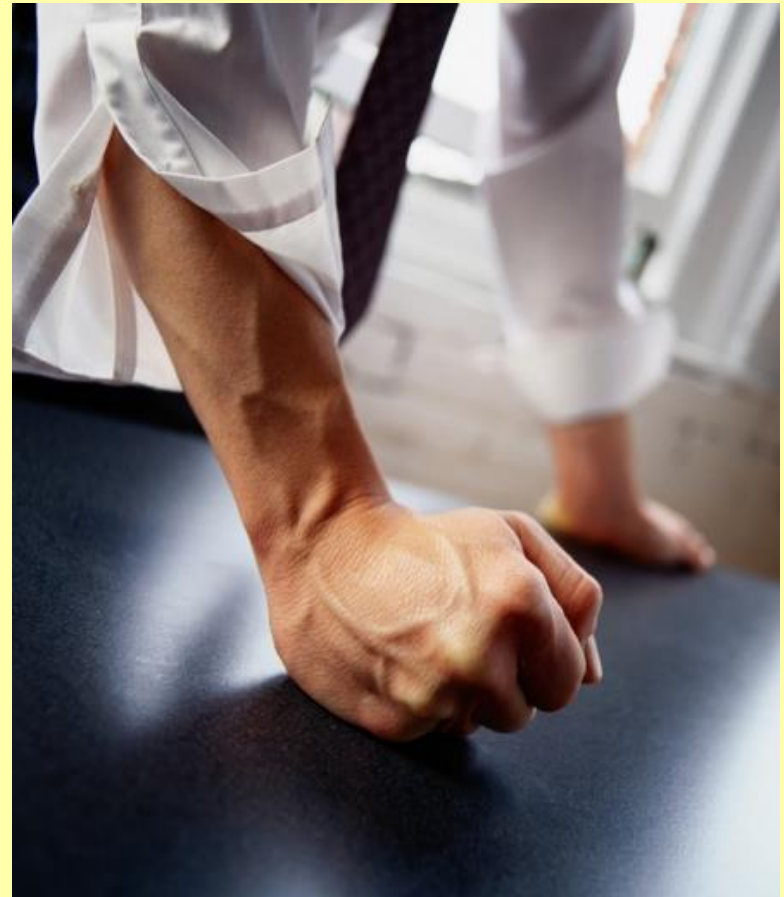
-  Political and community support
-  Stakeholders and roles
-  Preparing a plan of action
-  Preparing for implementation
-  Public communication
-  Planning and using pilot projects



Implementation of a Speed Management Strategy



Political and community support

The success of a speed management strategy depends overwhelmingly on winning the support of politicians, high-level community decision-makers and the community itself



Implementation of a Speed Management Strategy








Stakeholders and roles

-  Involved agencies and authorities are the main partners responsible
-  Role and responsibilities of each partner should be clearly defined



Implementation of a Speed Management Strategy

Preparing a plan of action

-  Definition of objectives and specification of clear actions for how the objectives will be met
-  Clear statement of problems and challenges
-  Time period clearly set
-  Develop synergies
 -  Ministry of Education
 -  various non-governmental organizations
 -  academic institutions and scientific organizations



Implementation of a Speed Management Strategy

Preparing for implementation



After obtaining approval for implementation, besides enforcement (police training, commitment) and engineering (design, construction), the requirements of **the team** responsible for implementing the strategy should be defined







possess a variety of skills (engineering, social and behavioural science, managerial, etc.)



Implementation of a Speed Management Strategy






Public communication

-  Appropriately communicated in order that the proposed measures to gain public acceptance and support
-  advising and educating drivers and other road users about proposed actions and expected behavioural changes
-  motivating compliance with speed limits and safe speeds
-  encouraging public support for the speed management strategy







Implementation of a Speed Management Strategy

Planning and using pilot projects

-  A pilot project is a trial run
-  Same process followed
 -  in a limited area
 -  over a limited period
-  Lessons are learned








Monitoring and Evaluation of a Speed Management Strategy

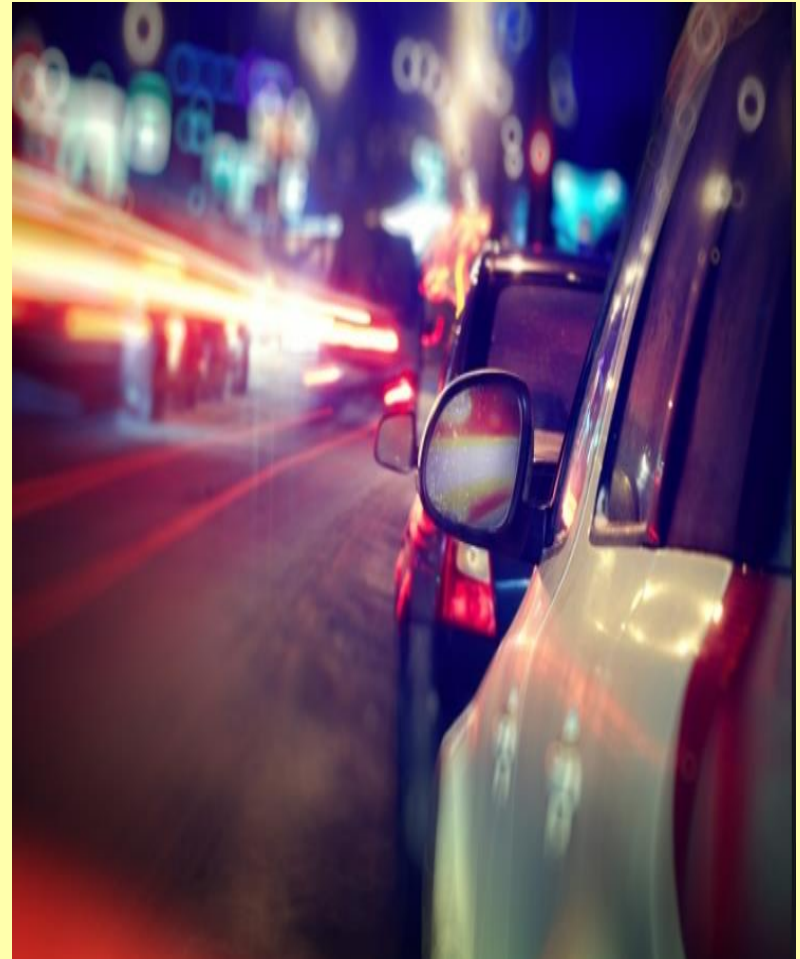
-  Monitoring of the road safety level
-  Monitoring of implemented speed management activities
-  Evaluation
-  Dissemination and feedback



Monitoring and Evaluation of a Speed Management Strategy





Monitoring of the road safety level

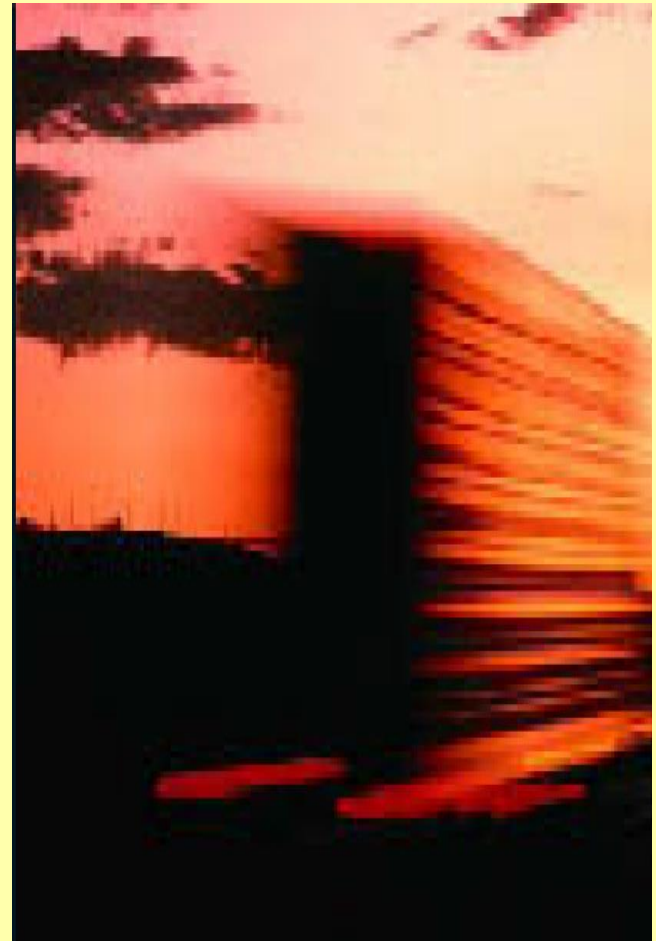
-  Utilization of selected road safety indicators:
 -  number of people killed, seriously and slightly injured
 -  the number of injury accidents, or damage only accidents
 -  the number of accidents or casualties per million vehicle-kms
 -  the percentage of road users driving with excessive speed, etc.



Monitoring and Evaluation of a Speed Management Strategy






Monitoring of implemented speed management activities

-  Use of selected road safety indicators that allow for comparisons between the activities implemented and the ones that should be implemented:
-  number and/or length of road segments, in which speed limits were evaluated
-  number and/or length of road segments, in which speed limit signage was improved
-  number of engineering measures implemented, according to the 'self-explaining' road approach, etc.



Monitoring and Evaluation of a Speed Management Strategy

Evaluation

-  See whether the objectives of the strategies have been met
-  Evaluation may take several forms:
 -  assessment of the efficient running of the operation, not the outcomes (e.g. training, equipment of police)
 -  impact assessment
 -  measurable effects of the strategy
 - qualitative (public opinions, perceptions, etc.)
 - quantitative (statistical analysis, etc.)



Monitoring and Evaluation of a Speed Management Strategy






Dissemination and feedback



Sustain a sense of ownership and interest in the project by both the public and the stakeholders



Discussion

-  Speeding constitutes a serious road safety problem, there is no single solution
-  Measures should be planned and implemented in the framework of an integrated speed management strategy
-  Most appropriate combination of measures must be determined based on an assessment of the local circumstances
-  Measures of the strategy should cover key road safety aspects of 3E
-  Political support is essential throughout the process and mostly during implementation of the speed management strategy



THANK YOU FOR YOUR ATTENTION ...

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