

STudents Acting to Reduce Speeds

Speed management Role of Signing, Marking and Signs

Lessons from the OECD/ITF report

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Structure

1. The OECD and the International Transport Forum
2. The Safe System Approach and Speed Management
3. Signs and speed limits
4. Use of traffic lights and signals
5. Markings
6. New technologies

What is the OECD ?

- ▶ groups 34 member countries committed to democracy and the market economy
- ▶ provides statistics and economic and social data
- ▶ analyses and forecasts economic developments
- ▶ researches social changes and evolving patterns in trade, environment, agriculture, technology, fiscal policy and more

Mission of the OECD

Helping governments to

- ▶ compare policy experiences
- ▶ seek answers to common problems
- ▶ identify good practice
- ▶ co-ordinate domestic and international policies



34 member countries

AUSTRALIA

AUSTRIA

BELGIUM

CANADA

CHILE

CZECH REPUBLIC

DENMARK

ESTONIA

FINLAND

FRANCE

GERMANY

GREECE

HUNGARY

ICELAND

IRELAND

ISRAEL

ITALY

JAPAN

KOREA

LUXEMBOURG

MEXICO

NETHERLANDS

NEW ZEALAND

NORWAY

POLAND

PORTUGAL

SLOVAK REPUBLIC

SLOVENIA

SPAIN

SWEDEN

SWITZERLAND

TURKEY

UNITED KINGDOM

UNITED STATES

- Countries invited to membership talks

RUSSIA

- Enhanced engagement

BRAZIL

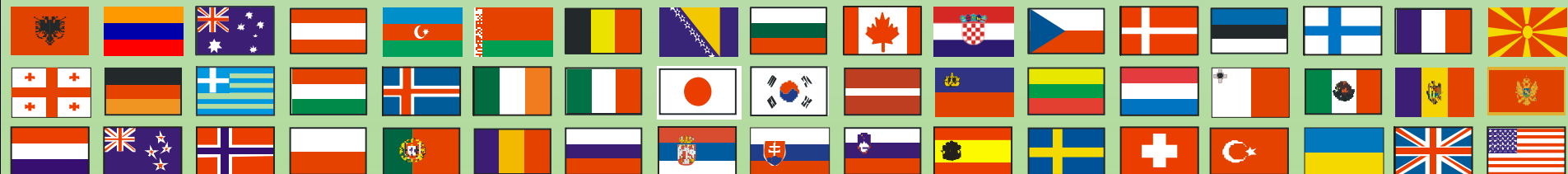
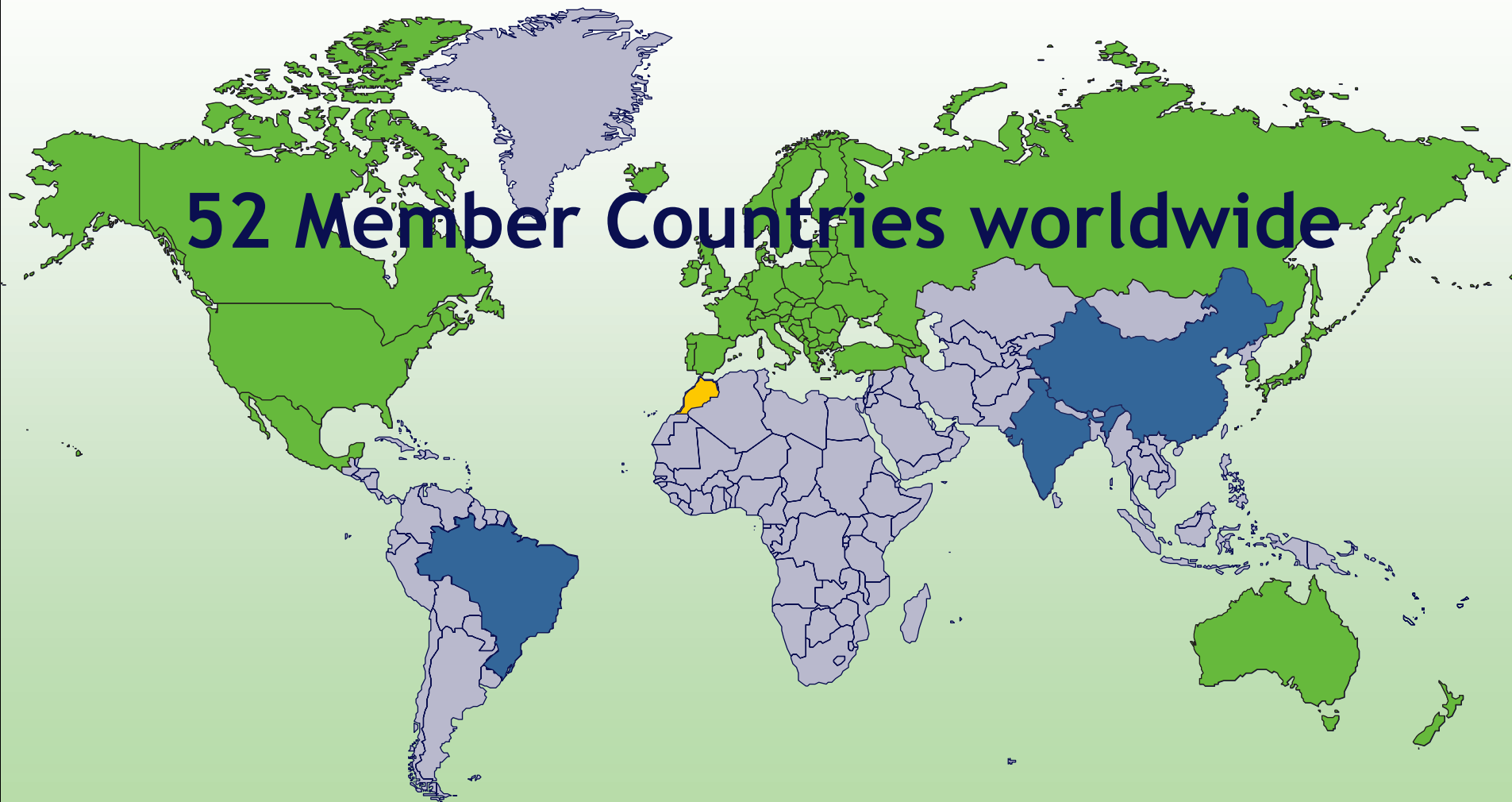
CHINA

INDIA

INDONESIA

SOUTH AFRICA

52 Member Countries worldwide



The International Transport Forum

- ▶ An inter-governmental organisation for transport
- ▶ A major meeting place for the transport sector
- ▶ A transport policy think tank linked to the OECD

The annual Forum meeting

- ▶ International Transport Forum meets in May every year, in Leipzig
- ▶ Ministers, as well as leaders of industry, civil society, international organisations, research
- ▶ Focus on a key theme
- ▶ Forum discussions advance and guide transport policy
- ▶ Over 900 participants
- ▶ Strong media presence



High-Profile Keynote Speakers



Jeffrey SACHS, Director of The Earth Institute



**ELMSÄTER-SVÄRD,
Minister for
Infrastructure, Sweden**



**Angela Merkel
Chancellor of the Federal Republic of Germany**

Annual Ministerial Forum Leipzig (Germany)

- ▶ 2009: Transport for a Global Economy: Challenges and Opportunities in the Downturn
- ▶ 2010: Transport and innovation
- ▶ 2011: Transport and Society (including safety)
- ▶ 2012: Seamless Transport: Making Connections

Forum 2012: Seamless Transport: Making Connections

Key themes:

- Urban Connectivity: Improving the Door-to-Door Journey
- Rethinking the Last Mile: New Approaches to Urban Logistics
- The Future of Travel: e-Ticketing, Smart Phones, Data Sharing
- From Supply Chain to Supply Stream: Creating Seamless Logistics
- Facilitating Global Trade: Connectivity Across Borders
- Transport for Growth: Developing Connectivity
- Investing in Connectivity: Where, Why, When, How?
- Smart Grids: Powering the e-Mobility Future

Young Researcher Award

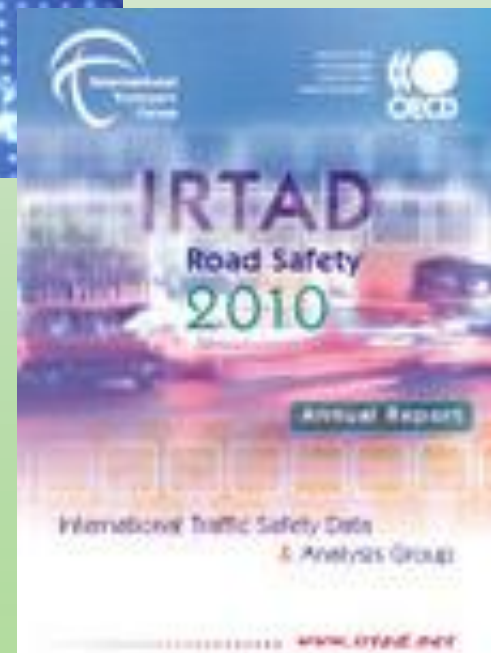
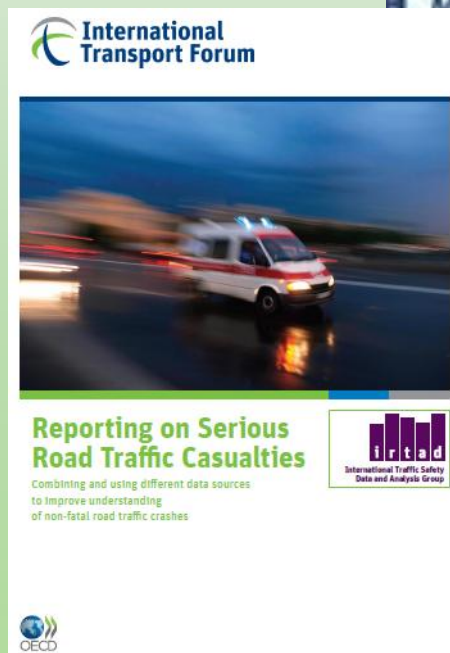
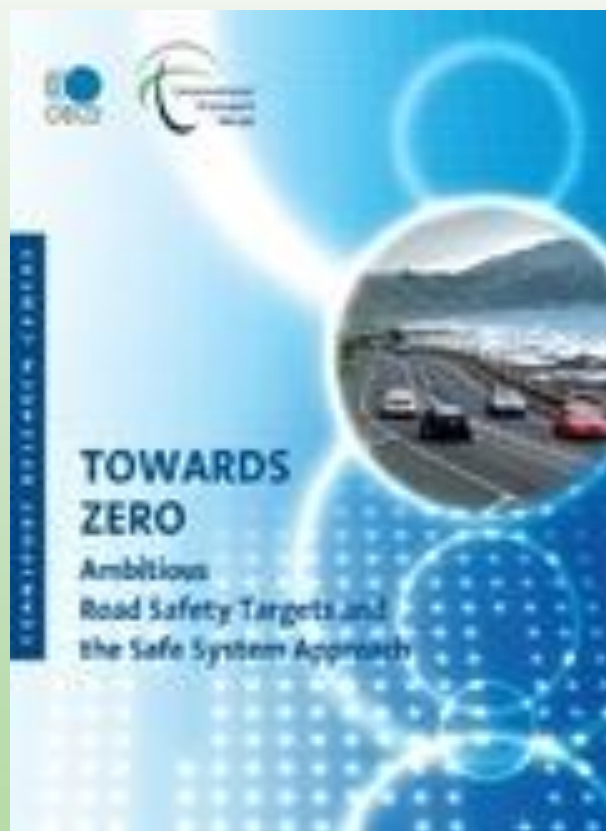
- ▶ Research paper on the topic of the Forum
- ▶ < 35 years old
- ▶ 5000 euros + award ceremony with Ministers
- ▶ Boost international career
- ▶ Submission by 17 February 2012



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Recent safety work of the OECD/ITF



The Safe System Approach

- ▶ Based on a long term vision of non seriously injured
- ▶ considers safety as an **ethical imperative**
- ▶ accommodates **human error**
- ▶ seeks to **align safety decisions** with broader community values - economic, human & environmental health, consumer goals

Requires fundamental changes in:

- ▶ how stakeholders encouraged to take action to improve safety
- ▶ how the road environment is managed

Safe System - Human Tolerances to Physical Forces Consequences for speed management

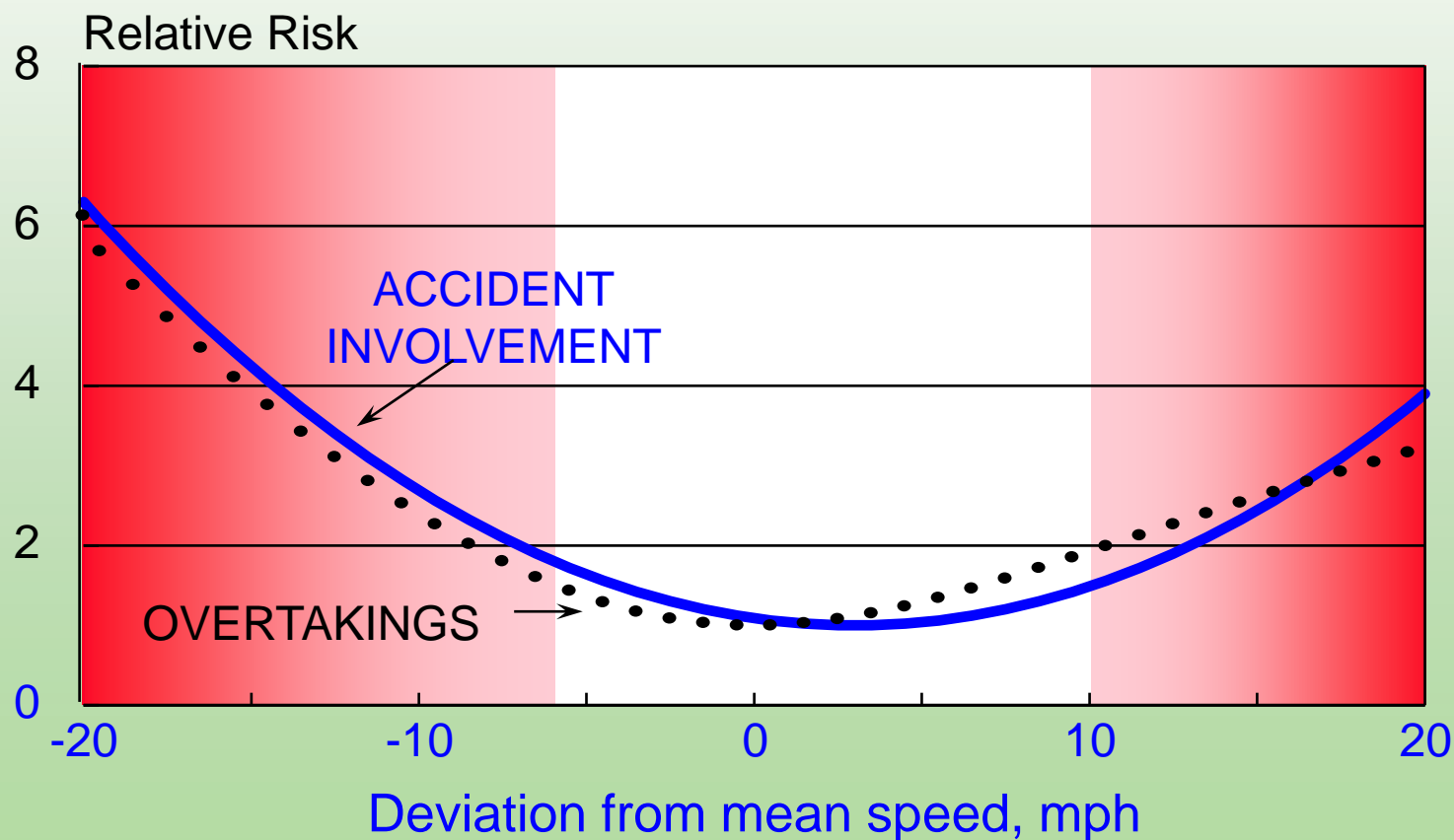
- ▶ <30 km/h pedestrians, cyclists (motorcyclists)
- ▶ <50km/h vehicle occupants in side impact crashes
- ▶ <70-80 km/h vehicle occupants in head on crashes
- ▶ Prevent collisions with roadside objects on high speed roads

Potential of better speed management : Power Model - 5% reduction in speed:

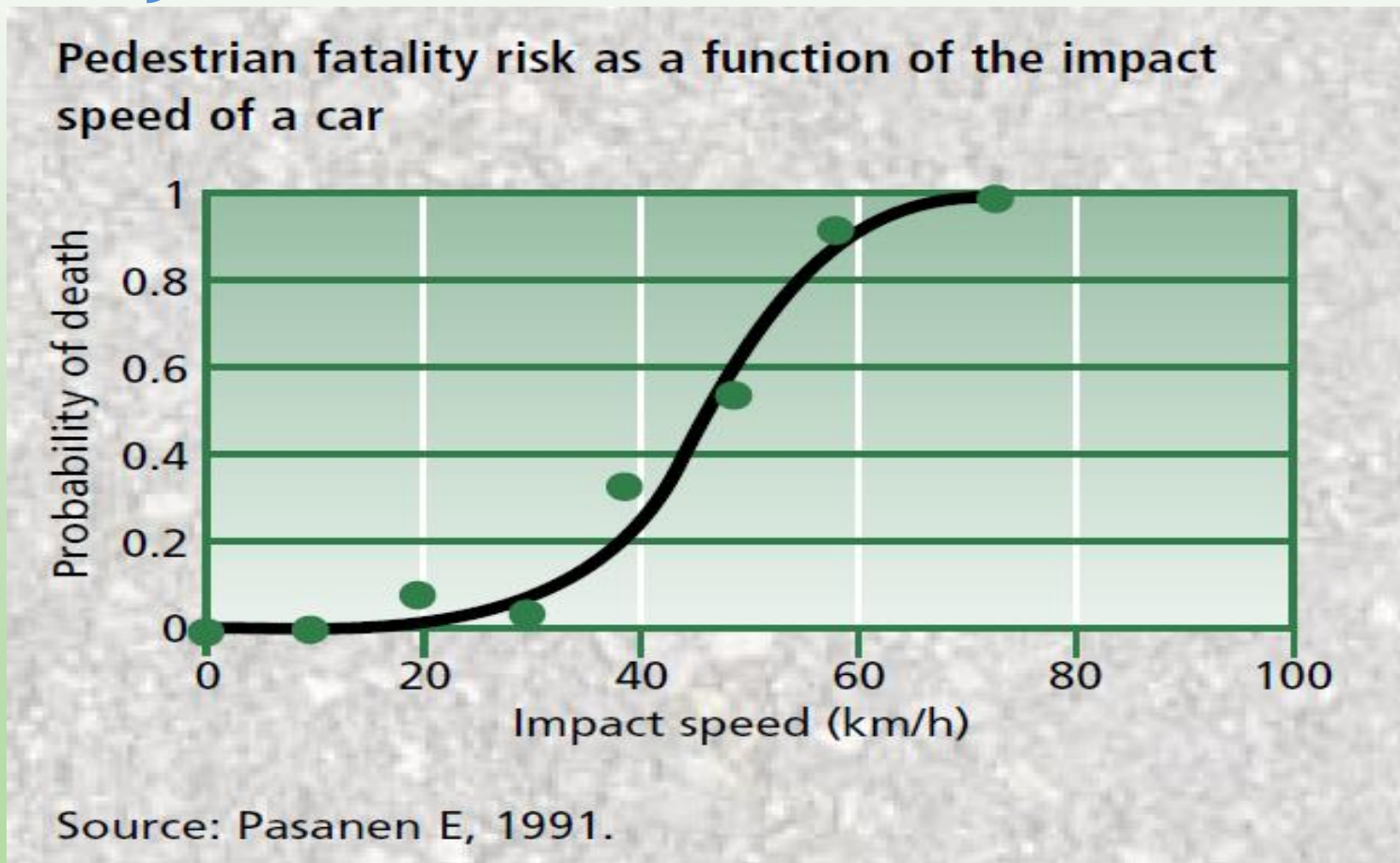


- All accidents: -5%
- Injury accidents :- 10%
- Fatal accidents :- 20%

Risk vs. Speed deviation



Why Zone 30 for Pedestrians ?



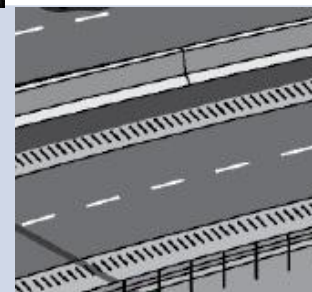
How to address the problem of speeding

- ▶ A package of measures embedded in road safety strategy with a clear vision (safety system) :
 - Education and information
 - Speed limits
 - Enforcement
 - Signalisation and signing

Signs



Marking



Signals



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Signs and speed limits

- ▶ Signs are an indispensable tool to :
 - Inform the drivers about the speed limit in force and to influence his / her choice
 - Fixed or variable
- ▶ Can be used to inform the drivers about his/her actual speeds

Speed limits

- ▶ General speed limits system (national level)
- ▶ Local speed limits

National speed limit systems

	 Built-up areas	 Roads	 2x2 lane roads	 Motorways
General limits				
Rain				
Young drivers (<2 years)				
Poor visibility (<50 m)				

Local speed limits how to set them ?

- ▶ ~~V85 or mean speed~~
- ▶ A variety of factors:
 - Vulnerable road users
 - Environment
 - Traffic volume

Appropriate speed limits

Road Category and function	Safety	Environment	Economy and mobility	Quality of residential life
Motorway and main inter urban roads				
Urban arterial roads				
Urban residential roads				
Rural main roads				
Rural minor roads				

In any case

- ▶ Speed limits must be credible
 - ▶ Existing speed limits might need to be reviewed.
-
- ▶ At the same time, in many cases, it is the road environment that has to be changed not the speed limit !!!

New speed limit system in Sweden

Old speed limit system



New speed limit system (Sept 2008)



Sweden:

Implementation on rural roads

70

80

90

100

110

120

- Review of the entire national road network, the first time since 1971
- Guidelines for different roads: speed limits adapted to the safety classification of each road
- ▶ But also
 - balance between traffic safety, environment and mobility/accessibility
 - regional differences

Signs

- Fixed prohibitory or restrictive signs (including entry zone signs).
- Informative signs (used in some rare cases, fixed signs for advisory speed).
- Mandatory signs for minimum speeds (used in some very rare cases on motorways).
- Variable message signs (located at fixed points or on special road sign vehicles).
- End-of-limit signs



Main principles for the signs

- ▶ Uniformity
- ▶ Homogénéité
- ▶ Simple
- ▶ Easy to read or understand
- ▶ Cohérent on the network
- ▶ Well maintained
- ▶ Transition zone (130 -> 50)

Consistency of signing



► Speed limits:

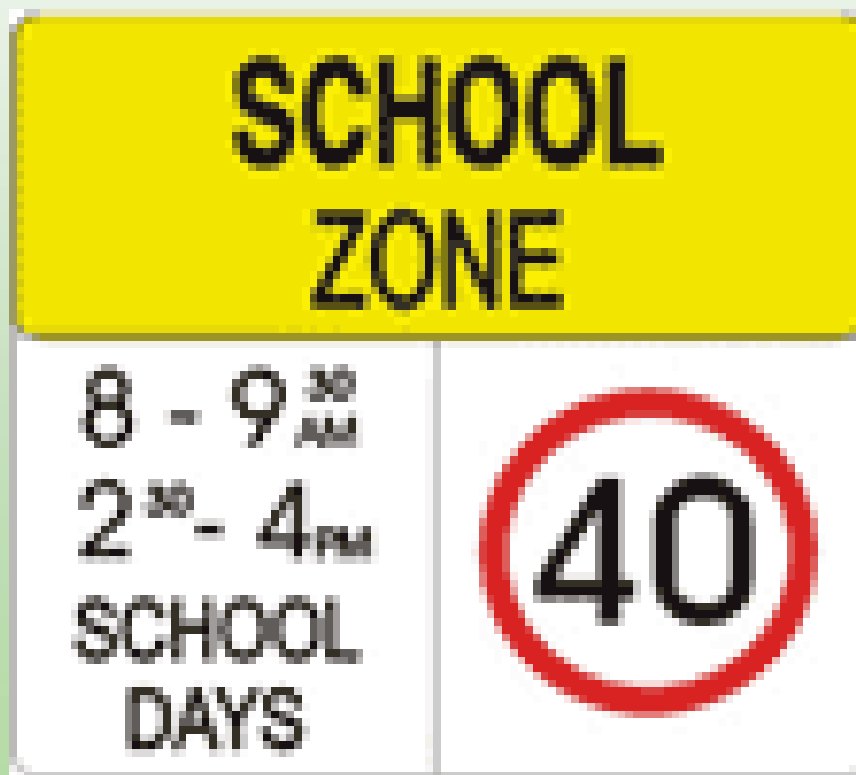
- Determine appropriate speed for all types of roads
- Review existing speed limits

Dynamic and Variable Speed Limits

Variable Message Signs (VMS)

- ▶ **Variable Speed Limits: time of the day, season, weather conditions:**
 - Finland and Sweden: lower limits in Winter Time
 - Norway, Australia: lower limits near schools in the morning or afternoon

School speed limits in Victoria (Australia)



Dynamic speed limits

- ▶ Activated at a given time, based on traffic volume or other criteria:
 - To regulate traffic
 - To reduce pollution
- ▶ Usually announced by a Variable Message Signs

M25 Motorway (UK)

- ▶ automated
- ▶ 70-60-50 mph
- ▶ fog, X, \searrow , \emptyset
- ▶ fibre optic technology
- ▶ “failsafe”



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M25 Enforcement System

- ▶ radar speed measurement
- ▶ automatic camera
- ▶ rear of gantries
- ▶ fixed signing
- ▶ police control (civilian staff)
- ▶ fine & penalty points





Consistency ...



Issues for reflection

- ▶ Ideally: only dynamic speed limits ?
- ▶ How to ensure that the variable message signs are more important than the fixed signs ? (problem of enforcement in many countries)

Other signs



- ▶ Netherlands
- ▶ To remind the driver every km of the actual speed limit

Sign displaying actual speed

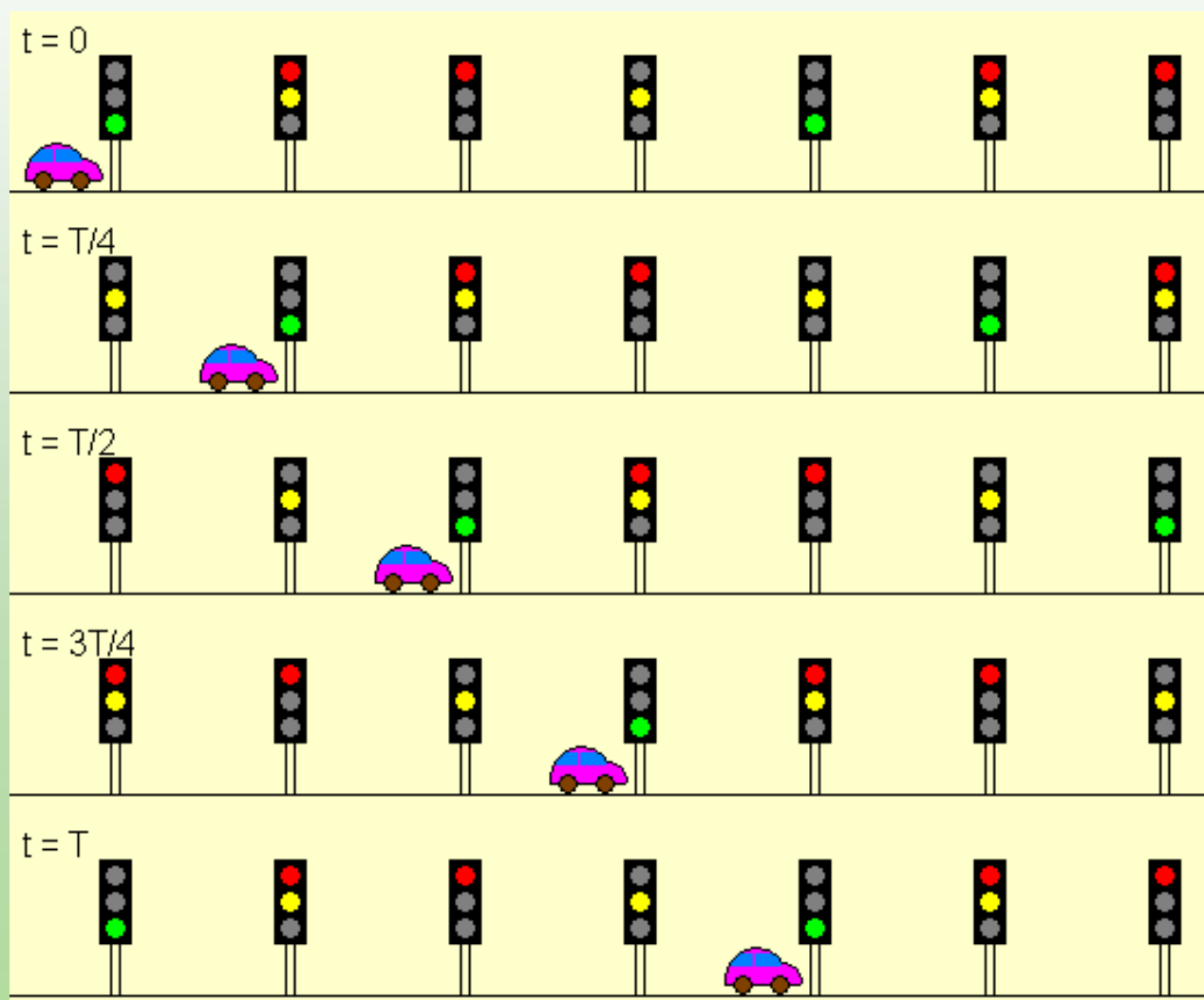


Potential perverse effect to « hit » records

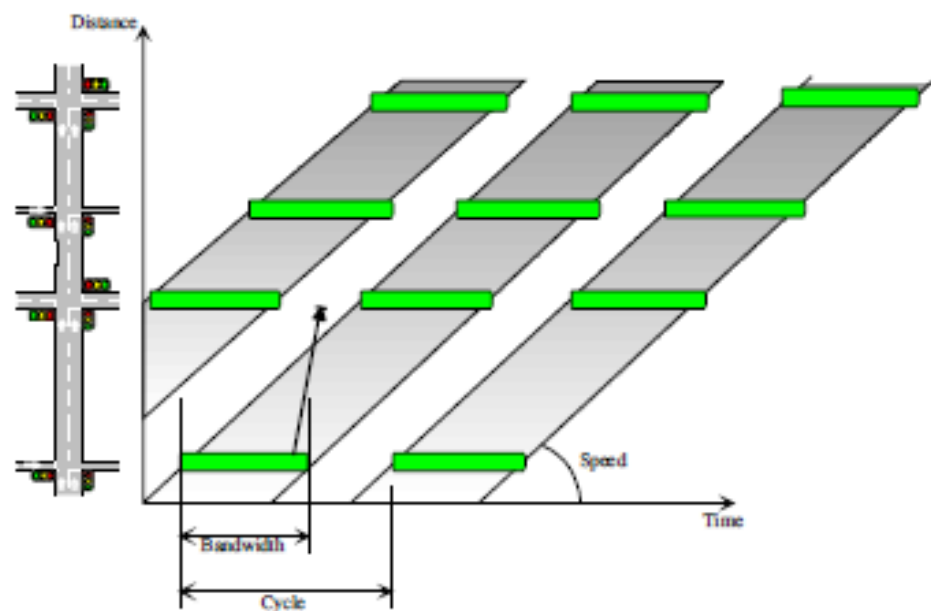
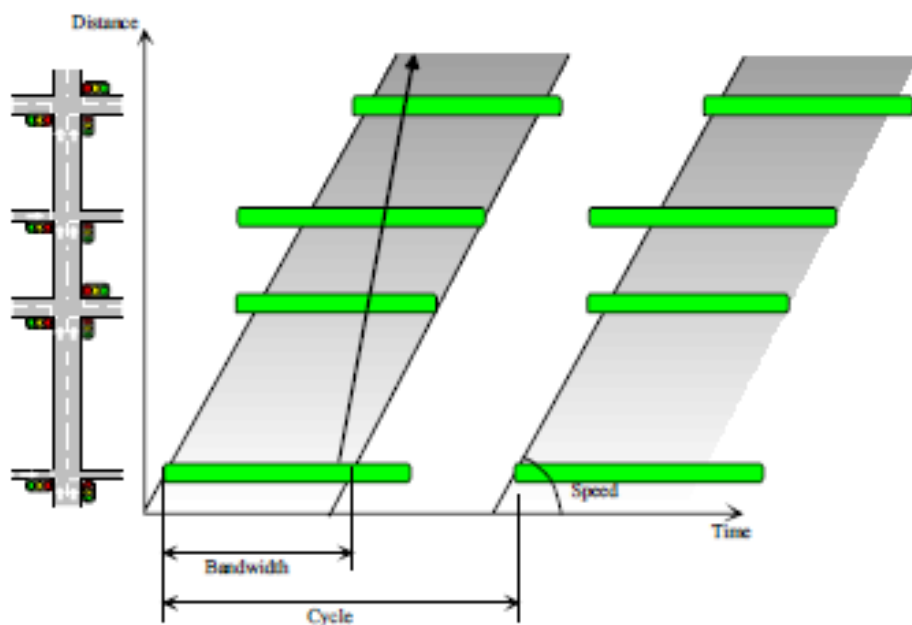


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Green Wave

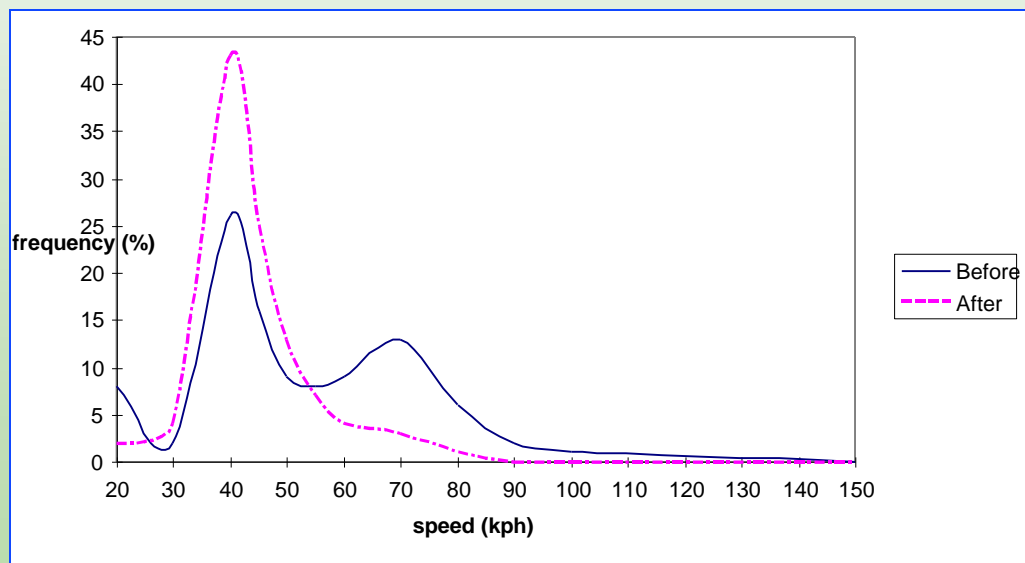


Moderating Green Waves



Reducing speed with moderate green waves results from France

- ▶ “Moderating green waves” could have a positive influence



Use of traffic lights: other examples:

- ▶ « Spanish » lights: traffic turns red when drivers going too fast.
- ▶ Traffic lights set at red by default; turn to green if slow enough

Marking - 3 functions

1. Guide the driver
2. Inform about regulations (safe distance between vehicles)
3. Direct effect on speed perception (transverse stripes)

Transversal Rumble Stripes



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New technologies

On-board signs



New Technologies: Your innovative ideas are welcome



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