Summary of Literature

ROAD SAFETY & PUBLIC POLICY

Dr. Haneen Farah
Topics

- Public Policy – Introduction
- Knowledge Use in Road Safety Policy
- EU Road Safety Policy 2003 – 2010
- UN Decade of Actions on Road Safety 2011- 2020
- SUN Countries & Others
- Global Status Report on Road Safety 2013
- Israel National Road Safety Plan 2020
Topics

- Public Policy – Introduction
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Definition of ‘Public Policy’

*Public policy*, is defined by Dunn (1981, p. 46/47) as "long series of more or less related choices made by governmental bodies and officials".

*Policy*…. is often based on *scientific information*.

*Policy do not stand alone* but are embedded in a *policy environment*.

Definition of ‘Public Policy’

Public Policy Research can be categorized into two groups:

- Policy Processes Analysis
  - Policy papers
  - Position paper

- Policy Outcome Evaluation
Road Safety Vision – Why is it needed?

A **vision** can act as a **promotional tool** as well as **giving a steer to policies** through focusing on how a future safety scenario should look.

‘A vision is an **innovative description of the future traffic system** or a **desired direction of safety development.**

A vision ensures that road safety:

- **Gains a prominent position in:**
  - Transport policy;
  - Decision-making process.

- **Impact on public:**
  - Raises public interest;
  - Creates public support.

‘With the vision as a long-term goal, short-term objectives, targets and action plans can be set’, (Loo et al., 2005).

Why to have a Road Safety Vision?

Experience in Sweden, the Netherlands and New Zealand is seen as indicating the importance of securing parliamentary commitment on grounds that are hard to refute, demonstrating that there are cost-effective measures through which the vision can be pursued, and securing the engagement of stakeholders and the public through careful development of readily comprehensible concepts, principles and lines of action. The value of overt high-level political commitment is highlighted by experience in recent years in France (Loo et al., 2005).

Any road safety strategy, whether or not in pursuit of a vision for road safety, should reflect the need to understand and improve road safety in the context of the full end-to-end journeys of people and movements of goods, and to do so in ways that are consistent with the overall reduction in emissions and support for economic growth.

Role of Public View

It is clear that **dialogue with the public**, through whatever means, **is desirable** in achieving the **implementation of effective safety policies**, and a ‘vision statement’ of desirable outcomes to be achieved might help in this discussion (*Lynam & Lawton, 2010*).
Institutionally

More **effective co-operation between government departments** in relation to road safety policies has been sought over many years, and **may only result from more independent oversight of road safety strategies**.

**Quality assurance** processes are beginning to emerge in both Dutch and Swedish thinking.

Example of Institutional Barrier

The **knowledge world** provided sectoral information on road safety, for instance the costs and effects of road safety measures. However, the **policy world** included more than road safety information in the decision to implement a measure. It employed a more integral approach, negotiating between various interests within traffic policy and regarding the knowledge world as a supplier of ammunition.

A DECISIVE ROAD SAFETY POLICY IN REGIONAL TRAFFIC AND TRANSPORT PLANS
Charlotte Bax (2003)

An **effective** road safety policy relies on **sound and well-founded scientific research**. A decisive policy is:

- **Effective**, thus contributes to achieving the goals aimed at;
- **Efficient**, in which the profits are higher than the costs,
- **Ambitious**.

Which factors promote and hinder establishing a decisive road safety policy during decision making process?

- Sufficient parties that promote road safety.
- Sufficient possibilities and means to convincingly present the road safety interests.

The structure of the decision making process must be well organized. There should be rules for:

- inviting parties;
- the way decisions are made;
- dealing with conflicts;

Matters that contribute to a decisive policy:

Involving as many relevant parties as possible;

Sufficient money, manpower, and expertise;

Early negotiation with opponents;

Active involvement of support for road safety interests;
Matters that contribute to a decisive policy (Cont.):

Organization of the decision making process by a third party.

Parties with road safety policy knowledge really write the policy.

There is agreement with other issues and topics (for example in regional traffic and transport plans).
Other Policy Fields…

The future road safety policy should be taken into account in other policy fields, and it should take the objectives of these other policies into account.

Road safety has close links with policies on:

- Energy
- Environment
- Employment
- Education
- Insurance, Justice
- Public health
- Innovation & technology
- Research
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Definition of Knowledge

Edelenbos (2000) distinguishes the following forms of knowledge:

**Data:** separate, unordered items of data;

**Information:** data ordered in a meaningful way;

**Knowledge:** information present in a person or organization;

**Wisdom:** a combination of knowledge, experience and intuition.
Possible Reasons for Lack of Knowledge Use in Policy

- Multi-level governance trend in the policy world and the absence of this trend in the knowledge world;
- Multi-sector governance trend in the policy world and the relative absence of it in the knowledge world;
- Two communities metaphor.

Three examples of science and policy disparity

- National statistics are not sufficient for local policy
- We do not want insight into road safety expenses
- "Draconian measures", that are scientifically sound

Three examples of science and policy disparity

- National statistics are not sufficient for local policy
  - **Unreliable**, due to under-registration;
  - **Missing** info on accident location (important for detailed management);
  - **Small number** of road deaths and serious road injuries at a local level.

### Reasons for the non-use of knowledge

<table>
<thead>
<tr>
<th>Policy processes</th>
<th>Institutional setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>The knowledge is not sufficiently detailed to be of use in policy processes.</td>
<td>The accident statistics were provided by national institutions, possibly not informed about the need of municipalities for detailed figures.</td>
</tr>
</tbody>
</table>

The knowledge is not sufficiently detailed.
Three examples of science and policy disparity

- Do not want insight into road safety expenses
  - Provinces and municipalities do not have information on road safety expenses available.
  - They have disinterest in these statistics, since road safety measures were incorporated in the maintenance and reconstruction policy processes.

<table>
<thead>
<tr>
<th>Reasons for the non-use of knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy processes</strong></td>
</tr>
<tr>
<td>The policy process does not require</td>
</tr>
<tr>
<td>the knowledge, because road safety</td>
</tr>
<tr>
<td>is integrated into road maintenance</td>
</tr>
<tr>
<td>policy.</td>
</tr>
<tr>
<td><strong>Institutional setting</strong></td>
</tr>
<tr>
<td>The knowledge was provided by an</td>
</tr>
<tr>
<td>organization aimed exclusively at</td>
</tr>
<tr>
<td>researching road safety, and possibly</td>
</tr>
<tr>
<td>not sufficiently recognizing the trend</td>
</tr>
<tr>
<td>of integrating road safety into traffic</td>
</tr>
<tr>
<td>policy at a municipal level.</td>
</tr>
</tbody>
</table>

The policy process does not require the knowledge, because road safety is integrated into road maintenance policy.
Three examples of science and policy disparity

- "Draconian measures", that are scientifically sound

  - In 2001, SWOV presented two controversial measures to reduce young drivers’ accidents: a ban on taking passengers and one on driving at night.
  - SWOV presented the report and the political reactions to these two measures were destructive.

<table>
<thead>
<tr>
<th>Reasons for the non-use of knowledge</th>
<th>Policy processes</th>
<th>Institutional setting</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>The knowledge provided did not gain public support.</td>
<td>Science and policy are different worlds:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1) a scientific world where scientific standards and cost-effectiveness are rated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>highly; versus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) a political world oriented towards public support.</td>
</tr>
</tbody>
</table>

The knowledge provided did not gain public support.
Knowledge use in road safety policy

Knowledge is defined as structured, carefully considered information.

Knowledge Use in policy processes:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reception</td>
<td>The report lands on the desk;</td>
</tr>
<tr>
<td>2</td>
<td>Cognition</td>
<td>The report is read and understood;</td>
</tr>
<tr>
<td>3</td>
<td>Reference</td>
<td>Knowledge can also be cited in policy reports;</td>
</tr>
<tr>
<td>4</td>
<td>Effort</td>
<td>Decision makers make an effort to adopt knowledge in their policy;</td>
</tr>
<tr>
<td>5</td>
<td>Adoption</td>
<td>The research results are adopted in the choices and decisions of practitioners and professionals.</td>
</tr>
<tr>
<td>6</td>
<td>Implementation</td>
<td>The policy that has adopted the research findings is implemented.</td>
</tr>
<tr>
<td>7</td>
<td>Impact</td>
<td>The policy that has adopted the research findings shows the desired effects.</td>
</tr>
</tbody>
</table>

Knowledge use in road safety policy

Every type of policy problem requires a specific type of knowledge use and provides scientists with a specific role.

<table>
<thead>
<tr>
<th>Consensus about values</th>
<th>Certain knowledge</th>
<th>Uncertain knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consensus about values</td>
<td><strong>Structured problems:</strong> knowledge can be used instrumentally, scientists are problem solvers.</td>
<td><strong>Moderately structured problems/goals:</strong> knowledge can be used strategically, scientists are ammunition suppliers.</td>
</tr>
<tr>
<td>No consensus about values</td>
<td><strong>Moderately structured problems/means:</strong> knowledge can be used to reconcile, scientists are mediators.</td>
<td><strong>Unstructured problems:</strong> knowledge can be used conceptually, scientists are idea producers.</td>
</tr>
</tbody>
</table>

(Engels, Hisschemoller & Von Moltke, 2006; Hisschemoller & Hoppe, 1995)
Evidence Based Policy

Concept introduced by Blair Labour government in the United Kingdom in the late 1990’s (Productivity Commission, 2010).

- Scientific knowledge
- Political knowledge
- Stakeholders’ opinions

Evidence based policy
Use of road safety knowledge by policy makers

Policy makers primarily use knowledge...

if it fits in with an existing policy line;

if they have requested the information themselves;

& if the knowledge is relatively new.
Use of road safety knowledge by policy makers

SWOV Fact sheet

‘Two Communities’ metaphor. There are substantial differences in the language, interests and reward systems of scientists and policy makers. This gap is responsible for failure to use scientific knowledge in decision-making processes (Caplan, 1979).

‘Two Communities’ metaphor

Cultural differences between the policy-making and scientific communities:

<table>
<thead>
<tr>
<th></th>
<th>Science</th>
<th>Politics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looks for</td>
<td>Truth</td>
<td>Power</td>
</tr>
<tr>
<td>Is driven by</td>
<td>Non-normative conviction</td>
<td>Normative conviction</td>
</tr>
<tr>
<td>Wants information with</td>
<td>Depth, focus on causes</td>
<td>Speed, focus on remedies</td>
</tr>
<tr>
<td>Wants information</td>
<td>In detail</td>
<td>In outline</td>
</tr>
<tr>
<td>Looks specifically for</td>
<td>Causes</td>
<td>Solutions</td>
</tr>
<tr>
<td>Quality based on aim for</td>
<td>Validity</td>
<td>Acceptance</td>
</tr>
<tr>
<td>And on aim for</td>
<td>Reliability</td>
<td>Feasibility</td>
</tr>
<tr>
<td>Method for quality control</td>
<td>Peer review</td>
<td>Public support</td>
</tr>
</tbody>
</table>

*Table 2.4. Differences between science and politics (based on Leroy, 2007).*

‘Two Communities’ metaphor

A growing group of authors, however, states that these worlds have been getting closer to each other, both on an ethical standards and organizational level since the 1960s.

Policies are increasingly influenced by scientific findings, while science is losing its value free image. These trends were caused by three, more or less simultaneous, developments:

(1) the fading boundaries between science and policy;

(2) the loss of the moral;

(3) factual infallibility of science.

The production of knowledge has taken on new forms (moving from Mode 1 to Mode 2):

<table>
<thead>
<tr>
<th>Mode 1</th>
<th>Mode 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic context</td>
<td>Context of application</td>
</tr>
<tr>
<td>Disciplinary</td>
<td>Trans-disciplinary (broader than inter-disciplinary by including non-scientists)</td>
</tr>
<tr>
<td>Homogeneity</td>
<td>Heterogeneity</td>
</tr>
<tr>
<td>Autonomy</td>
<td>Reflexivity/social accountability (dialogue between researchers and research subjects).</td>
</tr>
<tr>
<td>Traditional quality control (peer review)</td>
<td>Novel quality control</td>
</tr>
</tbody>
</table>

‘Two Communities’ metaphor

An interaction process between researchers, society and politicians is needed to provide accepted but still uncertain knowledge and to take a socially accepted decision.

It is desirable, therefore, that stakeholders participate in policy-making and quality control.

‘Fifth Branch’

The **fifth branch** fills the gap between science and policy. It ‘translates’ scientific knowledge for policy-makers and conversely, shows scientists the knowledge needs for policy. This would bring the two communities closer.

**The price to pay:**

1. Moving a part of the political policy-making to scientific advisory boards might **diminish the democratic legitimacy** of these decisions.

2. Permitting policy-makers to take the ultimate decision about valid and useful knowledge means that this knowledge is no longer subject to the standard scientific quality control systems as such peer reviews.
Formal and informal rules determine the interaction between the actors in the policy arrangement and the way they take decisions.

Policy discourses are the opinions and accounts of the actors involved, expressed in problem definitions, solutions, norms and values.

The balance of power between the actors is mapped out, as is the division of the resources between the actors. Resources can consist of people, budgets, competences, knowledge et cetera.

Four dimensions of a policy arrangement (Liefferink, 2006, p. 48).
A Typology for Interaction between Science and Policy

<table>
<thead>
<tr>
<th>Model</th>
<th>Characteristics</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science push model</td>
<td>Science delivers objective facts to policy-makers</td>
<td>1945 - 1975</td>
</tr>
<tr>
<td>Demand pull model</td>
<td>Policy-makers ask science for specific knowledge</td>
<td>1975 - 1995</td>
</tr>
<tr>
<td>Dissemination model</td>
<td>Science actively disseminates knowledge to policy</td>
<td>1995 - 2010</td>
</tr>
<tr>
<td>Interaction model</td>
<td>Science and policy interact during each stage of the knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>production process</td>
<td></td>
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</tbody>
</table>

Table 2.6. Four models for interaction between science and policy.

These models assume an organizational separation of science and policy in accordance with the Two Communities metaphor.

A Typology for Interaction between Science and Policy

Figure 2.2. Four models of boundary work (based on Hoppe, 2005).

Use of road safety knowledge by policy makers

SWOV Fact sheet (2010)

In broad, the factors that influence knowledge use in decision-making processes can be divided into four groups:

(1) Form and nature of the knowledge/ Dissemination conditions

- the readable of the study, database/presentation, report, website, oral/written; abstract/concrete;
- if the knowledge can be used & implemented (specific & applicable);
- quality of the research (methodological reliability).

If knowledge is not used, then it is not the knowledge that is to blame; the knowledge is simply not distributed or explained properly to policy-makers.
(2) Context of the users/ The needs of users

- the user’s vision of the decision-making process;
- extent to which the research corresponds to the user’s needs;
- extent to which the research corresponds to the user’s opinion;
- the correct moment for the study to appear;
- relevance, usefulness and feasibility of implementing the knowledge;
- (informal) contacts with researchers;
- good reputation of the researchers in the user’s estimation;
- engagement of external evaluators to evaluate the knowledge, thereby increasing its reliability.
Use of road safety knowledge by policy makers

SWOV Fact sheet (2010)

(3) Nature of the problem/ Contextual factors

Structured problems, demand more instrumental knowledge; while unstructured problems require more conceptual knowledge.

Three factors determine the type of problem and thereby the use of knowledge:

– clarity concerning the aim of the solution to the problem (e.g. is it a routine problem?);

– how many actors are involved in the decision making process (complex environment));

– political consensus/disagreement regarding the problem.
Use of road safety knowledge by policy makers

SWOV Fact sheet (2010)

(4) Form of the decision-making process

Different types of problem lead to different (appropriate) types of decision-making processes. The most important factors that can affect knowledge use are:

– centrality of the decision making;

– number of actors involved in the decision making;

– political sensitivity of the decision making / presence of conflict;

– efforts to distribute knowledge during the decision-making process;

– engagement of intermediaries to distribute knowledge during the decision-making process.

These factors influence not only the amount of knowledge that is used, but also the way in which it is used.
Use of road safety knowledge by policy makers

SWOV Fact sheet

Involvement of stakeholders in policy processes and in scientific assessments is necessary to accomplish a more successful implementation of the policy.

For many policy problems, science is unable to deal with uncertainty or develop a complete and comprehensive description of the subjects involved. The use of local knowledge and the participation of members of the public (called 'citizen science' by Irwin, 1995) can be an extra input in the scientific research process.
Knowledge providers and knowledge users should remember to communicate clearly with each other about expectations, desires, possibilities and limitations of research. Topics for discussion between knowledge producers and knowledge users could include:

**Use of road safety knowledge by policy makers**

**SWOV Fact sheet**

Knowledge providers and knowledge users should remember to communicate clearly with each other about expectations, desires, possibilities and limitations of research. Topics for discussion between knowledge producers and knowledge users could include:

- The question that the research is supposed to answer;
- The way in which the results will be used and the appropriate forms of presentation;
- The deadline for availability of results and the consequences for decision making of any delay;
- Agreements on a form of quality control, especially if the principal cannot easily check the results for itself. In such cases one might, for example, call in an external expert or committee;
- The way in which the principal remains involved in the progress of an ongoing study so that course adjustments can be made if necessary.
Knowledge Intermediaries

Aim at communicating and translating knowledge to policy-makers. These are known as dissemination activities. The organizations do not directly aim at involving policy-makers in the different phases of the research process or vice versa, but at identifying applicable knowledge and translating it into a practical policy context.

KpVV (Transport Knowledge Resource Centre)
KEVER (Knowledge Infrastructure Road Safety)
CROW
VERDI (Ministerie van Verkeer en Waterstaat)

http://www.crow.nl/english
Knowledge Intermediaries

CCKM creates tools that make knowledge mobilisation easier and more effective by responding to the needs of users. The users are researchers who need protocols for bringing their findings to decision makers, and decision makers who need quick, convenient, and accurate reports of evidence. CCKM tools allow users to "drill up" or "drill down" on research evidence. For example, Research SPOTLIGHTS feature a sub-group of studies selected from a systematic Review of Evidence, whereas a Fact Sheet highlights the Review in just one page.

Strategies for Creating CCKM Tools

<table>
<thead>
<tr>
<th>purpose</th>
<th>harness evidence &amp; disseminate knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>process</td>
<td>optimize teamwork &amp; facilitate learning</td>
</tr>
<tr>
<td>customization</td>
<td>user informed &amp; user tested</td>
</tr>
<tr>
<td>clarity</td>
<td>transparent methods &amp; plain language</td>
</tr>
<tr>
<td>quality</td>
<td>reliable &amp; dispassionate investigations</td>
</tr>
<tr>
<td>utility</td>
<td>efficient &amp; multi-tiered complexity</td>
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</tbody>
</table>

Catalogues
Fact Sheets
Media
Research SPOTLIGHTS
Reviews of Evidence

NEW!

CCKM QUESTION SCANS
Get quick & reliable feasibility reports before you invest in systematic reviews for questions of policy and practice. Can research studies be found? How long will the review take? How much will it cost? Contact kbloom@cckm.ca

http://www.cckm.ca/tools.htm
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EUROPEAN UNION ROAD SAFETY POLICY (2003-2010)

Road safety action program (2003)

- 50% reduction of road fatalities by 2010
- A shared responsibility
- An integrated approach
Road safety action program (2003)

• A political commitment
• Individual responsibility of Member States
• Each Member State should strive to perform at least as well as the best-performing ones
• Monitoring and reporting

50% reduction of road fatalities by 2010
Road safety action program (2003)

A shared responsibility

- Numerous stakeholders
- Public: EU level + Central Governments + Local Authorities
- Private: Car industry + Transport companies …
- Everybody: all users!

Action by ALL stakeholders is needed
Road safety action program (2003)

An Integrated Approach

Domains of action

• User behavior
  - Campaigns
  - Enforcement
• Vehicle safety
• Road Infrastructure safety
• Observatory (incl. accident data)
• European Road Safety Charter
Road safety action program (2003)

Road Safety : EU instruments

Legislation

Best practice guidelines

Research and studies

Financial support to projects

Road accident data and information

The Road Safety Charter
Topics

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UN Decade of Actions on Road Safety 2011 - 2020

Together we can save millions of lives.

Target

The European Commission proposes to maintain the target of halving the overall number of road deaths in the EU between 2010 and 2020.

Once a common definition exists for ‘severe injuries’, the Commission will propose to add a common “injuries reduction target” to these European road safety policy orientations up to 2020.
Seven objectives have been identified for the EU Decade of Actions

**Objective n°1: Improve education and training of road users (especially young novice drivers)**

- *Pre-test learning*
  - accompanied driving
  - harmonized minimum requirements
- *The driving license test* - include broader driving skills:
  - evaluation of awareness of the risks
  - defensive driving skills
  - energy-efficient driving (eco-driving)
- *Post-license training* - focus on elderly drivers

**Objective n°2: Increase enforcement of road rules**

- *Cross-border exchange of information in the field of road safety*
- *Enforcement campaigns*: increasing information actions and awareness-raising
- *Vehicle technology to assist enforcement*: installation of speed limiters and alcohol interlock systems
- *National enforcement objectives*: setting national control objectives, to be integrated into ‘national enforcement plans.'
Seven objectives have been identified for the EU Decade of Actions (Cont.)

**Objective n°3: Safer road infrastructure**
Ways should be found for gradually extending the relevant principles of safe management of infrastructure to the secondary road Network.

**Objective n°4: Safer vehicles**
- Safety of motorcycles, did not receive any attention.
- Moreover, new safety problems will need to be addressed in the years to come to take into account the increasing part of vehicles using an alternative power train.
- Employment of new "co-operative systems".

**Objective n°5: Promote the use of modern technology to increase road safety**
- Evaluate the feasibility of retrofitting commercial vehicles and private cars with Advanced Driver Assistance Systems.
- Accelerate the deployment of e-Call and examine its extension to other vehicles.
Seven objectives have been identified for the EU Decade of Actions (Cont.)

Objective n°6: Improve emergency and post-injuries services

Initially, it would seek to find a common understanding of definitions and concepts relating to casualties and to identify courses of action to improve prevention and intervention, including their socio-economic impact.
Seven objectives have been identified for the EU Decade of Actions (Cont.)

Objective n°7: Protect vulnerable road users

- **Motorcyclists**
  - Improving awareness of PTW riders by other road users.
  - Encouraging research and technical developments aimed at increasing PTW's safety.
  - Encouraging focus enforcement on speed, drink and driving, helmet use, tampering and riding without a proper PTW license.

- **Pedestrians, Cyclists**
  Reduce injury risks (e.g. energy absorbing car-front structures, advanced braking systems, blind-spot mirrors, etc.). Further actions will need to be examined (e.g. improved visibility, speed management, adequate infrastructure, separation of dangerous mixed traffic, etc).

- **Vulnerable Road Users**
  Knowledge is still very limited in this field and focused research efforts are needed, including on medical criteria for the assessment of fitness-to-drive.
Motorcyclists

**Evolution of fatalities**

**EU**

![Graph showing the evolution of fatalities in EU (motorcycles vs all vehicles)](image)

*Source: CARE (EU road accidents database)*
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SUN Countries & Other Countries

Safe System Approach

Safe System Approach…..’a fundamental policy shift that is required both to consolidate the significant improvements in road safety in recent decades and to generate further gains in the future’.

In addition to recognizing the need for systems to accommodate human error and provide better management of crash forces, it emphasizes the need for ‘shared responsibility’ and for ‘aligning safety management decision making with broader societal decision making’, OECD (2008).
No one should be killed or seriously injured for life in road traffic.

The roads, streets and vehicles must be more adapted to human capacity and tolerance.

The responsibility for safety is shared between those who design and those who use the road transport system.

In 1998 the Swedish Parliament decided on the intermediate target of not more than 270 fatalities in 2007.
Sweden

Vision Zero is based on four principles:

(1) **Ethics of the human life;**
    
    …no one should be killed or seriously injured for life in road traffic.

(2) **Shared responsibility of authorities and road users;**
    
    …shifting a major share of the safety responsibility from road users to those who design the road transport system.

(3) **Safety from a human-centered approach;**
    
    …the importance of harmonizing the development and design of vehicles and road environments on the basis of human limitations.

(4) **Change by cooperation of all stakeholders.**
    
    …driving forces for change.
Sweden

The current Swedish interim target for fatalities is a 50% reduction between 2007 and 2020. A corresponding target for serious injuries is a 25% reduction.

Priority topics include:

- Speed compliance
- Sober drivers
- Fatigued drivers
- Seat-belt use
- Bicycle
- Valuation of road safety
- Helmet use
- Safe vehicles
- Safe roads
- Rescue
- Care and rehabilitation
Sweden

Figure 1. Number of fatalities 1996-2011. Previous target (2007) $N \leq 270$, new target (2020) $N \leq 220$.

(Source: Swedish Transport Agency, Swedish Transport Administration, Transport Analysis and Swedish National Road and Transport Research Institute (VTI))
United Kingdom

There are two separate road-safety strategies in the U.K. (Dacota, 2012):

**Strategic Framework for Road Safety for Great Britain.**
(since 2011)

**Road Safety Strategy to 2020 for Northern Ireland.**
(since 2010)
There are no road-safety targets in Great Britain.

Instead, the following forecasted scenarios are used:

(1) for 2020, Fatalities Scenario with no new measures resulting in a fatality reduction of 37%,

(2) for 2030, Fatalities Scenario with new measures resulting in a fatality reduction of 57% from 2020,

(3) for 2030, Key Safety Indicator Scenario with new measures resulting in a fatality reduction of 70% from 2020.

Northern Ireland has road-safety targets, including a fatality reduction of 60% for 2020 in comparison with the average for 2004 through 2008.
Great Britain’s current approach focuses on the following areas:

- Making it easier for drivers to do the right thing;
- Better education for children and novice drivers;
- Remedial education after mistakes and minor offences;
- Tougher enforcement for deliberate dangerous driving;
- Cost-benefit analyses, including assessment of impact on business;
- More local community decision making and information;
- An effort to make better tools for road-safety professionals.
Northern Ireland has defined the following challenges:

- Improving safety on rural roads;
- Protecting young drivers and motorcyclists;
- Reducing inappropriate road-user behavior;
- Increasing knowledge about road-safety problems.
Netherlands

**Sustainable safety** recognizes that **90% of road accidents** are attributable to **human error**.

Consequently, the **human is the weakest link** in the traffic and transport chain.

In summary, a sustainable safe traffic system comprises:

1. **A road environment** with an **infrastructure adapted to the limitations of the road user**;

2. **Vehicles equipped with technology** to simplify the driving task and provided with features that protect vulnerable and other road users;

3. **Road users that are well informed** and adequately educated.
Sustainable safety distinguishes three categories of road:

- Roads with a *through* function;
- Roads with a *distributor* function;
- Roads with an *access* function.

All road categories should comply with the following *three safety principles*:

- **Functionality** (preventing unintended use of the infrastructure);
- **Homogeneity** (preventing major variations in the speed, direction, and mass of vehicles at moderate and high driving speeds);
- **Predictability** (preventing uncertainty among road users).
The updated version of the Sustainable Safety vision includes five principles:

1. **Functionality** of roads
2. **Homogeneity** of masses and/or speed and direction
3. **Predictability** of road course and road-user behavior by a recognizable road design
4. **Forgiveness of the environment** and of road users
5. **State of awareness** by the road users.
The Netherlands has not achieved the European target of having halved the number of fatalities in 2010, relative to 2001 (reduction was 41%).

Figure 2. Registered number and real number of road fatalities in the period 1999-2010. Sources: Statistics Netherlands/Ministry of Infrastructure and the Environment
Expenditure of the Ministry of Transport, in € 10,000

Traffic fatalities, registered numbers 1900-1995, real numbers 1996-2010

II World War
**Netherlands**

The current road-safety targets for 2020 include a maximum of **580 fatalities and 10,600 serious injuries**.

Priority topics include (Dacota, 2012):

- The general/overall approach (integral approach, cooperation, and Sustainable Safety)
- Speeding
- Vulnerable road users
- Alcohol and drugs
- Novice drivers
- 50 and 80 km/h roads
- Mopeds and motorcycles
- Vans and trucks
- Impaired driving
- Single-vehicle crashes
From 2006 to 2010 the number of seriously road casualties increased, although the number of road fatalities showed a decrease during the same period.

Forcing back the number of serious road injuries is therefore the new road safety challenge.
Fig. 4: Percentage change in road deaths between 2001 and 2011

Source: 6th Road Safety PIN Report
What is TZD?

- A national strategy to bring all highway safety stakeholders together;
- Use data to identify national priorities;
- Encourage an aggressive approached based on the ideas that no death is acceptable and that highway fatalities can be eliminated.

About 30 states so far with a declared goal of zero fatalities or TZD vision – and growing.

http://safety.fhwa.dot.gov/tzd/
The end result of the National Strategy will have two key parts:

(1) a national safety plan and an associated outreach program;
(2) a process for implementing the plan.

**United States**

**Toward Zero Death (TZD)**

The effort will also focus on developing strong leadership and champions in the organizations that can directly impact highway safety through:

<table>
<thead>
<tr>
<th>Engineering</th>
<th>Education</th>
<th>Policy</th>
<th>Communications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement</td>
<td>Emergency medical service (EMS)</td>
<td>Public health</td>
<td>Other efforts</td>
</tr>
</tbody>
</table>

http://zerofatalities.com/
United States

*Toward Zero Death (TZD)*

**The National Strategy**

- Strategy for the next 25 years;
- Vision: Toward Zero Deaths;
- Interim Goal: Halving Fatalities by 2030;
- The TZD Framework is the U.S. contribution to the Decade of Action;
- New areas: SAFETY CULTURE, TECHNOLOGY, PUBLIC HEALTH;
United States

Based on the current strategies and initiatives (OECD/ITF, 2012), the U.S. Department of Transportation (USDOT) focuses on the most detrimental road-safety issues, such as:

- **Alcohol-impaired driving fatalities** (32% of traffic fatalities; WHO, 2009),

- **Motorcycle fatalities** (14% of traffic fatalities; OECD/ITF, 2012).

In addition, the fatality-rate goal for 2012 is 1.05 fatalities per 100 million vehicle-miles (as compared to the actual rate for 2010 of 1.10).
There are four fatality sub-measures concerning passenger vehicles, non-occupants, motorcycle riders, and large truck/bus-related fatalities (OECD/ITF, 2012).

“The new approach raises the four fatality sub-measures from agency-specific goals to departmental metrics to highlight the overall commitment by USDOT and the three surface transport agencies (NHTSA, FHWA, and FMCSA) that directly support the respective sub-measures and the overall fatality rate goal” (OECD/ITF, 2012, p. 329).
Australia

National Road Safety Strategy 2001-2010

Figure 4: Australian road fatality rate per 100,000 population, 2000 to 2010

- Actual reduction to Dec 2010 = 34%
- NRSS Target
- Target reduction to Dec 2010 = 40%
- Dec 2010 rate = 6.1
- Target of 40% was not reached.

Note: based on a moving 12-month calculation
Australia

National Road Safety Strategy 2011-2020

Released on 20 May 2011 by the Australian Transport Council (ATC).

Strategy:

The strategy aims to set out a path for national action on reducing fatal and serious injury crashes on Australian roads.

The strategy coincides with the International Decade of Action for Road Safety.

The strategy is firmly based on Safe System Approach and is framed by the guiding vision that no person should be killed or seriously injured on Australia’s roads.
Australia

National Road Safety Strategy 2011-2020

Targets:

As a step towards this long-term vision, the strategy presents a 10-year plan to reduce the annual numbers of both deaths and serious injuries on Australian roads by at least 30%.

In 2014 there will be the first of two reviews of the strategy, including assessment of the progress we are making in delivering the strategy’s initiatives.
The European Road Safety Charter is much more than a policy document. It is an invitation to undertake:

1. concrete actions;
2. assess results;
3. further promote the need to reduce road fatalities.
Topics

- Public Policy – Introduction
- Knowledge Use in Road Safety Policy
- EU Road Safety Policy 2003 – 2010
- UN Decade of Actions on Road Safety 2011- 2020
- SUN Countries & Others
- Global Status Report on Road Safety 2013
- Israel National Road Safety Plan 2020
GLOBAL STATUS REPORT ON ROAD SAFETY 2013
Conclusions and Recommendations

- The pace of legislative change is too slow:
  - speeding;
  - drink–driving;
  - motorcycle helmets’ use;
  - seat-belts’ use;
  - child restraints.

- Enforcement of strong road safety laws is essential for success;

- Reducing road traffic deaths requires more consideration of the needs of pedestrians, cyclists, and motorcyclists.

- Making road infrastructure safer;

- Intensifying work to improve the proportion of vehicle fleets that meet international crash testing standards;

- Improving post-crash care.
Topics

- Public Policy – Introduction
- Knowledge Use in Road Safety Policy
- EU Road Safety Policy 2003 – 2010
- UN Decade of Actions on Road Safety 2011- 2020
- SUN Countries & Others
- Global Status Report on Road Safety 2013
  - Israel National Road Safety Plan 2020
Implementing Israel’s national road safety policy is predicated on four key conditions:

- The firm commitment of the government and the Knesset to the policy;
- Establishing a strong and independent organization with the responsibility and powers to promote the issue of road safety from a multisystem perspective and to formulate a national road safety plan;
- Allocating a dedicated and permanent budget to enable multiyear implementation of the plan;
- Commitment to the plan and its goals on the part of the strategic partners.
Israel Road Safety Policy

On July 17, 2005, the Government of Israel decided (Decision No. 3917) to adopt and approve the principles of the Committee for the Preparation of a National Multiyear Road Safety Plan report (“the Sheinin report”).

The recommendations of the Sheinin report were based on the economic feasibility of investing in road safety and focused on four aspects:

- Goals
- Responsibility
- Independence
- Financial sources.
Israel Road Safety Policy

National Road Safety Plan 2020

Goals

As adopted by the Government of Israel in 2005, the goal is:

(1) to reach a level of road safety on par with the leading road safety countries, within ten years.

(2) In other words, a reduction in the number of traffic fatalities to less than 360 fatalities per year by 2010, and less than 300 fatalities per year by 2015.

The National Road Safety Authority recommends setting a target of no more than 270 fatalities per year by the year 2020.
Israel Road Safety Policy

National Road Safety Plan 2020

Goals

(3) Slowing the rate of increase in kilometers traveled, so that in year 2015 the kilometers travelled will be higher by only 30% compared to year 2004, while motor vehicles would increase by 46%.

(4) Reduction of more than two billion New Israeli Shekels annually in direct damages from accidents) by the year 2010.
Israel Road Safety Policy

To achieve the goals set in the plan, several preliminary steps need to be taken in the immediate term:

- **Strengthening the independence of the National Road Safety Authority** and consolidating its authority as the leading road safety agency in Israel.

- **Allocating a dedicated and permanent multiyear budget** to meet the requirements for implementing the program, at a minimum of NIS 550 million per year.

- **Approval and adoption of the plan by the Government of Israel.**

- **Full commitment of the bodies involved in road safety to the plan, its implementation and its incorporation in the multiannual and annual work plans of those bodies**
Israel Road Safety Policy

Action Plan

The action plan focuses on five major areas:

A. At risk populations
B. Road behavior
C. Infrastructure
D. Advanced road safety technology
E. Safety management
Israel Road Safety Policy

Action Plan

A. At risk populations:

- **Pedestrians**
  - Creating a safe environment for pedestrians in urban areas;
  - Raising awareness and changing behavior patterns;

- **Motorcycle and moped riders**
  - Adaptation of roads for motorcycle and moped riders;
  - Instilling safety-conscious behavior among motorcycle and moped riders and increasing awareness among drivers;

- **Children & Elderly**
  - Creating a safe environment for children;

- **Young drivers**
  - Improving driving skills and instilling a positive attitude towards safe driving.
Israel Road Safety Policy

Action Plan

B. Road behavior

- **Use of restraints in vehicles – seatbelts and child safety seats**
  - Increasing awareness of the importance of using restraints;
  - Inculcation of the correct use of child safety seats;

- **Alcohol and driving**
  - Increasing awareness of the dangers of driving while under the influence of alcohol;
  - Establishing alcohol testing procedures and raising the number of random tests;

- **Driving speed on urban and nonurban roads**
  - Changing behavior patterns with respect to driving above the speed limit;
  - Planning the road system so as to reduce the driving speed by means of infrastructure.
Israel Road Safety Policy

Action Plan

B. Road behavior

- **Distraction and fatigue**
  - Raising awareness of the danger of using a mobile phone even with a speaker;
  - Raising awareness of the danger of driving while tired;

- **Use of helmets among bicycle riders**
  - Raising awareness of the importance of using bicycle helmets.
Israel Road Safety Policy
Action Plan

C. Infrastructure

- **Infrastructure in the urban and nonurban road system**
  - **Infrastructure** – Completing the mapping of road safety conditions on urban and nonurban roads by the end of 2015. Dealing with danger spots on the urban road network, in parallel with the mapping process.
  - Implementing the European Road Assessment Programme (EuroRAP) for risk mapping of all of Israel’s nonurban roads.
  - On completion of the mapping, a realistic goal will be set for upgrading the infrastructure and adapting it to the EuroRAP standards by 2020.
- **Speed** – Adoption and implementation of the Ministry of Transport guidelines of July 2010 for setting speed limits on roads.
D. Advanced Road Safety Technologies

- Assimilation of advanced technologies in vehicles and in infrastructure
  - Goal for 2015:
    Sixty percent of all vehicles imported to Israel to be tested by Euro NCAP and to have at least 4 safety stars.
  - Goal for 2020:
    80% of all vehicles imported to Israel to be tested by Euro NCAP and to have at least 4 safety stars.
The NRSA plans to carry out studies on Israel’s road system, with the aim of establishing suitable frameworks for the development and implementation of comprehensive and effective safety programs, as detailed below:

- Coordination between central regional authorities and local authorities and allocation of tasks between them;
- Allowing local authorities independence in developing road safety initiatives, under the supervision of the NRSA;
- Cooperation between interested parties in activity for the safe use of transportation systems;
- Increasing cooperation between government authorities;
Israel Road Safety Policy

Action Plan

E. Safety Management

- Cooperation, division of responsibility and authority among government agencies
  - Generating media interest in the subject of road safety by organizations demanding an improvement in the field;
  - Increasing the involvement of the population in improving road safety;
  - Training professionals in the field of road safety;
  - Holding courses for transportation and traffic experts.