



WELCOME

CAST WORKSHOP WARSAW 30 MAY 2008
/ STOCKHOLM 13 JUNE 2008

Project funded by the European Commission, Directorate-General Energy & Transport, under the 6th RTD Framework Programme 

The CAST project (2006-2009)

- CAST: Campaigns and Awareness-raising Strategies in Traffic safety
- 19 partners in the consortium (leader: IBSR/BIVV, BE)
- 15 participating countries: BE, CH, CZ, DK, DE, EL, FR, IT, NL, NO, AT, PL, PT, SI, SE
- Start: 1 February 2006
- End: 31 January 2009

Why CAST?

- Road safety campaigns are recognised as a way of influencing knowledge, attitudes and beliefs of road users; thereby have an impact on the behaviour.
- But: how effective are the campaigns???

 - Only in some countries, the campaigns are (systematically) evaluated
 - A road safety campaign is most of the time a part of an integrated campaign (e.g. stronger enforcement, education)
 - How to isolate the impact of various inputs (enforcement, new legislation, etc.)?

CAST objectives

- To develop and assess both a **manual** and an **evaluation tool** for (effective) road safety campaigns
 - **manual** - clear guidelines for the design and implementation
 - **evaluation tool** – a thorough assessment of the effects of road safety campaigns

CAST organisation

Intermediate steps:

- description of theories of behaviour and the effects of campaigns;
- development of a general and theoretically based model for road safety campaigns;
- construction of a tool for reporting effects in a standardised way;
- assessment of the quality of the evaluation tool by application on a real campaign;
- conducting a European road safety campaign;
- organising workshops for discussion of the project's interim results
- ...

Expected impact

CAST will

- encourage the proper design and evaluation of road safety campaigns in all EU countries
- provide practical tools (freely and openly available) for the benefit of all stakeholders of the road transport system
- provide major contributions to the standards and policies of the EU
- directly support the road safety policy on the European, national and local levels

and finally,

- **contribute to increasing the effectiveness of road safety campaigns**

more information about CAST

www.cast-eu.org



CAST Workshops
 Warsaw (30th May 2008)
 Stockholm (13th June 2008)

Road Safety: the European Union policy
 Jean-Paul Repussard
 European Commission
 Directorate General Energy & Transport,
 "Road Safety" Unit

Project funded by the European Commission, Directorate-General Energy & Transport, under the 6th RTD Framework Programme

The EU road safety policy

- White Paper on Transport (2001)
- European Road Safety Action Programme (2003)
 - *Halving the number of victims by 2010*
 - *A shared responsibility*




The "-50%" objective

- A political & global commitment
- Individual responsibility of Member States
- Each Member State should strive to perform at least as well as the best-performing ones

"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

The EU level acts wherever it provides an added value

"An integrated approach"

- User behaviour
 - Campaigns
 - Enforcement
 - Education
 - Driving licences
- Vehicle safety
 - Passive and active safety
 - Technical inspection
- Road Infrastructure safety
- European Road Safety Charter
- Observatory (incl. accident data)

The EU instruments

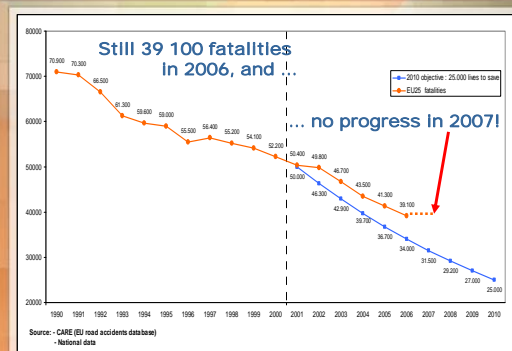
- Road accident data and information
- Financial support to projects
- Research and studies
- Best practice guidelines
- Legislation (only when necessary)
- The Road Safety Charter

Main causes of road fatalities

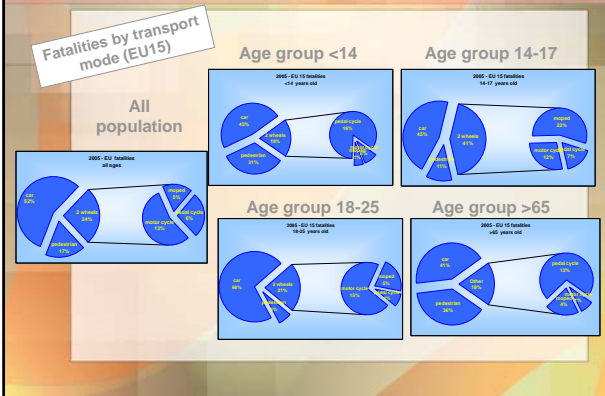
- Excessive speed
- Alcohol
- Non wearing of seat belt

Improving road safety is first and foremost a matter of users' behaviour!

Fatalities – evolution 1990-2010



Each age group has a distinctive pattern



Some topics...

1. Infrastructure
2. Enforcement
3. Professional driving
4. Vehicle safety
5. Driving licence
6. Alcohol, drugs & medicines
7. the Charter
8. Road Safety day
9. Best practices
10. Campaigns

2. Enforcement of road safety rules (I)

Basic facts

- A top priority for almost immediate results
- Enforcement varies considerably between Member States
- Traffic offences by non residents (a significant proportion of offences in many Countries) are rarely sanctioned, as appropriate, legal and technical instruments are lacking

2. Enforcement of road safety rules (II)

Step 1: Commission recommendation (2003)

- Best practices for enforcement of speeding, drink driving and non-use of seat belts

Step 2: Directive on cross border enforcement (proposal adopted on 19 March 2008)

- Type of offences : speeding, drink-driving, non-use of seat belts, "burning" a red traffic light
- Information exchange
- Notification of offences

9. Best / Good / Promising practices



Summary and publication of best practices in road safety in the Member States (+ Norway & Switzerland)

Methodology
List of measures collected and analysed
Handbook for measures at the Country level
Handbook for measures at the European level
Review of the implementation at the Country level
Thematic reports

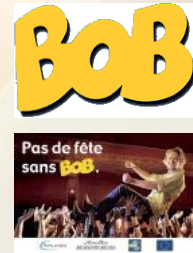
Campaigns

Driver education training licensing
Rehabilitation and diagnostics
Vehicles
Infrastructure
Enforcement
Statistics and in-depth analysis
Institutional organisation
Post accident care

http://ec.europa.eu/transport/roadsafety/publications/projectfiles/supreme_en.htm

10. Some EU-wide Road Safety Campaigns

First of all at EU level:
the "Euro-BOB" campaign
(no longer EU-granted,
must become sustainable)



Campaigns...

EUCHIRES



Child restraint systems (age group 4-12)

Operation: Jan. 2007 – June 2008

12 Countries (BE, CZ, DE, ES, FR, IT, LV, NL, AT, PL, PT, SI)

Campaigns...

4th European Red Cross Road Safety Campaign



www.1-life.info/

Target groups: children 7-11, multipliers, parents, teachers, youth workers, Red Cross volunteers and organisations

Operation: Mar. 2007 – June 2008

Participation: 20 Red Cross "national societies"

Campaigns...

"Choose ESC" by FIA Foundation



www.chooseesc.eu/

Bringing eSafety to the market through awareness

Focus on Electronic Stability Control (ESC)

Operation Mar. 2007 - Mar. 2008

Renewed until Mar. 2009

Demo, seminars, video, brochure, press releases, etc.

Partners in DE, EL, ES, IT, NL, NO, AT, FI, SE, UK, ...

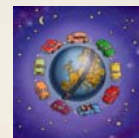
Campaigns...

European Night without Accident

Operation: 3rd Saturday of October
2007, 2008 & 2009

Growing number of countries: 15
(2007), ..., 25 (2009)

Young people go to discotheques to
increase awareness on drink / drugs
driving



Campaigns...

Helmet wearing (not EU granted)
by ACEM (Eur. Assoc. of PTW
industries)

pilot operation May - Sept. 2007
evaluation Sept. - Nov. 2007
ES (some cities), IT (Sicily), NL

*but ... no wider 2008 campaign;
instead: eSUM (next slide)*



[Campaigns...]

e-SUM (European Safer Urban
Motorcycling)

Operation: June 2008 - Dec. 2011 (grant agreement
to be signed soon)

Joint initiative of the motorcycle industry and the
cities of Barcelona (co-ordinator), London, Paris and
Rome

Aims at studying and developing measures (best
practices) which are designed to deliver safer
motorcycling in urban areas.

And also: the UN posters



And also... (not campaigns, but ...)

Information of
consumers
(stimulating demand
for safer cars)



(in discussion):
towards a labelling
scheme for tyres -
rolling resistance,
noise & **grip**



Information on all EU-funded projects

<http://ec.europa.eu/transport/roadsafety/publications/projectfiles/alpha.html>

Acronym	Title
ADVISORS	Action for advanced Driver assistance and Vehicle control systems implementation, standardisation, optimum use of the Road network and Safety
ALCLOCK	Alcohol implementation in the European Union, an in-depth qualitative field trial
APRODYS	Advanced Protection Systems
APSN	Advanced Passive Safety Network
ARTHEMIS	Assessment and Reliability of Transport Emission Models and Inventory Systems
ASTERIX	Assessing The European Road Safety Problem - an epidemiological study of the CAPS Database
AUTOFONE	Study on the Future Options for Roadworthiness Enforcement in the European Union
CAPTIVE	Common Application of Traffic Violations Enforcement
CAST	Campaign and Awareness-raising Strategies in Traffic Safety
CHILD	Child Injury Load Design

Conclusion

- Globally, the EU was almost on track towards road safety (until 2006...), but not all Countries
- Lack of progress in 2007 shows that success is never guaranteed
- Political willingness (highest possible level) and users' awareness are necessary
- Integrated approach & shared responsibility:
 - Good co-operation of various Gov' Dep^{ts} (Justice, Transport, Police, Health) is necessary
 - More commitment from the "civil society" (Charter...)

Reference documents



White Paper on Transport 2001



Mid term review of the White Paper on Transport 2006



Road Safety Action Programme 2003



Mid term review of the Road Safety Action Programme 2006

Thank you for your attention!

Influencing and changing driver behaviour

Presentation and discussion of theories and models
 Sonja Forward & Peter Loukopoulos

Project funded by the European Commission, Directorate-General Energy & Transport, under the 6th RTD Framework Programme





Theoretical models – definition, uses

- Theoretical model:
 - Captures important variables
 - Provides structure to describe interrelationships
 - Descriptive and/or explanatory
- Key advantages:
 - Testable (permitting improvement of proposed relationships)
 - Useful as a guide (e.g., to other researchers, to practitioners)

Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norms

Control beliefs
 What an individual believes is the outcome of a potential behaviour
 EG:
 "Driving at 130 km/h is pleasant"
 1 – 2 – 3 – 4 – 5 – 6 – 7
 Strongly agree Strongly disagree

Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norms

Normative beliefs
 What an individual believes others think of a potential behaviour
 EG:
 "What would your family think of you driving at 130 km/hr on a motorway?"
 1 – 2 – 3 – 4 – 5 – 6 – 7
 Strongly agree Strongly disagree

Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norms

Control beliefs
 How much control an individual believes s/he has in performing a potential behaviour
 EG:
 "Driving at 130 km/hr on a motorway is difficult to resist"
 1 – 2 – 3 – 4 – 5 – 6 – 7
 Strongly agree Strongly disagree

Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norms

Perceived threat
 The perception the individual has of the personal impact of a behaviour
 EG:
 "If I drive at 130 km/hr then the risk of being fined is ..."
 1 – 2 – 3 – 4 – 5 – 6 – 7
 V. little V. large

Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norm

The individual's likelihood of performing a given behaviour

EG:
 "Do you believe you will drive at 130 km/hr on a motorway in the coming 3 weeks?"

1 - 2 - 3 - 4 - 5 - 6 - 7
 No, not at all Yes, definitely

Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norm

The extent to which a given behaviour is performed by an individual with little recourse to planning/thinking

EG:
 "Driving at 130 km/hr on a motorway is something I do without really thinking about it?"

1 - 2 - 3 - 4 - 5 - 6 - 7
 No, not at all Yes, definitely

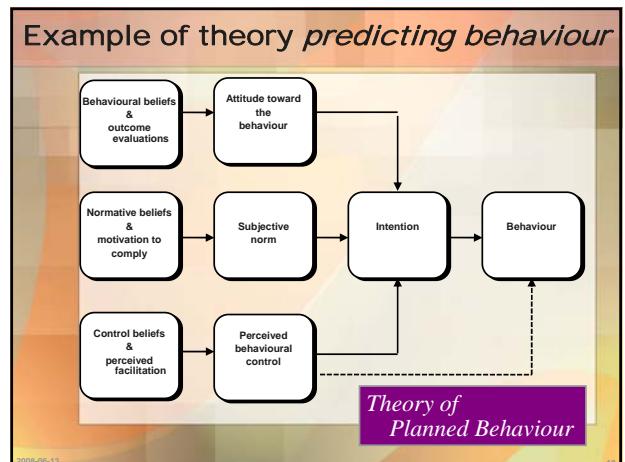
Examples of key variables in predicting behaviour

- Behavioural beliefs
- Normative beliefs
- Control beliefs
- Perceived threat
- Intention
- Habit
- Descriptive norm

The individual's beliefs with respect to what other people do

EG:
 "How often do your closest friends drive at 130 km/hr on a motorway?"

1 - 2 - 3 - 4 - 5 - 6 - 7
 Not at all Very often



Implications – Theory of Planned Behaviour

- Intention influences performance of behaviour (when behaviour is volitional)
 - Campaigns can target intention via attitudes, subjective norms, perceived behavioural control, descriptive norms
- Ideally should coordinate campaigns so that more than just one factor is addressed
 - Not uncommon for people to behave in a way inconsistent with attitudes if norms suggest a certain type of behaviour is acceptable
- BUT the question as to **HOW** to communicate message to influence these factors influencing behaviour is unanswered – need to examine theories of persuasion

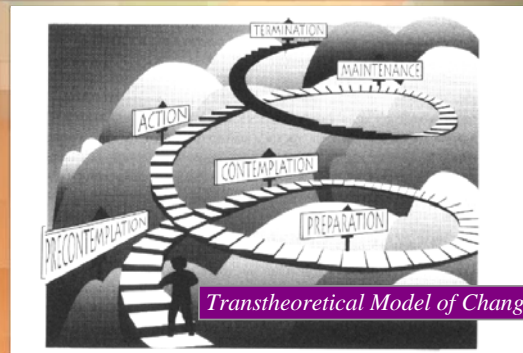
Example of theories predicting change/persuasion

- Elaboration Likelihood Model
- The Heuristic-Systematic Model
- The Associative-Propositional Evaluation Model
- The Protection Motivation Model

Implications – Elaboration-Likelihood Model

- Central vs. Peripheral route; High vs. Low elaboration
 - motivation, ability, cue type
- Examples of cues
 - message source, attractiveness, argument quality
- BUT cues should not be deterministically chosen
 - consider target group, behaviour etc.

Example of theory explaining *change process*



Transtheoretical Model of Change

Implications – Transtheoretical Model of Change

- Message needs to be tailored to appropriate stage
 - cf. pre-contemplation vs. action
- Ultimate goal is to encourage the termination of a previous behaviour and encourage performance of a new one
- Need to encourage dissonance so that people no longer believe a behaviour they currently perform is functional

Three key questions

- Whose behaviour are we trying to predict and understand?
- Who are we trying to persuade to change their behaviour?
- Whose change process are we trying to assist and influence?

Summary & take-home message

- Importance of using theories:
 - Guiding and directing campaign design
 - Provides motivation and justification for selection of certain methods/messages/targets etc. above others
 - Potential to wisely use limited funds
- However, theories need to be applied with thought and consideration – they are not simply “recipes” for whipping up a campaign:
 - Which behaviour are we trying to influence? Causes and influences?
 - Whose behaviour are we trying to influence? How do we best communicate our message?
 - How do we best support people along the change process?

THANK YOU



Road Safety Campaigns: an overview of the current situation

Project funded by the European Commission, Directorate-General Energy & Transport, under the 6th RTD Framework Programme



Summary presentation

1. Introduction
 - a. background
 - b. problem description
 - c. objectives
2. Working method
 - a. database
 - b. data collection
 - c. data analysis
3. Results
4. Conclusions

1a. Introduction - background

Effort to improve road safety with the aid of campaigns

↓

Evaluation is essential to demonstrate the success or failure of a campaign

↓

Investigation on how road safety campaigns in Europe and beyond have been implemented and evaluated so far.

1b. Introduction – problem description

Effective campaign?
= Achievement of goals/objectives that have been set in advance

But:

- Only in some countries, the campaigns are (systematically) evaluated
- A road safety campaign is most of the time a part of an integrated campaign (e.g. stronger enforcement, education)
 - How to isolate the impact of various inputs (enforcement, legislation, etc.)?

Although:

- Information about what is working, how best to design and implement future campaigns to achieve desired outcomes

1c. Introduction - objectives

An inventory of road safety campaigns and the applied evaluation methodologies

↓

strengths and weaknesses of the current road safety campaigns and their evaluation reports

identification of relevant attributes of road safety campaigns that have significant implications for evaluation

→ Evaluation tool with guidelines on how to evaluate a single campaign

2a. Working method - database

Digital questionnaire

- standardised description/classification of information
- framework of basic principles for implementation, design and evaluation of a particular road safety campaign
- summary of all relevant information each evaluation report should cover

2a. Working method – database

- **First section: how are campaigns generally organised?**
 - Organisers, scope, duration, slogan, theme, target group, objectives, media channels, pre-testing, accompanying activities...

The screenshot shows a web browser window with a URL starting with 'http://brwvweb.gov.be/CatForm/default.asp'. The form contains several sections:

- Organisers:** Radio buttons for 'Police' and 'Other social and civil organisation', each followed by a text input field for 'Name'.
- Scope of the campaign:** Radio buttons for 'National', 'Regional', 'County', 'Provincial', and 'Local'.
- Timing - duration:** Fields for 'Start' and 'End' with dropdown menus for 'Day', 'Month', and 'Year'.
- Strategy:** A checkbox for 'Is the campaign part of a long-term strategy?' with 'Yes' and 'No' options.
- More info:** A text input field.
- Slogans:** Text input fields for 'Original slogan' and 'English translation of the slogan'.
- Theme:** A table with columns for a theme name and a checkbox:

Speed	Highways	<input type="checkbox"/>
	Cities / Towns	<input type="checkbox"/>
	Country Roads	<input type="checkbox"/>
	All Roads	<input type="checkbox"/>
Safety Distance		<input type="checkbox"/>
Seat belt use	Front seat passengers	<input type="checkbox"/>

2a. Working method – database

- **First section: how are campaigns generally organised?**
 - Organisers, scope, duration, slogan, theme, target group, objectives, media channels, pre-testing, accompanying activities...
- **Second section: summative evaluation of the campaign**
 - Research design, data collection techniques, what has been measured and evaluated, cost-benefit analysis...

The screenshot shows a web browser window with a URL starting with 'http://brwvweb.gov.be/CatForm/default.asp'. The form contains several sections:

- Timing:** Radio buttons for 'Before - during - after' and a text input field for 'Longitudinal study'.
- Other:** A text input field.
- Methods of data collection for the evaluation:** A table with columns for the method and 'Number of respondents':

Questionnaires	Post	<input type="checkbox"/>	
	Internet	<input type="checkbox"/>	
	Telephone	<input type="checkbox"/>	
	Face to face	<input type="checkbox"/>	
Interviews	In-depth	<input type="checkbox"/>	
	Focus group	<input type="checkbox"/>	
Observational study		<input type="checkbox"/>	Used Method
Crash or casualty statistics		<input type="checkbox"/>	Source
Other		<input type="checkbox"/>	
- Evaluation indicators (variables):** A table with columns for the indicator and a checkbox:

Impact	Reach	<input type="checkbox"/>
	Recognition and recall	<input type="checkbox"/>
	Spontaneous recall	<input type="checkbox"/>
	Aided recall	<input type="checkbox"/>
	Appreciation campaign	<input type="checkbox"/>
	Message takeout	<input type="checkbox"/>
Knowledge		<input type="checkbox"/>
Awareness		<input type="checkbox"/>
Attitude		<input type="checkbox"/>
Intended behaviour		<input type="checkbox"/>

2b. Working method - data collection

As many as possible evaluated road safety campaigns

- CAST countries
- other EU countries
- through library - outside Europe

Inclusion criteria for evaluation report:

- available info about cost-benefit or cost-effectiveness of the campaign;
- different evaluation methodologies;
- different themes;
- and different target groups.

➔ **result: 74 reports in database**

2c. Working method - data analysis

- **Sample**
- **Analysis**
 - No meta-analysis
 - Descriptive analysis of the important aspects of the campaign design and implementation
 - Investigation of the interrelationship between certain campaign characteristics e.g. is there a relationship between the research design and the data collection techniques

3. Results: Typology of the collected campaigns

The majority of the campaigns:

- are national campaigns lasting up to one month
- cover general themes as speeding, seat belt use and intoxicated driving
- focus on car drivers, mostly adults and drivers of all ages
- want to change behaviour
- use frequently media channels such as television, radio advertising, billboards, free press and internet
- describe their message appeal as informative, emotional and confronting

3. Results: Applied evaluation methodologies

Most of the collected campaigns are evaluated by means of :

- single-group evaluation designs either with one or multiple measurements
- Self-reported or observational data
- Impact and effectiveness evaluation

4. Conclusions

Strengths current road safety campaigns

- part of a long term strategy
- cover one single theme of road safety
- focus on one single target group
- positive approach of the message
- combine different media channels to reach the target group
- supported by accompanying activities mostly by enforcement

4. Conclusions

Weaknesses current road safety campaigns

- lack of a profound situational analysis of the problem before implementing a campaign
- are mostly based upon crash and casualty data
- pre-testing of the message and media plan is rare
- control group designs are rarely used when evaluating the campaigns

4. Conclusions

Strengths current evaluation reports:

- Theme, approach, used media channels, accompanying activities are mentioned
- Detailed description of the target group
- Most campaigns are evaluated in terms of both the impact and the effectiveness (measurement) variables

4. Conclusions

Weaknesses current evaluation reports:

- exact running period / duration of the campaign is missing
- objectives are not clearly defined
- objectives are not always clearly separated between the 5 main groups (knowledge, awareness, attitude, behaviour, and accident rate).
- media production costs and evaluation costs are hardly known
- information about the accompanying activities in case of an integrated campaign is often missing
- measurement variables are often not consistent with the pre-set objectives
- cost-benefit and/or cost-effectiveness analyses are seldom implemented

4. Conclusions

REACTION

- Evaluation tool
- Reporting tool

→ When designing a campaign

- think about evaluation!

→ When evaluating

- consider attributes that influence the choice of the evaluation methodology
- each campaign consists out of a unique combination of attributes
- each attribute will have its particular implication for evaluation

4. Conclusions

Important attributes

- **Scope**
 - scale on which to measure effectiveness
 - Implications for e.g. research design
- **Theme**
 - Influence evaluation questions but objectives are far more determinative
- **Target group**
 - Clear specification
 - Implication for choice research design
- **Objectives**
 - Clearly defined objectives can be seen as criteria for campaign's success or failure
 - Implications for data collection techniques / measurement variables

4. Conclusions

• Message appeal

- Important factor to clarify success/failure, but not crucial from the evaluation

• Media coverage

- Choice depends on the objectives and the target group
- Influences the evaluation questions and choice of measurement variables

• Accompanying activities

- Issues about how to isolate the effects of the media campaign

• A-priori knowledge

- Can be used a before measurement

toi

CAST – Campaigns and Awareness-raising Strategies in Traffic safety:

Do campaigns work?

Effects of campaigns on behaviour and accidents

Results from meta-analyses

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toi The "religious" positions:

- YES! Campaigns do work !**
- NO! Campaigns don't work !**
- There is a "middle position" – the rationale we have followed:**
- Campaigns do work, but we do not know the factors and the contexts in which campaigns have effects on behaviour and accidents**

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toi Which are the significant factors/contexts ?

- Theme: Drink driving, speeding, seat belts, fatigue....**
- Scale: Local, Regional, National ?**
- Target group: Young (men?), professional, all drivers**
- Length: Days, weeks, months, years?**
- Media: TV, radio, newspapers, billboards, personal**
- Mass media only ?**
- Accompanying measures: Enforcement ?**

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toi History and background:

- EU-project GADGET 1997-1999: Some campaigns do have effect on accidents ("simple analyses")**
- Norwegian project INFOEFFEKT 2000-2004: Effects on behaviour and accidents: Key factors explaining why campaigns work: 30 studies - 86 results**
- EU-project CAST 2006-2009: Collecting all evaluation studies – extending the knowledge: 221 studies - 433 results**
- More sophisticated analyses.....**

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Outcome measure	campaign effects	observed	self-reported
seatbelt use	133	119	14
accidents	115	114	1
attitudes	39	0	39
speeding	28	21	7
Subjective perception of risk	24	0	24
drink-driving	23	4	19
recall	23	0	23
knowledge	17	0	17
driver behaviour towards pedestrian	13	11	2
cycle helmet use	4	4	0
intervention behaviour	4	0	4
intention to behave	4	0	4
red light running	2	2	0
reflector use	1	1	0
booster cushion use	1	0	1
estimation that others speed	1	0	1
conservation behaviour	1	0	1
total	433	276	157

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Table 6.3. Number of results according to decade of study publication

Decade	Results
1960s	4
1970s	9
1980s	213
1990s	137
2000s	70
total	433

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toi Table 6.4. Number of effects according to publication source

Source	Effects
refereed scientific article	161
institute report	156
unpublished	34
government report	33
conference paper	24
not specified	9
company report	7
popular journal article	3
safety association report	3
dissertation	1
EU report	1
trade journal article	1
total	433

toi Table 6.7. Number of effects derived from each country carrying out road safety campaigns

Country	Effects
USA	175
Australia	82
Sweden	70
Canada	23
Netherlands	18
Norway	15
Denmark	13
Austria	9
Czech Republic	7
UK	7
Germany	5
New Zealand	4
multinational	3
Portugal	1
Japan	1
total	433

toi Table 6.8. Number of effects according to scale of associated campaign

Scale	Effects
local	178
regional	166
national	67
mixed	12
missing	10
total	433

toi Table 6.9. Number of campaign effects according to numbers of road users targeted (or catchment area)

Number of people in target group	Effects
0-100	10 (5)
100-1,000	21 (25)
1,000-10,000	28 (19)
10,000-100,000	19 (50)
100,000-1,000,000	30 (48)
> 1,000,000	13 (73)
Missing	312 (213)
total	433 (433)

toi Table 6.11. Number of effects according to method of delivering campaign message. Any one campaign often uses more than one of these methods.

method of delivery	effects
television	274
newspapers	260
radio	220
leaflets	220
posters	196
personal	128
reward	51
numerous minor elements*	49
video / DVD	36
cinema	32
variable message sign (feedack)	25
billboards	24
website	21
fixed message sign	17
competitions	14
pledge cards	12

toi Table 6.17 Overall effect of road safety campaigns on different outcome measures

Outcome measure	Account for publication bias?	effect (%)	95% confidence interval	Significant? (p < 0.05)
Accidents (n = 118)	No	- 10	(- 11 -10)	yes
	Yes, generate 26 effects to compensate	- 7	(- 8, -6)	yes

Table 6.19 Overall effect of road safety campaigns on different outcome measures, after accounting for publication bias.

Outcome measure	effect (%)	95% confidence interval (%)	Significant? (p < 0.05)
Number of accidents (n = 115)	-6	(-10, -1)	yes
% using seatbelts (n = 133)	+25	(+18, +31)	yes
% speeding (n = 28)	-16	(-25, -6)	yes
% drink-driving (n = 23)	-17	(-46, +28)	no
% yielding to pedestrians (n = 13)	+37	(+14, +65)	yes
% expressing favourable attitude (n = 39)	+5	(-0, +11)	no
% subjective perception of risk (n = 24)	+16	(+4, +30)	yes
% correct knowledge (n = 17)	+44	(-10, +132)	no
% recalling campaign (n = 23)	+120	(+30, +273)	yes

Table 6.24. Overall effect of road safety campaigns on road accidents and seatbelt use according to time at which outcome measure taken.

	accidents				seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
before-during	-13	(-17;-8)	84	yes	+6	(-3;+17)	26	no
before-after	-9	(-17;-0)	19	yes	+29	(+17;+42)	54	yes
before-during-after	-4	(-22;+18)	12	no	+32	(+21;+43)	53	yes

Table 6.25. Overall effect of road safety campaigns on road accidents and seatbelt use according to campaign theme

Theme	accidents				seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
General / multiple themes	-14	(-25, -1)	9	yes	--	--	--	--
Drink-driving	-20	(-26, -14)	40	yes	--	--	--	--
Speeding	+3	(-7, +14)	26	no	--	--	--	--
Seatbelts	-8	(-12, -4)	5	yes	+25	(+18;+31)	118	yes
Awareness of pedestrians	+1	(-7, +9)	5	no	--	--	--	--

Table 6.27. Overall effect of road safety campaigns on road accidents and seatbelt use according to length of campaign.

campaign duration	Accidents				Seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
<1 week	--	--	0	--	+78	(+42;+124)	11	yes
1-4 weeks	-5	(-21;+14)	15	no	+21	(+9;+35)	55	yes
4-12 weeks	-13	(-20;-5)	18	yes	+25	(+13;+48)	37	yes
12-52 weeks	-8	(-12;-4)	51	yes	+14	(+4;+25)	23	yes
>52 weeks	-12	(-20;-2)	29	yes	+57	(+28;+94)	5	yes

Table 6.28. Overall effect of road safety campaigns on road accidents and seatbelt use according to scale of campaign.

scale	Accidents				Seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
local	-5	(-13;+4)	23	no	+27	(+20;+35)	95	yes
regional	-13	(-18;-8)	68	yes	+34	(+19;+51)	20	yes
national	-8	(-15;-1)	14	yes	+17	(+3;+33)	13	yes

Table 6.29 Overall effect of road safety campaigns on road accidents and seatbelt use according to campaign specificity.

target group defined	Accidents				Seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
1 target group	-16	(-21;-11)	60	yes	+31	(+20;+43)	98	yes
>1 group	-4	(-18;+13)	8	no	+21	(+12;+32)	11	yes
not defined	-8	(-14;-1)	36	yes	+19	(+14;+25)	24	yes

Table 6.29 Overall effect of road safety campaigns on road accidents and seatbelt use according to campaign specificity.

Campaign	Accidents				Seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
Not enforced	-10	(-17;-3)	33	yes	+29	(+18;+40)	89	yes
Enforced	-12	(-17;-8)	80	yes	+19	(+15;+25)	44	yes
Enforced + change in law	-12	(-20;-3)	9	yes	+26	(+12;+42)	11	yes
Enforced, no change in law	-12	(-18;-7)	70	Yes	+16	(+11; +21)	33	yes

The role of emotions

- **Asked specifically to look into the use of fear appeals**
- **And humour ?**
- **Is the use of fear/shocking effects more effective than being emotionally neutral or rational ?**
- **Showing shocking consequences?**
- **Showing non-shocking consequences?**
- **Showing no consequences ?**

Table 6.15. Number of effects according to emotional dimension of campaign

content	effects
emotional	36
rational	195
emotional and rational	64
incentive	45
humour	42
Shock/fear appeals	22

Table 6.35. Overall effects of road safety campaigns on road accidents and seatbelt use according to nature of appeal used in campaign.

medium	accidents				seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
emotional appeal			3		+26	(+14;+39)	12	+26
rational appeal	-11	(-4;-17)	51		+13	(+3;+24)	47	+13
emotional and rational appeal	-15	(-21; -7)	28		+66	(+35; +104)	7	+66

Table 6.37. Overall effects of road safety campaigns on seatbelt use according to use of humour.

Humour?	seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
Yes	+23	(+15;+31)	23	Yes
No	+30	(+16;+45)	107	Yes

Table 6.7 Overall effect of road safety campaigns on road accidents according to reported use of shock

Group	effect (%)	95% confidence interval (%)	Significant? (p < 0.05)
Reported use of shock (n = 10)	- 6	(- 11, + 0)	no
No reported use of shock (n = 83)	- 13	(- 18, -8)	yes

toi Table 6.36 Overall effects of road safety campaigns on road accidents and seatbelt use according to way campaign addresses the consequences of unsafe action.

medium	Accidents				seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
shocking consequences shown	-4	(-10;+2)	8	No	--	--	4	--
non-shocking consequence shown	-9	(-16;-2)	47	Yes	+14	(+5;+24)	29	Yes
no consequence shown	-2	(-8;+5)	53	No	+29	(+20;+38)	77	yes

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toi Table 6.38 Overall effects of road safety campaigns on road accidents according to treatment of risk in campaign.

category	yes				no			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
risk addressed?	-12	(-17;-8)	67	Yes	-9	(-18;+0)	19	No
risk of detection addressed?	-14	(-19;-8)	51	Yes	-7	(-13;+0)	37	No
risk of harm to self addressed?	-4	(-10;+2)	19	No	-13	(-18;-8)	70	Yes
risk of harm to others addressed?	-4	(-12;+4)	14	No	-13	(-18;-9)	75	Yes

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toi Table 6.39. Overall effects of road safety campaigns on seatbelt use according to treatment of risk in campaign.

category	yes				no			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
risk addressed?	+18	(+9;+26)	57	Yes	+33	(+21;+47)	54	Yes
risk of detection addressed?	+17	(+12;+22)	36	Yes	+29	(+17;+42)	75	Yes
risk of harm to self addressed?	+15	(-8;+42)	22	No	+27	(+20;+34)	102	Yes
risk of harm to others addressed?	+12	(-14;+47)	16	No	+29	(+23;+36)	108	Yes

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toi The effect of fear ?

- Traffic Deaths and Superstition on Friday 13th Men: Adjusted risk ratio for dying on Friday 13th, compared with other fridays: 1.02
- Women: 1.63.
- Women: An estimated 38 % of traffic deaths involving women on this day were attributable to Friday 13th itself
- Frightened/anxiety from superstition ?
- (Näyhä, 2002):
- Traffic Deaths and Superstition on Friday the 13th. Am J Psychiatry 159:12, December 2002

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toi Table 6.40 Overall effect of mass-media road safety campaigns on different outcome measures.

Outcome measure	effect (%)	95% confidence interval (%)	Significant? (p < 0.05)
number of accidents (n = 104)	-5	(-10, -1)	yes
% using seatbelts (n = 65)	+19	(+12, +26)	yes
% speeding (n = 11)	-5	(-10, +2)	no
% drink-driving (n = 22)	-17	(-46, +28)	no
% yielding to pedestrians (n = 9)	+5	(-11, +23)	no
% expressing favourable attitude (n = 33)	+5	(+1, +11)	yes
% appreciating risk (n = 23)	+16	(+4, +30)	yes
% correct knowledge (n = 14)	+48	(-12, 148)	no
% recalling campaign (n = 20)	+69	(-16, +242)	no

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toi Table 6.41 Overall effect of mass-media campaigns on road accidents and seatbelt use according to aspects of reporting and evaluation

decade of publication	Accidents				Seatbelt use			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
1980s	-10	(-17;-4)	29	yes	+29	(+13;+47)	34	yes
1990s	-12	(-17;-6)	58	yes	+19	(+14;+24)	22	yes
2000s	-2	(-14;+11)	16	no	+9	(+3;+16)	10	yes

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toi Which are the significant factors/contexts ?

Not the final answer, more to come

Bottom line: Campaigns do have effects, if you do the right moves...

Recommend "best practices" drink driving, speed, seat belt use

Identify the partial ("isolated") effects

Expect "personal communication" to be of significant importance

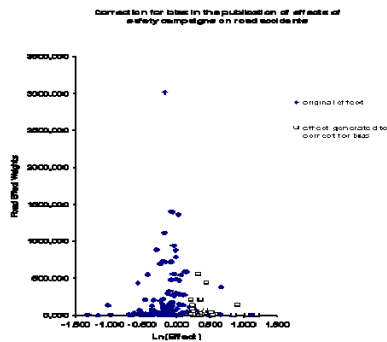
lessons or seminars delivered in person; two-way discussions with a teacher, peer or safety expert; group discussions; and personally addressed letters

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Table 6.29. Overall effects of road safety campaigns on road accidents according to delivery media used in campaign.

medium	campaigns using medium				campaigns not using medium			
	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)	effect (%)	95% confidence interval (%)	n	Sig.? (p < 0.05)
Tv	-6	(-11;-2)	95	yes	-18	(-27;-7)	19	yes
Radio	-7	(-12;-2)	81	yes	-14	(-21;-7)	33	yes
newspapers	-13	(-17;-9)	81	yes	-2	(-11;+8)	32	no
Posters	-13	(-18;-8)	50	yes	-12	(-17;-6)	64	yes
billboards	-14	(-19;-8)	25	yes	-4	(-10;+1)	87	no
Leaflets	-10	(-15;-5)	41	yes	-6	(-12;-0)	73	yes
video, dvd	-14	(-23;-5)	11	yes	-13	(-16;-9)	103	yes
Cinema	-9	(-18;+2)	9	no	-5	(-10;0)	105	no
Personal	-11	(-18;-3)	26	yes	-4	(-9;+1)	88	no

Figure 6.1 Correcting for publication bias in effect of road safety campaigns on accident numbers using trim-and-fill



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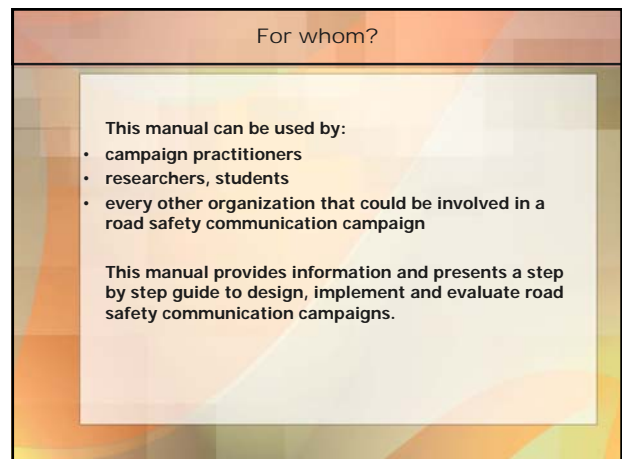
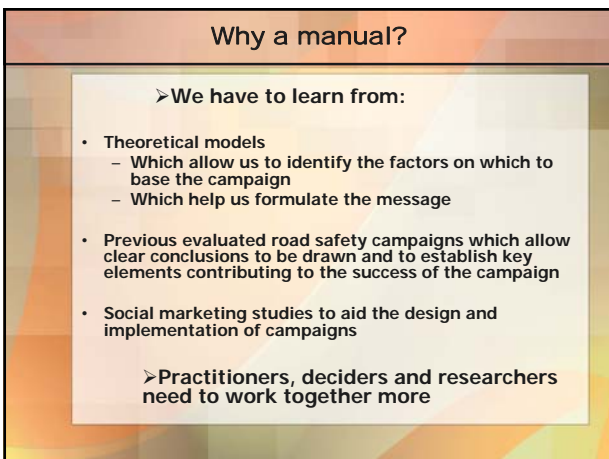
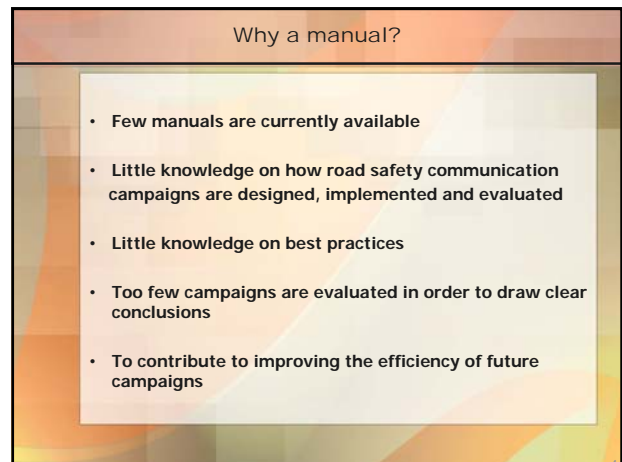
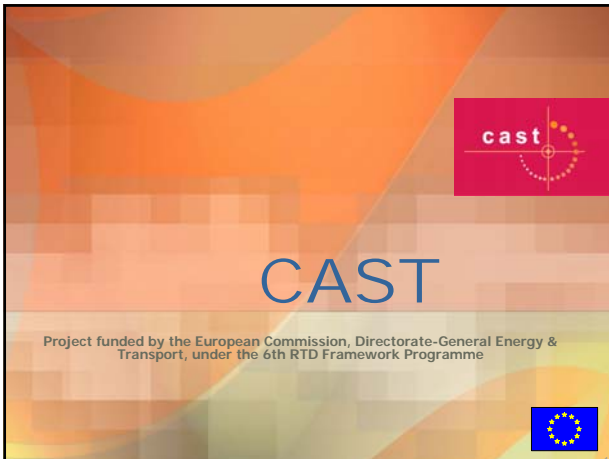
Meta-analysis:

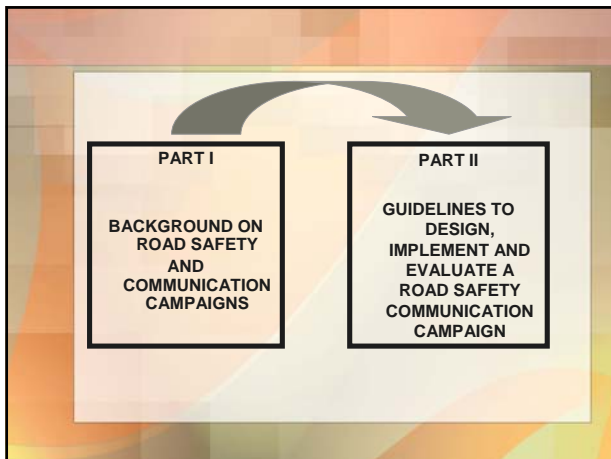
- Systematic literature review
- Selecting results (effects) from each of the studies
- One study can contain several results
- Sum up all effects across all studies
- Weighting procedure: Number of accidents in each study
- Finally: Assess best estimates by a weighted average

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Table 6.13. Campaign effects according to basis in model or theory

theory / model	effects
public information and education model	26
public information and education model + selective traffic enforcement program	21
behavioural theory	15
social learning theory	5
peer-education method	3
theory of reasoned action	2
risk salience	2
theory of planned behaviour	1
self-responsibility	1





Structure of the presentation

- Definition of campaigns
- Part I: Background on road safety and communication campaigns
- Part II: guidelines to design, implement and evaluate a road safety communication campaign
- Conclusion and recommendations

Definition (1/2)

The road safety communication campaigns could be defined as:

- Purposeful attempts to inform, persuade, or motivate attitude and/or behaviour changes towards safety in a relatively well-defined and more or less wide audience generally for non-commercial benefits to the individuals and/or society at large
- Campaigns are typically within a given time period by means of organised communication activities which could be mass communication or not.

Definition (2/2)

These campaigns often involved media combined with other actions (enforcement, education, legislation, commitment, rewards, etc.), or as Elliott (1993) quotes "mass media campaigns need to be viewed as an integral support element for other countermeasures - a signposting role".

This definition is adapted from Rice & Atkin (1994) and from our experience in the Gadget project (1999).

Main goals (1/2)

Communication campaigns on road safety possibly have five main goals:

- To inform about new or modified laws
- To improve knowledge and/or awareness of risk, new-in-vehicle systems and appropriate preventive behaviours
- To change problem beliefs or maintain healthy beliefs related to risk
- To change risky behaviour or maintain safety-oriented behaviours
- To decrease the frequency and severity of accidents

Main goals (2/2)

Supplementary intended or non-intended goal:

- Inform road users that the authorities have identified a risky behaviour
- Have made it a priority to decrease it

So, the campaign might act as a support for the authorities' road safety policy.

Part I:
Background on road safety and communication campaigns

- Chapter 1:
Road safety
- Chapter 2:
Road safety communication campaigns

Chapter 1: Road Safety

- Statistics of road accidents in Europe
- Main causes and human explanations of road accidents
- Changing behaviour

Chapter 2: Road Safety Communication Campaigns

- Campaign types and marketing strategy factors
- Some key elements to increase the effectiveness of campaigns: learning from the past
- Target group
- The Message
- Features of communication campaigns
- Evaluation of campaigns

I - Campaign types and marketing strategy factors

- Campaign types: on a stand-alone basis or combined with other action(s) depending on whether they are integrated or not into an action plan
- Social marketing approach can be used as an aid when designing and implementing the campaign

II - Some key elements to increase the effectiveness of campaigns: learning from the past

- From empirical descriptive studies and meta-analysis, we present key elements to which we can refer to carry out a new campaign or to adapt a past campaign.
- Adapting planned programmes to build new ones is discussed

III - Target group

- Sometimes we have to target the whole audience
- More often, we have to target a specific audience to reach it more easily

If needed, you can segment the audience to have a better knowledge of the audience. Gathering information about the target characteristics is an essential step to define the strategy, messages and media to reach the target.

IV - The Message

Aim: Provide the reader with sufficient information to construct a message to change behaviour.

It will focus on the overall message strategy and how this strategy can be executed.

It consists in:

- Defining the structure of the message
- The emotional versus rational approach
- The style of the message
- The framing

Pretesting the message is essential to know if the message is well designed and will reach its goal.

V - Features of communication campaigns

- **Communication means and factors influencing the choice of appropriate media and combined actions**

- **Additional promotional supports**

- **Variables related to media placement such as frequency, periodicity, size and position of the message.**

VI- Evaluation of campaigns

- Reason why evaluating is important
- Different types of evaluation according to the objectives of the campaign
- Evaluation designs and the importance of making a before and after measurement with a control or comparison group(s) that allows us to draw clear conclusions
- Isolating campaign effects when the campaign is combined with another action
- Fundamental limits and constraints of the evaluation

PART II: Guidelines to design, implement and evaluate a road safety communication campaign

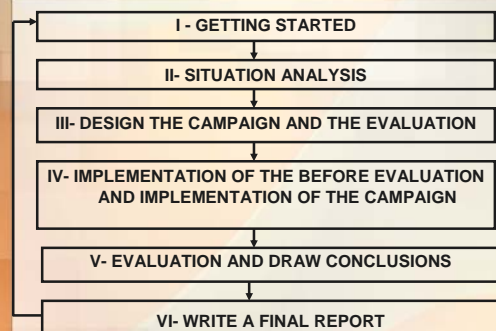
Propose best practice guidelines on how to design, implement and evaluate a road safety communication campaign

These guidelines are based on interviews carried out with practitioners, advertising agencies and researchers in Europe and outside, on literature review and our own experience.

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PART II: Different steps needed to complete the whole campaign process



These 6 steps will guide you through the process.

They are presented in a sequential order; but the activities within each step are interdependent and you can spend more time on some steps and also go back and forth.

After the six steps, the cycle is closed and you are back at the starting point. According to your conclusions, the campaign and its evaluation will give you the necessary input for a next campaign cycle.

**You identify a road safety problem,
can be solved by
a road safety communication campaign?**

I- Getting started

- **Recognition of the problem:**
 - Accidents
 - Offences and behaviours
 - Emerging issues: media attention
- **Analysis of the organisational and socio-economic context**
- **Look for campaign partners to support your campaign and/or constitute the campaign team**
- **Investigate the budget**
- **Organize a kick off-meeting with the partners**
- **Produce a first draft of the campaign briefing and contact possible external agencies (call for tender)**

II- Situation analysis (1/2)

You have to carry out an in-depth analysis of the problem, its possible solutions, and the target audience. You have to look for available information from 4 sources:

- **Qualitative and quantitative studies on the problem behaviour**
- **Research based on a theoretical model in order to look for the motivational factors underlying this behaviour**
- **Past campaigns and other actions**
- **Marketing studies on the target audience(s)**

II- Situation analysis (2/2)

- **If you want to get more precise information on the audience you have to:**
 - segment or not the audience
 - carry out studies to look for the main causes of the problem behaviour and analyse how to reach the audience
- **To define the specific objectives of the campaign**
- **Prepare the evaluation method**

III- Design the campaign and the evaluation

You have to:

- **Design the campaign**
 - Define the strategy
 - Develop the message
 - Choose the media and media plan
 - Adapt the message in its full context
- **Design the evaluation**
 - Define the objectives of the evaluation
 - Develop the evaluation measures
 - Choose the evaluation design
 - Define methods
 - Build tools to collect data.

IV- Implementation of the before phase and implementation of the campaign

- **Implementation of the evaluation for the before phase of the evaluation**

	Before Phase	Moment of the campaign	After Phase
Experimental Group			
Comparison Group			

- In the meantime, the external agencies will produce the campaign material and book the media space to have everything ready when the campaign is launched
- After launching, all campaign materials and related actions should be implemented as planned. This requires strict coordination and follow-up

V- Evaluation and draw clear conclusions

- **To carry out the evaluation of the campaign**

	Before Phase	Moment of the campaign	After Phase
Experimental Group			
Comparison Group			

- Analysing the data from these measurements will tell us if the campaign has had any effect, and if so, what and why
- Collect cost and cost-effectiveness information for economic evaluation
- The evaluation must be independent in order to draw clear conclusions and limits of the campaign

VI- Write a final report

- It closes the campaign cycle, at least temporarily. It can provide important information for:
 - partners involved in the campaign
 - other stakeholders
 - researchers
 - the general public
- It is crucial to disseminate it widely. It has to be in a standard form to avoid missing important information.
- It provides an overview of all the steps that have been carried out to build the campaign and its combined actions including:
 - the background of the campaign
 - its target audience
 - objectives, strategy
 - evaluation
 - main conclusions
- It should allow us to avoid repeating past mistakes in future campaigns. The progress of future campaigns will depend on the availability of good and rigorous evaluation reports.

Conclusion

- We'll give recommendations stressing the importance of:**
- Basing campaigns on available research and doing complementary ad hoc research based on a theoretical model
 - Transforming the general aim into specific objectives, choosing the strategy to adopt
 - Planning the campaign realistically
 - Selecting a specific target audience in order to reach it better with messages based on persuasion models,
 - Evaluating the campaign in order to draw clear conclusions
 - Writing a final report to make the results available for the whole road safety community