

EasyWay



Annual Forum 2010



Shortcut to the future.
Lisbon • November 16th-18th

Assessing ITS
deployment impacts
on the national level

Risto Kulmala



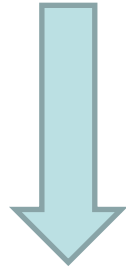
Structure

- Objectives
- Approach
- Problems
- Results
- Conclusions





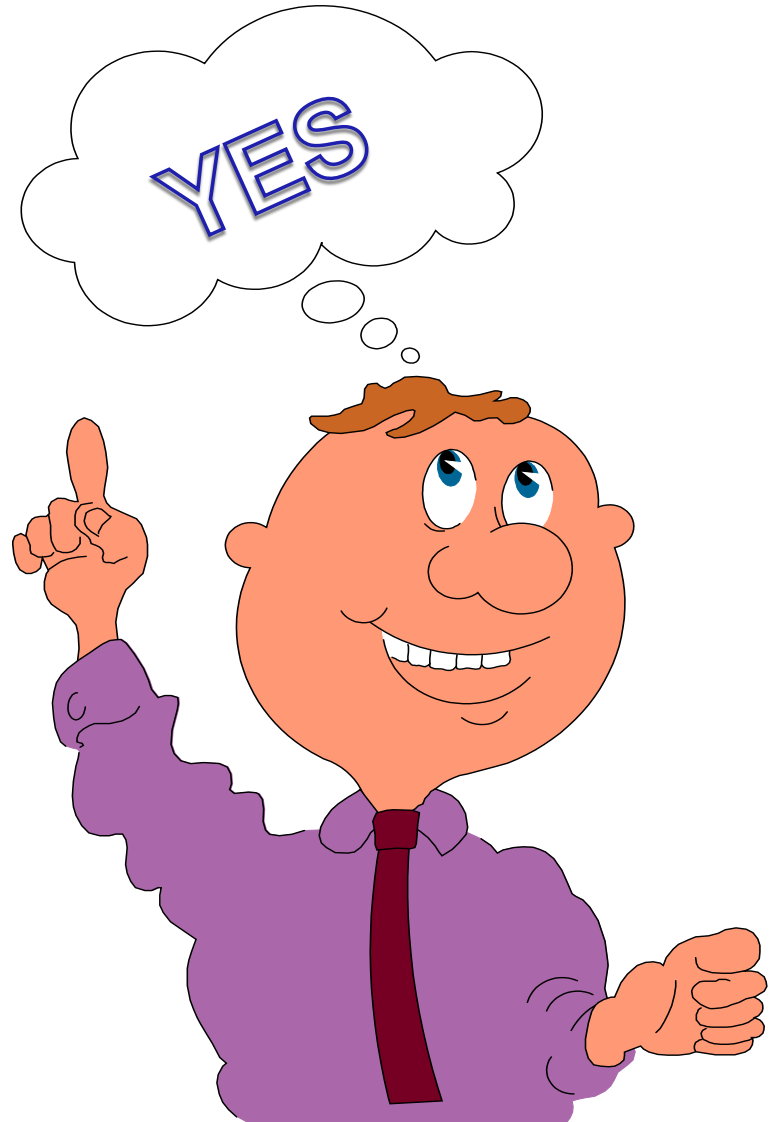
Problem

- EU ITS Action Plan and Directive
 - National ITS strategy
 - National Road ITS strategy
- 
- National Action Programme 2010-2015
 - Focus areas
 - Individual projects
 - Specific locations with specific problems
 - How to prioritise?
 - Where do we get most benefit with the same money



Approach

- Focus on key targets (EU and national)
 - Fatalities and injuries
 - CO₂ emissions
 - Congestion
- Compile all costs
 - Investment
 - Operation
 - Maintenance
 - Purchasing
- Compare monetary benefits for key targets to costs





Approach

- Desktop analysis
- Utilise site specific information when available
 - Traffic volumes
 - Accidents and their consequences
 - Congestion
 - CO₂
- Utilise best evaluation information available
 - National studies
 - European studies





Problems with missing data

- Site specific data often missing
 - Accidents (usually)
 - CO₂ (always)
 - Congestion costs (always)
 - Operation and maintenance costs
- What we used
 - Average accident rates in different road categories
 - Average CO₂ emissions from VTT emission tool LIPASTO
 - Congestion costs from recent Finnish Transport Agency study
 - Average percentage of annual O&M costs





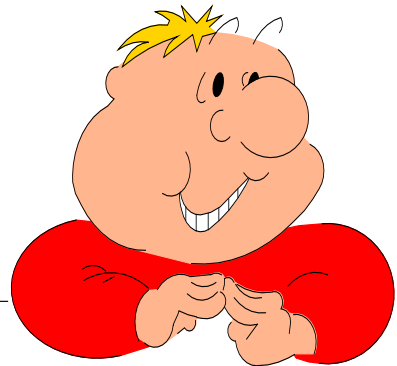
Example:
tricky
one

	Helsinki area traffic centre cooperation
Length or area	Helsinki area
Investment costs M€	0,025
Others' investments M€	0,025
O&M costs annual M€	-
Annual veh.km (million)	5000
Injury accident rate (/mill.veh.km)	0,17
Injury accidents/year	900
Impact on injury accidents (%)	-0,05 %
Impact on injury accidents (annual)	-0,5
Impact on injury accident costs (annual, M€)	-0,21
Annual CO2 emissions (Mt)	1
Impact on CO2 emissions (%)	-0,10 %
impact on CO2 emissions (annual)	-0,0011
Impact on CO2 emission costs (annual, M€)	-0,037
Congestion costs M€ (annual)	40
Impact on congestion costs (%)	-0,10 %
Impact on congestion costs (annual, M€)	-0,04





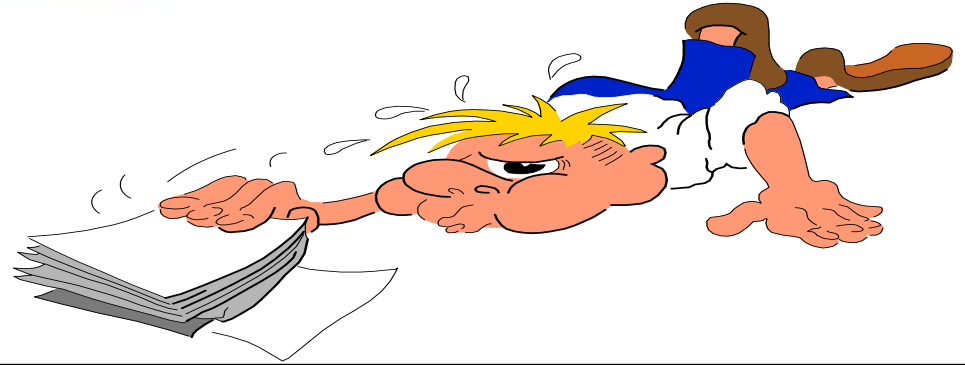
Example:
more
straight-
forward
one



	Variable speed limits vt19 Nurmo-Lapua
Length or area	15 km
Investment costs M€	0,7
Others' investments M€	-
O&M costs annual M€	0,02
Annual veh.km (million)	52
Injury accident rate (/mill.veh.km)	0,12
Injury accidents/year	5
Impact on injury accidents (%)	-10 %
Impact on injury accidents (annual)	-0,5
Impact on injury accident costs (annual, M€)	-0,24
Annual CO2 emissions (Mt)	0,011
Impact on CO2 emissions (%)	-1 %
impact on CO2 emissions (annual)	-0,00011
Impact on CO2 emission costs (annual, M€)	-0,0036
Congestion costs M€ (annual)	0,1
Impact on congestion costs (%)	-1,00 %
Impact on congestion costs (annual, M€)	-0,001



Total results



Action in the "200 M€ plan"	Investment M€	Out-sourcing services M€	Maintenance M€	Injury accident change / year	CO2 emission change Mt/year	Congestion costs change M€/year	Accident costs change M€/year	CO2 costs change M€/year
Basic infrastructure	33,665	4,74	3,645	-59	-0,29	-4,6	-27,7	-9,7
Traffic information	14,2	6,48	1,875	-22	-0,11	-1,28	-10,6	-3,7
Incident management	0,6	0	0,09	-1	-0,06	-2,6	-0,3	-2,0
Enforcement	2,8	0	0,81	-49	-0,0020	0,0000	-22,9	-0,050
Traffic control	114,3	0,15	29,33	-91	-0,048	-0,84	-42,9	-1,6
Action plan total	165,6	11,4	35,8	-222	-0,51	-9,4	-104	-17,1

2010-2015



Conclusions

- Method works
 - Even with missing details at specific site
- Requires basic data
 - Impacts assessment results
 - Vehicle kilometres driven
 - CO₂ emissions
 - Accident rates
 - Congestion statistics
- Operation and maintenance costs often missing
- Method could be applied to EasyWay to assess effects of EasyWay deployments on congestion, fatalities and CO₂ emissions



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