

Road user understanding of Traffic information on VMS signs Internet survey 2010

**Mare Nostrum – A European Project
Danish Results**

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1. Introduction

The test includes 48 different VMS messages for road users driving on motorways in Europe. The test has been carried out in 11 different countries as an internet survey.

This report includes a presentation of the Danish results.

The English version of the main question presented to the Danish respondents:
*You are driving on E45 from Aarhus to Aalborg via Randers and Hobro.
Before Randers you see this motorway sign. What does it mean? and what will you do when you see it?*

The main question in Danish:

”Du kører på E45 fra Aarhus til Aalborg via Randers og Hobro. Før Randers ser du dette skilt på motorvejen. Hvad betyder det? Og Hvad gør du?”

2. Internet Respondents

In total 1175 respondents have been registered. 765 of the respondents have finished (reached end=1) the questionnaire and 410 have left the questionnaire unfinished (reached end = 0). One respondent (reached end=1) has not answered the Q9 (month of birth).

The Analyze have been based upon the 764 finished responds. Distributions of sex and age among respondents are shown in Table 2.1

Age (Q2)	"Female" (Q1) = MEN*	"Male" (Q1) = WOMEN*	Total
< 18	2	0	2
18 – 25 år	13	8	21
25 – 35	77	44	121
35 – 45	170	76	246
45 – 55	155	67	222
> 55	120	32	152
Total	537	227	764
Total %	70 %	30 %	100 %

Table 2.1: Distribution of sex and age among respondents

*) In the translation process of the Questionnaire "female" and "male" have been exchanged. It leads to the fact that 70 % of Danish respondents are men and 30 % are women.


2.1 The 6 series of questions


The questionnaire includes 6 different series of questions. Every serie include 8 questions. The test includes 48 questions (Q10 – Q48) in total. The series of questions are determined by the month of birth of the respondents:

Month of birth	Series of questions	Number of answers	Total number Of answers
January-February	Q10 – Q17	53+57	110
March-April	Q18 – Q25	52+89	141
May-June	Q26 – Q33	67+80	147
July-August	Q34 – Q41	63+61	124
September- October	Q42 – Q49	70+57	127
November-December	Q50 – Q57	68+47	115
Total			764

3. Results





Q10  What does it mean?	Number of answers	%
QUEUE ahead	77	70
Queue risk	29	26
Other	4	4
Don't know	0	0
	110	100 %

Q10  What do you do?	Number of answers	%
Reduce speed	19	17
Reduce speed AND pay attention/ turn on the warning lights/ look out for alternative routes	19	17
Keep distance/pay attention/ ready to brake	16	15
Look for alternative route	16	15
Other	5	4
Unanswered	35	32
	110	100 %





Q11:

Q11  What does it mean?	Number of answers	%
Road work/ Road work warning	108	98
Unanswered/ other	2	2
Don ´t know	0	0
	110	110 %


Q11  What do you do?	Number of answers	%
Reduce speed/ Reduce speed AND pay attention	54	49
Pay attention / take care /consideration to traffic	24	22
Look for alternative routes	3	3
Unanswered	29	26
	110	100 %




Q12 	Number of answers	%
What does it mean?		
Entry prohibited/No entry!	25	23
Road is blocked / not possible to continue driving straight ahead	52	47
Other: Road end/ turn off now!/ turn right!/ Cul-de-sac	10	9
Other wrong/doubtful answers: mandatory stop/ roundabout/ changes on the road ahead etc.	7	6
Unanswered/don't know	16	15
	110	100 %


Q12 	Number of answers	%
What do you do?		
I take the exit/I take the next exit/I leave the motorway/	86	78
Reduce speed and take the exit	2	2
Other: May be I take the exit	3	3
Unanswered	19	17
	110	100 %




Q13  What does it mean?	Number of answers	%
Wind/Blast of wind/Gusts of wind	110	100
Unanswered	0	0
	110	100 %

Q13  What do you do?	Number of answers	%
Reduce speed/ adapt speed	30	27
Pay attention/ pay attention to wind sensitive vehicles/ take care	37	34
Reduce speed AND pay attention	14	13
Unanswered	29	26
	110	100 %





Q14  What does it mean?	Number of answers	%
Icy/ slippery with snow	82	75
Slippery	21	19
Other: Snow/ Frost/ winter weather	6	5
Unanswered	1	1
	110	100 %

Q14  What do you do?	Number of answers	%
Reduce speed/ adapt speed	41	37
Reduce speed AND keep safety distance	11	10
Reduce speed AND go with care	11	10
Go with care	10	9
Other	1	1
Unanswered	36	33
	110	100 %





Q15:

Q15 	What does it mean?	Number of answers	%
	Queue/ queue ahead	15	14
	Queue ahead BUT it is possible to take the exit/ queue after next exit/ recommendable to take the exit to avoid the queue	68	62
	Queue – take next exit! (commending)	25	23
	Unanswered/other	2	1
		110	100 %


Q15 	What do you do?	Number of answers	%
	I take the next exit/ I leave the motorway	18	16
	I may take the exit	16	15
	Reduce speed/pay attention	5	4
	Unanswered	71	65
		110	100 %




Q16  What does it mean?	Number of answers	%
Motorway exit/ exit	78	71
Motorway	7	6
Exit or Enter to Motorway/ Motorway with short exit	3	3
Don't know	17	15
Unanswered/ other	5	5
	110	100 %


Q16  What do you do?	Number of answers	%
I check if this is the right exit for me and if not I will continue/I prepare to take the exit if this turn out to be the right one	27	24
I continue / I do nothing	5	5
Pay attention/ I give special attention to <i>vehicles preparing for exit</i>	5	5
I use the wink if I take the exit	1	1
Unanswered	72	65
	110	100 %




Q17  What does it mean?	Number of answers	%
Fog/mist/ reduced visibility caused the weather	47	43
Heavy rain	7	6
Tunnel	7	6
Other: damaged car/ heavy head wind / aqua planning	4	4
Don't know	45	41
Unanswered	0	0
	110	100 %


Q17  What do you do?	Number of answers	%
Reduce speed	27	25
Keep safety distance	3	3
Turn on the light/ fog lamps	4	3
Reduce speed AND turn on fog lamps/keep safety distance	11	10
Unanswered	65	59
	110	100 %




Q18 	What does it mean?	Number of answers	%
	Queue/ queue ahead	100	71
	Queue risk	35	25
	Don't know/ wrong answers	4	3
	Unanswered	2	1
		141	100 %

Q18 	What do you do?	Number of answers	%
	Reduce speed	29	21
	Reduce speed AND keep safety distance/ pay attention/ turn on warning lights/ listen to radio for traffic information /look out for alternative routes	23	16
	Keep safety distance/ pay attention	16	11
	Listen to radio for traffic information	1	1
	Take an exit if possible	20	14
	Unanswered	52	37
		141	100 %



Q19 	What does it mean?	Number of answers	%
	Road work	139	99
	Don't know	1	½
	Unanswered	1	½
		141	100 %

Q19 	What do you do?	Number of answers	%
	Reduce speed/ reduce speed and pay attention	81	57
	Pay attention/ keep ready to reduce speed	21	15
	Look out for alternative routes/other	7	5
	Unanswered	32	23
		141	100 %



Q20	What does it mean?	Number of answers	%
	Exit is blocked	75	53
	Entry on exit ramp prohibited	39	28
	Other wrong answers: Cul-de-sac/ rest area/ mandatory stop/ stop prohibited ! etc.	10	7
	Don't know	16	11
	Unanswered	1	1
		141	100 %

Q20	What do you do?	Number of answers	%
	Continue straight ahead	51	36
	Go on to the next exit/ find alternative route	21	15
	Unanswered	69	49
		141	100 %



Q21:

Q21	Whar does it mean?	Number of answers	%
	Wind/blast of wind/ gusts of wind	131	93
	Wind and direction of wind	7	5
	Unanswered/ other	3	2
		141	100 %

Q21	What do you do?	Number of answers	%
	Reduce speed/ adapt speed	41	29
	Pay attention/ pay attention to wind sensitive vehicles / hold on to the steering wheel	33	23
	reduce speed AND pay attention	23	16
	Other	5	4
	Unanswered	39	28
		141	100 %

Q22:



Q22	What does it mean?	Number of answers	%
	Icy/ slippery with snow	97	69
	Slippery road	26	18
	Other: snow/ frost/ winter weather	14	10
	Unanswered	4	3
		141	100 %

Q22	What do you do?	Number of answers	%
	Reduce speed/ adapt speed	57	40
	Reduce speed AND keep safety distance	5	4
	Reduce speed an go with care	13	9
	Drive with care	21	15
	unanswered	45	32
		141	100 %



Q23	What does it mean?	Number of answers	%
	Queue on exit ramp /queue at exit ramp	130	92
	Queue at the end of exit ramp/ Heavy traffic on side road/ queue/ not possible to turn off	6	4
	Don ´t know	5	4
		141	100 %

Q23	What do you do?	Number of answers	%
	I continue straight ahead / consider alternative route	44	31
	Reduce speed/ pay attention to queue	47	34
	Take the exit if this is my planned direction	2	1
	Unanswered	48	34
		141	100 %



Q24	What does it mean?	Number of answers	%
	Queue at exit 33/ queue on exit 33	59	42
	Queue on motorway /queue ahead/ queue	8	6
	Queue ahead and it is recommended to take exit 33	36	25
	Wrong answers: queue 33 km ahead/ queue on route 33 / 33 minutes driving distance/ exit to highway etc.	21	15
	Don't know	16	11
	Unanswered	1	1
		141	100 %

Q24	What do you do?	Number of answers	%
	I take exit 33	12	8
	I leave the motorway	18	13
	I avoid exit 33	8	6
	Reduce speed/pay attention	23	16
	Unanswered	80	57
		141	100 %

The meaning is unclear and ambiguous. Some of the respondents who answer "don't know" are very much aware that the sign inform about "Queue". Some of the respondents even add alternative suggestions considered for the meaning of the sign before they end up with the conclusion: don't know what the sign means.

Q25:  Randers **RANDERS**

Q25	What does it mean?	Number of answers	%
	Fog/mist/ reduced visibility caused the weather	14	10
	Fog/mist/reduces visibility <i>around Randers</i>	39	28
	Fog/mist/ reduced visibility <i>towards Randers</i>	2	1
	Heavy rain/fall of rain or snow	5	4
	Heavy rain/fall of rain or snow <i>around Randers</i>	3	2
	Wrong answers: accident/ water on the road surface/ Car wash/ flood etc.	14	10
	Don't know	64	45
	Unanswered	0	0
		141	100 %

Q25	What do you do?	Number of answers	%
	Reduce speed/ keep ready to reduce speed	23	16
	Pay attention	9	7
	Reduce speed AND pay attention	11	8
	Other	2	1
	Unanswered	96	68
		141	100 %



Q26:

Q26	What does it mean?	Number of answers	%
	Queue/ queue risk ahead	30	20
	Queue/ queue risk <i>around HOBRO</i>	57	39
	Queue/ queue risk <i>towards HOBRO</i>	31	21
	Queue/ queue risk <i>on or at the exit to HOBRO</i>	10	7
	Don't know/wrong answers	14	10
	Unanswered	5	3
		147	100 %

The answers show ambiguity about the location of queue - can it be expected around Hobro or on the road towards Hobro? Some respondents have made a remark on that. Some of the respondents understand "HOBRO" as "exit Hobro" and others as "around Hobro".

Q26	What do you do?	Number of answers	%
	Reduce speed/ keep ready to reduce speed	8	5
	Reduce speed AND keep safety distance/ pay attention/ turn on warnings light/ look out for alternative route	16	11
	Pay attention	4	3
	Consider alternative route/ take alternative route if possible	34	23
	Other	3	2
	Unanswered	82	56
		147	100 %





Q27:

Q27	What does it mean?	Number of answers	%
	Road work	35	24
	Road work <i>around HOBRO</i>	75	51
	Road work <i>towards HOBRO</i>	26	18
	Road work on <i>on/ at the exit to HOBRO</i>	6	4
	Wrong answers/unanswered	5	3
		147	100 %

Q27	What do you do?	Number of answers	%
	Reduce speed/ reduce speed and pay attention	35	24
	Pay attention/keep ready to reduce speed	23	15
	Look out for an exit /other	10	7
	I do nothing/ I continue	6	4
	Unanswered	73	50
		147	100 %

Q28: 

Q28  What does it mean?	Number of answers	%
First exit is blocked – use next exit	95	65
Entry on the first exit prohibited - use the next	34	23
Exit closed	7	5
Other : cul-de-sac, roundabout at the first exit	2	1
Don't know	6	4
unanswered	3	2
	147	100 %

Q28  What do you do?	Number of answers	%
I take the next exit (if my route is in that direction)	65	44
I continue straight ahead /look for alternative route	4	3
Other	2	1
Unanswered	76	52
	147	100 %



Q29:

Q29	What does it mean?	Number of answers	%
	Wind/ blast of wind/gusts of wind	63	43
	Wind/ blast of wind/gusts of wind <i>around Hobro</i>	56	38
	Wind/ blast of wind/gusts of wind <i>towards Hobro</i>	18	12
	Wind/ blast of wind/gusts of wind <i>at exit to Hobro</i>	2	1
	Wind and direction of wind	7	5
	unanswered	1	1
		147	100 %

Most of the respondents understand the information is about wind and blast of wind. But the relation to HOBRO is not quite clear. Some of the respondents expect the information is related to passing a road bridge ahead.


Q29	What do you do?	Number of answers	%
	Reduce speed/ adapt speed	30	20
	Pay attention/ pay attention to wind sensitive vehicles/ hold on to the steering wheel	37	25
	Reduce speed AND pay attention	8	6
	other	1	1
	Unanswered	71	48
		147	100 %




Q30	What does it mean?	Number of answers	%
	Icy/ slippery with snow/slippery	59	40
	Icy/ slippery with snow/slippery <i>around HOBRO</i>	55	37
	Icy/ slippery with snow/slippery <i>towards HOBRO</i>	16	11
	Snow/frost/ winter weather	6	4
	Snow <i>around/towards HOBRO</i>	7	5
	Unanswered	4	3
		147	100 %

Q30	What do you do?	Number of answers	%
	Reduce speed/ adapt speed	47	32
	Reduce speed AND keep safety distance	3	2
	Reduce speed AND pay attention	11	7
	Drive with care	14	10
	Unanswered	72	49
		147	100 %



Q31  What does it mean?	Number of answers	%
Queue/ risk of queue around and on the second exit	132	90
Queue/ blocked/ not possible to enter exit	9	6
Road work on the second exit	4	3
Don't know	2	1
	147	100 %

Q31  What do you do?	Number of answers	%
Consider alternative route/ take the first exit	56	38
Reduce speed/pay attention to queue	15	10
Pay attention and consider alternative route	7	5
Unanswered	69	47
	147	100 %



Q32:

Q32	What does it mean?	Number of answers	%
	Queue <i>at exit</i> to Randers /queue <i>on exit</i> to Randers	94	64
	Queue on motorway <i>towards</i> Randers/queue towards Randers	15	10
	Queue/queue ahead/ queue on motorway	16	11
	Queue ahead AND it is recommendable to take the exit at Randers	10	7
	Wrong answers	8	5
	Unanswered/ don't know	4	3
		147	100 %

Q32	What do you do?	Number of answers	%
	Take the exit at Randers	1	1
	Leave the motorway	4	3
	Avoid the exit at Randers	30	20
	Reduce speed/ pay attention	31	21
	Unanswered	81	55
		147	100 %

Almost all respondents understand that the information is about “queue” and most of respondents also relate this information to “Randers”, but it seems to be a little uncertain how “queue” and “Randers” should be related.



Q33	What does it mean?	Number of answers	%
	Fog/reduced visibility	14	10
	Fog/reduced visibility <i>around Aalborg</i>	21	14
	Fog/reduced visibility <i>towards Aalborg</i>	14	9
	Heavy rain/fall of rain or snow	5	3
	Heavy rain/fall of rain or snow <i>around Aalborg</i>	8	5
	Tunnel	12	8
	Other: accident, water on the road, car wash, ghost driver etc.	11	8
	Don't know	61	42
	unanswered	1	1
		147	100 %

Q33	What do you do?	Number of answers	%
	Reduce speed/keep ready to reduce speed	18	12
	Pay attention	4	3
	Reduce speed AND pay attention	7	5
	Other	6	4
	Unanswered	112	76
		147	100 %

More than half of all respondents don't understand the meaning of this sign. 42 % answer "don't know". In addition 8 % give different wrong/joke answers and other 8 % think the sign give information about a tunnel ahead. 41 % understand that the information is about fog or reduced visibility because of weather condition, but only 28 % of all respondents relate this to "in direction Aalborg".



Q34	What does it mean?	Number of answers	%
	Queue/queue risk ahead	9	7
	Queue/queue risk ahead <i>around HOBRO</i>	11	9
	Queue/queue risk ahead <i>towards HOBRO</i>	39	32
	Queue/queue risk ahead <i>at the exit to HOBRO</i>	9	7
	Queue – take the exit toward HOBRO/detour towards HOBRO/ recommendable to go toward HOBRO	44	35
	Don't know/ other	12	10
		124	100 %

Q34	What do you do?	Number of answers	%
	Reduce speed/keep ready to reduce speed	2	2
	Reduce speed AND keep safety distance/ Pay attention/ turn on warning light/ look out for alternative route	4	3
	Pay attention	4	3
	Consider alternative route/ leave the motorway	20	16
	Other	1	1
	unanswered	93	75
		124	100 %


The answers strongly indicate that the information is not unambiguous. Most of the respondents do understand it is about queue. But it seems to be quite uncertain where the queue can be expected. About 1/3 think that the message is a recommendation to take the exit towards Hobro to avoid queue ahead.


Q35:  5 – 6 JUNI
E45

Q35	What does it mean?	Number of answers	%
	Road work	5	4
	Road work in the time period 5 – 6 JUNI	40	33
	Road work in the time period 5- 6 JUNI on E45	76	61
	Unanswered/ wrong	3	2
		124	100 %

Q35	What do you do?	Number of answers	%
	Reduce speed/ reduce speed AND pay attention	18	14
	Pay attention/ keep ready to reduce speed	17	14
	Consider alternative route	9	7
	Nothing/ continue straight ahead	6	5
	unanswered	74	60
		124	100 %



Q36  What does it mean?	Number of answers	%
Second exit is blocked – use first exit	73	59
Entry to the second exit prohibited – use first exit	30	24
Exit closed	3	2
Other: cul-de-sac, roundabout at the second exit	7	6
Don't know	10	8
unanswered	1	1
	124	100 %

Q36  what do you do?	Number of answers	%
Take the first exit (if my route is in that direction)	23	19
I continue straight ahead/ look for alternative route	19	15
Other	3	2
unanswered	79	64
	124	100 %



Q37:

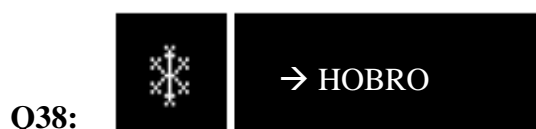
Q37	What does it mean?	Number of answers	%
	Wind/ blast of wind/gusts of wind	24	19
	Wind/ blast of wind/gusts of wind <i>around Randers</i>	39	32
	Wind/ blast of wind/gusts of wind <i>towards Randers</i>	37	30
	Wind/ blast of wind/gusts of wind <i>at exit to Randers</i>	13	11
	Wind and direction of wind	3	2
	Wind take the exit towards Randers	6	5
	unanswered	2	1
		124	100 %

Almost all understand it is an information about wind or blast of wind.
How this information should be related to " → Randers" seems to be unclear.

43% suggest it is around Randers while 30 % suggest it is on the route towards Randers. 5 % think the message is a suggestion to take the exit towards Randers to avoid the blasts of wind.

A big part of responders expect that the information is related to a road bridge ahead (In Denmark this symbol is mostly used in relation to passage of road bridges). Many respondents add a comment saying that the information primary is for drivers driving in wind sensitive vehicles.

Q37	What do you do?	Number of answers	%
	Reduce speed/adapt speed	10	8
	Pay attention/ pay attention to wind sensitive vehicles /hold on to the steering wheel	24	20
	Reduce speed AND pay attention	5	4
	Other	3	2
	Unanswered	82	66
		124	100 %



Q38	What does it mean?	Number of answers	%
	Icy/ slippery with snow/slippery	17	14
	Icy/ slippery with snow/slippery <i>around HOBRO</i>	34	27
	Icy/ slippery with snow/slippery <i>towards HOBRO</i>	52	42
	Icy/ slippery with snow/slippery <i>on exit to HOBRO</i>	7	6
	Snow/frost/ winter weather	2	2
	Snow <i>around/towards HOBRO</i>	3	2
	Icy – <i>take the exit towards Hobro</i>	6	5
	Unanswered/other	3	2
		124	100 %

Almost everyone understands it is an information about icy/slippery roads. How this information should be understood together with ”→ Hobro” is not clear and unambiguous. Some of respondents give a comment on that.

Q38	What do you do?	Number of answers	%
	Reduce speed/ adapt speed	21	17
	Reduce speed AND keep safety distance/ pay attention	8	6
	Drive with care	13	11
	Other	3	2
	unanswered	79	64
		124	100 %

Q39:



Q39	What does it mean?	Number of answers	%
	Queue/ risk of queue around and on the first exit	118	95
	Queue/ blocked/ not possible to enter first exit	3	2½
	Don't know/other	3	2½
		124	100 %

Almost everyone understand the message about queue on and around the first exit. About half of the respondents say they expect to take the next exit or look out for an alternative route. In addition 14 % answer that they will reduce speed and/or pay attention.

Q39	What do you do?	Number of answers	%
	Consider alternative route/ take the next exit	59	47
	Reduce speed/pay attention to queue	12	10
	Pay attention and consider alternative route	5	4
	Unanswered	48	39
		124	100 %

Q40:  34 15 min
 33 25 min
 32 40 min

Q40	What does it mean?	Number of answers	%
	Driving time to exits listed	103	83
	Doubtful answers	8	6
	Don't know	13	11
		124	100 %

Q40	What do you do?	Number of answers	%
	Nothing/ I continue	20	16
	Consider alternative routes if driving times are long	5	4
	Other	5	4
	Unanswered	94	76
		124	100 %



Q41	What does it mean?	Number of answers	%
	Fog/ reduced visibility	21	17
	Fog/ reduced visibility between <i>Randers and Hobro</i>	34	27
	Fog/ reduced visibility around <i>Randers and Hobro</i>	15	12
	Fog/ reduced visibility towards <i>Randers and Hobro</i>	5	4
	Other: accident, tunnel, car wash etc.	7	6
	Don't know	41	33
	Unanswered	1	1
		124	100 %

A big part of the respondents don't know what the sign means.
Some add a comment saying it is not a good sign.

Q41	What do you do?	Number of answers	%
	Reduce speed/ keep ready to reduce speed	16	13
	Pay attention	10	8
	Educe speed AND pay attention	8	6
	Other	2	2
	Unanswered	88	71
		124	100 %



Q42:

Q42	What does it mean?	Number of answers	%
	Queue/queue risk ahead	36	28
	Queue/queue risk <i>between HOBRO and AALBORG</i>	62	49
	Queue/queue risk <i>around HOBRO and AALBORG</i>	7	5
	Queue/queue risk <i>towards HOBRO and AALBORG</i>	10	8
	Queue – take the exit toward HOBRO/AALBORG	2	2
	Other	8	6
	Don't know /unanswered	2	2
		127	100 %

Most of respondents understand it is information about queue.
The answers indicate uncertainty about where the queue can be expected.
Some respondents give a comment on that.

Q42	What do you do?	Number of answers	%
	Reduce speed/keep ready to reduce speed	10	8
	Reduce speed AND keep safety distance/ Pay attention/ turn on warning light/ look out for alternative route	6	5
	Pay attention	9	7
	Consider alternative route/ leave the motorway	21	16
	Other	4	3
	unanswered	77	61
		127	100%

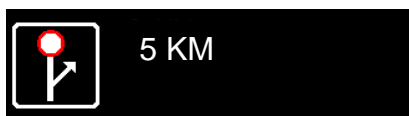


Q43:

Q43	What does it mean?	Number of answers	%
	Road work	28	22
	Road work <i>between HOBRO and AALBORG</i>	73	57
	Road work <i>around HOBRO and AALBORG</i>	6	5
	Road work <i>towards HOBRO and AALBORG</i>	13	10
	Road work – <i>take the exit to HOBRO/AALBORG</i>	1	1
	Other	5	4
	Unanswered	1	1
		127	100 %

Almost everyone understands the information about road work.
The answers indicate some uncertainty about the location of the road work.

Q43	Hvad gør du?	Antal svar	%
	Reduce speed/ reduce speed AND pay attention	20	16
	Pay attention/ keep ready to reduce speed	20	16
	Look out for an exit	4	3
	Nothing/ Continue	8	6
	Unanswered	75	59
		127	100 %



Q44:

Q44	What does it mean?	Number of answers	%
	Entry prohibited	3	2
	Road is blocked 5km ahead – take exit before/take exit 5 km ahead	77	61
	Road end/ cul-de-sac ahead/ – <i>take next exit</i>	23	18
	Doubtful answers	17	13
	Don't know	7	6
		127	100 %

61 % of the answers are fully correct about the meaning. In addition 18 % of the respondents understand that they cannot continue straight ahead and they need to take the next exit but the answers do not include the information about the 5 km distance.

Q44	What do you do?	Number of answers	%
	I take the exit/I leave the motorway	91	72
	Reduce speed and leave the motorway	3	2
	May be I take the exit	5	4
	Unanswered	28	22
		127	100 %



Q45	What does it mean?	Number of answers	%
	Wind/ blast of wind/gusts of wind	50	39
	Wind <i>between HOBRO and AALBORG</i>	68	54
	Wind <i>around HOBRO and AALBORG</i>	3	2
	Wind on the route <i>towards HOBRO and AALBORG</i>	4	3
	Wind and direction of wind	1	1
	Unanswered	1	1
		127	100 %

Most of respondents do understand the information about wind or blasts of wind. Some of the respondents expect the information to be related to a road bridge ahead. Some say that the information is relevant for drivers in wind sensitive vehicles only and not for ordinary car drivers.

Q45	What do you do?	Number of answers	%
	Reduce speed/adapt speed	22	17
	Pay attention/ pay attention to wind sensitive vehicles /hold on to the steering wheel	19	15
	Reduce speed AND pay attention	8	6
	Other	5	4
	Unanswered	73	58
		127	100 %



HOBRO
AALBORG

Q46:

Q46	What does it mean?	Number of answers	%
	Icy/slippery road	43	34
	Icy/slippery road <i>between HOBRO and AALBORG</i>	62	49
	Icy/slippery road <i>around HOBRO and AALBORG</i>	3	2
	Icy/slippery road <i>towards HOBRO and AALBORG</i>	9	7
	Heavy snow/ drifting snow/ snow drifts	7	6
	Snow around/towards HOBRO and AALBORG	2	1½
	Don't know	1	½
		127	100 %

Q46	What do you do?	Number of answers	%
	Reduce speed/adapt speed	31	24
	Reduce speed AND keep safety distance	5	4
	Reduce speed AND pay attention	10	8
	Drive with care	13	10
	Unanswered	68	54
		127	100 %



Q47	What does it mean?	Number of answers	%
	Queue ahead – exit possibility before	35	28
	Queue ahead	8	6
	Queue towards RANDERS – exit possibility before	39	31
	Queue ahead – exit possibility towards RANDERS	38	30
	Queue around RANDERS	5	4
	Don't know/other	2	1
		127	100 %

Most of the respondents have understood the information about queue ahead and the possibility to take the exit to avoid the queue.

But it seems to be unclear if the queue is located on the road towards Randers or if the queue can be avoided by taking the exit to Randers.

Q47	What do you do?	Number of answers	%
	Take the next exit/leave the motorway	37	29
	May be I take the next exit	28	22
	Reduce speed/ pay attention	7	6
	nothing	2	1
	Unanswered	53	42
		127	100

More than half say they will take the exit or consider taking the exit.



Q48	What does it mean?	Number of answers	%
	Queue <i>around/on exit</i> to RANDERS and HOBRO	37	29
	Queue/queue ahead/ QUE on motorway	11	9
	Queue <i>between RANDERS and HOBRO</i>	28	22
	Queue <i>towards RANDERS and HOBRO</i>	4	3
	Queue ahead – it is recommended to take exit to RANDERS or HOBRO	34	27
	Don't know/other/unanswered	13	10
		127	100 %

The message seems to be unclear. Most of the respondents understand the information about queue but how it should be related to the exit symbols and the two destinations mentioned is not clear. Some add a comment saying that the sign is poor and ambiguous.

Q48	what do you do?	Number of answers	%
	Take the exit to RANDERS/HOBRO	8	6
	Consider to take the exit	24	19
	Reduce speed/Pay attention	11	9
	Other	5	4
	Unanswered	79	62
		127	100 %



Q49	What does it mean?	Number of answers	%
	Unsafety road	8	6
	Accident/ overturned vehicle	109	86
	Unsafety road OR accident?	1	1
	Don't know	7	6
	Unanswered	2	1
		127	100 %

Q49	What do you do?	Number of answers	%
	Reduce speed	29	23
	Pay attention/ pay attention to rescue vehicles	11	9
	Reduce speed AND pay attention	21	17
	Look out for alternative route	3	2
	Other	2	1
	Unanswered	61	48
		127	100 %

Q50:  **RANDERS
AALBORG
+ 20 MIN**

Q50	What does it mean?	Number of answers	%
	Queue <i>on motorway</i> + 20 MIN <i>extra travel time</i>	49	42
	Queue <i>between</i> Randers and Aalborg + 20 MIN	8	7
	Queue <i>around</i> Randers and Aalborg + 20 MIN	2	2
	<i>Queue towards Randers and Aalborg</i> + 20 MIN	33	29
	Queue	10	9
	Queue between Randers and Aalborg	1	<1
	Wrong/doubtful answers	10	9
	Don't know / unanswered	2	2
		115	100 %

Most of the respondents understand the information about queue and increased travel time on 20 minutes.

Q50	What do you do?	Number of answers	%
	Reduce speed/keep ready to reduce speed	5	4
	Reduce speed AND pay attention	2	2
	Stay on the motorway and keep patience	15	13
	Consider alternative route/ leave the motorway	8	7
	Unanswered	85	74
		115	100 %



Q51	What does it mean?	Number of answers	%
	Road work	8	7
	<i>Road work 25 km ahead</i>	32	28
	Road work 25km ahead OR on the next 25 km	7	6
	Road work on the next 25 KM	62	54
	Wrong/doubtful answers (some think that 25 km is the speed limit related to road work)	5	4
	Unanswered	1	1
		115	100 %

More than half of the respondents misunderstand the information and think it is a message about road work on the next 25 km ahead. Only 28 % give the right answer. Some of the respondents mention that the information is ambiguous.

Q51	What do you do?	Number of answers	%
	Reduce speed/reduce speed AND pay attention	19	16
	Pay attention/ Keep ready to reduce speed	7	6
	Consider alternative route	9	8
	Nothing/ Continue	8	7
	Unanswered	72	63
		115	100 %



Q52	What does it mean?	Number of answers	%
	Exit is blocked	23	20
	Exit is blocked 5 km ahead – continue straight ahead	62	54
	Wrong/doubtful answers	19	17
	Don't know	9	8
	Unanswered	2	1
		115	100 %

It is only about half (54%) of the respondents who answer fully correctly to this question. In addition 20 % answer almost correctly saying the exit is blocked but without mentioning the distance.

Q52	What do you do?	Number of answers	%
	Look out for alternative exit	20	17
	Continue straight ahead	11	10
	Unanswered	84	73
		115	100 %

Q53:



Q53	What does it mean?	Number of answers	%
	Parking for trucks (only)	104	90
	Parking also available for trucks	8	7
	Doubtful / don't know	3	3
		115	100 %

Q53	What do you do?	Number of answers	%
	I will find a parking for personal cars if I need it	17	15
	May be I will park – if I drive a truck	4	3
	Nothing/ continue	11	10
	Unanswered	83	72
		115	100 %



Q54:

Q54	What does it mean?	Number of answers	%
	Tunnel entry blocked	76	66
	Doubtful answers	9	8
	Don't know	28	24
	Unanswered	2	2
		115	100 %

Q54	What do you do?	Number of answers	%
	Look out for alternative routes	35	30
	Will avoid entering the tunnel	3	3
	Reduce speed	1	1
	Turn around	2	2
	Unanswered	74	64
		115	100 %



Q55	What does it mean?	Number of answers	%
	Queue (warning) on exit to Randers	86	75
	Queue towards/ around Randers	7	6
	Queue on the exit	18	16
	Queue	1	1
	Don't know/ other	3	2
		115	100 %

Q55	What do you do?	Number of answers	%
	Reduce speed / pay attention/ pay attention to queue	10	9
	Consider alternative route/exit	31	27
	Change to left lane and continue	2	2
	nothing	7	6
	Unanswered	65	56
		115	100 %

Q56:  34 15 min
 33 25 min
 32 40 min

Q56	What does it mean?	Number of answers	%
	<i>Queue around and travel times to exit 34, 33 og 32</i>	34	30
	Travel times to exits mentioned	37	32
	Queue/ Queue around exits mentioned	15	13
	Wrong/ doubtful answers	25	22
	Don't know/ unanswered	4	3
		115	100 %

Q56	What do you do?	Number of answers	%
	Nothing	11	10
	Consider alternative routes if travel times are long	16	14
	Reduce speed/adapt speed	4	3
	Other	2	2
	Unanswered	82	71
		115	100 %

Q57:



Q57	What does it mean?	Number of answers	%
	Turn off engine when car stop/ turned on engine when car has stopped is prohibited	34	30
	Dust, splash, stone splash from road surface	3	3
	Air pollution, high level of CO2, exhaust gas	27	24
	Other different suggestions	14	12
	Don't know	36	31
	Unanswered	1	< 1
		115	100 %

The meaning of this sign is very unclear.

Q57	What do you do	Number of answers	%
	Close windows/ close air condition	9	8
	Turn off engine	7	6
	Other	6	5
	Unanswered	93	81
		115	100 %

