

This document contains the observation checklist (part A), data and result tables (part B) and the informed consent form (part C) pertaining to the article by Harms et al. "Frequently used vehicle controls while driving: A real-world driving study assessing internal HMI task frequencies and influencing factors".

# Part A: Observation checklist

Is able to	(While driving)				(Standing still)
	(Highway)	(Rural)	(City)	(Jam)	
<b>Radio and Media</b>					
Adjusting volume					
Switching radio station					
Switching app					
Switching media input					
Switching songs					
<b>Climate control</b>					
Turn. on/off AC					
Changing temperature					
Adjusting fan speed					
Adjusting fan layout					
Act/deact heated seat					
Adj. recirculating mode					
Opening/closing windows					
<b>Phone calls</b>					
Answering phone call					
Calling someone					
<b>Lights</b>					
Turn. on/off headlights					
Turn. on/off high beam					
Turn. on/off mist light					
Turn. on/off interior light					
Turn. on/off direction indicator					
<b>Cruise control</b>					
Turn on/off cruise control					
Adj. cruise control speed					
Cancel/resume cruising					
<b>Danger signalling</b>					
Using the horn					
Turn. on/off hazard lights					
<b>Windshield tasks</b>					
Chang. WW speed front*					
Chang. WW speed back*					
Using window fluid front					
Using window fluid back					
Chang. sun visor position					
Act/deact W-heater front					
Act/deact W-heater back					
<b>Mirrors</b>					
Adj. inside mirror					
Adj. outside mirror(s)					
<b>Adjusting settings</b>					
Changing auto distance					
Changing sound mix					

		<b>Using extra features</b>				
Enabl. auto steering						
Enabl. auto parking						
Enabl. auto distance						
Enabl. auto lane-keeping						
		<b>Room for extra tasks</b>				
<b>Route characteristics</b>						
Highway road (time)						
Rural road (time)						
City road (time)						
Traffic jam (time)						
<b>Board computer system type</b>						
matrix screen / No screen						
Screen with menu's						
Touch screen with menu's						
<b>Transmission type</b>						
Manual						
Automatic						
<b>Other car characteristics</b>						
Adaptive climate control (yes/no)						
Adapt. CC (yes/no)						
Automatic lights (yes/no)						
<b>Weather</b>						
Sunny						
Rainy						
Cloudy						
Dark						
Outside temperature						
<b>Trip duration and trip distance</b>						
Trip duration (minutes)						
Trip distance (kilometres)						
<b>Room for comments</b>						

## Part B: Results and Tables

Table B.1. Average number of times a task has been performed per trip over all participants (Own car data)

Is able to		(While driving)				(Standing still)	TOTAL
		(Highway)	(Rural)	(City)	(Jam)		
Out of 30		Radio and Media					
Adjusting volume	30	0.10	0.00	0.63	0.00	0.23	0.97
Switching radio station	30	0.00	0.00	0.07	0.00	0.07	0.13
Switching app	N/A	0.00	0.00	0.07	0.00	0.00	0.07
Switching media input	30	0.00	0.00	0.03	0.00	0.00	0.03
Switching songs	30	0.00	0.00	0.07	0.00	0.00	0.07
Switching screen view	N/A	0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off media system	N/A	0.00	0.03	0.00	0.00	0.00	0.03
Switching dashboard view	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	30	0.10	0.03	0.90	0.00	0.30	1.33
		Climate control					
Turn. on/off AC	29	0.00	0.00	0.00	0.00	0.00	0.00
Changing temperature	30	0.00	0.03	0.50	0.00	0.07	0.60
Adjusting fan speed	30	0.00	0.03	0.27	0.00	0.17	0.47
Adjusting fan layout	30	0.00	0.00	0.00	0.00	0.03	0.03
Act/deact heated seat	12	0.00	0.00	0.00	0.00	0.00	0.00
Adj. recirculating mode	30	0.00	0.00	0.00	0.00	0.00	0.00
Opening/closing windows	29	0.00	0.00	0.07	0.00	0.07	0.13
Open/close roof	N/A	0.00	0.00	0.00	0.00	0.03	0.03
Total for category	12	0.00	0.07	0.83	0.00	0.36	1.26
		Phone calls					
Answering phone call	23	0.00	0.00	0.00	0.00	0.00	0.00
Calling someone	23	0.00	0.00	0.03	0.00	0.00	0.03
Total for category	23	0.00	0.00	0.03	0.00	0.00	0.03
		Lights					
Turn. on/off headlights		0.00	0.00	0.00	0.00	0.00	0.00
Turn. on/off high beam		0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off mist light		0.00	0.00	0.00	0.00	0.00	0.00
Turn. on/off interior light		0.00	0.00	0.00	0.00	0.00	0.00
Turn. on/off direction indicator		0.90	2.23	20.97	0.07	0.00	24.17
Total for category		0.90	2.23	21.00	0.07	0.00	24.20
		Cruise control					
Turn on/off cruise control	23	0.00	0.00	0.00	0.00	0.00	0.00
Adj. cruise control speed	23	0.00	0.00	0.00	0.00	0.00	0.00
Cancel/resume cruising	23	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	23	0.00	0.00	0.00	0.00	0.00	0.00
		Danger signalling					
Using the horn		0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off hazard lights		0.00	0.00	0.00	0.00	0.00	0.00
Total for category		0.00	0.00	0.03	0.00	0.00	0.03
		Windshield tasks					
Chang. WW speed front*		0.00	0.03	0.50	0.00	0.00	0.53

Chang. WW speed back*		0.00	0.00	0.13	0.00	0.10	0.23
Using window fluid front		0.03	0.03	0.03	0.00	0.00	0.10
Using window fluid back	29	0.00	0.00	0.00	0.00	0.00	0.00
Chang. sun visor position	30	0.00	0.07	0.40	0.07	0.13	0.67
Act/deact W-heater front	1	0.00	0.00	0.00	0.00	0.00	0.00
Act/deact W-heater back	29	0.00	0.00	0.03	0.00	0.00	0.03
Enabl. Auto WW	N/A	0.00	0.00	0.03	0.00	0.00	0.03
Total for category	1	0.03	0.13	1.13	0.07	0.23	1.60
<b>Adjusting car setup</b>							
Adj. inside mirror		0.00	0.00	0.00	0.00	0.03	0.03
Adj. outside mirror(s)		0.00	0.00	0.00	0.00	0.00	0.00
Adj. Seat		0.00	0.00	0.00	0.00	0.03	0.03
Total for category		0.00	0.00	0.00	0.00	0.07	0.07
<b>Adjusting settings</b>							
Changing auto distance	11	0.00	0.00	0.00	0.00	0.00	0.00
Changing sound mix	28	0.00	0.00	0.00	0.00	0.00	0.00
Changing driving mode	N/A	0.00	0.00	0.03	0.00	0.00	0.03
Total for category	11	0.00	0.00	0.03	0.00	0.00	0.03
<b>Using extra features</b>							
Enabl. auto steering	2	0.00	0.13	0.00	0.13	0.00	0.27
Enabl. auto parking	1	0.00	0.00	0.00	0.00	0.00	0.00
Enabl. auto distance	11	0.00	0.00	0.00	0.00	0.00	0.00
Enabl. auto lane-keeping	13	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	1	0.00	0.13	0.00	0.13	0.00	0.27
<b>Other</b>							
Move cable from socket	N/A	0.00	0.00	0.07	0.00	0.00	0.07
Using handbrake	N/A	0.00	0.00	0.00	0.00	0.07	0.07
Open/close compartment	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Move arm rest	N/A	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.07	0.00	0.07	0.13
<b>Total</b>		<b>1.03</b>	<b>2.59</b>	<b>24.02</b>	<b>0.27</b>	<b>1.03</b>	<b>28.95</b>

Table B.2. Average task frequency per trip (own car data)

Is able to		(While driving)				(Standing still)	TOTAL AVERAGE
		(Highway)	(Rural)	(City)	(Jam)		
<b>Out of 30</b>		<b>Radio and Media</b>					
Adjusting volume	30	7.50	0.00	2.28	0.00	NA	2.67
Switching radio station	30	0.00	0.00	0.28	0.00	NA	0.42
Switching app	N/A	0.00	0.00	0.20	0.00	NA	0.20
Switching media input	30	0.00	0.00	0.11	0.00	NA	0.11
Switching songs	30	0.00	0.00	0.22	0.00	NA	0.22
Switching screen view	N/A	0.00	0.00	0.11	0.00	NA	0.11
Turn. on/off media system	N/A	0.00	0.88	0.00	0.00	NA	0.07
Switching dashboard view	N/A	0.00	0.00	0.00	0.00	NA	0.00
Total for category	30	7.50	0.88	3.19	0.00	NA	3.79
		<b>Climate control</b>					
Turn. on/off AC	29	0.00	0.00	0.00	0.00	NA	0.00
Changing temperature	30	0.00	0.88	1.64	0.00	NA	1.70
Adjusting fan speed	30	0.00	0.59	0.90	0.00	NA	1.21
Adjusting fan layout	30	0.00	0.00	0.00	0.00	NA	0.10
Act/deact heated seat	12	0.00	0.00	0.00	0.00	NA	0.00

Adj. recirculating mode	30	0.00	0.00	0.00	0.00	NA	0.00
Opening/closing windows	29	0.00	0.00	0.18	0.00	NA	0.34
Open/close roof	N/A	0.00	0.00	0.00	0.00	NA	0.10
Total for category	12	0.00	1.47	2.73	0.00	NA	3.45
<b>Phone calls</b>							
Answering phone call	23	0.00	0.00	0.00	0.00	NA	0.00
Calling someone	23	0.00	0.00	0.18	0.00	NA	0.11
Total for category	23	0.00	0.00	0.18	0.00	NA	0.11
<b>Lights</b>							
Turn. on/off headlights		0.00	0.00	0.00	0.00	NA	0.00
Turn. on/off high beam		0.00	0.00	0.11	0.00	NA	0.11
Turn. on/off mist light		0.00	0.00	0.00	0.00	NA	0.00
Turn. on/off interior light		0.00	0.00	0.00	0.00	NA	0.00
Turn. on/off direction indicator		65.50	39.75	69.53	6.00	NA	66.22
Total for category		65.50	39.75	69.64	6.00	NA	66.33
<b>Cruise control</b>							
Turn on/off cruise control	23	0.00	0.00	0.00	0.00	NA	0.00
Adj. cruise control speed	23	0.00	0.00	0.00	0.00	NA	0.00
Cancel/resume cruising	23	0.00	0.00	0.00	0.00	NA	0.00
Total for category	23	0.00	0.00	0.00	0.00	NA	0.00
<b>Danger signalling</b>							
Using the horn		0.00	0.00	0.10	0.00	NA	0.10
Turn. on/off hazard lights		0.00	0.00	0.00	0.00	NA	0.00
Total for category		0.00	0.00	0.10	0.00	NA	0.10
<b>Windshield tasks</b>							
Chang. WW speed front*		0.00	0.35	1.54	0.00	NA	1.56
Chang. WW speed back*		0.00	0.00	0.43	0.00	NA	0.77
Using window fluid front		2.50	0.35	0.10	0.00	NA	0.25
Using window fluid back	29	0.00	0.00	0.00	0.00	NA	0.00
Chang. sun visor position	30	0.00	1.39	1.57	6.00	NA	1.71
Act/deact W-heater front	1	0.00	0.00	0.00	0.00	NA	0.00
Act/deact W-heater back	29	0.00	0.00	0.11	0.00	NA	0.11
Enabl. Auto WW	N/A	0.00	0.00	0.11	0.00	NA	0.11
Total for category	1	2.50	2.09	3.85	6.00	NA	4.50
<b>Adjusting car setup</b>							
Adj. inside mirror		0.00	0.00	0.00	0.00	NA	0.11
Adj. outside mirror(s)		0.00	0.00	0.00	0.00	NA	0.00
Adj. Seat		0.00	0.00	0.00	0.00	NA	0.10
Total for category		0.00	0.00	0.00	0.00	NA	0.21
<b>Adjusting settings</b>							
Changing auto distance	11	0.00	0.00	0.00	0.00	NA	0.00
Changing sound mix	28	0.00	0.00	0.00	0.00	NA	0.00
Changing driving mode	N/A	0.00	0.00	0.08	0.00	NA	0.08
Total for category	11	0.00	0.00	0.08	0.00	NA	0.08
<b>Using extra features</b>							
Enabl. auto steering	2	0.00	3.53	0.00	20.00	NA	0.89
Enabl. auto parking	1	0.00	0.00	0.00	0.00	NA	0.00
Enabl. auto distance	11	0.00	0.00	0.00	0.00	NA	0.00
Enabl. auto lane-keeping	13	0.00	0.00	0.00	0.00	NA	0.00
Total for category	1	0.00	3.53	0.00	20.00	NA	0.89
<b>Other</b>							
Move cable from socket	N/A	0.00	0.00	0.21	0.00	NA	0.21

Using handbrake	N/A	0.00	0.00	0.00	0.00	NA	0.22
Open/close compartment	N/A	0.00	0.00	0.00	0.00	NA	0.00
Move arm rest	N/A	0.00	0.00	0.00	0.00	NA	0.00
		0.00	0.00	0.21	0.00	NA	0.43
<b>Total</b>		<b>75.50</b>	<b>47.73</b>	<b>79.99</b>	<b>32.00</b>	<b>NA</b>	<b>79.89</b>

Table B.3. Average number of times a task has been performed per trip over all participants (unfamiliar car data)

Is able to		(While driving)				(Standing still)	TOTAL AVERAGE
		(Highway)	(Rural)	(City)	(Jam)		
<b>Out of 30</b>		<b>Radio and Media</b>					
Adjusting volume	Yes	0.07	0.00	0.43	0.00	0.13	0.63
Switching radio station	Yes	0.03	0.00	0.07	0.03	0.03	0.17
Switching app	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Switching media input	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Switching songs	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Switching screen view	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Turn. on/off media system	N/A	0.00	0.00	0.13	0.00	0.00	0.13
Switching dashboard view	N/A	0.00	0.00	0.00	0.03	0.03	0.07
Total for category	Yes	0.1	0.00	0.63	0.07	0.19	1
		<b>Climate control</b>					
Turn. on/off AC	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Changing temperature	Yes	0.03	0.00	0.07	0.00	0.00	0.10
Adjusting fan speed	Yes	0.00	0.00	0.00	0.00	0.03	0.03
Adjusting fan layout	Yes	0.00	0.00	0.00	0.00	0.03	0.03
Act/deact heated seat	No	0.00	0.00	0.00	0.00	0.00	0.00
Adj. recirculating mode	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Opening/closing windows	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Open/close roof	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	No	0.03	0.00	0.07	0.00	0.07	0.17
		<b>Phone calls</b>					
Answering phone call	No	0.00	0.00	0.00	0.00	0.00	0.00
Calling someone	No	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	No	0.00	0.00	0.00	0.00	0.00	0.00
		<b>Lights</b>					
Turn. on/off headlights		0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off high beam		0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off mist light		0.00	0.00	0.00	0.00	0.00	0.00
Turn. on/off interior light		0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off direction indicator		1.03	2.37	21.43	0.10	0.00	24.93
Total for category		1.03	2.37	21.53	0.10	0.00	25.03
		<b>Cruise control</b>					
Turn on/off cruise control	Yes	0.00	0.10	0.07	0.00	0.00	0.17
Adj. cruise control speed	Yes	0.00	0.00	0.03	0.00	0.00	0.03
Cancel/resume cruising	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	Yes	0.00	0.10	0.10	0.00	0.00	0.20
		<b>Danger signalling</b>					
Using the horn		0.00	0.00	0.03	0.00	0.00	0.03
Turn. on/off hazard lights		0.00	0.00	0.00	0.00	0.00	0.00
Total for category		0.00	0.00	0.03	0.00	0.00	0.03
		<b>Windshield tasks</b>					

Chang. WW speed front*		0.17	0.00	2.23	0.00	0.13	2.53
Chang. WW speed back*		0.03	0.00	0.50	0.00	0.10	0.63
Using window fluid front		0.00	0.00	0.10	0.00	0.00	0.10
Using window fluid back	Yes	0.00	0.00	0.00	0.00	0.00	0.00
Chang. sun visor position	Yes	0.00	0.10	0.37	0.00	0.03	0.50
Act/deact W-heater front	No	0.00	0.00	0.00	0.00	0.00	0.00
Act/deact W-heater back	Yes	0.17	0.00	2.23	0.00	0.13	2.53
Enabl. Auto WW	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	No	0.20	0.10	3.20	0.00	0.27	3.77
<b>Adjusting car setup</b>							
Adj. inside mirror		0.00	0.03	0.20	0.00	0.00	0.23
Adj. outside mirror(s)		0.00	0.00	0.00	0.00	0.00	0.00
Adj. Seat		0.00	0.00	0.10	0.00	0.03	0.13
Total for category		0.00	0.03	0.30	0.00	0.03	0.37
<b>Adjusting settings</b>							
Changing auto distance	No	0.00	0.00	0.00	0.00	0.00	0.00
Changing sound mix	Yes	0.00	0.00	0.03	0.00	0.00	0.03
Changing driving mode	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	No	0.00	0.00	0.03	0.00	0.00	0.03
<b>Using extra features</b>							
Enabl. auto steering	No	0.00	0.00	0.00	0.00	0.00	0.00
Enabl. auto parking	No	0.00	0.00	0.00	0.00	0.00	0.00
Enabl. auto distance	No	0.00	0.00	0.00	0.00	0.00	0.00
Enabl. auto lane-keeping	No	0.00	0.00	0.00	0.00	0.00	0.00
Total for category	No	0.00	0.00	0.00	0.00	0.00	0.00
<b>Other</b>							
Move cable from socket	N/A	0.00	0.00	0.00	0.00	0.00	0.00
Using handbrake	N/A	0.00	0.00	0.00	0.00	0.20	0.20
Open/close compartment	N/A	0.00	0.00	0.00	0.00	0.07	0.07
Move arm rest	N/A	0.00	0.00	0.03	0.00	0.00	0.03
	NA	0.00	0.00	0.03	0.00	0.27	0.3
<b>Total</b>		<b>1.36</b>	<b>2.6</b>	<b>25.92</b>	<b>0.17</b>	<b>0.83</b>	<b>30.9</b>

Table B.4. Average task frequency per trip (Unfamiliar car data)

<b>Is able to</b>		<b>(While driving)</b>				<b>(Standing still)</b>	<b>TOTAL</b>
		<b>(Highway)</b>	<b>(Rural)</b>	<b>(City)</b>	<b>(Jam)</b>		
<b>Out of 30</b>		<b>Radio and Media</b>					
Adjusting volume	Yes	5.00	0.00	1.40	0.00	NA	1.64
Switching radio station	Yes	2.50	0.00	0.19	15.00	NA	0.39
Switching app	N/A	0.00	0.00	0.00	0.00	NA	0.00
Switching media input	Yes	0.00	0.00	0.00	0.00	NA	0.00
Switching songs	Yes	0.00	0.00	0.00	0.00	NA	0.00
Switching screen view	N/A	0.00	0.00	0.00	0.00	NA	0.00
Turn. on/off media system	N/A	0.00	0.00	0.80	0.00	NA	0.47
Switching dashboard view	N/A	0.00	0.00	0.00	5.00	NA	0.24
Total for category	Yes	7.50	0.00	2.39	20.00	NA	2.73
		<b>Climate control</b>					
Turn. on/off AC	Yes	0.00	0.00	0.00	0.00	NA	0.00
Changing temperature	Yes	2.50	0.00	0.17	0.00	NA	0.23
Adjusting fan speed	Yes	0.00	0.00	0.00	0.00	NA	0.07
Adjusting fan layout	Yes	0.00	0.00	0.00	0.00	NA	0.10



Act/deact heated seat	No	0.00	0.00	0.00	0.00	NA	0.00
Adj. recirculating mode	Yes	0.00	0.00	0.00	0.00	NA	0.00
Opening/closing windows	Yes	0.00	0.00	0.00	0.00	NA	0.00
Open/close roof	N/A	0.00	0.00	0.00	0.00	NA	0.00
Total for category	No	2.50	0.00	0.17	0.00	NA	0.40
<b>Phone calls</b>							
Answering phone call	No	0.00	0.00	0.00	0.00	NA	0.00
Calling someone	No	0.00	0.00	0.00	0.00	NA	0.00
Total for category	No	0.00	0.00	0.00	0.00	NA	0.00
<b>Lights</b>							
Turn. on/off headlights		0.00	0.00	0.20	0.00	NA	0.11
Turn. on/off high beam		0.00	0.00	0.11	0.00	NA	0.11
Turn. on/off mist light		0.00	0.00	0.00	0.00	NA	0.00
Turn. on/off interior light		0.00	0.00	0.33	0.00	NA	0.13
Turn. on/off direction indicator		73.00	40.44	67.99	25.00	NA	66.58
Total for category		73.00	40.44	68.62	25.00	NA	66.92
<b>Cruise control</b>							
Turn on/off cruise control	Yes	0.00	2.65	0.40	0.00	NA	0.59
Adj. cruise control speed	Yes	0.00	0.00	0.20	0.00	NA	0.12
Cancel/resume cruising	Yes	0.00	0.00	0.00	0.00	NA	0.00
Total for category	Yes	0.00	2.65	0.60	0.00	NA	0.71
<b>Danger signalling</b>							
Using the horn		0.00	0.00	0.10	0.00	NA	0.10
Turn. on/off hazard lights		0.00	0.00	0.00	0.00	NA	0.00
Total for category		0.00	0.00	0.10	0.00	NA	0.10
<b>Windshield tasks</b>							
Chang. WW speed front*		12.50	0.00	6.70	0.00	NA	6.88
Chang. WW speed back*		2.50	0.00	1.50	0.00	NA	1.62
Using window fluid front		0.00	0.00	0.37	0.00	NA	0.28
Using window fluid back	Yes	0.00	0.00	0.00	0.00	NA	0.00
Chang. sun visor position	Yes	0.00	2.06	1.07	0.00	NA	1.16
Act/deact W-heater front	No	0.00	0.00	0.00	0.00	NA	0.00
Act/deact W-heater back	Yes	0.00	0.00	0.00	0.00	NA	0.00
Enabl. Auto WW	N/A	0.00	0.00	0.00	0.00	NA	0.00
Total for category	No	15.00	2.06	9.65	0.00	NA	9.94
<b>Adjusting car setup</b>							
Adj. inside mirror		0.00	0.39	0.69	0.00	NA	0.66
Adj. outside mirror(s)		0.00	0.00	0.00	0.00	NA	0.00
Adj. Seat		0.00	0.00	0.28	0.00	NA	0.37
Total for category		0.00	0.39	0.97	0.00	NA	1.03
<b>Adjusting settings</b>							
Changing auto distance	No	0.00	0.00	0.00	0.00	NA	0.00
Changing sound mix	Yes	0.00	0.00	0.09	0.00	NA	0.08
Changing driving mode	N/A	0.00	0.00	0.00	0.00	NA	0.00
Total for category	No	0.00	0.00	0.09	0.00	NA	0.08
<b>Using extra features</b>							
Enabl. auto steering	No	0.00	0.00	0.00	0.00	NA	0.00
Enabl. auto parking	No	0.00	0.00	0.00	0.00	NA	0.00
Enabl. auto distance	No	0.00	0.00	0.00	0.00	NA	0.00
Enabl. auto lane-keeping	No	0.00	0.00	0.00	0.00	NA	0.00
Total for category	No	0.00	0.00	0.00	0.00	NA	0.00
<b>Other</b>							

Move cable from socket	N/A	0.00	0.00	0.00	0.00	NA	0.00
Using handbrake	N/A	0.00	0.00	0.00	0.00	NA	0.62
Open/close compartment	N/A	0.00	0.00	0.00	0.00	NA	0.20
Move arm rest	N/A	0.00	0.00	0.09	0.00	NA	0.08
	NA	0.00	0.00	0.09	0.00	NA	0.90
<b>Total</b>		<b>98.00</b>	<b>45.54</b>	<b>82.68</b>	<b>45.00</b>	<b>NA</b>	<b>82.82</b>

Table B.5. Trip context

Trip context				
Variable	Category	Amount	Percentage	N
<b>Weather</b>	Sunny	8	13.33	60
	Rainy	14	23.33	
	Cloudy	28	46.67	
	Dark	10	16.67	
<b>Peak traffic hours</b>	Yes	15	25	60
	No	45	75	

Table B.6. Top 10 most used tasks using the data from both trips combined

The table shows the 10 most performed tasks during the 60 trips. The table is ordered from most to least used tasks. The average number of times a particular task has been performed over the 60 trips is shown as well as the average frequency per hour. Furthermore, the minimum and maximum number of times that a task has been performed during a single trip are shown. Finally, the last two columns show how many of the participants' own cars and the unfamiliar cars were able to perform these tasks.

Task N = 60	Average	Total	Min	Max	Avg freq per hour	Own car	Seat / other cars
<b>Using direction indicator</b>	24.55	1473.00	11.00	40.00	66.40	30	Yes / 2
<b>Changing front windshield wiper speed</b>	1.53	92.00	0.00	29.00	4.22	30	Yes / 2
<b>Adjusting volume</b>	0.80	48.00	0.00	5.00	2.15	30	Yes / 2
<b>Moving sun visor</b>	0.58	35.00	0.00	9.00	1.44	30	Yes / 2
<b>Changing rear windshield wiper speed</b>	0.43	26.00	0.00	7.00	1.19	30	Yes / 2
<b>Adjusting temperature</b>	0.35	21.00	0.00	3.00	0.96	30	Yes / 2

<b>Adjusting fan speed</b>	0.25	15.00	0.00	4.00	0.64	30	Yes / 2
<b>Switching radio station</b>	0.15	9.00	0.00	2.00	0.41	30	Yes / 2
<b>Adjusting inside mirror</b>	0.13	8.00	0.00	2.00	0.38	30	Yes / 2
<b>Enabling/disabling auto pilot</b>	0.13	8.00	0.00	8.00	0.44	2	No / 0

Table B.7. Aggregated descriptive analysis for both trips combined

The table shows the total number of tasks performed over all trips and the total number of tasks performed per category (presented are only the function categories for which there were more than ten interactions with any of its tasks). Because the direction indicator was used much more often than other tasks, also the total number of tasks performed over all trips excluding the direction indicator is shown. Finally, a variable was created that excludes the front windshield wiper as well,. This was done, given the issues some participants experienced with it in the unfamiliar car, resulting in extremely high use frequencies.

<b>Variable N = 60</b>	<b>Average</b>	<b>Total</b>	<b>Min</b>	<b>Max</b>	<b>Avg freq per hour</b>
<b>Number of tasks used in total</b>					
<b>Total</b>	29.93	1796.00	13.00	71.00	81.35
<b>Total excluding indicator light</b>	5.38	323.00	0.00	32.00	14.95
<b>Total excluding indicator light and front windshield wiper</b>	3.85	231.00	0.00	14.00	10.74
<b>Number of tasks used per category</b>					
<b>Lights category</b>	24.62	1477.00	11.00	40.00	66.63
<b>Windshield category</b>	2.68	161.00	0.00	32.00	7.22
<b>Radio and media category</b>	1.17	70.00	0.00	6.00	3.26
<b>Climate control category</b>	0.72	43.00	0.00	5.00	1.93
<b>Setup category</b>	0.22	13.00	0.00	2.00	0.62
<b>Other category</b>	0.22	13.00	0.00	2.00	0.67

Table B.8. Number of total tasks performed per road type and situation

Number of tasks performed per road type and situation					
Variable	Average	Total	% of total	Average Frequency (per hour)	# of trips using the road type
City	24.98	1499.00	83.46	81.33	60
Rural	2.60	156.00	8.69	46.63	34
Highway	1.20	72.00	4.01	86.75	8
Standing still	0.93	56.00	3.12	NA	NA
Traffic jam	0.22	13.00	0.72	38.50	8

Table B.9. Top 10 most used tasks for both trips separately

Own car				Unfamiliar car			
Task N = 30	Average	Total	Average frequency (per hour)	Task N = 30	Average	Total	Average Frequency (per hour)
Using direction indicator	24.17	725	66.22	Using direction indicator	24.93	748	66.58
Adjusting volume	1.00	29	2.67	Changing front WW speed	2.53	76	6.88
Moving sun visor	0.67	20	1.71	Adjusting volume	0.63	19	1.64
Adjusting temperature	0.60	18	1.70	Changing rear WW speed	0.63	19	1.62
Changing front WW speed	0.53	16	1.56	Moving sun visor	0.50	15	1.16
Adjusting fan speed	0.47	14	1.21	Adjusting inside mirror	0.23	7	0.66
Enabling/disabling auto pilot	0.27	8	0.89	Using handbrake	0.20	6	0.62
Changing rear WW speed	0.23	7	0.77	Switching radio station	0.17	5	0.39

<b>Switching radio station</b>	0.13	4	0.42	<b>Enabling/disabling cruise control</b>	0.17	5	0.59
<b>Opening/closing windows</b>	0.13	4	0.34	<b>Adjusting seat</b>	0.13	4	0.37

\*WW = windshield wiper

Table B.10. Distribution per road type and situation of the number of tasks performed

<b>Category</b>	<b>Highway (%)</b>	<b>Rural (%)</b>	<b>City (%)</b>	<b>Traffic jam (%)</b>	<b>Standstill (%)</b>	<b>N</b>
<b>Lights_tot</b>	3.93	9.34	86.39	0.34	0.00	1477
<b>Windshield_tot</b>	4.35	4.35	80.75	1.24	9.32	161
<b>Radmedia_tot</b>	8.57	1.43	65.71	2.86	21.43	70
<b>Climate_tot</b>	2.33	4.65	62.79	0.00	30.23	43
<b>Features_tot</b>	0.00	50.00	0.00	50.00	0.00	8
<b>Other_tot</b>	0.00	0.00	23.08	0.00	76.92	13
<b>Setup_tot</b>	0.00	7.69	69.23	0.00	23.08	13
<b>Phone_tot</b>	0.00	0.00	100.00	0.00	0.00	1
<b>Signal_tot</b>	0.00	0.00	100.00	0.00	0.00	2
<b>Settings_tot</b>	0.00	0.00	100.00	0.00	0.00	2
<b>Cruise_tot</b>	0.00	50.00	50.00	0.00	0.00	6

Table B.11. Correlations

Correlations																
		Age	Gender	Driv_lic	Driv_fre	HMI	BSC_type_dum my	Trans_type_dum my	Ada_clim_dum my	Ada_cc_dum my	Aut_light_dum my	Rush_dummy	Sunny	Cloudy	Rainy	Dark
Age	Pearson Correlation	1	,074	,992**	,291	,090	-,004	,089	,039	,229	,178	,243	,053	-,187	,089	,096
	Sig. (2-tailed)		,699	< .001	,119	,637	,982	,638	,840	,224	,347	,196	,780	,323	,640	,614
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Gender	Pearson Correlation	,074	1	,073	,225	,125	,250	,190	,196	,098	,000	-,111	,000	-,095	,000	,126
	Sig. (2-tailed)	,699		,700	,233	,512	,183	,314	,300	,607	1,000	,558	1,000	,617	1,000	,505
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Driv_lic	Pearson Correlation	,992**	,073	1	,285	,146	,006	,075	,010	,257	,200	,199	,052	-,147	,073	,061
	Sig. (2-tailed)	< .001	,700		,127	,441	,975	,694	,957	,170	,290	,292	,786	,438	,702	,747
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Driv_fre	Pearson Correlation	,291	,225	,285	1	,408*	,330	,104	,361	,182	,178	-,004	,118	-,109	,056	-,042
	Sig. (2-tailed)	,119	,233	,127		,025	,075	,583	,050	,335	,346	,982	,533	,565	,769	,826
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
HMI	Pearson Correlation	,090	,125	,146	,408*	1	,148	-,010	,031	-,100	,079	-,136	-,171	,013	,105	,054
	Sig. (2-tailed)	,637	,512	,441	,025		,435	,960	,870	,600	,677	,473	,367	,947	,582	,776
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
BSC_type_dummy	Pearson Correlation	-,004	,250	,006	,330	,148	1	,190	,489**	,391*	,617**	,056	,000	-,095	,177	-,063
	Sig. (2-tailed)	,982	,183	,975	,075	,435		,314	,006	,032	< .001	,770	1,000	,617	,350	,740
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Trans_type_dummy	Pearson Correlation	,089	,190	,075	,104	-,010	,190	1	,386*	,451*	,279	-,164	,235	,050	-,101	-,211
	Sig. (2-tailed)	,638	,314	,694	,583	,960	,314		,035	,012	,136	,385	,210	,794	,596	,264
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Ada_clim_dummy	Pearson Correlation	,039	,196	,010	,361	,031	,489**		1	,435*	,558**	,093	,035	-,312	,208	,155
	Sig. (2-tailed)	,840	,300	,957	,050	,870	,006	,035		,016	,001	,626	,856	,094	,271	,414
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Ada_cc_dummy	Pearson Correlation	,229	,098	,257	,182	-,100	,391*	,451*		,435*	1	,498**	,071	,138	-,208	-,155
	Sig. (2-tailed)	,224	,607	,170	,335	,600	,032	,012	,016		,005	,710	,466	,363	,271	,414
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Aut_light_dummy	Pearson Correlation	,178	,000	,200	,178	,079	,617**	,279	,558**		,498**	1	,017	-,218	-,015	,327
	Sig. (2-tailed)	,347	1,000	,290	,346	,677	< .001	,136	,001	,005		,928	,247	,939	,077	,608
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Rush_dummy	Pearson Correlation	,243	-,111	,199	-,004	-,136	,056	-,164	,093	,071	,017	1	-,276	-,164	-,079	,599**
	Sig. (2-tailed)	,196	,558	,292	,982	,473	,770	,385	,626	,710	,928		,140	,385	,679	< .001
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Sunny	Pearson Correlation	,053	,000	,052	,118	-,171	,000	,235	,035	,138	-,218	-,276	1	-,437*	-,250	-,224
	Sig. (2-tailed)	,780	1,000	,786	,533	,367	1,000	,210	,856	,466	,247	,140		,016	,183	,235
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Cloudy	Pearson Correlation	-,187	-,095	-,147	-,109	,013	-,095	,050	-,312	,172	-,015	-,164	-,437*	1	-,437*	-,391*
	Sig. (2-tailed)	,323	,617	,438	,565	,947	,617	,794	,094	,363	,939	,385	,016		,016	,033
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Rainy	Pearson Correlation	,089	,000	,073	,056	,105	,177	-,101	,208	-,208	,327	-,079	-,250	-,437*	1	-,224
	Sig. (2-tailed)	,640	1,000	,702	,769	,582	,350	,596	,271	,271	,077	,679	,183	,016		,235
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Dark	Pearson Correlation	,096	,126	,061	-,042	,054	-,063	-,211	,155	-,155	-,098	,599**	-,224	-,391*	-,224	1
	Sig. (2-tailed)	,614	,505	,747	,826	,776	,740	,264	,414	,414	,608	< .001	,235	,033	,235	
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

## **Part C: Informed consent form**

INFORMED CONSENT FORM (PLEASE TICK THE APPROPRIATE BOXES)	Yes	No
<b>A: GENERAL AGREEMENT – RESEARCH GOALS, PARTICIPANT TASKS AND VOLUNTARY PARTICIPATION</b>		
1. I have read and understood the study information dated [28/11/2023], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>
2. I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time during the observations, without having to give a reason.	<input type="checkbox"/>	<input type="checkbox"/>
3. I understand that taking part in the study involves: <ul style="list-style-type: none"> <li>• Answering some short questions.</li> <li>• Driving two trips on a familiar route. One with a familiar car and one with an unfamiliar car.</li> <li>• The researcher collecting data during driving by making notes.</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. I understand that in the event of any incidents with my own car, I am required to use my own insurance coverage.	<input type="checkbox"/>	<input type="checkbox"/>
5. I understand that any fines that occur while I am driving are at my own expense.	<input type="checkbox"/>	<input type="checkbox"/>
<b>B: RESEARCH PUBLICATION, DISSEMINATION AND APPLICATION</b>		
6. I understand that after the research study, the de-identified information I provide will be used for research purposes and can be used as input for regulations.	<input type="checkbox"/>	<input type="checkbox"/>
<b>C: (LONGTERM) DATA STORAGE, ACCESS AND REUSE</b>		
7. I give permission for the de-identified data that I provide to be archived on the hard drive of the researcher, a RDW-secured location and the TU Delft thesis repository so it can be used for future research, learning and creating regulations.	<input type="checkbox"/>	<input type="checkbox"/>

<b>Signatures</b>		
_____	_____	_____
Name of participant [printed]	Signature	Date
I, as researcher, have accurately read out the information or presented the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.		
_____	_____	_____
Researcher name [printed]	Signature	Date