Table S1. Risk of Permanent Medical Impairment of at least 1% (left side) and at least 10% (right side)

RPMI1%+					RPMI1%0+					
Body region	AIS 1	AIS 2	AIS 3	AIS 4	AIS 5	Body region	AIS 1	AIS 2	AIS 3	AIS 4	AIS 5
Head	8.0%	15%	50%	80%	100%	Head	2.5%	8%	35%	75%	100%
Cervical spine	16.7%	61%	80%	100%	100%	Cervical spine	2.5%	10%	30%	100%	100%
Face	5.8%	28%	80%	80%	n/a	Face	0.4%	6%	60%	60%	n/a
Upper extremity	17.4%	35%	85%	100%	n/a	Upper extremity	0.3%	3%	15%	100%	n/a
Lower extremity	17.6%	50%	60%	60%	100%	Lower extremity	0.0%	3%	10%	40%	100%
Thorax	2.6%	4.0%	4%	30%	20%	Thorax	0.0%	0%	0%	15%	15%
Thoracic spine	4.9%	45%	90%	100%	100%	Thoracic spine	0.0%	7%	20%	100%	100%
Abdomen	0%	2.4%	10%	20%	20%	Abdomen	0.0%	0%	5%	5%	5%
Lumbar spine	5.7%	55%	70%	100%	100%	Lumbar spine	0.1%	6%	6%	100%	100%
External (skin)	1.7%	20%	50%	50%	100%	External (skin)	0%	0%	50%	50%	100%

Source: Malm et al. (2008)

Table S2. Make, model and size of cars with and without AEB with pedestrian and/or cyclist detection included in AEB effect analysis

Car make	Car model	Car size	with AEB pedestrian	without AEB pedestrian	with AEB cyclist	without AEB cyclist
Audi	A3	Small family car		5		7
	A4/A5	Mid size car	6	3		6
	A6	Large car		4	2	13
	e-tron	Small SUV	1			
	Q3	Small SUV		2		1
	Q5	Large SUV	1	2		5
	Q7	Large SUV	2		2	
BMW	1-series	Small family car		3	2	7
	2-series	Small family car				1
	3-series	Mid size car	1	3	2	11
	5-series	Large car		1		9
	I3	Small family car				3
	i3s	Small family car				1
	X1	Small SUV		1		1
	X3	Small SUV		1		1
	X4	Small SUV				1
CITROEN	Berlingo	Small family car				1
	C3	Small family car		4		6
	C4	Small family car		1		
	C4 Cactus	Small family car		3		
	C4 Picasso	Mid size car				1
	C5	Mid size car		1		1
	C5 Aircross	Mid size car			1	
	DS5	Mid size car		1		
DACIA	Duster	Small SUV		4		6
	Lodgy Stepway	Small SUV				1
	Logan	Small family car		4		2
	Sandero	Small family car				1
FIAT	500X	Small SUV				3
	Tipo	Small family car				2
FORD	C-Max	Mid size car		1		5
	Edge	Small SUV	2			
	Focus	Mid size car		5		6
	Kuga	Small SUV			1	2
	Mondeo	Large car		1	1	3
HONDA	Civic	Small family car				8
	CR-V	Small SUV		2		2
	HR-V	Small SUV	1			3
HYUNDAI	i30	Small family car	1	4		7
	i40	Large car		1		2
	Ioniq	Small family car				2
	ix35	Small SUV		1		1
	Santa Fe	Large SUV				3
	Tucson	Small SUV	1		1	2
JAGUAR	E-Pace	Small SUV	1			
	XE	Mid size car				1
Jeep	Cherokee	Small SUV				3
	Grand Cherokee	Large SUV		1		
	Renegade	Small SUV				1
KIA	Ceed	Small family car	1	10	9	12
	e-Soul	Small family car		1		
	e-Niro	Small family car			2	
	Niro	Small family car			8	
	Optima	Large car	4			8

	Sorento	Large SUV		1	1	3
	Soul	Small family car				1
	Sportage	Small SUV	2	1	1	8
	Stonic	Small family car	1			1
LAND ROVER	Discovery	Large SUV				2
	Range rover	Large SUV				2
	Range rover Evoque	Large SUV				1
LEXUS	ES	Large car	1			
	NX	Small SUV				1
MAZDA	3	Small family car				4
	CX-3	Small SUV	1			2
	CX-5	Small SUV		1	1	3
	MX-30	Small family car			1	
MERCEDES BENZ	A-Class	Small family car		1	2	4
	B-Class	Small family car				5
	C-Class	Mid size car	1	4	1	4
	CLA	Small family car		4		4
	E-Class	Large car	7	5		15
	EQC	Small SUV			1	
	GLC	Small SUV		1		5
	GLE	Large SUV			1	
	GLK	Large SUV				1
MG	Marvel A	Small SUV	1			
	ZS EV	Small family car	1		1	
MITSUBISHI	Outlander	Small SUV				5
NISSAN	Juke	Small SUV				5
	Leaf	Small family car		2	4	
	Note	Small family car		1		3
	Pulsar	Small family car		1		
	Qashqai	Small SUV		8		15
	X-trail	Small SUV		3		2
OPEL	Astra	Small family car		1		9
	Grandland X	Small SUV		2		2
	Insignia	Large car	1	2		3
PEUGEOT	308	Small family car		2		4
	508	Large car			1	1
	3008	Small SUV	4			7
PORSCHE	Cayenne	Large SUV				1
RENAULT	Captur	Small SUV		1		10
	Kadjar	Small SUV				2
	Megane	Small family car		1		3
	Scenic	Small family car		1		
	Talisman	Mid size car		1		8
SEAT	Arona	Small SUV	1			2
	Ateca	Small SUV	2			1
	Leon	Small family car	2	2		5
SKODA	Kamiq	Small SUV			1	
	Kodiaq	Large SUV	1			1
	Octavia	Mid size car	5	4	2	1
	Rapid	Small family car		2		1
	Scala	Small family car			1	
	Superb	Large car	1			2
	Yeti	Small SUV				3
SUBARU	Forester	Small SUV				2
	Impreza	Small family car				1
	Levorg	Mid size car			1	
	Outback	Large car	1		4	
	XV	Small family car				1

SUZUKI	Baleno	Small family car				1
	SX4 Cross	Small family car		1		
	Vitara	Small SUV		1		1
TESLA	Model 3	Large car	2			
	Model S	Large car			5	3
	Model X	Large car			1	
	Model Y	Large car			1	
TOYOTA	Auris	Small family car		15		39
	Avensis	Large car		1		6
	C-HR	Small family car	5			2
	Corolla	Small family car	4		7	
	Prius	Mid size car	2	1		1
	Rav-4	Small SUV	4	1	3	4
	Verso	Small family car				2
VOLKSWAGEN	Amarok	Large SUV				1
	Arteon	Large car	1			1
	e-Golf	Small family car				1
	Golf	Small family car	2	14	2	39
	Golf Sportsvan	Small family car				1
	ID.3	Small family car	2			
	ID.4	Small SUV	2		1	
	Passat	Large car	1	2		26
	Scirocco	Small family car				1
	T-cross	Small SUV			2	
	T-roc	Small SUV				2
	Tiguan	Small SUV	1	3		5
VOLVO	S60/V60	Mid size car	8	6	11	13
	S90/V90	Large car	13		23	
	V40	Small family car	1	9	2	11
	V70/S80	Large car	14	6	24	3
	XC40	Small SUV	1		5	
	XC60	Large SUV	11	4	20	6
	XC70	Large car	1	3	3	2
	XC90	Large SUV	5		4	1
Total			**135**	**188**	**169**	**500**

Table S3. Car make and model for cars with and without active bonnet included in analysis

Car make	Car model	with active bonnet (pedestrians)	without active bonnet (pedestrians)	with active bonnet (cyclists)	without active bonnet (cyclists)
ALFA ROMEO	Giulietta		1		2
Audi	A3	5		9	
	A4/A5			4	1
	Q3		2		2
	Q5			1	
BMW	1-series		5		17
	2-series			1	
	3-series		8		20
	5-series	7		19	
	I3				3
	i3s				1
	X1	1	1	1	5
	X3		2		5
	X4				1
CHEVROLET	Aveo		2		1
	Trax				1
CITROEN	Berlingo				1
	C1		1		2
	C3		3		5
	C4		1		1
	C4 Cactus		3		
	C4 Picasso		1		1
DACIA	Duster				3
	Logan		3		1
	Logan MCV		1		1
	Sandero		3		3
	Sandero Stepway				2
FIAT	500				2
	500X				3
	Grande punto				3
	Tipo				2
FORD	C-max		1		5
	Fiesta		1		6
	Focus		7		19
	Ka+				1
	Kuga		2		2
	Mondeo		1		3
	Transit Connect		1		
	S-max				1
HONDA	Accord		1		2
	Civic		2		13
	CR-V		2		3
	HR-V				3
	Insight		1		
	Jazz		5		5
HYUNDAI	i10		5		8
	i20		10		12
	i30		9		17
	Ioniq				2
	ix20		5		8
	ix35		3		5
	Santa Fe		1	2	1
	Tucson			2	
JAGUAR	XE			1	

Make	Model				
Jeep	Cherokee				3
	Renegade				1
KIA	Carens				1
	Ceed		16		19
	e-Soul		1		
	Optima				7
	Picanto		4		3
	Rio				1
	Sorento	1		2	
	Soul				1
	Sportage				5
	Stonic				1
	Venga		6		7
LAND ROVER	Discovery				2
LEXUS	NX				1
MAZDA	2		2		1
	3				5
	CX-3				2
	CX-5		2		5
MERCEDES BENZ	A-Class	1		4	
	B-Class		6		15
	C-Class	3	1	3	1
	CLA	4		5	
	E-Class	16	1	27	
	GLC	1		5	
	M-Class			1	
	V-Class				3
	Vito		2		5
MINI	Cooper	2		6	
	Countryman				1
MITSUBISHI	ASX		4		5
	Space Star		1		5
NISSAN	Leaf		2		2
	Micra		3		4
	Note		1		4
	Pulsar		1		
	X-trail		3		2
OPEL	Astra		2		5
	Corsa		7		11
	Corsa-e				1
	Grandland X				2
	Insignia			3	
	Zafira		1		3
PEUGEOT	107		5		6
	108		2		1
	207		2		5
	208		6		15
	308		8		16
	2008		4		3
	3008				7
	e-208				1
	Partner				6
PORSCHE	Cayenne			1	
RENAULT	Captur		2		10
	Clio		5		25
	Kadjar				2
	Kangoo		1		
	Megane		1		3

Brand	Model				
	Talisman		1		8
	Zoe		4		2
SEAT	Alhambra				2
	Altea		1		2
	Arona				2
	Ateca				1
	Ibiza		8		6
	Leon		4		7
SKODA	Fabia		3		12
	Kodiaq				1
	Octavia	4		1	
	Rapid		2		2
	Superb				2
SUBARU	Forester				2
	Impreza				1
	Legacy		1		
	Legacy/Outback		1		2
	XV				3
SUZUKI	Baleno				1
	Grand vitara				1
	Swift		5		3
	SX4		2		3
	SX4 Cross		1		
	Vitara		1		1
TESLA	Model S			3	
TOYOTA	Auris		30		59
	Avensis		9		23
	Aygo		8		18
	C-HR				2
	Corolla				1
	IQ		1		1
	Prius		9		15
	ProAce Verso				2
	RAV-4		4		10
	Urban cruiser		1		3
	Verso		2		8
	Yaris		17		36
VOLKSWAGEN	Arteon			1	
	Beetle				1
	Caddy		1		4
	e-Golf				1
	e-up!		1		1
	Golf		50		93
	Golf sportsvan				1
	Passat		43		81
	Polo		11		26
	Scirocco		1		3
	Sharan				2
	T-roc				2
	Tiguan			3	
	Touran			2	
VOLVO	S60/V60		22		32
	V40	10		17	
Total		**55**	**440**	**124**	**928**

Table S4. Proportion of AEB pedestrian and AEB cyclist divided by Euro NCAP pedestrian score group

	with AEB pedestrian	without AEB pedestrian
10 - 18 p	16%	25%
19 - 27 p	62%	63%
28 - 36 p	22%	12%
	with AEB cyclist	**without AEB cyclist**
10 - 18 p	20%	15%
19 - 27 p	64%	69%
28 - 36 p	15%	15%

Table S5. mRPMI 10%+ divided by Euro NCAP pedestrian score group and AEB pedestrian fitment, for crashes in speed zones ≤50 km/h

	with AEB pedestrian (n)	without AEB pedestrian (n)
10 - 18 p	7% (15)	9% (41)
19 - 27 p	3% (64)	7% (91)
28 - 36 p	2% (24)	2% (18)

Table S6. Characteristics of pedestrian AEB and pedestrian protection score comparison groups (pedestrians)

	Pedestrian AEB comparison group		Pedestrian protection score comparison group (pedestrians)	
Sex	**n**	**%**	**n**	**%**
Women	177	55%	2134	58%
Men	146	45%	1548	42%
Age group				
0-6	12	4%	106	3%
7-14	35	11%	416	11%
15-17	19	6%	277	8%
18-19	14	4%	187	5%
20-24	22	7%	352	10%
25-34	41	13%	415	11%
35-44	28	9%	339	9%
45-54	53	16%	369	10%
55-64	46	14%	402	11%
65-74	24	7%	350	10%
75-	29	9%	469	13%
Total	323	100%	3682	100%
Average age	41		41	
mRPMI 1%+	27%		28%	
mRPMI 10%+	5%		6%	

Table S7. Characteristics of injured pedestrians by cars with and without pedestrian AEB

	With pedestrian AEB		Without pedestrian AEB	
Sex	n	%	n	%
Women	67	50%	110	59%
Men	68	50%	78	41%
Age group				
0-6	3	2%	9	5%
7-14	18	13%	17	9%
15-17	7	5%	12	6%
18-19	6	4%	8	4%
20-24	10	7%	12	6%
25-34	18	13%	23	12%
35-44	11	8%	17	9%
45-54	22	16%	31	16%
55-64	18	13%	28	15%
65-74	12	9%	12	6%
75-	10	7%	19	10%
Total	**135**	100%	**188**	100%
Average age	40		41	
mRPMI 1%+	25%		29%	
mRPMI 10%+	5%		6%	
Average model year 10-18 p	2015		2015	
Average model year 19-27 p	2018		2016	
Average model year 28-36 p	2019		2016	

Table S8. Characteristics of injured pedestrians by cars divided by Euro NCAP pedestrian test score

	Euro NCAP pedestrian test score 1-9 p		Euro NCAP pedestrian test score 10-18 p		Euro NCAP pedestrian test score 19-27 p		Euro NCAP pedestrian test score 28-36 p	
Sex	n	%	n	%	n	%	n	%
Women	352	56%	1020	58%	364	62%	24	57%
Men	280	44%	727	42%	225	38%	18	43%
Age group								
0-6	11	2%	54	3%	22	4%	1	2%
7-14	74	12%	196	11%	59	10%	4	10%
15-17	47	7%	133	8%	34	6%	6	14%
18-19	31	5%	80	5%	33	6%	3	7%
20-24	63	10%	162	9%	58	10%	5	12%
25-34	72	11%	218	12%	63	11%	6	14%
35-44	61	10%	154	9%	64	11%	3	7%
45-54	63	10%	160	9%	68	12%	6	14%
55-64	72	11%	183	10%	72	12%	3	7%
65-74	54	9%	176	10%	59	10%	1	2%
75-	84	13%	231	13%	57	10%	4	10%
Total	**632**	100%	**1747**	100%	**589**	100%	**42**	100%
Average age	41		41		41		34	
mRPMI 1%+	30%		28%		26%		24%	
mRPMI 10%+	6%		5%		5%		3%	

Table S9. Characteristics of cyclist AEB and pedestrian protection score comparison groups (cyclists)

	Cyclist AEB comparison group		Pedestrian protection score comparison group (bicyclists)	
Sex	n	%	n	%
Women	304	45%	2360	47%
Men	365	55%	2637	53%
Unknown	0	0%	1	0%
Age group				
0-6	3	0%	37	1%
7-14	63	9%	486	10%
15-17	28	4%	337	7%
18-19	14	2%	148	3%
20-24	42	6%	394	8%
25-34	118	18%	766	15%
35-44	100	15%	701	14%
45-54	97	14%	757	15%
55-64	106	16%	721	14%
65-74	52	8%	370	7%
75-	46	7%	280	6%
Unknown	0	0%	1	0%
Total	669	100%	4998	100%
Average age	42		40	
mRPMI 1%+	21%		21%	
mRPMI 10%+	3%		4%	

Table S10. Characteristics of injured cyclists by cars with and without cyclist AEB

	With cyclist AEB		Without cyclist AEB	
Sex	n	%	n	%
Women	81	48%	223	45%
Men	88	52%	277	55%
Age group				
0-6		0%	3	1%
7-14	15	9%	48	10%
15-17	8	5%	20	4%
18-19	5	3%	9	2%
20-24	13	8%	29	6%
25-34	36	21%	82	16%
35-44	30	18%	70	14%
45-54	13	8%	84	17%
55-64	30	18%	76	15%
65-74	9	5%	43	9%
75-	10	6%	36	7%
Helmet wear				
With helmet	72	43%	228	46%
Without helmet	83	49%	239	48%
Unknown	14	8%	33	7%
Total	**169**	100%	**500**	100%
Average age	40		43	
mRPMI 1%+	20%		21%	
mRPMI 10%+	3.2%		3.4%	
Average model year 10-18 p	2015		2015	
Average model year 19-27 p	2019		2016	
Average model year 28-36 p	2020		2016	

Table S11. Characteristics of injured cyclists by cars divided by Euro NCAP pedestrian test score

	Euro NCAP pedestrian test score 1-9 p		Euro NCAP pedestrian test score 10-18 p		Euro NCAP pedestrian test score 19-27 p		Euro NCAP pedestrian test score 28-36 p	
Sex	n	%	n	%	n	%	n	%
Women	433	47%	1449	48%	557	48%	52	44%
Men	497	53%	1591	52%	599	52%	65	56%
Age group								
0-6	8	1%	27	1%	3	0%	1	1%
7-14	101	11%	315	10%	103	9%	7	6%
15-17	63	7%	214	7%	67	6%	5	4%
18-19	33	4%	90	3%	32	3%	3	3%
20-24	78	8%	251	8%	85	7%	9	8%
25-34	140	15%	454	15%	191	17%	13	11%
35-44	128	14%	414	14%	169	15%	24	21%
45-54	129	14%	470	15%	166	14%	24	21%
55-64	122	13%	432	14%	178	15%	19	16%
65-74	80	9%	200	7%	94	8%	8	7%
75-	48	5%	173	6%	68	6%	4	3%
Helmet wear								
With helmet	257	28%	891	29%	440	38%	48	41%
Without helmet	542	58%	1731	57%	609	53%	59	50%
Unknown	131	14%	419	14%	107	9%	10	9%
Total	**930**	100%	**3041**	100%	**1156**	100%	**117**	100%
Average age	40		40		41		42	
mRPMI 1%+	20%		21%		20%		18%	
mRPMI 10%+	4%		4%		3%		3%	

Table S12. Pedestrian mRPMI 1%+ and mRPMI 10%+ for different body regions, divided by Euro NCAP pedestrian test core and AEB pedestrian

	Euro NCAP pedestrian test score 1-9 p	Euro NCAP pedestrian test score 10-18 p	Euro NCAP pedestrian test score 19-27 p	Euro NCAP pedestrian test score 28-36 p	With AEB pedestrian	Without AEB pedestrian
mRPMI 10%+						
Abdomen	2.3%	0.3%	1.0%	0.0%	5%	0%
Cervical spine	7.4%	7.8%	9.3%	5.5%	6%	12%
Face	3.6%	4.0%	3.1%	0.4%	3%	2%
Head	18.5%	13.7%	16.3%	13.9%	11%	15%
Lower extremity and pelvis	3.6%	4.0%	3.4%	2.5%	3%	4%
Lumbar spine	4.5%	4.3%	4.6%	0.1%	5%	5%
Thoracic spine	5.6%	5.8%	4.8%		7%	7%
Thorax	0.2%	1.0%	0.5%	0.0%	2%	0%
Upper extremities	2.9%	2.8%	2.7%	2.3%	3%	3%
Total	**6.1%**	**5.4%**	**6.1%**	**4.0%**	**5%**	**6%**
mRPMI 1%+						
Abdomen	9%	3%	5%	2%	15%	2%
Cervical spine	38%	37%	36%	34%	34%	35%
Face	16%	17%	14%	6%	15%	12%
Head	26%	21%	24%	23%	18%	23%
Lower extremity and pelvis	47%	48%	46%	41%	46%	47%
Lumbar spine	43%	43%	43%	6%	46%	49%
Thoracic spine	36%	37%	32%		45%	42%
Thorax	4%	6%	5%	4%	8%	4%
Upper extremities	33%	32%	32%	30%	34%	34%
Total	**34%**	**34%**	**31%**	**27%**	**33%**	**32%**

Table S13. Cyclist mRPMI 1%+ and mRPMI 10%+ for different body regions, divided by Euro NCAP pedestrian test core and AEB cyclist

	Euro NCAP pedestrian test score 1-9 p	Euro NCAP pedestrian test score 10-18 p	Euro NCAP pedestrian test score 19-27 p	Euro NCAP pedestrian test score 28-36 p	With AEB pedestrian	Without AEB pedestrian
mRPMI 10%+						
Abdomen	1.8%	1.8%	1.5%		1.3%	0.0%
Cervical spine	6.2%	6.8%	6.0%	6.3%	2.5%	7.6%
Face	2.8%	3.3%	3.2%	0.4%	4.2%	2.3%
Head	14.9%	12.3%	11.5%	10.8%	8.1%	9.2%
Lower extremity and pelvis	3.6%	3.2%	2.9%	2.4%	3.2%	3.1%
Lumbar spine	4.4%	4.5%	6.0%	2.6%	4.0%	3.7%
Thoracic spine	6.2%	5.8%	5.9%	7.0%	6.1%	6.9%
Thorax	0.3%	0.3%	0.1%	0.0%	0.0%	0.0%
Upper extremities	2.2%	2.5%	2.3%	2.5%	2.4%	2.3%
Total	**5.3%**	**5.1%**	**4.6%**	**3.7%**	**3.9%**	**4.1%**
mRPMI 1%+						
Abdomen	7%	6%	6%		4%	2%
Cervical spine	35%	35%	31%	39%	17%	34%
Face	13%	15%	16%	6%	13%	13%
Head	23%	20%	19%	17%	15%	16%
Lower extremity and pelvis	44%	43%	43%	39%	41%	43%
Lumbar spine	42%	43%	42%	27%	39%	36%
Thoracic spine	39%	37%	38%	45%	40%	42%
Thorax	4%	4%	4%	4%	4%	4%
Upper extremities	30%	30%	31%	31%	31%	30%
Total	**27%**	**27%**	**27%**	**27%**	**26%**	**28%**