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SITE NUMBER	SITE DESCRIPTION	AREA	ROAD CATEGORY	SPEED LIMIT	FREE SPEED (kph) (mean / 85%)	FREE SPEED (std dev)	SEAL WIDTH (m)	LANE WIDTH (m)	ROADSIDE ENVIRONMENT	SHOULDER WIDTH	SIGHT DISTANCE
1	Western Freeway, Ballan 255 D1*	rural	4-lane Divided, (Freeway)	110kph	107.2/ 112	9.3	7.4	3.7	spacious - open farming	4.0m	>800m
2	South Gippsland Hwy., Kooweerup 256 R7	rural	4-lane Divided	100kph	102.3/ 115	12.3	7.3	3.65	spacious - open farming	16.0m	>800m
3	Princes Freeway, (Geelong Rd.) Werribee 255 H4	rural	4-lane Divided, (Freeway)	110kph	105.8/ 116.8	10.6	7.5	3.75	walled - treed	3.0m	>800m
4	Western Freeway, Pykes Creek 255 E1	rural	4-lane Divided, (Freeway)	110kph	101.1/ 114	12.4	7.4	3.7	walled - cutting	3.0m	>800m
5	Calder Highway, Kyneton 253 F9	rural	2-lane Undivided	100kph	100.8/ 111	9.9	7.4	3.7	spacious - open farming	3.0m	>800m
6	Ballan-Daylesford Rd. Ballan 253 D12	rural	2-lane Undivided	100kph	98.0/ 111	13.2	7.4	3.7	spacious - open farming	4.0m	>800m
7	South Gippsland Hwy., The Gurdies 256 R9	rural	2-lane Undivided	100kph	96.7/ 108	10.8	7.4	3.7	walled - treed	4.5m	>800m
8	Trentham Road, Daylesford 253 D10	rural	2-lane Undivided	100kph	87.1/ 101	13.9	7.4	3.7	walled - forest	2.0m	>800m
9	Kitty Millers Bay Rd. Phillip Is. 256 N11	rural	2-lane Gravel	75kph	-	-	7.4	3.7	spacious - open farming	3.0m	>600m
10	Hoppers Lane, Werribee 206 H5	rural	2-lane Gravel	75kph	67.2/ 80	11.8	7.5	3.75	spacious - open farming	6.0m	>600m
11	Kitty Millers Bay Rd. Phillip Is. 256 N11	rural	2-lane Gravel	75kph	-	-	7.4	3.7	walled - treed	3.0m	>600m
12	Reef Hills Road, Benalla 254 U1	rural	2-lane Gravel	75kph	-	-	7.4	3.7	walled - forest	1.4m	>600m

*Map references from MELWAY - GREATER MELBOURNE, edition N^o. 17, 1987.

DAY/NIGHT STUDY - 12 RURAL STRAIGHT ROADS - NIGHT VISION.

SITE NUMBER	SITE DESCRIPTION	AREA	ROAD CATEGORY	SPEED LIMIT	FREE SPEED (kph) (mean / 85%)	FREE SPEED (std dev)	SEAL WIDTH (m)	LANE WIDTH (m)	ROADSIDE ENVIRONMENT	SHOULDER WIDTH	SIGHT DISTANCE
1	Western Freeway, Ballan 255 D1*	rural	4-lane Divided, (Freeway)	110kph	104.1/ 116	11.09	7.4	3.7	spacious - open farming	4.0m	
2	South Gippsland Hwy., Kooweerup 256 R7	rural	4-lane Divided	100kph	100.7/ 112	11.88	7.3	3.65	spacious - open farming	16.0m	
3	Princes Freeway, (Geelong Rd.) Werribee 255 H4	rural	4-lane Divided (Freeway)	110kph	104.7/ 111	9.69	7.5	3.75	walled - treed	3.0m	
4	Western Freeway, Pykes Creek 255 E1	rural	4-lane Divided, (Freeway)	110kph	109.3/ 123	14.27	7.4	3.7	walled - cutting	3.0m	
5	Calder Highway, Kyneton 253 F9	rural	2-lane Undivided	100kph	99.0/ 112	10.82	7.4	3.7	spacious - open farming	3.0m	
6	Ballan-Daylesford Rd. Ballan 253 D12	rural	2-lane Undivided	100kph	95.9/ 105	11.06	7.4	3.7	spacious - open farming	4.0m	
7	South Gippsland Hwy., The Gurdies 256 R9	rural	2-lane Undivided	100kph	93.7/ 104	8.66	7.4	3.7	walled - treed	4.5m	
8	Trentham Road, Daylesford 253 D10	rural	2-lane Undivided	100kph	89.6/ 103	13.03	7.4	3.7	walled - forest	2.0m	
9	Kitty Millers Bay Rd Phillip Is. 256 N11	rural	2-lane Gravel	75kph	-	-	7.4	3.7	spacious - open farming	3.0m	
10	Hoppers Lane, Werribee 206 H5	rural	2-lane Gravel	75kph	-	-	7.5	3.75	spacious - open farming	6.0m	
11	Kitty Millers Bay Rd. Phillip Is. 256 N11	rural	2-lane Gravel	75kph	-	-	7.4	3.7	walled - treed	3.0m	
12	Reef Hills Road, Benalla 254 U1	rural	2-lane Gravel	75kph	-	-	7.4	3.7	walled - forest	1.4m	

*Map references from MELWAY - GREATER MELBOURNE, EDITION N^o. 17, 1987.

RURAL SITES USED IN THE CURVATURE VALIDATION STUDY.

SITE DESCRIPTION				SITE DETAILS					SPEED DETAILS			
SITE NUMBER	ROAD/LANE CATEGORY	ROADSIDE GEOMETRY	SITE DESCRIPTION	ROAD SEAL WIDTH	ROAD LANE WIDTH	SHOULDER WIDTH	ROADSIDE ENVIRONMENT	REMAINING SIGHT DISTANCE 5 SEC INTO CURVE.	SPEED LIMIT (kph)	FREE SPEED (mean kph)	FREE SPEED (85% kph)	STANDARD DEVIATION
1	2-lane	vertical curve (crest)	LYSTERFIELD Wellington Road Before Cornish Rd. 82 J3*	7.4m	3.7m	3m	walled (treed)	50m	100	84.36	94	9.55
2	2-lane	vertical curve (sag)	LYSTERFIELD Wellington Road After Lysterfield Rd. 83 F5	7.4m	3.7m	4m	walled (treed)	800m	100	87.66	98	10.23
3	2-lane	horiz. LH-curve (flat)	NARRE WARREN EAST Wellington Road After Edebohls Rd. 84 K12	7.4m	3.7m	3m	walled (treed)	120m	100	92.29	103	9.96
4	2-lane	horiz. LH-curve (flat)	CARDINIA Reservoir Wellington Road 126 C10	7.4m	3.7m	4m	spacious	500m	100	86.29	94	8.54
5	2-lane	horiz. LH-curve (flat)	CARDINIA RESERVOIR Wellington Road. 126 E6 After Aura Vale Rd.	7.4m	3.7m	4m	walled (cutting)	200m	100	93.62	103	9.12
6	2-lane	horiz. RH-curve (flat)	CARDINIA RESERVOIR Wellington Road 126 E7 Before Aura Vale Rd.	7.4m	3.7m	4m	walled (cutting)	200m	100	91.34	99	9.91
7	2-lane	horiz. RH-curve (flat)	CARDINIA RESERVOIR Wellington Road After Aura Vale Rd. 126 B9	7.4m	3.7m	5m	spacious	500m	100	91.55	100	8.95
8	2-lane	vertical curve (crest)	NARRE WARREN EAST Wellington Road 84 D10 After Hallam-Belgrave Rd.	7.4m	3.7m	4m	walled (treed)	75m	100	79.94	91	8.86
9	2-lane	horiz. RH-curve (flat)	LYSTERFIELD Wellington Road After Ryans Rd. 83 J8	7.4m	3.7m	3m	walled (treed-cutting)	120m	100	91.32	100	8.66
10	2-lane	vertical curve (sag)	LYSTERFIELD Wellington Road Before Glen Rd. 73 H10/11	7.4m	3.7m	4m	walled (treed)	500m	100	86.03	97	11.97
11	2-lane	vertical curve (sag)	FERNTREE GULLY Napoleon Road 73 H10/11 After Kellelts Rd.	7.4m	3.7m	4m	spacious	500m	100	79.51	88	7.50
12	2-lane	vertical curve (crest)	FERNTREE GULLY Napoleon Road 73 K8/9 Before Blackwood Pk. Rd.	7.4m	3.7m	4m	spacious	50m	100	86.32	95	10.22

*Map references from HELMAY-GREATER MELBOURNE, EDITION N^O. 17, 1987.

LARGE RADIUS, DIVIDED ROADS - HORIZONTAL SITES.

SITE DESCRIPTION				SITE DETAILS				SPEED DETAILS				
SITE NUMBER	ROADSIDE CATEGORY	ROAD GEOMETRY	SITE DESCRIPTION	ROAD SEAL WIDTH (m)	ROAD LANE WIDTH (m)	SHOULDER WIDTH (m)	ROADSIDE ENVIRONMENT	REMAINING SIGHT DISTANCE AFTER TRAVELLING 5 SEC INTO CURVE (m)	SPEED LIMIT (kph)	FREE SPEED (mean kph)	FREE SPEED (85 th kph)	STANDARD DEVIATION
1	spacious	LH R=1040	Sth. Gippsland Hwy., (Phillip Is. bound) Tooradin 144 E4*	7.4	3.7	10	ing tri	550	100	94.3	105	1.22
2	spacious	LH R=1720	Western Hwy., (Ballan bound) Ballan 253 D12	7.6	3.8	25	orchard	700	110	102.1	110	8.84
3	spacious	RH R=1160	Sth. Gippsland Hwy., (After Rawlins Rd.) Cranbourne 138 F3	7.4	3.7	5	open farming (median strip)	550	100	98.2	108	10.86
4	spacious	RH R=1720	Western Highway, (Melbourne bound) Ballan 253 D12	7.6	3.8	25	orchard	700	110	101.1	110	9.36
5	walled	LH R=1160	Princes Highway, East of Deep Crk., (Melbourne bound) Pakenham 256 R6	7.6	3.7	5	cutting	350	110	95.0	105	10.59
6	walled	LH R=1200	Hume Highway (M40) Wallan 254 L11	7.5	3.75		cutting	400	110	100.2	112	11.21
7	walled	RH R=1040	Hume Highway (M80) Broadford 254 M8	7.5	3.75	5	treed	350	110	101.6	109	8.60
8	walled	RH R=1040	Hume Highway (M107) Avenel 254 N5	7.5	3.75	3.5	shrubs/trees	350	110	99.5	109	8.81

SMALL RADIUS, DIVIDED ROADS- HORIZONTAL CURVE SITES.

SITE DESCRIPTION				SITE DETAILS					SPEED DETAILS			
SITE NUMBER	ROADSIDE CATEGORY	ROAD GEOMETRY	SITE DESCRIPTION	ROAD SEAL WIDTH (m)	ROAD LANE WIDTH (m)	S ULDER WIDTH (m)	ROADSIDE ENVIRONMENT	REMAINING SIGHT DISTANCE AFTER TRAVELLING 5 SEC INTO CURVE (m)	SPEED LIMIT (kph)	FREE SPEED (mean kph)	FREE SPEED (85% kph)	STANDARD DEVIATION
9	spacious	LH R=575	Sth. Gippsland Hwy., Before M Donalds Rd. (Phillip Is. bound) Koo Wee Rup 256 R7	7.4	3.7	10	open farming (median strip)	400	100	98.4	110	11.43
10	spacious	LH R= 750	Western Hwy. (M50) (Ballarat bound) Baccus Marsh 216A DI	7.6	3.8	20	crops/farming	450	110	97.5	106	8.94
11	spacious	RH R=720	Sth. Gippsland Hwy., (Dandenong bound) Koo Wee Rup 256 R7	7.4	3.7	10	open farming (median strip)	450	100	97.2	106	9.51
12	spacious	RH R= 760	Princes Hwy. (Melb. bound) W. of Morwell 252 A11	7.4	3.7	10	grazing	450	110	98.6	106	8.21
13	walled.	LH R=650	Princes Hwy. East of Gumscrub Crk. Officer 215 B5	7.4	3.7	5	treed	400	100	97.1	105	9.39
14	walled	LH R= 580	Princes Hwy. (Melb. bound) before Moe-Newbgh. 252 A11	7.4	3.7	4	cutting	400	110	97.4	105	9.00
15	walled	RH R= 480	Princes Hwy. (Melb. bound) East of Kennedy Crk. Pakenham 256 R6	7.4	3.7	3	treed	450	100	90.6	99	8.37
16	walled	RH R=500	Sth. Gippsland Hwy., btw. Abbotts-Knowles Rds. (Dand. bound) Lyndhurst 96 AB	7.4	3.7	5	treed	350	100	99.0	111	12.35

LARGE RADUIS, 2-LANE ROADS - HORIZONTAL CURVE SITES.

SITE DESCRIPTION				SITE DETAILS					SPEED DETAILS			
SITE NUMBER	ROADSIDE CATEGORY	ROAD GEOMETRY	SITE DESCRIPTION	ROAD SEAL WIDTH (m)	ROAD LANE WIDTH (m)	SHOULDER WIDTH (m)	ROADSIDE ENVIRONMENT	REMAINING SIGHT DISTANCE AFTER TRAVELLING 5 SEC INTO CURVE (m)	SPEED LIMIT (kph)	FREE SPEED (mean kph)	FREE SPEED (85% kph)	STANDARD DEVIATION
17	spacious	LH R=870	Midland Hwy. (South bound) Sth. of Morwell 252 All	7.6	3.8	20	grazing	200	100	98.0	106	11.76
18	spacious	LH R= 750	Northern Hwy. (M156) Near Belt Road Runnymede 253 H1	7.4	3.7	5	grazing	650	100	90.9	99	8.92
19	spacious	RH R= 1100	Midland Hwy. (South bound) South of Morwell 252 All	7.6	3.8	20	grazing	200	100	97.0	105	8.56
20	spacious	RH R= 870	Midland Hwy. (North bound) South of Morwell 252 All	7.6	3.8	20	grazing	200	100	96.6	109	11.86
21	walled	LH R= 720	Wellington Road After Aura Vale Rd. Menzies Crk. 126 F7	7.4	3.7	3.5	cutting	200	100	93.6	103	9.12
22	walled	LH R= 650	Bass Hwy. Before Ullathorne Rd. Inverloch 256 812	7.0	3.5	5.5	treed	200	100	82.5	92	1.83
23	walled	RH R= 720	Wellington Road Before Aura Vale Rd. Menzies Crk. 126 F7	7.4	3.7	3.5	cutting	200	100	91.3	99	1.91
24	walled	RH R=650	Bass Highway Before Ullathorne Rd. Inverloch 256 812	7.0	3.5	5.5	treed	200	100	88.5	98	9.00

SMALL RADIUS, 2-LANE ROADS - HORIZONTAL CURVE SITES.

SITE DESCRIPTION				SITE DETAILS					SPEED DETAILS			
SITE NUMBER	ROADSIDE CATEGORY	ROAD GEOMETRY	SITE DESCRIPTION	ROAD SEAL WIDTH (m)	ROAD LANE WIDTH (m)	SHOULDER WIDTH (m)	ROADSIDE ENVIRONMENT	REMAINING SIGHT DISTANCE AFTER TRAVELLING 5 SEC INTO CURVE (m)	SPEED LIMIT (kph)	FREE SPEED (mean kph)	FREE SPEED (85% kph)	STANDARD DEVIATION
25	spacious	LH R=400	Maroondah Hwy. Near Growlers Gully Rd Merton 254 T6	7.4	7	6	grazing	350	100	97.6	106	9.89
26	spacious	LH R=480	Melba Hwy. Near Devlins Bridge. Glenmore Prop. 254 Q10	7.4	3.7	8	grazing	400	100	94.5	104	9.02
27	spacious	RH R=400	Maroondah Hwy. Near Growlers Gully Rd. Merton 254 T6	7.4	3.7	6	grazing	350	100	96.6	103	9.53
28	spacious	RH R=450	Maroondah Hwy. Near Kubeills Road Woodfield 254 T6	7.4	3.7	5	grazing	400	100	92.1	102	9.85
29	walled	LH R=360	Melba Hwy. After Kinglake Road Mt. Slide 254 Q11	7.4	3.7	2.5	heavily treed	200	100	-	-	-
30	walled	LH R=450	Goulbourn Valley Hwy. Near Native Dog Crk. Yea 254 R8	7.4	3.7	3.5	cutting	250	100	102.0	112	9.39
31	walled	RH R=360	Melba Hwy. After Kinglake Road Mt. Slide 254 Q11	7.4	3.7	2.5	heavily treed	200	100	-	-	-
32	walled	RH R=450	Goulbourn Valley Hwy. Near Native Dog Crk. Yea 254 R8	7.4	3.7	3.5	cutting	250	100	94.2	106	9.43

APPENDIX A - 8

LARGE RADIUS, GRAVEL ROADS - HORIZONTAL CURVE SITES.

S I T E D E S C R I P T I O N				S I T E D E T A I L S					S P E E D D E T A I L S			
S I T E N U M B E R	R O A D S I D E C A T E G O R Y	R O A D G E O M E T R Y	S I T E D E S C R I P T I O N	R O A D S E A L W I D T H (m)	R O A D L A N E W I D T H (m)	S H O U L D E R W I D T H (m)	R O A D S I D E E N V I R O N M E N T	R E M A I N I N G S I G H T D I S T A N C E A F T E R T R A V E L L I N G 5 S E C I N T O C U R V E (m)	S P E E D L I M I T (k p h)	F R E E S P E E D (m e a n k p h)	F R E E S P E E D (8 5 % k p h)	S T A N D A R D D E V I A T I O N
33	spacious	LH R=300	EDE Track (2-way) Monegeeta 253 J10	8.5	4.25	10+	farming	300	75	-	-	-
34	spacious	LH R=260	Colbinabbin - Lake Cooper Road, Colbinabbin 253 J1	7.1	3.55	10	grazing	300	75	-	-	-
35	spacious	RH R=300	EDE Track (2-way) Monegeeta 253 J10	8.5	4.25	10+	farming	300	75	-	-	-
36	spacious	RH R=260	Colbinabbin - Lake Cooper Road, Colbinabbin 253 J1	7.1	3.55	10	grazing	300	75	-	-	-
37	walled	LH R=540	Whroo-Negambie Rd. Reedy Lake 254 M3	7.5	3.75	2	light forest	250	75	-	-	-
38	walled	LH R=250	Cumberland-Woods Pt. Road. (W59) Cumberland 254 V12	7.1	3.55	2	forest	150	75	-	-	-
39	walled	RH R=540	Whroo-Negambie Rd. Reedy Lake 254 M3	7.5	3.75	2	light forest	250	75	-	-	-
40	walled	RH R=250	Cumberland-Woods Pt. Road. (W59) Cumberland 254 V12	7.1	3.55	2	forest	150	75	-	-	-

SMALL RADIUS, GRAVEL ROADS - HORIZONTAL CURVE SITES.

SITE DESCRIPTION				SITE DETAILS					PERFORMANCE			
SITE NUMBER	ROADSIDE CATEGORY	ROAD GEOMETRY	SITE DESCRIPTION	ROAD SEAL WIDTH (m)	ROAD LANE WIDTH (m)	SHOULDER WIDTH (m)	ROADSIDE ENVIRONMENT	REMAINING SIGHT DISTANCE AFTER TRAVELLING 5 SEC INTO CURVE (m)	SPEED LIMIT (kph)	FREE SPEED (mean kph)	FREE SPEED (85% kph)	STANDARD DEVIATION
41	spacious	LH R=160	Colbinabbin-Lake Cooper Road Colbinabbin 253 J1	7.1	3.55	7	grazing	200	75	-	-	-
42	spacious	LH R=140	EDE Track (Riddells Rd) Monegeeta 253 J10	7.0	3.5	10+	grazing	200	75	-	-	-
43	spacious	RH R=160	Colbinabbin-Lake Cooper Road Colbinabbin 253 J1	7.1	3.55	7	grazing	200	75	-	-	-
44	spacious	RH R=140	EDE Track (Riddells Rd) Monegeeta 253 J10	7.0	3.5	10+	grazing	200	75	-	-	-
45	walled	LH R=180	Reef Hills Road Benalla 254 V1	7.4	3.7	3	forest	200	75	-	-	-
46	walled	LH R=190	Watta Rd. Off River-View Drive Shepparton 251 J6	7.5	3.75	2	forest	200	75	-	-	-
47	walled	RH R=180	Reef Hills Road Benalla 254 V1	7.4	3.7	3	fore t	200	75	-	-	-
48	walled	RH R=190	Watta Rd. Off River-View Drive Shepparton 251 J6	7.5	3.75	2	fore t	200	75	-	-	-

APPENDIX A - 10
LABORATORY VALIDATION STUDY
CLOSE FOLLOWING TEST SITES.

SITE NUMBER	SITE DESCRIPTION	AREA	ROAD CATEGORY	SPEED LIMIT (kph)	FREE SPEED (kph) (mean / 85%)	FREE SPEED (std dev)	SEAL WIDTH (m)	LANE WIDTH (m)	ROADSIDE ENVIRONMENT	SHOULDER WIDTH	SIGHT DISTANCE
1	Dandenong 90 H3	semi - rural	4-lane Divided Arterial.	75	74.8 / 84	9.5	7.4	3.7	spacious - grazing land	5.0m	500m
2	Mulgrave Freeway, Dandenong 91 A6	semi - rural	4-lane Urban Freeway.	110	97 / 105	8.0	7.4	3.7	walled - treed	3.0m	1000m
3	Thompson Road, Cranbourne 129 K10	Rural	2-lane Undivided Collector.	100	84.2 / 93	9.6	7.4	3.7	spacious - market gardens	2.5m	1000m
4	Narre Warren-Cranbourne Road, Cranbourne 130 B12	Rural	2-lane Gravel Collector.	75	62.9 / 74	10.3	7.2	3.6	spacious - open paddocks	5.0m	1000m
5	Narre Warren-Cranbourne Road, Cranbourne 134 B1	semi - rural	2-lane Gravel Collector.	75	62.3 / 72	10.4	7.2	3.6	walled - treed	2.5m	500m
6	Narre Warren-Cranbourne Road, Cranbourne 134 B1	semi - rural	2-lane Gravel Collector.	75	65.5 / 74	12.8	7.2	3.6	walled - treed	2.5m	500m
7	Narre Warren-Cranbourne Road, Cranbourne 130 B12	Rural	2-lane Gravel Collector.	75	66.5 / 79	12.2	7.2	3.6	spacious - open paddocks	5.0m	500m
8	Narre Warren-Cranbourne Road, Cranbourne 130 C7	Rural	2-lane Undivided Collector.	100	90.6 / 101	10.3	7.4	3.7	walled - treed	5.0m	750m
9	Narre Warren-Cranbourne Road, Narre Warren 130 C4	Rural	2-lane Undivided Collector.	100	90.1 / 100	10.9	7.4	3.7	spacious - open paddocks	5.0m	1000m
10	Narre Warren-Cranbourne Road, Narre Warren 110 D9	Rural	2-lane Undivided Collector.	100	89.1 / 98	9.7	7.4	3.7	walled - treed	2.5m	1000m
11	Mulgrave Freeway, Dandenong 91 A6	semi - rural	4-lane Urban Freeway.	110	98.4 / 108	9.3	7.4	3.7	walled - treed	3.0m	1000m
12	Heatherton Road, Dandenong 90 H3	semi - rural	4-lane Divided Arterial.	75	77.5 / 87	8.4	7.4	3.7	spacious - grazing land	5.0m	750m

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*Map references from MELWAY - GREATER MELBOURNE, Edition N^o. 17, 1987.

APPENDIX B - 1

INSTRUCTIONS FOR THE ROAD SPEED EXPERIMENT

The purpose of the driving test today is to measure how safe you consider driving to be in a variety of road and traffic situations. You will be asked to make a series of judgements about whether you feel the speed you are travelling at in a particular road situation is too fast or too slow. There is no need to be unduly concerned about your safety as you will not be put through any dangerous exercises. We are only interested in your perceptions of speeds over a range of different travel speeds and road environments.

The pad on your knees is for recording your responses. You will note that each page has a line on it marked at each end as either too fast or too slow. For each site, you make your speed assessment by simply scribing across the response line at a position indicating your judgement. You may not wish to use either of the two extreme positions. However, you should try to use a range of responses somewhere between them. There will be differences in travel speed and your feeling of safety, for each of the sites you will be tested on.

A second response is also required at each site. Immediately following the slash-line response, would you please estimate to the nearest 5 kilometres per hour what speed you think you are travelling at and record it in the box in the right-hand corner of the response page. Remember, however, that the slash-line response should always be your first response and that the speed estimate response is secondary.

The course we will be travelling on has 12 sites for assessment. In addition, we will give you some practice before we start the main experiment. There will be plenty of warning when a site is approaching. When instructed, look down at the response pad and only look up when asked to do so. You will be given 5 seconds to view the road and then instructed to look down again and make your response. Please do not respond until after the full 5 seconds of viewing time.

When viewing the road during a test trial, try to concentrate on looking straight ahead and not be distracted by objects in any of the side windows. Also, try not to use any car cues about travel speed but rely entirely on the road and the environment immediately ahead of you.

Are there any questions?

APPENDIX B - 2

INSTRUCTIONS FOR THE LABORATORY SPEED EXPERIMENT

The purpose of this experiment today is to measure how safe you consider driving is in a variety of road and traffic situations. You will be shown a series of road scenes as viewed from the driving position of a moving car. Your task is to judge whether the speed you are travelling at is too fast or too slow compared to what you consider is a safe operating speed. There is no need to be concerned about speed limits when making your judgements. We are not interested in knowing what speed limit is appropriate but rather what you believe is a safe operating speed for a range of different travel speeds and road environments.

The pad in front of you is for recording your responses. You will note that each page has a line on it marked at each end as either too fast or too slow. For each site, you make your speed assessment by simply scribing across the response line at a position indicating your judgement. You may not want to use either of the two extreme positions, however, you should try to use a range of responses somewhere between them. There will be differences in travel speed and your feelings of safety for each of the road scenes you will be tested on.

A second response is also required for each scene. Immediately following the slash-line response, would you please estimate to the nearest 5kph what speed you think you are travelling at and then record that in the box in the right hand corner of the response page. Remember, however, that the slash-line response should always be your first response and that the speed estimate response is secondary.

You will be shown a range of road scenes for assessment. **Each road scene** will be displayed on the screen in front of you for 5 seconds followed by 10 seconds of blank screen. During each road presentation, you should concentrate on looking only at the screen. When the road scene disappears, then look down at your response book and quickly make your assessments. **We will give you warning** when another scene is about to appear. In addition, you will also be given practice at making these judgements before we start the main experiment.

And finally, when viewing the road during a test trial, try to concentrate at looking straight ahead as you would if you were driving. **Try not to be distracted** by anything happening around you during a test trial.

Are there any questions?

"CLOSE FOLLOWING" STUDY - ONROAD INSTRUCTIONS

The purpose of the driving test today is to measure how safe you consider driving to be in a variety of road and traffic situations. You will be asked to make a series of judgements about how safe you feel about the distance between you and the vehicle in front. There is no need to be unduly concerned about your safety as you will not be put through any dangerous exercises. We are only interested in your feelings of safety for a range of different travel speeds and road environments.

The pad on your knees is for recording your responses. You will note that each page has a line on it marked at each end as either very safe or very unsafe. For each site, you make your safety assessment by simply scribing across the response line at a position indicating your judgement. You may not want to use either of the two extreme positions. However, you should try to use a range of responses somewhere between them. There will be differences in travel speed and your feelings of safety for each of the road sites you will be tested on.

A second response is also required for each site. Immediately following the slash line response would you please estimate to the nearest 5 kph what speed you think you are travelling at, and then record that in the box in the right hand corner of the response page. Remember, however, that the slash line response should always be your first response and that the speed estimate response is secondary.

The course we will be travelling on has 12 sites for assessment. In addition we will give you some practice before we start the main experiment. There will be plenty of warning when a site is approaching. When instructed, look down at the response pad and only look up when asked to do so. You will be given 5 seconds to view the road and then instructed to look down again and make your response. Please do not respond until after the full 5 seconds of viewing time.

When viewing the road during a test trial try to concentrate on looking straight ahead and not be distracted by any objects in any of the side windows. Also try not to use any car cues but rely entirely on the road and the environment immediately ahead of you.

Are there any questions?

APPENDIX - B4

"CLOSE FOLLOWING" STUDY - LABORATORY INSTRUCTIONS

The purpose of this experiment today is to measure how safe you consider driving is in a variety of road and traffic situations. You will be shown a series of road scenes as viewed from the driving position of a moving car. Your task is to judge how safe you feel about the distance between you and the vehicle in front for a range of different travel speeds and road environments.

The pad in front of you is for recording your responses. You will note that each page has a line on it marked at each end as either very safe or very unsafe. For each site you make your safety assessment by simply scribing across the response line at a position indicating your judgement. You may not want to use either of the two extreme positions. However, you should try to use a range of responses somewhere between them. There will be differences in travel speed and your feelings of safety for each of the road scenes you will be tested on.

A second response is also required for each scene. Immediately following the slash line response would you please estimate to the nearest 5 kph what speed you think you are travelling at, and then record that in the box in the right hand corner of the response page. Remember, however, that the slash line response should always be your first response and that the speed estimate response is secondary.

You will be shown 12 different road scenes for assessment. Each road scene will be displayed on the screen in front of you for 5 seconds, followed by 10 seconds of blank screen. When the road scene disappears, then look down at your response book and quickly make your assessments. We will give you warning when another road scene is about to appear. In addition you will also be given practice at making these judgements before we start the main experiment.

And finally, when viewing the road during a test trial, try to concentrate on looking straight ahead as you would if you were driving. Try not to be distracted by anything happening around you during the test trial.

Are there any questions?

TABLE C-1
 ANALYSIS OF VARIANCE SUMMARY TABLE
 DAY & NIGHT VISION EXPERIMENT
 SAFETY ESTIMATE DATA
 SIGNIFICANT & NOTEWORTHY EFFECTS

EFFECT	SS	df	MS	F	w ²
SPEED	52,400	1	52,400	104.5 ^{***}	.0918
TYPE OF ROAD	13,485	2	13,485	23.8 ^{***}	.0229
SEX OF THE DRIVER	15,425	1	15,425	3.7	.0199
ROADSIDE ENVIRONMENT	7,836	1	7,836	72.3 ^{***}	.0137
SPEED X FILMTIME	4,574	1	4,574	46.9 ^{***}	.0079
FILMTIME	3,817	1	3,817	8.8 ^{**}	.0060
FILMTIME X ROADSIDE	3,221	1	3,221	31.2 ^{***}	.0055
TESTTIME	7,018	1	7,018	1.7	.0055
ROAD X FTIME X SIDE	2,232	2	1,116	15.6 ^{***}	.0037
SPEED X ROAD	1,891	2	946	13.1 ^{***}	.0031

SPEED X ROAD X FTIME X SIDE	1,179	2	590	6.8 ^{**}	.0018
SPEED X ROAD X SIDE X SEX	1,025	2	512	6.4 ^{**}	.0015
SPEED X SIDE X EXP X SEX	826	1	826	9.1 ^{**}	.0013
SPEED X ROAD X FTIME X SIDE X EXP	875	2	438	5.1 ^{**}	.0012
SPEED X FTIME X EXP	656	1	656	6.7	.0010
ROAD X FILMTIME	795	2	397	3.6	.0010
SPEED X ROAD X EXP X TTIME	693	2	347	4.8	.0009
ROAD X ROADSIDE	758	2	379	3.4 [*]	.0009
SPEED X ROAD X SIDE	579	2	290	3.6	.0007
FTIME X SIDE X EXP X TTIME	424	1	424	4.1	.0006
FILMTIME X TESTTIME	20	1	20	<1	.0000

*** prob <.001

** prob <.01

* prob <.05

TABLE C-2
 ANALYSIS OF VARIANCE SUMMARY TABLE
 DAY & NIGHT VISION EXPERIMENT
 SPEED ESTIMATE ERROR DATA
 SIGNIFICANT & NOTEWORTHY EFFECTS

EFFECT	SS	df	MS	F	w ²
SPEED	30,876	1	30,876	118.4***	.0809
ROAD	17,632	2	8,816	56.3***	.0458
FILM TIME	15,334	1	15,334	59.5***	.0398
SEX X TEST TIME	10,853	1	10,853	2.5	.0170
EXPERIENCE	7,386	1	7,386	1.7	.0078
SEX	7,100	1	7,100	1.6	.0071
ROAD X SEX	1,715	2	857	5.5**	.0037
SPEED X FILM TIME	1,431	1	1,431	20.9***	.0036
SPEED X ROAD	1,404	2	702	13.8***	.0034
ROAD X FILM TIME	1,103	2	551	7.1**	.0025
FILM TIME X SEX	1,160	1	1,160	4.5	.0023

SPEED X ROADSIDE	582	1	582	14.1***	.0014
SPEED X ROAD X SIDE X EXP	498	2	249	5.8**	.0010
SPEED X ROAD X FTIME X SIDE X EXP	516	2	258	3.7*	.0010
ROADSIDE	369	1	369	7.4**	.0008
ROADSIDE X SEX	354	1	354	7.1*	.0008
ROAD X FTIME X SIDE	394	2	197	4.6	.0008
ROAD X FTIME X SIDE X EXP X SEX	350	2	175	4.1	.0007
SPEED X ROAD X SIDE X SEX	306	2	153	3.6	.0006
ROAD X FTIME X SIDE X SEX	300	2	150	3.5	.0006
SIDE X EXP X SEX X TTIME	209	1	209	4.2*	.0000
TESTTIME X FILM TIME	1	1	1	<1	.0000

*** prob <.001

** prob <.01

prob <.05

TABLE C-3
ANALYSIS OF VARIANCE SUMMARY TABLE
CURVATURE VALIDATION STUDY
SAFETY ESTIMATE DATA

EFFECT	SS	df	MS	F	w^2
SITE	4,266	11	388	3.7**	.0657
EXPERIMENT X SITE	3,975	11	3,975	3.4**	.0595
EXPERIMENT	87	1	87	<1	.0000

*** prob <.001

** prob <.01

* prob <.05

TABLE C-4
ANALYSIS OF VARIANCE SUMMARY TABLE
CURVATURE VALIDATION STUDY
SPEED ESTIMATE ERROR DATA

EFFECT	SS	df	MS	F	w^2
EXPERIMENT X SITE	1,530	11	139	1.2	.0040
SITE	1,454	11	132	1.1	.0030
EXPERIMENT	5	1	5	<1	.0000

*** prob <.001

** prob <.01

* prob <.05

TABLE C-5
 ANALYSIS OF VARIANCE SUMMARY TABLE
 HORIZONTAL CURVATURE EXPERIMENT
 SAFETY ESTIMATE DATA
 SIGNIFICANT & NOTEWORTHY EFFECTS

EFFECT	SS	df	MS	F	2
SPEED	352.251	1	352.251	310.5 ^{***}	.2380
TYPE OF ROAD	178.670	2	89.335	104.1 ^{***}	.1199
RADIUS	66.781	1	66.781	232.0 ^{***}	.0451
SEX OF THE DRIVER	48.637	1	48.637	10.2 ^{**}	.0297
SPEED X EXPERIENCE	15.394	1	15.394	13.6 ^{***}	.0097
ROAD X ROADSIDE	10.354	2	5.177	41.1 ^{***}	.0068
RADIUS X ROADSIDE	5.658	1	5.658	42.5 ^{***}	.0037
ROAD X RADIUS X ROADSIDE X DIRECTION	4.630	2	2.315	33.6 ^{***}	.0030

ROAD X EXPERIENCE	4.938	2	2.468	2.9	.0020
SPEED X SEX X EXPERIENCE	3.661	1	3.661	3.2	.0017
RADIUS X ROADSIDE X DIRECTION	2.484	1	2.484	34.3 ^{***}	.0016
ROAD X RADIUS	2.076	2	1.038	9.2 ^{***}	.0013
SPEED X ROAD X RADIUS	2.030	2	1.015	9.7 ^{***}	.0012
ROAD X RADIUS X DIRECTION	1.990	2	995	8.3 ^{***}	.0012
ROAD X RADIUS X ROADSIDE X EXPERIENCE	1.590	2	795	7.8 ^{***}	.0010
RADIUS X EXPERIENCE	1.495	1	1.495	5.2 [*]	.0008
RADIUS X DIRECTION	1.259	1	1.259	13.4 ^{***}	.0008
SPEED X ROAD X ROADSIDE	1.356	2	678	9.9 ^{***}	.0008
ROAD X ROADSIDE X SEX	606	2	303	5.1 ^{**}	.0007
SPEED X ROAD	1.255	2	628	5.1 ^{**}	.0007
SPEED X RADIUS X ROADSIDE X DIRECTION	882	1	882	4.8 ^{**}	.0005
SPEED X DIRECTION X EXPERIENCE	752	1	752	5.8 [*]	.0004
ROADSIDE X DIRECTION X SEX X EXP	684	1	684	9.1 ^{**}	.0004
ROAD X RADIUS X SIDE X SEX X EXP	771	2	385	3.8 [*]	.0004
ROAD X ROADSIDE X DIRECTION	721	2	360	4.7 [*]	.0004
DIRECTION	763	1	763	4.3 [*]	.0003
SPEED X RADIUS X ROADSIDE	586	1	586	7.0 ^{**}	.0003
ROAD X RADIUS X ROADSIDE X SEX	695	2	347	3.4 [*]	.0003
SPEED X RADIUS	344	1	344	4.6 [*]	.0002
ROAD X DIRECTION	651	2	326	3.1 [*]	.0002
SPEED X ROADSIDE X EXPERIENCE	241	1	241	4.0 [*]	.0001

*** prob <.001

** prob <.01

* prob <.05

TABLE C-6
ANALYSIS OF VARIANCE SUMMARY TABLE
HORIZONTAL CURVATURE EXPERIMENT
SPEED ESTIMATE ERROR DATA
SIGNIFICANT & NOTEWORTHY EFFECTS

EFFECT	SS	df	MS	F	w ²
ROAD	185,753	2	92,876	228.9 ^{***}	.1598
SPEED	123,272	1	123,272	533.1 ^{***}	.1063
EXPERIENCE	67,261	1	67,261	9.76 ^{**}	.0522
SEX X EXPERIENCE	56,199	1	56,199	8.2 ^{**}	.0426
ROAD X SEX	7,976	2	3,988	9.8 ^{***}	.0062
ROAD X RADIUS X ROADSIDE	6,760	2	3,380	73.9 ^{***}	.0057
RADIUS	5,461	1	5,461	43.8 ^{***}	.0046
ROAD X RADIUS	2,456	2	1,228	21.4 ^{***}	.0020

DRIVER SEX	9,742	1	9,742	1.4	.0023
ROAD X RADIUS X DIRECTION	1,307	2	653	15.1 ^{***}	.0011
SPEED X ROAD	1,061	2	530	11.7 ^{***}	.0008
ROADSIDE X DIRECTION	921	1	921	38.1 ^{***}	.0008
ROAD X DIR X SEX X EXP	658	2	329	6.8 ^{**}	.0005
ROADSIDE	560	1	560	7.2 ^{**}	.0004
RADIUS X ROADSIDE X DIRECTION	547	1	547	15.6 ^{***}	.0004
ROAD X RADIUS X ROADSIDE X DIRECTION	517	2	258	6.9 ^{**}	.0004
DIRECTION X EXPERIENCE	420	1	420	5.9	.0003
ROADSIDE X DIRECTION X EXPERIENCE	326	1	326	13.5 ^{***}	.0003
SPEED X ROAD X ROADSIDE	471	2	235	6.3 ^{**}	.0003
SPEED X ROADSIDE X DIRECTION	427	1	427	12.8 ^{***}	.0003
SPEED X ROAD X RADIUS X ROADSIDE	366	2	183	5.6 ^{**}	.0003
ROAD X ROADSIDE	329	2	164	3.2 [*]	.0002
ROAD X DIRECTION	347	2	173	3.6 [*]	.0002
ROAD X RADIUS X ROADSIDE X EXPERIENCE	392	2	196	4.3 [*]	.0002
ROAD X ROADSIDE X DIRECTION	318	2	159	4.5 [*]	.0002
SPEED X ROAD X RADIUS X SIDE X DIR	247	2	123	3.1	.0002
SPEED X ROADSIDE	222	1	222	8.4 ^{**}	.0002

*** prob <.001

** prob <.01

* prob <.05

TABLE C-7
ANALYSIS OF VARIANCE SUMMARY TABLE
CLOSE FOLLOWING VALIDATION STUDY
SAFETY ESTIMATE DATA

EFFECT	SS	df	MS	F	w ²
SITE	322,113	11	29 283	54.2***	6235
EXPERIMENT	20 133	1	20,133	4 9*	0315
EXPERIMENT X SITE	20.677	11	1,879	3.5***	0290

*** prob < 001

prob < 01

* prob < 05

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TABLE C-8
ANALYSIS OF VARIANCE SUMMARY TABLE
CLOSE FOLLOWING VALIDATION STUDY
SPEED ESTIMATE ERROR DATA

EFFECT	SS	df	MS	F	w^2
SITE	65,785	11	5,980	74.0***	.5581
EXPERIMENT	7,411	1	7,411	8.7**	.0564
EXPERIMENT X SITE	3,942	11	358	4.4***	.0262

*** prob <.001

** prob <.01

* prob <.05

APPENDIX D: FREE SPEEDS AND TRAFFIC VOLUMES BEFORE AND AFTER PERCEPTUAL ROAD TREATMENT ALONG KERFERD ROAD, SOUTH MELBOURNE.

SITE DESCRIPTION	AREA	ROAD CATEGORY	STAGE OF PERCEPTUAL ROAD TREATMENT	DATE	SPEED LIMIT km/h	FREE SPEED MEAN, STD. DEV, 15% (kph)	TRAFFIC VOLUME	SEAL WIDTH	LANE WIDTH	SHOULDER WIDTH	SIGHT DISTANCE	NOTES
Kerferd Rd. Mel. 2J-B8 South bound (between Herbert and Hamilton Streets)	residential	4-lane divided, secondary arterial road.	before treatment	22-9-87 p.m.	60	62.44 8.88 71	Kerferd Rd. between Danka & Page Sts. Nov. '84, 24 hrs. 5,858 vehicles	14m	5.0m (4m parkin)	4m	>500m	valled-houses and treed median strip
" "	" "	" "	after 1st stage (gravel-strip, no line marking)	1-3-88 p.m.	60	59.34 9.24 68	Kerferd Rd. between Danka & Page Sts. 25-5-88 24 hrs. 5,579 vehicles	14m	3.7m (4m parkin (2.5m bike path)	4m	>500m	" "
Kerferd Rd. Mel. 2J-B8 North bound (between Herbert and Hamilton Streets)	" "	" "	before treatment	22-9-87 p.m.	60	62.78 7.34 70	Kerferd Rd. between Danka & Page Sts. Nov. '84, 24 hrs. 5,622 vehicles	14m	5.0m	4m	>500m	" "
" "	" "	" "	after 1st stage (gravel-strip, no line marking)	1-3-88 p.m.	60	64.19 6.72 71	Kerferd Rd. between Danka & Page Sts. 25-5-88 24 hrs. 5,630 vehicles	14m	3.7m (4m parkin (2.5m bike path)	4m	>500m	" "
" "	" "	" "	after 2nd stage (complete line marking & gravel)	22-3-88 p.m.	60	63.49 8.43 72	-----	14m	3.7m	4m	>500m	" "
Mason Street Altona Mel. 55 D3 eastbound	" "	" "	control site	17-2-84 p.m.	60	65.0 8.2 73	-----	7.4m	3.2m / 4.2m	4m	>500m	" "
" "	" "	" "	" "	3-6-88 p.m.	60	65.36 8.15 73	-----	7.4m	3.2m / 4.2m	4m	>500m	" "
Mason Street Altona Mel. 55 D3 westbound	" "	" "	" "	16-2-84 p.m.	60	66.3 6.8 72	-----	7.4m	3.2m / 4.2m	4m	>500m	" "
" "	" "	" "	" "	3-6-88 p.m.	60	65.17 8.43 72	-----	7.4m	3.2m / 4.2m	4m	>500m	" "