FEDERAL GOVERNMENT'S ROAD SAFETY INITIATIVE

YOUNG DRIVER RESEARCH PROGRAM -

MASS CRASH DATA ANALYSIS

FORS FATALITY FILE (1988) - VICTORIA

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FORS Fatality File (1988) - Victoria

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Abstract

This report is fourth in a series examining young versus older driver differences in car crashes for both Australian and USA data. Bivariate analyses examining the similarities and differences between drivers of various age groups involved in fatality crashes for Victoria (1988) were conducted. Results are presented by a series of tables. The data was also examined for day and night-time differences. Conclusions and comparisons between the two data sets are not presented as the 11th report of the series provides an overview of all findings.

Key Words

YOUNG DRIVER, CRASH ANALYSIS, DAY, NIGHT, CAR DRIVER

Notes

(1) FORS reports are disseminated in the interest of information exchange
(2) The view expressed are those of the author(s) and do not necessarily represent those of the Commonewealth Government.
(3) The Federal Office of Road Safety publishes four series of research reports:
  (a) reports generated as a result of research done within FORS are published in the OR series
  (b) reports of research conducted by other organizations on behalf of FORS are published in the CR series
  (c) reports based on analyses of FORS' statistical databases are published in the SR series
  (d) minor reports of research conducted by other organizations on behalf of FORS are published in the MR series.

TABLE OF CONTENTS

			Page
1.0	CHARACTERISTICS OF YOUNG DRIVER CRASHES - MASS CRASH DATA ANALYSIS		1
	1.1	INTRODUCTION	1
	1.2	USING MASS CRASH DATA	2
2.0	FORS FATALITY FILE (1988) - VICTORIA - BIVARIATE ANALYSES		4
	2.1	INTRODUCTION	4
	2.2	TABLES - BIVARIATE ANALYSES:	4
		Description of crash	
		Person responsible for crash	6
		Number of vehicles involved	7
		Number of persons in crash	8
		Number of persons injured in crash	9
		Number of persons injured in this vehicle	10
		Number of fatalities in crash	11
		Number of fatalities in this vehicle	12
		When did the crashes occur?	
		Day of week	13
		Weekday versus weekend	14
		Time period	15
		Time period by weekday/weekend	16
		Where did the crashes occur?	
		City/rural boundaries	17
		Road type	18
		Location	19
		Intersection type	20
		Road configuration	21
		Speed limit	22
		Land use	23
		Horizontal road alignment	24
		Vertical road alignment	25
		Road surface	26
		Traffic controls	27
		Electronic traffic controls functioning	28
		What were the factors within the vehicle - driver	
		Sex of driver	29
		BAC group	30
		Restraint use by driver	31
		Licence type	32
		Years driving experience	33
		State of licence issue	34
		What were the factors within the vehicle - passengers	
		Number of occupants in this vehicle	35

Page

What were the vehicle factors?
Speed category 36
Estimated speed of vehicle 37
Year of vehicle manufacture 38

What were the environmental conditions?
Natural light 39
Street lighting conditions 40
Weather 41

What other factors surrounded the crash?
Primary Accident Class 42
DCA event 43
Major factor 44
Origin of trip 45
Destination of trip 46

3.0 FORS FATALITY FILE (1988) - VICTORIA - DAY/NIGHT COMPARISONS 47

3.1 INTRODUCTION 47

3.2 INTERPRETATION OF TABLES 47

3.3 TABLES - DAY/NIGHT COMPARISONS 48

Description of crash
Person responsible for crash 50
Number of vehicles involved 51
Number of persons in crash 52
Number of persons injured in crash 53
Number of persons injured in this vehicle 54
Number of fatalities in crash 55
Number of fatalities in this vehicle 56

When did the crashes occur?
Day of week 57
Weekday versus weekend 58
Time period by weekday/weekend 59

Where did the crashes occur?
City/rural boundaries 60
Road type 61
Location 62
Intersection type 63
Road configuration 64
Speed limit 65
Land use 66
Horizontal road alignment 67
Vertical road alignment 68
Road surface 69
Traffic controls 70
Electronic traffic controls functioning 71

	Page
What were the factors within the vehicle - driver	
Sex of driver	72
BAC group	73
Restraint use by driver	74
Licence type	75
Years driving experience	76
State of licence issue	77
What were the factors within the vehicle - passengers	
Number of occupants in this vehicle	78
What were the vehicle factors?	
Speed category	79
Estimated speed of vehicle	80
Year of vehicle manufacture	81
What were the environmental conditions?	
Street lighting conditions	82
Weather	83
What other factors surrounded the crash?	
Primary Accident Class	84
DCA event	85
Major factor	87
Origin of trip	89
Destination of trip	90
REFERENCES	91
APPENDIX	92

1 CHARACTERISTICS OF YOUNG DRIVER CRASHES - MASS CRASH DATA ANALYSIS

1.1 INTRODUCTION

The Monash University Accident Research Centre was commissioned by the Federal Office of Road Safety to undertake the Young Driver Research Program as part of the Federal Government's Road Safety Initiative

One of the research projects in the Young Driver Research Program involved identifying the characteristics of young driver crashes through supplementing previous literature reviews which identify the known characteristics of young driver crashes, behaviour and performance from experimental, field and evaluation studies.

In addition, this project involved deriving information from a systematic analysis of Australian and US mass crash data to complement information from the literature review. The results of this analysis are presented in a series of reports which are outlined below:

Australian data

Report Nº	Data File	State	Year(s)
1	Casualty crash	New South Wales	1986-1990
	"	Victoria	1984-1989
2	"	South Australia	1986-1990
3	FORS Fatality	New South Wales	1988
4	"	Victoria	"
5	"	South Australia	"
6	"	NSW, Victoria and SA combined	"

USA data

Report Nº	Data File	US Region	Year(s)
7	GES	North-west	1989
8	"	Mid-west	"
9	"	West	"
10	"	South	"

Overview report

Report Nº	
11	Reviews the main findings presented in Report Nºs 1 to 10

The tables presented in the first report are accompanied by a discussion of results highlighting the main findings contained in that report, as well as noting some of the difficulties inherent in analysis of large data sets. Reports 2 to 10 contain results presented in tabular form only, although a brief description of the data used is given. Report Nº 11 contains an overview of results comprising two sections: the first notes similarities and differences in results between States and compared to the US data; the second compares results with the the main literature findings (see Macdonald; 1994a and 1994b).

This report (N° 4 in the series) presents results for drivers involved in Victorian fatality crashes during 1988, and outlines, in turn:

- the role of mass crash data in identifying problem areas for young driver safety
- the data set used in the study
- the methodology used
- results:
  - general bivariate patterns
  - daytime vs night-time young driver crashes

This study provides a systematic analysis and review of young driver crashes as represented in mass crash data; to date only ad-hoc, fragmented investigations of young driver crashes using mass crash data have been undertaken. This series of reports, therefore, serve as a comprehensive source document on young driver crashes.

1.2 USING MASS CRASH DATA

Mass crash data provide the most complete and readily available details about crash events, in terms of:

- the temporal and spatial details about the crash incident (where and when it occurred)
- driver (and other involved road user) demographics
- environmental conditions when the crash occurred
- the sequence of events preceding the crash (crash types), including the traffic context and vehicle/road user actions.

Due to reporting criteria, these data are also more representative of crashes involving injury (particularly more serious injury) to the road user(s) involved in the crash than of less severe crashes (eg. property damage only crashes).

Information derived from analysis of mass crash data is essential for identifying target areas or 'problems' where countermeasures should be directed. Analysis of mass crash data allows:

- the magnitude of the 'problem' to be ascertained
- the stability of the 'problem' to be determined
- the generality/specificity of the 'problem' to be determined (eg. Are both males and females affected? Does the 'problem' occur at both day and night; in metropolitan and rural locations?).

In using mass crash data to describe the young driver 'problem' and identify target areas, it is important to balance the need to disaggregate the crash problem into homogeneous sub-problems (with similar characteristics), with the number of levels by which the problem is disaggregated. The more homogeneous the sub-problem, the more likely it is that an appropriate countermeasure can be developed that will be effective in reducing that sub-problem; however, in terms of cost-effectiveness, the sub-problem must be sufficiently large for the cost of the countermeasure to be distributed amongst sub-problem members to allow benefits of the countermeasure to, at least, match its costs (Cameron, 1990).

Countermeasures are also more likely to be cost-effective if they target a sub-problem which has a higher than average risk of crash involvement, or of severe injury when involved (Cameron, 1990). The lack of comparable exposure data to determine crash or severity risk of sub-problems compared with average risks, however, means that 'high' risk sub-problems cannot be identified directly in this study.

Information derived from analysis of mass crash data is inherently descriptive in nature; that is, it does not provide information regarding the causal mechanisms or factors leading to a crash occurring. Road user 'errors' or factors causally related to the behaviour and context identified in a crash may only be inferred.

To be successful, a countermeasure must either:

- control and decrease the opportunity for the occurrence of behaviour related to crash problem types via external impositions, or

- 'correct' the causes and behavioural problem related to the critical actions leading to the crash.

Although the former approach has been applied successfully to other road safety problems, it has not led to significant gains in the young driver area. This is because the over-involvement of young drivers in crashes is **not** limited to a small number of crash types (where each could be addressed by a specific strategy), but is a more general phenomenon (Drummond & Triggs, 1991).

In the case of young driver safety, the latter approach is more likely to lead to more **efficient** countermeasures (those which provide greater overlap between a behavioural problem and a countermeasure). However, this can only be achieved by obtaining a better understanding of the behavioural problem (a product of the interaction between performance and motivational factors). A better understanding of the driving process, skilled performance and motivational factors is the first step to achieving this. A description of the behavioural problem may lead to effective countermeasures, but these will be generally less efficient.

Notwithstanding the limitations of mass crash data analysis outlined above, the identification of sub-problems by their relative incidence within the population of young driver crashes is an important criterion for selecting targets for cost-beneficial countermeasures and understanding/interpreting other young driver performance findings.

2 FORS FATALITY FILE (1988) - VICTORIA - BIVARIATE ANALYSES

2.1 INTRODUCTION

Data was obtained from the FORS Fatality File of Victorian fatality crashes for 1988. Prior to conducting bivariate analyses (age by variable of interest), the data was modified as follows:

- As the focus of primary interest was young *car* drivers, a driver-based file consisting of car and car derivative drivers was created. Included were drivers of cars (sedans and tourers), station wagons, panel vans and utilities.

- Age of drivers was grouped as follows: 0 to 17, 18 to 25 (18 being the minimum licensing age in Victoria), 26 to 40, 41 to 55 and 56 to 98 years. The benefit of this grouping is that there are only four age group categories which facilitates presentation and discussion of results. The term 'young drivers' refers to 18 to 25 year old drivers only.

- All 'not known' cases (eg. not known age group, not known day of week, etc) were collapsed with other missing cases. The proportion of not known or missing data generally formed only 2-3% of the total sample.

- Reporting of all categories within some variables (eg. Definition for Classifying Accidents) would have been unwieldy and often unnecessary due to low frequency counts for certain categories. The general practice has been to present categories with a reasonable number of cases and collapse all others. A guide to how variables were collapsed appears in Appendix 1.

2.2 TABLES - BIVARIATE ANALYSES

The tables on the following pages present frequencies for each variable of interest distributed by age group. Consistent with the data presented in the first report, the tables have been grouped as follows (page numbers have been included here for the convenience of the reader):

	Page
DESCRIPTION OF CRASH	
Person responsible for crash	6
Number of vehicles involved	7
Number of persons in crash	8
Number of persons injured in crash	9
Number of persons injured in this vehicle	10
Number of fatalities in crash	11
Number of fatalities in this vehicle	12

	Page
WHEN DID THE CRASHES OCCUR?	
Day of week	13
Weekday versus weekend	14
Time period	15
Time period by weekday/weekend	16
WHERE DID THE CRASHES OCCUR?	
City/rural boundaries	17
Road type	18
Location	19
Intersection type	20
Road configuration	21
Speed limit	22
Land use	23
Horizontal road alignment	24
Vertical road alignment	25
Road surface	26
Traffic controls	27
Electronic traffic controls functioning	28
WHAT WERE THE FACTORS WITHIN THE VEHICLE - DRIVER	
Sex of driver	29
BAC group	30
Restraint use by driver	31
Licence type	32
Years driving experience	33
State of licence issue	34
WHAT WERE THE FACTORS WITHIN THE VEHICLE - PASSENGERS	
Number of occupants in this vehicle	35
WHAT WERE THE VEHICLE FACTORS?	
Speed category	36
Estimated speed of vehicle	37
Year of vehicle manufacture	38
WHAT WERE THE ENVIRONMENTAL CONDITIONS?	
Natural light	39
Street lighting conditions	40
Weather	41
WHAT OTHER FACTORS SURROUNDED THE CRASH?	
Primary Accident Class	42
DCA event	43
Major factor	44
Origin of trip	45
Destination of trip	46

FORS FATAL FILE (1988) - VICTORIA*
PERSON RESPONSIBLE FOR CRASH BY AGE GROUP N=686

	0-16	18-25	26-40	41-55	56-98	Total
This driver responsible	9	133	113	46	57	358
This driver not responsible	1	44	53	34	20	152
Pedestrian responsible		36	39	12	8	95
More than one person responsible		18	13	10	4	45
No fault		2	1			3
Unit/person in prior event only		4	5	3	1	13
	10	237	224	105	90	666

Missing cases = 20

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF VEHICLES INVOLVED BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
1	8	121	106	35	23	293
2	2	108	111	66	67	354
3		9	9	5	1	24
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF PERSONS IN CRASH BY DRIVER AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
1	1	28	42	12	8	91
2	4	84	82	28	26	224
3	2	61	43	31	30	167
4	3	28	22	17	13	83
5		17	16	9	8	50
6		11	10	4	3	28
7 or more		9	11	5	1	26
	10	238	226	106	89	669

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF PERSONS INJURED IN CRASH BY DRIVER AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
0	2	101	124	45	39	311
1	4	59	47	27	22	159
2	2	38	19	18	15	92
3	2	22	21	8	10	63
4		7	10	5	2	24
5		5	1	1	2	9
6 or more		3	3	2		8
	10	235	225	106	90	666

Missing cases = 20

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF PERSONS INJURED IN THIS VEHICLE BY DRIVER AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
0	2	132	147	62	54	397
1	4	58	56	29	25	172
2	3	31	12	9	9	64
3	1	11	6	3	2	23
4 or more		4	4	3	1	12
	10	236	225	106	91	668

Missing cases = 18

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF FATALITIES IN CRASH BY DRIVER AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
1	7	208	205	90	80	590
2	3	27	12	12	10	64
3 or more		3	9	4	1	17
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF FATALITIES IN THIS VEHICLE BY DRIVER AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
0	2	109	116	50	22	299
1	5	111	98	48	61	323
2	3	16	7	6	7	39
3		2	4	2	1	9
4			1			1
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
DAY OF WEEK BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Monday	1	17	25	13	9	65
Tuesday		36	28	7	10	81
Wednesday		28	21	14	16	79
Thursday	2	28	35	12	14	91
Friday	1	40	47	22	18	128
Saturday	2	45	27	19	10	103
Sunday	4	44	43	19	14	124
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
WEEKDAY VERSUS WEEKEND BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Weekday	4	149	156	68	67	444
Weekend	6	89	70	38	24	227
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
TIME PERIOD BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
12 am - 6 am	3	46	36	12	3	100
6 am - 12 pm	1	49	44	20	30	144
12 pm - 6 pm	1	65	56	39	43	204
6 pm - 12 am	5	78	90	34	14	221
	10	238	226	105	90	669

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
TIME PERIOD BY AGE GROUP N=686

WEEKDAY

	0-17	18-25	26-40	41-55	56-98	Total
12 am - 6 am		23	13	6	1	43
6 am - 12 pm		31	38	10	19	98
12 pm - 6 pm		44	42	27	36	149
6 pm - 12 am	4	51	63	25	11	154
	4	149	156	68	67	444

WEEKEND

	0-17	18-25	26-40	41-55	56-98	Total
12 am - 6 am	3	23	23	6	2	57
6 am - 12 pm	1	18	6	10	11	46
12 pm - 6 pm	1	21	14	12	7	55
6 pm - 12 am	1	27	27	9	3	67
	6	89	70	37	23	225

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
CITY/RURAL BOUNDARIES BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Capital city	1	131	126	55	43	356
Provincial urban	1	23	17	7	7	55
General rural	8	84	83	44	41	260
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ROAD TYPE BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
National highway	1	18	22	6	6	53
State highway	2	29	34	25	21	111
Other rural road	5	67	49	23	21	165
Major arterial city road		82	81	30	26	219
Other urban	2	42	39	22	15	120
	10	238	225	106	89	668

Missing cases = 18

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
LOCATION BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Mid-block	9	158	159	70	55	451
Within intersection	1	59	53	26	31	170
Related to intersection		21	14	8	5	48
	10	238	226	104	91	669

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
INTERSECTION TYPE BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
X-intersection	1	38	30	18	25	112
Y-intersection		2	2	1		5
T-intersection		38	35	17	11	101
	1	78	67	36	36	218

Missing cases = 468

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ROAD CONFIGURATION BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Two way undivided	9	133	124	60	48	374
Divided road (dual carriageway)		23	27	8	2	60
Dual carriageway - freeway		4	8	1	4	17
	9	160	159	69	54	451

Missing cases = 235

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SPEED LIMIT BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
40		1				1
50		1				1
60	1	103	102	45	38	289
75	1	37	29	15	8	90
80		2	1	4	1	8
90		4	5	1	2	12
95			1			1
100	8	85	78	40	40	251
110		4	9	1	2	16
	10	237	225	106	91	669

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
LAND USE BY AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
Residential	1	97	86	36	35	255
Part residential/part commercial		19	26	10	1	56
Non-residential-commercial/industrial		11	11	6	4	32
Urban parkland	1	9	1	2	1	14
Urban parkland-highway/freeway		8	10	1	4	23
Rural	8	89	86	46	44	273
	10	233	220	101	89	653

Missing cases = 33

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
HORIZONTAL ROAD ALIGNMENT BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Straight	4	180	174	84	75	517
Curved	6	58	52	21	16	153
	10	238	226	105	91	670

Missing cases = 16

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
VERTICAL ROAD ALIGNMENT BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Level	8	188	180	77	73	526
Crest of hill	1	11	14	5	1	32
Bottom of hill		5	2	6		13
Slope - gentle	1	25	22	10	9	67
Slope - steep			1	3	2	6
Slope - undefined		3	1		2	6
	10	232	220	101	87	650

Missing cases = 36

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ROAD SURFACE CONDITION BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Sealed/paved	8	225	220	105	91	649
Unsealed	2	9	6	1		18
	10	234	226	106	91	667

Missing cases = 19

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
TYPE OF TRAFFIC CONTROLS PRESENT BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Non present mid-block	9	141	146	62	49	407
None present at intersection		26	16	8	5	55
Stop sign	1	19	20	8	15	63
Give way sign		11	15	10	5	41
Double unbroken lines		5	4	4	5	18
Roundabout			1			1
Flashing signals		1	1		1	3
Traffic control signals - car only		10	3	7	3	23
Traffic control signals with walk/don't walk		9	8	3	4	24
Give way to right sign		1			2	3
Railway crossing lights			2		2	4
Pedestrian crossing with lights		1				1
School crossing		1	1			2
Warning signs		6	6	4		16
Traffic control/road scheme/chicane		2	1			3
	10	233	224	106	91	664

Missing cases = 22

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ELECTRONIC TRAFFIC CONTROLS FUNCTIONING BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
On, fully functioning		21	13	9	9	52
On, reduced function			1		1	2
Off, not functioning		1		1		2
No electronic traffic controls	10	214	212	96	81	613
	10	236	226	106	91	669

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SEX OF DRIVER BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Male	7	191	169	84	66	517
Female	3	47	57	22	24	153
	10	238	226	106	90	670

Missing cases = 16

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
BAC GROUP OF DRIVER BY AGE GROUP N=686

	0-16	17-25	26-40	41-55	56-98	Total
0 - <.02	4	100	82	45	50	281
<.05		6	5	4		15
.05 - .079		4	7	4	1	16
.08 - .12		10	9	2		21
.12 - .15	2	11	12	3	1	29
>.15	1	27	41	8	2	79
	7	158	156	66	54	441

Missing cases = 245

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
RESTRAINT USE BY DRIVER BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Restraint worn	3	165	155	83	67	473
Restraint not worn	6	26	34	9	11	86
	9	191	189	92	78	559

Missing cases = 127

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
LICENCE TYPE BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Standard		119	202	99	84	504
Learner's permit	1	8	1			10
Provisional	2	86	4	1	1	94
Disqualified		8	4	2	2	16
Other		1				1
	3	222	211	102	87	625

Missing cases = 61

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
YEARS DRIVING EXPERIENCE BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Less than 1	3	16				19
1		27	3			30
2		12	1			13
3		8				8
4		8	1			9
5		7				7
6 or more		11	48	33	25	117
	3	89	53	33	25	203

Missing cases = 483

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
STATE OF LICENCE ISSUE BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
New South Wales	1	3	5	2	3	14
Victoria	2	214	198	98	82	594
Queensland		2				2
South Australia			4		2	6
Tasmania		1	1			2
Overseas			3			3
Other (eg. surrendered licence)		2	1	1		4
Never held licence	7	5	4	1	1	18
	10	227	216	102	88	643

Missing cases = 43

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF OCCUPANTS BY DRIVER AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
1	2	122	143	56	41	364
2	4	63	49	28	35	179
3	2	26	15	13	11	67
4	2	17	11	5	3	38
5 or more		10	8	4	1	23
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SPEED CATEGORY BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Stationary		1	9	1	5	16
Reversing		1	1	1	2	5
Not over/unlikely over speed limit	1	137	137	79	75	429
Possibly over speed limit	2	30	28	10	4	74
Definitely over speed limit	6	47	37	5	2	97
Within legal limit, but excessive for road conditions	1	7	1	3		12
	10	223	213	99	88	633

Missing cases = 53

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SPEED OF VEHICLE AT TIME OF CRASH BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
0 - 20		3	9	3	6	21
21 - 40		1	6	3	3	13
41 - 60		22	21	12	10	65
61 - 80		17	12	8	5	42
81 - 100	1	17	12	8	3	41
Over 101	4	15	10	1		30
	5	75	70	35	27	212

Missing cases = 474

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
YEAR OF VEHICLE MANUFACTURE BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
1986-1988		10	31	10	4	55
1981-1985	2	34	31	17	13	97
1976-1980	2	35	24	16	6	83
1971-1975	3	35	18	9	5	70
1970 and earlier	1	22	12	4	5	44
	8	136	116	56	33	349

Missing cases = 337

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NATURAL LIGHT BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Day	2	105	102	61	70	340
Night	7	119	113	40	17	296
Dawn	1	10	2	1	2	16
Dusk		4	8	3	2	17
	10	238	225	105	91	669

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
STREET LIGHT CONDITIONS BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Operating (visibility good)		42	34	13	10	99
Poor/inadequate (visibility impaired)	1	13	19	6	2	41
Operating (visibility status not stated)		17	14	3	3	37
Not operating (visibility impaired - dark)		6	4	2		12
Non-existant (visibility impaired - dark)	6	50	47	16	3	122
No information on whether operating or not		1	1	1	1	4
Existence unknown	1	4	5	5	2	17
	8	133	124	46	21	332

Missing cases = 354

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
WEATHER CONDITIONS BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Fine	9	203	198	87	82	579
Light/moderate rain	1	24	21	16	8	70
Heavy rain		6	3	3		12
Fog			3			3
Strong winds		1				1
	10	234	225	106	90	665

Missing cases = 21

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
PRIMARY ACCIDENT CLASS BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Motor vehicles - collisions						
- other motor vehicle	2	116	113	66	63	360
- other road vehicle		1	5	4	2	12
- tram					1	1
- train			1		2	3
- pedestrian		49	51	18	10	128
- object	6	64	47	16	10	143
Motor vehicles - non-collisions						
- overturn on carriageway		1		2	1	4
- overturn off carriageway	2	6	9		2	19
- run off road		1				1
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
DCA EVENT BY AGE GROUP

N=686

	0-17	18-25	26-40	41-55	56-98	Total
Pedestrian on foot or in toy/pram						
- near side		24	17	9	4	54
- far side		13	21	6	3	43
- other		12	13	3	3	31
Vehicles from adjacent directions (intersection only)						
- cross traffic	1	28	21	11	21	82
- other		10	11	8	4	33
Vehicles from opposing directions						
- head on (not overtaking)	1	38	49	30	18	136
- right thru		9	11	6	7	33
- left thru		1				1
Vehicles from same direction						
- rear end		9	3	3	5	20
- other		5	7	3	3	18
Manoeuvring		7	4	3	5	19
Overtaking						
- head on		4	6	3	1	14
- other		5	4	2		11
On path		1	3	1	2	7
Off path, on straight						
- left off carriageway into object/parked vehicle		10	16	4	2	32
- right off carriageway into object/parked vehicle	1	20	11	6	4	42
- other	1	4	6	2	3	16
Off path, on curve or turning						
- off carriageway, left on right bend into object/parked vehicle	2	7	6	2	3	20
- off carriageway, right on left bend into object/parked vehicle	2	14	4	3		23
- other	2	16	11	1	1	31
Passengers/miscellaneous		1	2		2	5
	10	238	226	106	91	671

Missing cases = 15

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
MAJOR FACTOR BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Driver						
- death			1			1
- illness		1	4	1	3	9
- intoxication	3	58	75	15	13	164
- other drug		2	1			3
- alcohol + drug		1	1			2
- asleep or fatigued	1	11	4	5	7	28
Attention distracted	1	10	4	3	2	20
Error manipulating controls	1	3	2	1	3	10
Too close to other vehicle		4	5	1	2	12
Inadequate supervision (learner)	1	5		1		7
Excessive speed	2	28	21	9	4	64
Dangerous manoeuvre		8	8	3	1	20
Failure to observe person or vehicle		17	12	16	14	59
Vision obscured		12	9	5	3	29
Road surface problem		6	5	3	3	17
Pedestrian or cyclist at fault		38	44	15	10	107
Failure to observe traffic control (car/m/cycle)	1	14	11	7	12	45
Failure to observe traffic control (cyclist)			1		1	2
Pedestrian failed to observe don't walk sign		3				3
Critical vehicle defect			3	2		5
Other		13	10	14	10	47
	10	234	221	101	88	654

Missing cases = 32

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ORIGIN OF TRIP BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Home	2	54	52	27	25	160
Work		30	35	17	1	83
Recreation	7	86	64	27	21	205
Private business		5	8	2	10	25
Other	1	2		1	1	5
	10	177	159	74	58	478

Missing cases = 208

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
DESTINATION OF TRIP BY AGE GROUP N=686

	0-17	18-25	26-40	41-55	56-98	Total
Home	2	87	81	36	27	233
Work		22	28	13	1	64
Recreation	6	50	22	15	16	109
Private business	1	11	18	10	7	47
Other	1	2	1		1	5
	10	172	150	74	52	458

Missing cases = 228

* Frequencies comprise drivers of cars and car derivatives only

3 FORS FATALITY FILE (1988) - VICTORIA - DAY/NIGHT COMPARISONS

3.1 INTRODUCTION

Bivariate analyses which showed drivers who were involved in fatality crashes in Victoria during 1988 split by age group appeared in the previous chapter. There are numerous ways in which the data can be analyzed and an important consideration is any age group differences arising as a result of the time of day, given the increased risk of night-time driving relative to driving during the day. The current chapter re-examines the fatality crash data with the following modification:

- 'day' was operationally defined as the period between 6.00 am and 5.59 pm while 'night' was defined as the period between 6.00 pm and 5.59 am.

- All 'not known' cases (eg. not known age group, not known day of week, etc) were collapsed with other missing cases. Missing and unknown cases make up approximately 1-2% of the total sample for most variables.

3.2 INTERPRETATION OF TABLES

The day/night comparisons revealed that young drivers (drivers aged between 18 and 25 years) formed 33% (n=114) of all drivers involved in fatal daytime crashes and 39% (n=124) of all drivers involved in fatal night-time crashes.

What information can be gleaned from these tables? As an example, the variable listing number of vehicles involved in the crash showed that young drivers made up 45% of all drivers involved in daytime single vehicle collisions and 57% of drivers involved in night-time single vehicle collisions. The total number of drivers involved in these types of collisions during the day was less than those involved at night (129 and 164 respectively). Young drivers also showed an increase in numbers from day to night for these type of crashes (51 and 70 respectively). Hence, in absolute terms, there was a 40% increase in the number of young drivers involved in single vehicle crashes at night compared to during the day.

A proportional increase was also observed for young drivers involved in daytime (24%) and night-time (44%) crashes in which one fatality occurred in the vehicle. The actual number of drivers involved in such daytime crashes (n=160), however, was similar to the number of drivers involved in night-time crashes (n=162). Care must be taken, therefore, in interpreting proportions resulting from different sample sizes because an apparently large proportional increase may actually address the same number of crashes.

Ratio comparisons between drivers is another way of interpreting results. The number of young male drivers involved in daytime crashes resulting in a fatality was 86 compared to 28 young female drivers This gives a ratio of 3:1. Where night-time crashes were concerned, the number of young male drivers involved in fatal crashes was 105 compared to 19 young female drivers: a ratio of 5.5:1. This difference between daytime and night-time ratios between male and female drivers indicates that the probability of young male drivers being involved in fatal crashes relative to young female drivers is greater at night than during the day.

There are a few points to keep in mind when interpretation of these results are made:

- It is necessary to note the sample size or the number of cases present when making comparisons. For example, when making day/night comparisons, in most cases, the sample size of drivers involved in night-time crashes is less than those of drivers involved in daytime crashes, despite the higher proportion of young drivers involved in night-time crashes.

- The number of years that make up each age group differ. For example, young drivers (18-25 years) covers eight years while the 26-40 age group covers 15 years. Thus, similar proportions between these age groups indicate an over-involvement of young drivers of almost two per year of age.

- The increase in young driver proportions involved in night-time crashes may be a result of any of the following reasons:

    - young drivers allocate a higher proportion of their total driving to night-time driving, and/or young drivers having a greater propensity to engage in risky driving behaviour at night

    - older drivers allocate a lower proportion of their total driving to night-time driving, and/or older drivers tend to engage in safe driving behaviour at night.

Hence, the over-involvement of one age group may be a result of a relative under-involvement of other age groups.

3.3 TABLES - DAY/NIGHT COMPARISONS

Variables and page numbers are listed here for the convenience of the reader:

	Page
DESCRIPTION OF CRASH	
Person responsible for crash	50
Number of vehicles involved	51
Number of persons in crash	52
Number of persons injured in crash	53
Number of persons injured in this vehicle	54
Number of fatalities in crash	55
Number of fatalities in this vehicle	56
WHEN DID THE CRASHES OCCUR?	
Day of week	57
Weekday versus weekend	58
Time period by weekday/weekend	59
WHERE DID THE CRASHES OCCUR?	
City/rural boundaries	60
Road type	61

	Page
Location	62
Intersection type	63
Road configuration	64
Speed limit	65
Land use	66
Horizontal road alignment	67
Vertical road alignment	68
Road surface	69
Traffic controls	70
Electronic traffic controls functioning	71
WHAT WERE THE FACTORS WITHIN THE VEHICLE - DRIVER	
Sex of driver	72
BAC group	73
Restraint use by driver	74
Licence type	75
Years driving experience	76
State of licence issue	77
WHAT WERE THE FACTORS WITHIN THE VEHICLE - PASSENGERS	
Number of occupants in this vehicle	78
WHAT WERE THE VEHICLE FACTORS?	
Speed category	79
Estimated speed of vehicle	80
Year of vehicle manufacture	81
WHAT WERE THE ENVIRONMENTAL CONDITIONS?	
Street lighting conditions	82
Weather	83
WHAT OTHER FACTORS SURROUNDED THE CRASH?	
Primary Accident Class	84
DCA event	85
Major factor	87
Origin of trip	89
Destination of trip	90

FORS FATAL FILE (1988) - VICTORIA*
PERSON RESPONSIBLE FOR CRASH BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
This driver responsible	1	56	44	28	50	179
This driver not responsible	1	26	29	19	14	89
Pedestrian responsible		22	19	6	5	52
More than one person responsible		6	3	4	3	16
No fault		2	1			3
Unit/person in prior event only		2	2	2	1	7
	2	114	98	59	73	346

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
This driver responsible	8	77	69	18	6	178
This driver not responsible		18	24	14	6	62
Pedestrian responsible		14	20	6	3	43
More than one person responsible		12	10	6	1	29
No fault						0
Unit/person in prior event only		2	3	1		6
	8	123	126	45	16	318

Missing cases = 22

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF VEHICLES INVOLVED BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
1	1	51	39	19	19	129
2	1	58	60	37	53	209
3		5	1	3	1	10
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
1	7	70	67	16	4	164
2	1	50	51	28	13	143
3		4	8	2		14
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF PERSONS IN CRASH BY DRIVER AGE GROUP

N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
1		7	10	6	6	29
2	2	47	40	16	22	127
3		31	22	16	23	92
4		11	12	10	11	44
5		8	9	4	6	27
6		7	5	4	2	18
7 or more		3	2	3	1	9
	2	114	100	59	71	346

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
1	1	21	32	6	2	62
2	2	37	42	12	4	97
3	2	30	21	14	6	73
4	3	17	10	7	2	39
5		9	7	5	2	23
6		4	5		1	10
7 or more		6	9	2		17
	8	124	126	46	17	321

Missing cases = 19

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF PERSONS INJURED IN CRASH BY DRIVER AGE GROUP

N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
0		45	54	20	29	148
1	2	35	17	20	18	92
2		16	10	8	14	48
3		7	13	6	8	34
4		5	4	2	2	13
5		5		1	1	7
6 or more		1	1	2		4
	2	114	99	59	72	346

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
0	2	56	70	24	9	161
1	2	24	30	7	4	67
2	2	22	9	10	1	44
3	2	15	8	2	2	29
4		2	6	3		11
5			1		1	2
6 or more		2	2			4
	8	121	126	46	17	318

Missing cases = 22

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF PERSONS INJURED IN THIS VEHICLE BY DRIVER AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
0		59	64	32	42	197
1	2	35	21	19	21	98
2		16	10	4	8	38
3		2	2	2	2	8
4 or more		2	2	2		6
	2	114	99	59	73	347

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
0	2	73	83	29	11	198
1	2	23	35	10	4	74
2	3	15	2	5	1	26
3	1	9	4	1		15
4 or more		2	2	1	1	6
	8	122	126	46	17	319

Missing cases = 20

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF FATALITIES IN CRASH BY DRIVER AGE GROUP

N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
1	2	100	94	51	66	313
2		13	6	6	6	31
3 or more		1		2	1	4
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
1	5	108	111	38	13	275
2	3	14	6	6	4	33
3 or more		2	9	2		13
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF FATALITIES IN THIS VEHICLE BY DRIVER AGE GROUP

N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
0	1	65	60	25	14	165
1	1	39	37	30	53	160
2		9	3	3	5	20
3		1		1	1	3
4						0
5						0
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
0	1	44	56	25	7	133
1	4	72	61	17	8	162
2	3	7	4	3	2	19
3		1	4	1		6
4			1			1
5						0
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - NSW*
DAY OF WEEK BY AGE GROUP

N=686

DAY

	0-16	17-25	26-40	41-55	56-98	Total
Monday		11	13	8	6	38
Tuesday		17	15	2	8	42
Wednesday		18	15	10	14	57
Thursday		15	18	8	13	54
Friday		14	19	9	14	56
Saturday	1	20	8	11	7	47
Sunday	1	19	12	11	11	54
	2	114	100	59	73	348

NIGHT

	0-16	17-25	26-40	41-55	56-98	Total
Monday	1	6	12	5	3	27
Tuesday		19	13	5	2	39
Wednesday		10	6	4	2	22
Thursday	2	13	17	4	1	37
Friday	1	26	28	13	4	72
Saturday	1	25	19	7	2	54
Sunday	3	25	31	8	3	70
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
WEEKDAY VS WEEKEND BY AGE GROUP

N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Weekday		75	80	37	55	247
Weekend	2	39	20	22	18	101
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Weekday	4	74	76	31	12	197
Weekend	4	50	50	15	5	124
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
TIME BY DAY BY AGE GROUP N=686

		DAY					
		0-17	18-25	26-40	41-55	56-98	Total
Weekday:	6 am - 12 pm		31	38	10	19	98
	12 pm - 6 pm		44	42	27	36	149
Weekend:	6 am - 12 pm	1	18	6	10	11	46
	12 pm - 6 pm	1	21	14	12	7	55
		2	114	100	59	73	348

		NIGHT					
		0-17	18-25	26-40	41-55	56-98	Total
Weekday:	6 pm - 12 am	4	51	63	25	11	154
	12 am - 6 am		23	13	6	1	43
Weekend:	6 pm - 12 am	1	27	27	9	3	67
	12 am - 6 am	3	23	23	6	2	57
		8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
CITY/RURAL BOUNDARIES BY AGE GROUP N=686

	DAY					
	0-17	18-25	26-40	41-55	56-98	Total
Capital city		53	57	29	30	169
Provincial urban	1	13	7	4	5	30
General rural	1	48	36	26	38	149
	2	114	100	59	73	348

	NIGHT					
	0-17	18-25	26-40	41-55	56-98	Total
Capital city	1	78	69	25	12	185
Provincial urban		10	10	3	2	25
General rural	7	36	47	18	3	111
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ROAD TYPE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
National highway		13	14	4	5	36
State highway	1	16	12	13	19	61
Other rural road		32	20	15	19	86
Major arterial city road		33	35	13	16	97
Other urban	1	20	18	14	12	65
	2	114	99	59	71	345

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
National highway	1	5	8	2	1	17
State highway	1	13	22	12	2	50
Other rural road	5	35	29	8	2	79
Major arterial city road		49	46	16	9	120
Other urban	1	22	21	8	3	55
	8	124	126	46	17	321

Missing cases = 20

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
LOCATION BY AGE GROUP

N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Mid-block	2	77	70	39	44	232
Within intersection		29	21	13	25	88
Related to intersection		8	9	7	4	28
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Mid-block	7	81	89	30	10	217
Within intersection	1	30	32	13	6	82
Related to intersection		13	5	1	1	20
	8	124	126	44	17	319

Missing cases = 19

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
INTERSECTION TYPE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
X-intersection		20	16	11	20	67
Y-intersection		1	1	1		3
T-intersection		14	13	8	9	44
		35	30	20	29	114

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
X-intersection	1	18	14	7	5	45
Y-intersection		1	1			2
T-intersection		24	22	9	2	57
	1	43	37	16	7	104

Missing cases = 468

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ROAD CONFIGURATION BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Two way undivided	2	67	55	35	40	199
Divided road (dual carriageway)		11	13	3	1	28
Dual carriageway - freeway		1	2	1	3	7
	2	79	70	39	44	234

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Two way undivided	7	66	69	24	7	173
Divided road (dual carriageway)		12	14	5	1	32
Dual carriageway - freeway		3	6		1	10
	7	81	89	29	9	215

Missing cases = 237

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SPEED LIMIT BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
60		48	52	23	28	151
75	1	13	7	10	5	36
80		1	1	3	1	6
90		3	3		1	7
100	1	48	32	22	36	139
110		1	5	1	2	9
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
40		1				1
50		1				1
60	1	55	50	21	9	136
75		24	22	5	3	54
80		1		1		2
90		1	2	1	1	5
95			1			1
100	7	37	46	18	4	112
110		3	4			7
	8	123	125	46	17	319

Missing cases = 19

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
LAND USE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Residential		39	36	18	26	119
Part residential/part commercial		10	13	6		29
Non-residential-commercial/industrial		4	6	3	3	16
Urban parkland	1	5		1	1	8
Urban parkland-highway/freeway		2	3		2	7
Rural	1	52	38	28	41	160
	2	112	96	56	73	339

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Residential	1	58	50	18	9	136
Part residential/part commercial		9	13	3		25
Non-residential-commercial/industrial		7	5	3	1	16
Urban parkland		4	1	1		6
Urban parkland-highway/freeway		6	7	1	2	16
Rural	7	37	48	18	3	113
	8	121	124	44	15	312

Missing cases = 35

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
HORIZONTAL ROAD ALIGNMENT BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Straight	1	92	77	41	59	270
Curved	1	22	23	17	14	77
	2	114	100	58	73	347

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Straight	3	88	97	42	15	245
Curved	5	36	29	4	2	76
	8	124	126	46	17	321

Missing cases = 18

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
VERTICAL ROAD ALIGNMENT BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Level	2	94	77	43	59	275
Crest of hill		5	6	2	1	14
Bottom of hill		4	1	3		8
Slope - gentle		9	12	5	8	34
Slope - steep			1	3	2	6
Slope - undefined		1	1		2	4
	2	113	98	56	72	341

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Level	6	94	103	33	13	249
Crest of hill	1	6	8	3		18
Bottom of hill		1	1	3		5
Slope - gentle	1	16	10	5	1	33
Slope - undefined		2				2
	8	119	122	44	14	307

Missing cases = 38

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ROAD SURFACE CONDITION BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Sealed/paved	2	107	95	58	73	335
Unsealed		4	5	1		10
	2	111	100	59	73	345

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Sealed/paved	6	118	125	46	17	312
Unsealed	2	5	1			8
	8	123	126	46	17	320

Missing cases = 21

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
TYPE OF TRAFFIC CONTROLS PRESENT BY AGE GROUP N=686

	DAY					
	0-17	18-25	26-40	41-55	56-98	Total
Non present mid-block	2	69	62	34	38	205
None present at intersection		15	3	4	4	26
Stop sign		9	11	5	13	38
Give way sign		5	8	5	4	22
Double unbroken lines		1	3	2	5	11
Roundabout			1			1
Flashing signals			1		1	2
Traffic control signals - car only		2	1	3	2	8
Traffic control signals with walk/don't walk		3	2	3	2	10
Give way to right sign		1			2	3
Railway crossing lights			2		2	4
Pedestrian crossing with lights		1				1
School crossing		1				1
Warning signs		2	4	3		9
Traffic control/road scheme/chicane		1				1
	2	110	98	59	73	342

	NIGHT					
	0-17	18-25	26-40	41-55	56-98	Total
Non present mid-block	7	72	84	27	10	200
None present at intersection		11	13	4	1	29
Stop sign	1	10	9	3	2	25
Give way sign		6	7	5	1	19
Double unbroken lines		4	1	2		7
Flashing signals		1				1
Traffic control signals - car only		8	2	4	1	15
Traffic control signals with walk/don't walk		6	6		2	14
School crossing			1			1
Warning signs		4	2	1		7
Traffic control/road scheme/chicane		1	1			2
	8	123	126	46	17	320

Missing cases = 24

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ELECTRONIC TRAFFIC CONTROLS FUNCTIONING BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
On, fully functioning		6	5	6	6	23
On, reduced function			1		1	2
No electronic traffic controls	2	108	94	53	66	323
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
On, fully functioning		15	8	3	3	29
Off, not functioning		1		1		2
No electronic traffic controls	8	106	118	42	14	288
	8	122	126	46	17	319

Missing cases = 19

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SEX OF DRIVER BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Male	1	86	68	43	54	252
Female	1	28	32	16	19	96
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Male	6	105	101	40	12	264
Female	2	19	25	6	5	57
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
BAC GROUP OF DRIVER BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
0 - <.02	1	55	40	28	42	166
<.05		1	1	4		6
.05 - .079		2	2	2		6
.08 - .12		3				3
.12 - .15		1	1			2
>.15		2	6		1	9
	1	64	50	34	43	192

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
0 - <.02	3	45	42	17	8	115
<.05		5	4			9
.05 - .079		2	5	2	1	10
.08 - .12		7	9	2		18
.12 - .15	2	10	11	3		26
>.15	1	25	35	8	1	70
	6	94	106	32	10	248

Missing cases = 246

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
RESTRAINT USE BY DRIVER BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Restraint worn	2	92	75	46	54	269
Restraint not worn		4	9	3	10	26
	2	96	84	49	64	295

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Restraint worn	1	73	80	36	13	203
Restraint not worn	6	22	25	6	1	60
	7	95	105	42	14	263

Missing cases = 128

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
LICENCE TYPE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Standard		62	93	58	68	281
Learner's permit		3				3
Provisional	1	37	2		1	41
Disqualified		3	2			5
Other		1				1
	1	106	97	58	69	331

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Standard		57	109	40	15	221
Learner's permit	1	5	1			7
Provisional	1	49	2	1		53
Disqualified		5	2	2	2	11
Other						0
	2	116	114	43	17	292

Missing cases = 63

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
YEARS DRIVING EXPERIENCE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Less than 1	1	7				8
1		15	1			16
2		6	1			7
3		4				4
4		6				6
5		3				3
6 or more		8	18	20	21	67
	1	49	20	20	21	111

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Less than 1	2	9				11
1		12	2			14
2		6				6
3		4				4
4		2	1			3
5		4				4
6 or more		3	30	13	4	50
	2	40	33	13	4	92

Missing cases = 483

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
STATE OF LICENCE ISSUE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
New South Wales	1	1	2	2	2	8
Victoria		101	89	56	66	312
Queensland		2				2
South Australia			3		2	5
Tasmania		1	1			2
Overseas			2			2
Other (eg. surrendered licence)		1				1
Never held licence	1	2			1	4
	2	108	97	58	71	336

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
New South Wales		2	3		1	6
Victoria	2	113	109	41	16	281
South Australia			1			1
Overseas			1			1
Other (eg. surrendered licence)		1	1	1		3
Never held licence	6	3	4	1		14
	8	119	119	43	17	306

Missing cases = 44

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
NUMBER OF OCCUPANTS BY DRIVER AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
1	1	64	64	29	33	191
2	1	30	17	19	28	95
3		10	10	5	10	35
4		8	5	4	2	19
5 or more		2	4	2		8
	2	114	100	59	73	348

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
1	1	58	79	26	8	172
2	3	33	32	9	6	83
3	2	16	5	8	1	32
4	2	9	6	1	1	19
5 or more		8	4	2	1	15
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SPEED CATEGORY BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Stationary			5	1	2	8
Reversing		1	1	1	1	4
Not over/unlikely over speed limit	1	76	73	44	62	256
Possibly over speed limit	1	12	7	3	4	27
Definitely over speed limit		15	9	2	1	27
Within legal limit, but excessive for road conditions		5		3		8
	2	109	95	54	70	330

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Stationary		1	4		3	8
Reversing					1	1
Not over/unlikely over speed limit		61	64	34	13	172
Possibly over speed limit	1	18	21	7		47
Definitely over speed limit	6	32	28	3		69
Within legal limit, but excessive for road conditions	1	2	1			4
						0
	8	114	118	44	17	301

Missing cases = 55

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
SPEED OF VEHICLE AT TIME OF CRASH BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
0 - 20		1	4	2	3	10
21 - 40		1	4	2	2	9
41 - 60		14	11	3	9	37
61 - 80		11	4	3	5	23
81 - 100		8	3	6	3	20
Over 101		9	3			12
	0	44	29	16	22	111

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
0 - 20		2	5	1	3	11
21 - 40			2	1	1	4
41 - 60		8	10	9	1	28
61 - 80		6	8	5		19
81 - 100	1	9	9	2		21
Over 101	4	6	7	1		18
	5	31	41	19	5	101

Missing cases = 474

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
YEAR OF VEHICLE MANUFACTURE BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
1986-1988		7	13	5	2	27
1981-1985		19	10	8	11	48
1976-1980	1	14	7	9	3	34
1971-1975	1	12	8	5	4	30
1970 and earlier		9	5	1	5	20
	2	61	43	28	25	159

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
1986-1988		3	18	5	2	28
1981-1985	2	15	21	9	2	49
1976-1980	1	21	17	7	3	49
1971-1975	2	23	10	4	1	40
1970 and earlier	1	13	7	3		24
	6	75	73	28	8	190

Missing cases = 337

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
STREET LIGHT CONDITIONS BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Operating (visibility good)			1		1	2
Poor/inadequate (visibility impaired)			1			1
Operating (visibility status not stated)		2				2
Not operating (visibility impaired - dark)		3	1			4
Street lighting doesn't exist (visibility impaired - dark)	1	8	4	2	1	16
No information on whether operating or not			1	1	1	3
Existence unknown		2	2	1	1	6
	1	15	10	4	4	34

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Operating (visibility good)		42	33	13	9	97
Poor/inadequate (visibility impaired)	1	13	18	6	2	40
Operating (visibility status not stated)		15	14	3	3	35
Not operating (visibility impaired - dark)		3	3	2		8
Street lighting doesn't exist (visibility impaired - dark)	5	42	43	14	2	106
No information on whether operating or not		1				1
Existence unknown	1	2	3	3		9
	7	118	114	41	16	296

Missing cases = 356

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
WEATHER CONDITIONS BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Fine	2	98	85	48	64	297
Light/moderate rain		12	12	9	8	41
Heavy rain		2	1	2		5
Fog			2			2
Strong winds						
	2	112	100	59	72	345

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Fine	7	105	113	38	17	280
Light/moderate rain	1	12	9	7		29
Heavy rain		4	2	1		7
Fog			1			1
Strong winds		1				1
	8	122	125	46	17	318

Missing cases = 23

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
PRIMARY ACCIDENT CLASS BY AGE GROUP N=686

	DAY					
	0-17	18-25	26-40	41-55	56-98	Total
Motor vehicles - collisions						
- other motor vehicle	1	63	59	38	49	210
- other road vehicle			2	1	2	5
- tram					1	1
- train			1		2	3
- pedestrian		29	24	9	7	69
- object	1	21	10	10	9	51
Motor vehicles - non-collisions						
- overturn on carriageway				1	1	2
- overturn off carriageway		1	4		2	7
	2	114	100	59	73	348

	NIGHT					
	0-17	18-25	26-40	41-55	56-98	Total
Motor vehicles - collisions						
- other motor vehicle	1	53	54	27	13	148
- other road vehicle		1	3	3		7
- pedestrian		20	27	9	3	59
- object	5	43	37	6	1	92
Motor vehicles - non-collisions						
- overturn on carriageway		1		1		2
- overturn off carriageway	2	5	5			12
- run off road		1				1
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
DCA EVENT BY AGE GROUP

N=686

	DAY					
	0-17	18-25	26-40	41-55	56-98	Total
Pedestrian on foot or in toy/pram						
- near side		16	10	5	3	34
- far side		5	8	2	2	17
- other		8	6	2	2	18
Vehicles from adjacent directions (intersection only)						
- cross traffic		15	11	6	18	50
- other		7	7	5	4	23
Vehicles from opposing directions						
- head on (not overtaking)	1	24	26	20	16	87
- right thru		4	2	2	3	11
Vehicles from same direction						
- rear end		5	2	1	3	11
- other		1	5		2	8
Manoeuvring		3	3	3	4	13
Overtaking						
- head on		1	3	1	1	6
- other		3	1	1		5
On path					1	1
Off path, on straight						
- left off carriageway into object/parked vehicle		4	4	2	2	12
- right off carriageway into object/parked vehicle		8	2	4	3	17
- other		1	4	1	3	9
Off path, on curve or turning						
- off carriageway, left on right bend into object/parked vehicle	1	1	3	1	3	9
- off carriageway, right on left bend into object/parked vehicle		2		2		4
- other		6	1	1	1	9
Passengers/miscellaneous			2		2	4
	2	114	100	59	73	348

FORS FATAL FILE (1988) - VICTORIA*
DCA EVENT BY AGE GROUP

N=686

	NIGHT					
	0-17	18-25	26-40	41-55	56-98	Total
Pedestrian on foot or in toy/pram						
- near side		8	7	4	1	20
- far side		8	13	4	1	26
- other		4	7	1	1	13
Vehicles from adjacent directions (intersection only)						
- cross traffic	1	13	10	5	3	32
- other		3	4	3		10
Vehicles from opposing directions						
- head on (not overtaking)		14	23	10	2	49
- right thru		5	9	4	4	22
- left thru		1				1
Vehicles from same direction						
- rear end		4	1	1	1	7
- other		4	2	3	1	10
Manoeuvring		4	1		1	6
Overtaking						
- head on		3	3	2		8
- other		2	3	1		6
On path		1	3	1	1	6
Off path, on straight						
- left off carriageway into object/parked vehicle		6	12	2		20
- right off carriageway into object/parked vehicle	1	12	9	2	1	25
- other	1	3	2	1		7
Off path, on curve or turning						
- off carriageway, left on right bend into object/parked vehicle	1	6	3	1		11
- off carriageway, right on left bend into object/parked vehicle	2	12	4	1		19
- other	2	10	10			22
Passengers/miscellaneous		1				1
	8	124	126	46	17	321

Missing cases = 17

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
MAJOR FACTOR BY AGE GROUP N=686

	DAY					
	0-17	18-25	26-40	41-55	56-98	Total
Driver						
- death			1			1
- illness		1	3	1	3	8
- intoxication		6	10	1	4	21
- other drug			1			1
- alcohol + drug						0
- asleep or fatigued		7	2	4	7	20
Attention distracted		7	4	2	2	15
Error manipulating controls	1	2	2	1	3	9
Too close to other vehicle		3	5	1	2	11
Inadequate supervision (learner)		3		1		4
Excessive speed	1	18	10	4	3	36
Dangerous manoeuvre		2	4	3	1	10
Failure to observe person or vehicle		14	10	10	14	48
Vision obscured		8	7	3	3	21
Road surface problem		2	3	3	3	11
Pedestrian or cyclist at fault		21	20	5	6	52
Failure to observe traffic control (car/m/cycle)		9	7	4	11	31
Failure to observe traffic control (cyclist)			1		1	2
Pedestrian failed to observe don't walk sign		2				2
Critical vehicle defect			2	2		4
Other		8	7	12	8	35
	2	113	99	57	71	342

FORS FATAL FILE (1988) - VICTORIA*
MAJOR FACTOR BY AGE GROUP

N=686

	NIGHT					
	0-17	18-25	26-40	41-55	56-98	Total
Driver						
- death						
- illness			1			1
- intoxication	3	52	65	13	8	141
- other drug		2				2
- alcohol + drug		1	1			2
- asleep or fatigued	1	4	2	1		8
Attention distracted	1	3		1		5
Error manipulating controls		1				1
Too close to other vehicle		1				1
Inadequate supervision (learner)	1	2				3
Excessive speed	1	10	11	5	1	28
Dangerous manoeuvre		6	4			10
Failure to observe person or vehicle		3	2	6		11
Vision obscured		4	2	2		8
Road surface problem		4	2			6
Pedestrian or cyclist at fault		17	24	10	4	55
Failure to observe traffic control (car/m/cycle)	1	5	4	3	1	14
Failure to observe traffic control (cyclist)						0
Pedestrian failed to observe don't walk sign		1				1
Critical vehicle defect			1			1
Other		5	3	2	2	12
	8	121	122	43	16	310

Missing cases = 34

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
ORIGIN OF TRIP BY AGE GROUP N=686

DAY

	0-17	18-25	26-40	41-55	56-98	Total
Home		38	27	19	21	105
Work		18	17	9	1	45
Recreation	2	29	13	11	14	69
Private business		2	6	1	10	19
Other					1	1
	2	87	63	40	47	239

NIGHT

	0-17	18-25	26-40	41-55	56-98	Total
Home	2	16	25	8	4	55
Work		12	18	8		38
Recreation	5	57	51	16	7	136
Private business		3	2	1		6
Other	1	2		1		4
	8	90	96	34	11	239

Missing cases = 208

* Frequencies comprise drivers of cars and car derivatives only

FORS FATAL FILE (1988) - VICTORIA*
DESTINATION OF TRIP BY AGE GROUP N=686

	DAY					
	0-17	18-25	26-40	41-55	56-98	Total
Home	1	36	23	14	21	95
Work		19	23	10	1	53
Recreation	1	25	7	10	13	56
Private business		8	9	7	6	30
Other			1		1	2
	2	88	63	41	42	236

	NIGHT					
	0-17	18-25	26-40	41-55	56-98	Total
Home	1	51	58	22	6	138
Work		3	5	3		11
Recreation	5	25	15	5	3	53
Private business	1	3	9	3	1	17
Other	1	2				3
	8	84	87	33	10	222

Missing cases = 228

* Frequencies comprise drivers of cars and car derivatives only

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APPENDIX 1: GUIDE TO COLLAPSING OF VARIABLES FOR FORS FATAL FILE (1988) - VICTORIA

DAY OF WEEK

Working week:	Monday Tuesday Wednesday Thursday Friday	**Weekend:**	Saturday Sunday

TIME

Day:	0600-1759 hours	**Night:**	1800-0559 hours
12 am - 6 am	2400 - 0559 hours	**12 pm - 6 pm**	1200 - 1759 hours
6 am - 12 pm	0600 - 1159 hours	**6 pm - 12 am**	1800 - 2359 hours

ROAD USER MOVEMENT

Pedestrian on foot or in toy/pram

near side	
far side	
other:	emerging
	playing, working, lying, standing on carriageway
	walking with traffic
	facing traffic
	on footpath/median
	driveway
	other

Vehicles from adjacent directions (intersection only)

cross traffic	
other:	right near
	right far

Vehicles from opposing directions

head on (not overtaking)
right thru
left thru

Vehicles from same direction
- same lane

rear end	
other:	left rear
	right rear

APPENDIX 1: GUIDE TO COLLAPSING OF VARIABLES FOR FORS FATAL FILE (1988) - VICTORIA

Manoeuvring:
- U-turn
- U-turn into fixed object/parked vehicle
- leaving/entering parking
- parked vehicles only
- reversing
- reversing into fixed object/parked vehicle
- emerging from driveway
- from footpath
- other manoeuvring

Overtaking

head on

other:
- out of control
- pulling out
- overtake turning
- cutting in
- pulling out rear end
- other overtaking

On path:
- parked
- double parked
- accident or broken down
- vehicle door
- permanent obstruction on carriageway
- temporary roadworks
- struck object on carriageway
- animal (not ridden)
- other on path

Off path, on straight

left off carriageway into object/parked vehicle

right off carriageway into object/parked vehicle

other:
- off carriagway to left or right (rollover)
- out of control on carriageway (rollover)
- off end of road/t-intersection
- other straight

Off path, on curve or turning

off carriageway, left on right bend into object/parked vehicle

off carriageway, right on left bend into object/parked vehicle

other:
- off carriagway to left on right bend
- off carriageway, right on right bend into object/parked vehicle
- off carriageway, left on left bend into object/parked vehicle
- off carriageway to right on right bend
- off carriageway to right on left bend
- off carriageway to left on left bend
- out of control on carriageway
- other curve

APPENDIX 1: GUIDE TO COLLAPSING OF VARIABLES FOR FORS FATAL FILE (1988) - VICTORIA

Passengers/miscellaneous:

fell in/from vehicle
load or missile struck vehicle
struck train/aeroplane
parked vehicle run away into object/parked vehicle
parked vehicle run away into vehicle
struck while boarding or alighting vehicle
any accident not classified above