Motorcycles Are More Prone To Road Accident In Malaysia

With Special Reference To Moped Accidents

by

Wan Zaiyana Mohd.Yusof

(B.A Industrial Design, Institut Teknologi Mara, Malaysia)

A Thesis Submitted to the

Automotive Design Department, School of Art & Design

Coventry University, England

for the

MASTER OF ART

December 1997

Abstract

Crash injury investigation is by nature a highly complex activity which no formal academic training can cover the full spectrum and there are relatively few skilled practitioners in existence. Although papers describing methodology and results from various studies have been published over the years, no attempt has been made to bring together a publication covering all aspects of the discipline and its related application.

Accident statistics are important in order to assess safety trends and to identify specific safety problems as they arise. The important of crash-injury investigation as an essential underpinning to all areas of future design, improvements and other remedial measures. It must also be recognised that crash injury investigation and the translation of results into vehicle design and safety is a dynamic and on going area of activity and therefore statements made at one stage may not always be appropriate several years later. The fact that these could be due to resulting improvements and the reduction of death and serious injury are to the good and make any related studies worthwhile. Developments in methodology and the acquisition of new investigative skill will also be reflected in these changes.

The results from crash injury studies can eventually be translated into parameters aimed at improving vehicle safety and therefore reducing injury. These can take the form of further research and development leading to re-design of vehicle structures, both inside and out, provision of protective devices, including body protection and supporting the necessary legislation to make these changes effective.

Acknowledgements

A research study of this kind cannot be carried out without the help and co-operation of many people. First of all, I would like to thank god for everything that he gave me, I wish to thank my lecturers, Mr. David Brown for giving me the opportunity, Jennifer Hann for her guiding and offering much valued criticisms during the course of this study and Dr. Sam Porter for her interesting subject which is Anthropometry and Ron Saunders for his guidance.

Institut Teknologi Mara is greatly acknowledged for their financial for this course and giving me the opportunity. I am debted to A.S.P. Roslan and Cik Sawitri from the Traffic Branch, Royal Malaysia Police foe their strong support that enabled the success of this research I am most appreciative of the help of Professor Radin Umar from Universiti Putra Malaysia for his guidance and most valuable information for this research. I would like to acknowledge Dr. Ali Hassan from University of Birmingham for assisting me in the statistical modelling of the accident series and everybody whose support me in the completion of this research.

I should also thank my family for their support and blessing especially my husband Haizal and my two heroes, Haikahl Hidayat and Izer Hamkha for being patience, understanding and support during the course of this research. I would also like to thank the Warwick girls, Lin, Eda, Lina and others for helping me in one way or another.

At last but not least, my gratitude to all the technicians, Uncle Bill, Pete and others for their help and guidance in my model making.

Table of Contents

1.0 Introduction

Malaysia is divided into two peninsulas which is East peninsular and West peninsular (*Map 1*) Since gaining independence in 31st. August 1957, Malaysia has been experiencing rapid growth in population, in its economy, industrialisation and motorisation. Between 1970 and 1992, the population doubled from 9,000,399 to 18,606,000 an average growth rate of nearly 5% per year. During the same period, the total length of roads increased three- fold, from about 19,433 to 59,796 kilometres, forming a transportation network in Peninsular and East Malaysia (*Table 1*) .

Table 1. : General Road Accident Statistics in Malaysia

Year	Population	Vehicles Registered	Vehicle Involved	Road Length(KM)	Number of Accidents	Casualties			
						Death	Serious	Slight	Total
1970	9,000,399	669,294	19,433	10,715	12,704	579*	1,421*	5,621	7,621
1971	9,133,506	730,035	26,025	11,062	16,847	1,548*	541*	6,392	8,481
1972	9,873,623	802,831	34,944	11,062	22,151	1,712*	631*	8,373	10,716
1973	10,130,672	939,951	45,916	11,062	29,286	1,922*	2,504*	12,176	16,602
1974	10,434,592	1,090,279	39,056	11,161	24,581	2,303*	744*	10,285	13,332
1975	10,438,137	1,267,119	75,653	12,043	48,223	2,317	2,280	14,843	19,440
1976	10,472,544	1,429,845	80,995	12,340	48,291	2,405	2,585	14,337	19,327
1977	10,716,642	1,621,271	86,688	12,637	54,222	2,512	3,033	14,760	20,305
1978	10,944,500	1,829,958	91,122	13,399	56,021	2,561	3,883	15,215	21,659
1979	11,188,630	1,989,391	94,788	13,772	57,931	2,607	5,384	14,620	22,611
1980	11,442,086	2,357,386	99,485	14,446	59,084	2,568	5,097	14,739	22,404
1981	14,128,354	2,901,182	107,552	31,568	63,192	2,769	4,898	14,636	22,303
1982	14,506,589	3,246,790	126,474	36,238	74,096	3,266	4,871	14,683	22,820
1983	14,886,729	3,594,943	139,006	40,664	79,150	3,550	5,565	17,352	26,557
1984	15,437,683	3,941,036	140,012	42,254	80,526	3,637	5,656	16,383	25,552
1985	15,866,592	4,243,142	142,653	43,944	82,059	3,603	5,652	14,699	23,924
1986	16,278,001	4,458,735	137,175	44,100	79,804	3,525	5,442	14,290	23,257
1987	16,527,973	4,595,434	131,609	44,239	76,882	3,320	5,548	14,931	23,257
1988	16,921,300	4,783,506	124,922	44,428	73,250	3,335	5,548	13,655	22,538
1989	17,376,800	5,071,786	127,279	44,592	75,626	3,773	7,249	19,015	30,037
1990	17,812,000	5,462,792	146,747	50,835	87,999	4,048	8,076	17,690	29,814
1991	18,178,100	5,877,176	161,828	55,367	96,513	4,331	8,524	17,252	30,107
1992	18,606,000	6,263,383	193,421	59,796	118,554	4,557	10,634	21,071	36,262

(Source: Royal Malaysia Police 1992) *Note: * These figures are regarded as not reliable*