

Data systems

A ROAD SAFETY MANUAL
FOR DECISION-MAKERS
AND PRACTITIONERS

Data systems

A road safety manual for
decision-makers and
practitioners



WHO Library Cataloguing-in-Publication Data

Data systems: a road safety manual for decision-makers and practitioners.

1. Accidents, Traffic – prevention and control. 2. Automobile driving. 3. Wounds and injuries – prevention and control. 4. Safety. 5. Data collection – methods. 6. Manuals. I. World Health Organization. II. FIA Foundation for the Automobile and Society. III. Global Road Safety Partnership. IV. World Bank.

ISBN 978 92 4 159896 5

(NLM classification: WA 275)

© World Health Organization 2010

All rights reserved. Publications of the World Health Organization can be obtained from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press, at the above address (fax: +41 22 791 4806; e-mail: permissions@who.int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Printed in France

Design by Inis Communication: www.inis.ie

Table of contents

Preface	v
Contributors and acknowledgements	vii
Executive summary	viii

Introduction	ix
Background to the series of manuals	xi
Background to the data systems manual	xiii
How to get more copies	xvi

1 Why are road safety data systems needed?	1
1.1 Data systems are important for road safety	3
1.2 Data requirements for comprehensive assessment of road safety performance	8
1.3 The roles and data needs of different sectors	10
Summary	16
References	17

2 How to conduct a situational assessment	19
2.1 Why do you need to assess the situation?	21
2.2 Steps for conducting a situational assessment	22
2.2.1 Step one: stakeholder analysis	22
2.2.2 Step two: assess data sources, systems and quality	24
2.2.3 Step three: end-user needs assessment	39
2.2.4 Step four: environmental analysis	40
2.3 Using the situational assessment to prioritize actions	41
Summary	45
References	45

3 How to design, improve and implement data systems	47
3.1 Establishing a working group	49
3.2 Choosing a course of action	51
3.3 Recommended minimum data elements and definitions	56
3.4 Improving an existing system.	60
3.4.1 Strategies to improve data quality	61
3.4.2 Strategies to improve data system performance	68
3.5 Designing and implementing a new system.	77
3.6 Considerations for non-fatal data	90
Summary	92
Minimum data elements: full description	94
Crash data elements	94
Crash data elements derived from collected data	98
Road data elements	98
Vehicle data elements	103
Person data elements	107
Person data elements derived from collected data	113
References	113

4 Using data to improve road safety	115
4.1 Dissemination	117
4.2 Using road safety data	121
4.2.1 Advocacy	121
4.2.2 Technical uses of road safety data	122
4.3 Monitoring road safety performance.	127
4.3.1 Social costs	129
4.3.2 Outcome indicators	130
4.3.3 Safety performance indicators	130
4.3.4 Process/implementation indicators	133
4.3.5 Setting targets.	133
4.4 Assessing interventions	135
4.4.1 Study types for impact and outcome evaluation	137
4.4.2 Conducting an economic evaluation.	139
4.5 International cooperation on road safety data	140
Summary	144
References	145

Preface

Road traffic injuries are a major public health problem and a leading cause of death and injury around the world. Each year nearly 1.3 million people die and millions more are injured or disabled as a result of road crashes, mostly in low- and middle-income countries. As well as creating enormous social costs for individuals, families and communities, road traffic injuries place a heavy burden on health services and economies. The cost to countries, many of which already struggle with economic development, may be as much as 1–2% of their gross national product. As motorization increases, preventing road traffic crashes and the injuries they inflict will become an increasing social and economic challenge, particularly in developing countries. If present trends continue, road traffic injuries will increase dramatically in most parts of the world over the next two decades, with the greatest impact falling on the most vulnerable citizens.

Appropriate and targeted action is urgently needed. The *World report on road traffic injury prevention*, launched jointly in 2004 by the World Health Organization and the World Bank, identified improvements in road safety management and specific actions that have led to dramatic decreases in road traffic deaths and injuries in industrialized countries active in road safety. The use of seat-belts, helmets and child restraints, the report showed, has saved thousands of lives. The introduction of speed limits, the creation of safer infrastructure, the enforcement of limits on blood alcohol concentration while driving, and improvements in vehicle safety are all interventions that have been tested and repeatedly shown to be effective. The *World report on road traffic injury prevention* also identified the importance of collecting accurate, reliable data on the magnitude of the road traffic injury problem: it highlighted the need for data systems to be put in place to collect the information needed to allow countries to develop evidence-driven road safety policies.

The international community must now take the lead to encourage good practice in road safety. To this effect, the United Nations General Assembly adopted a resolution on 14 April 2004 urging that greater attention and resources be directed towards the global road safety crisis. Resolution 58/289 on 'Improving global road safety' stressed the importance of international collaboration in the field of road safety. Two further resolutions (A/58/L.60 and A/62/244), adopted in 2005 and 2008 respectively, reaffirmed the United Nations' commitment to this issue, encouraging Member States to implement the recommendations of the *World report on road traffic injury prevention*.

In November 2009, ministers and heads of delegations to the First Global Ministerial Conference on Road Safety echoed these calls with the adoption of the Moscow Declaration, resolving to take a number of actions to improve road safety, including improvements to national data collection systems and international comparability of data.

To contribute to the implementation of these resolutions and the Moscow Declaration, the World Health Organization, the Global Road Safety Partnership, the FIA Foundation for the Automobile and Society, and the World Bank have collaborated to produce a series of manuals aimed at policy-makers and practitioners. This manual on developing road crash data systems is one of them. Each manual provides step-by-step guidance to countries wishing to improve a particular aspect of road safety, according to recommendations outlined in the *World report on road traffic injury prevention*. These steps can save many lives and reduce the shocking burden of road traffic crashes around the world. We encourage all to use these manuals.

Etienne Krug

Director

Department of Violence and Injury Prevention and Disability

World Health Organization

Andrew Pearce

Chief Executive

Global Road Safety Partnership

David Ward

Director General

FIA Foundation for the Automobile and Society

Anthony Bliss

Lead Road Safety Specialist

Energy, Transport and Water Department

World Bank

Contributors and acknowledgements

Advisory committee

Anthony Bliss, Etienne Krug, Andrew Pearce, David Ward

Editor

Alison Harvey

Contributing authors

Petros Evgenikos, Yvette Holder, Rebecca Ivers, Goff Jacobs, Stephen Jan, Meleckidzedek Khayesi, Margie Peden, George Yannis

Special thanks to John Fletcher, Subu Kamal and Blair Turner.

The following people and organizations contributed material and/or reviewed the manual

Kidist Bartolomeos, Matts-Åke Belin, Betsy Benkowski, José Cardita, Arturo Cervantes, Le Minh Chau, Chip Chidester, Ralph Craft, Ann Dellinger, Victoria Espitia-Hardeman, Daniel Ferrante, Gururaj Gopalakrishna, Hizal Hanis Hashim, Stig Hemdorf, Rebecca Ivers, Mark Johnson, Brian Jonah, Susan Kirinich, Gérard Lautrédou, Bruno Lineski, Jonathon Passmore, Susanne Reichwein, Alan Ross, Socheata Sann, Umesh Shankar, Ray Shuey, David Sleet, Tami Toroyan, Clotilde Ubeda, Ward Vanlaar, Maria Vegega, Marie Walz, Fred Wegman

Research Institute on Traffic and Road Safety of the Universitat de València Estudi General (INTRAS-UVEG), Spanish Directorate General for Road Traffic

This manual has also benefited from expert input from the United Nations Road Safety Collaboration working group on data, the participants of the review workshop at the GRSP/Asia Road Safety Seminar in Kuala Lumpur, Malaysia (2008), and delegations to the International Workshop and Conference on Data Collection and Analysis in Phoenix, Arizona, USA (2009).

Technical and style editing

A. J. D.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_28952

