



Road Safety Manual of PIARC in China

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The Introduction of Road Safety Manual into China

- About in the summer of 2004, domestic PIARC committeeman acquires the Road Safety Manual (RSM). Engineering technicians of road traffic safety knew from internet that the manual was published and then they purchased the manual. Some technicians began to read and study the manual.





The Introduction of Road Safety Manual into China



- West area project “researches and translation on standard specifications of foreign highway projects”
- Aiming at issues of highway project standard specifications need to be tackled immediately in China, this project introduces and translates standard specifications of foreign highway project, and provides references to the large mass of Chinese engineering technicians.
- Road traffic safety is one of the important aspects in the introduction of the specification manual, among which the RSM of PIARC need to translated.



The Translation Progress of Road Safety Manual

- The translation progress: 10% of the contents have been translated.





The Translation Progress of Road Safety Manual

- The translator: Sun Xiaoduan
Female. Special professor of Beijing Polytechnic University; special researcher of Road Science Institute of the Ministry of Communications; at the same time, professor for life of University of Louisiana; director of both Communications Geographic Information System Research Office and Road Geographic Information System Research Office.





The Translation Progress of Road Safety Manual

- The translator: Sun Xiaoduan

Professor Sun has been studied traffic safety for long in USA and China as well and has gained great achievements. She has been a commissioner of the road safety project assessment committee of American "National Cooperative Highway Research Program" (NCHRP), a commissioner of "Developing Countries Traffic Issues Committee" of the Transportation Research Board, and a commissioner of Sub-Committee on Highway Safety Research supervised under Highway Safety Manual Task Force.



The Translation Progress of Road Safety Manual

- The translator: Sun Xiaoduan

Her main research directions are “road traffic safety” and “collecting traffic data by adopting advanced technologies”. She is good at the application of statistics in traffic safety and the application of geographic information system in traffic safety field. Her domestic research direction also includes road traffic safety database and roadside safety research, etc. she has published more than 20 thesis, and her representative achievements including: “Developing A Comprehensive Highway Accident Data Analysis Program with GIS”, and “Analysis of Past Evaluation of the Impact of New Traffic Signal Timing Plans With GPS”, etc.



Profits from reading the Road Safety Manual

- Contents of the manual are complete, enriched, accurate and practical;





Profits from reading the Road Safety Manual

- (1) Target readers of the manual are definite: road engineers and technicians, the content of the manual concentrates on road infrastructure.

Make the road engineering technicians know more about the influences of road infrastructure to road safety at all stages from design to operation. It is a very valuable tool to all engineers who are interested in road safety.





Profits from reading the Road Safety Manual

- (2) The manual gives not only relevant methods, but also some practices, even the applying tables used in specific application. It's easy and definite for readers to grasp how to apply.





Profits from reading the Road Safety Manual

- (3) Nowadays there are many researches and literatures on road safety: some of them are even contradictory to each other, some must be of application preconditions or conditions, but specific engineer are always lack of relative knowledge and distinguishing capability. Yet this book gives a relatively appropriate method or suggestion.





Profits from reading the Road Safety Manual

- (4) Not only gives “responding” method - the identification, analysis and measurement of accident black spot, but also gives “preventive” method – to judge potential unsafe spots according to road and traffic characters.





Profits from reading the Road Safety Manual

- (5) Friendly interface, easy to read, calculating tools easy to use, etc.





Profits from reading the Road Safety Manual

- (6) examples:

- ① Chapter 2 Road Safety Management

It is stated about road safety plans implemented in many countries and relative researches are mentioned. After the chapter, a “suggesting reading references list” is provided.

- ② Chapter 4 Data

The contents are complete and examples are full and accurate.



Profits from reading the Road Safety Manual

- (6) examples:

- ③ 5.3 black spot analysis based on data

The contents are stated in detail and has common used methods, and each method has calculating, identifying, advantages and disadvantages, and examples. They are easy to use.

- ④ Part 3 Technical tables and diagrams

Safety analysis of various road elements from basic theories to diagrams and pictures. The stated contents are easy to understand for the readers.



Amendment suggestions to Road Safety Manual

- ① Introduction of the manual mentioned: the suggesting numerical values in the manual are different from the recommending values in the standard specifications of each country. The manual does not say how to deal with the difference. Actually, the technicians do not know how to deal with it and they are always referring to the standard specification of their own country. It is suggested that the manual shall give not only a suggesting value, but also a relevant range of values and give also some explanation to the range.



Amendment suggestions to Road Safety Manual

②on 1.2 Global road traffic casualty

It is stated: the existing problems in current accident casualty data and the forecasted influential factors, etc. It only gives the target readers some knowledge and concepts on these aspects. Concretely, if I am a technician and I want to analyze the casualty data of China and forecast the future, which method should I adopted? There must be many methods and different methods has different advantages, shortcomings and applying conditions. For developing countries, what conditions should they consider? What should be noticed about the chosen method of the application? The above mentioned questions are of more reference values to specific work. Or the specific methods could be added into Part 4.



Amendment suggestions to Road Safety Manual

- ③ Chapter 4 is mainly data from developed countries. For developing countries, no matter the data collecting standard requirements or collecting technique and means all can not reach the levels stated in the manual. But this part of the manual is still of reference values to developing countries. More values could be gained if contents on data conditions, technical status and the countermeasures should be taken in developing countries are added to the manual. Is it possible to establish a global uniformed traffic safety database? Or to suggest how to start the work on database “applying to the target of improving road safety”.



Amendment suggestions to Road Safety Manual

- ④ In appendix 5-1, it is stated in detail the related aspects of “frame of reference” and “improved potential” methods. ◦
- Suggestion: identifying whether a section of road (or location) has “improved potential” by comparison to the “frame of reference”, so the frame of reference is very important. This is a practical method to judge whether safety improvements are necessary. Diagram 5-A1 in the manual also points out that choosing “frame of reference” involves many aspects. Actually, to developing countries, because of lack of data, it is nearly impossible to make sure the average accident numbers of similar “frame of reference”. If pictures or diagrams are given in the manual, the accident rate of “frame of reference” (considering the randomness of the accident, the result may be expressed as a range) can be verified according to factors of city and countryside, road lanes, intersection type and traffic flow where the road located. Even the data are deduced from data of developed countries, they are still of reference values and can be referred to.



Amendment suggestions to Road Safety Manual

⑤ 6.4 SITE OBSERVATIONS

Several countries have developed guides describing safety problems encountered on the main road categories of their network.

In chapter 2 Road Safety Management, road safety plans are stated and implemented in many countries and relative researches are mentioned. After the chapter, a “suggesting reading references list” is provided. In this section, whether the guides of some countries can be listed as well.



Amendment suggestions to Road Safety Manual

⑥6.4 SITE OBSERVATIONS

Such guides may provide useful information at the diagnostic stage and it would be a desirable initiative for any country to develop its own similar guide.

If suggestions could be given? According to conditions in developing countries, what problems should be noticed and solved when establishing the guide of this type. Because diagnoses is a complex process and needs appropriate knowledge and experiences, and it more relies on the experience of the individual analyser. Many diagnoses are qualitative and of probability. China will establish a guide and we needs suggestions to set our guide easier and more effective.



Amendment suggestions to Road Safety Manual

⑦ 7.2 STEPS-ACCIDENT REDUCTION PROGRAM

Step 4: cost – profit evaluation. Actually profit is based on forecast of accident number and severity reduction after reconstruction. The work involves many methods and factors. It is suggested that a whole chapter is given to describe methods of accident forecast.





Amendment suggestions to Road Safety Manual

- ⑧ Hopefully, in the second edition of RSM, basic and academic explanations are enhanced on the condition that practical uses are not reduced. Readers shall know the truth as well as the reasons. It is believed that developing countries will learn more from the safety improvement experiences of developed countries!





Personal viewpoint,
Thanks!

