

Study on Theoretical System of Road Traffic Safety Management Planning

Marek Pszczola

Department of Highway Engineering, New York University, New York, 12201, USA

Abstract: Road traffic safety is an important component of road traffic system and a topic concerned about worldwide. Nearly governments of all nations are concerned about road traffic safety management, road traffic safety management planning is especially important. A preliminary research on basic theoretical system of road traffic safety management planning is studied referring to theoretical practice in industrialized countries. The organizations of planning are analyzed as a whole; the contents and technical route are described to draft an overall design of road traffic safety planning. The basic framework of planning is established based the analyses of route and technical methods of road traffic safety planning. The core content of the planning is introduced, and finally its practice is described and basic theoretical system is introduced and studied.

Keywords: Traffic safety; Planning; Theoretical system

1. Introduction

Road traffic safety is an important component of the road traffic system, and it is also one of the issues of great concern all over the world. And the road traffic safety management has been highly valued by governments all over the world. In order to define the goal of safety management and improve the efficiency of safety management, it is very important to make the road traffic safety management plan. Road traffic safety management planning is to use road traffic safety investigation to analyze the road safety problems, and finally put forward the strategic objectives and ideas of road traffic safety planning. At the same time, the road traffic safety management plan is carried out from the aspects of safety administration, safety technical management, safety facilities management and early warning system management; Finally, the technical evaluation of road traffic safety management planning is put forward. The author studies the theory system of road traffic safety management planning.

2. Overall Design of Road Traffic Safety Management Plan

2.1. Organization of road traffic safety management planning

The formulation and implementation of road traffic safety management planning requires extensive coordination and inspection, so this work is not accomplished by a department or professional technical staff. Its scope of work covers road construction, management of vehicles, legislation and management of drivers. Therefore, the formulation of road traffic safety management planning must be carried out by an

authoritative organization. Therefore, in the implementation of road traffic safety management planning, the organization must adjust the planning according to the specific circumstances, and ensure continuity and effectiveness of the implementation of the plan.

2.2. The hierarchy, length and content of road traffic safety management plan

The road traffic safety management plan includes the safety strategy plan and the safety comprehensive plan, and the contents and period are as follows:

Road traffic safety strategy planning, its duration is generally controlled in 10-20 years. The main contents of the strategic planning of road traffic safety are to determine the goal and level of road traffic safety management development, and to introduce advanced safety management technology. The comprehensive planning of road traffic safety can be divided into two stages: The first is the recent implementation of the plan, with a planned duration of 1-3 years; The second aspect is the medium and long term planning, with a planned period of 3-10 years. The main contents of integrated planning include: road traffic safety administration planning, road traffic safety technology planning, road traffic safety facilities planning and road traffic safety early warning system planning.

2.3. Road traffic safety management planning work line

In order to ensure the scientific and feasibility of road traffic safety management planning, the author believes that the planning should follow a certain technical line (Figure 1).

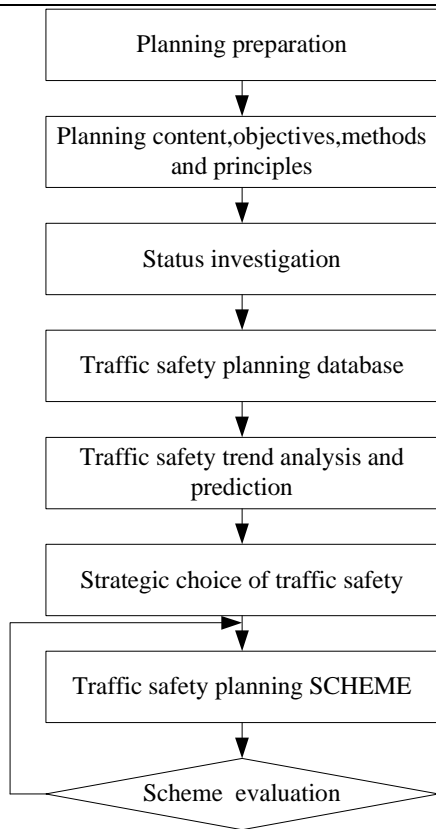


Figure 1. Flow Chart of Road Traffic Safety Management Planning

3. Basic Framework of Road Traffic Safety Management Planning

The basic framework of the road traffic safety management plan is composed of 4 parts, as shown in Figure 2.

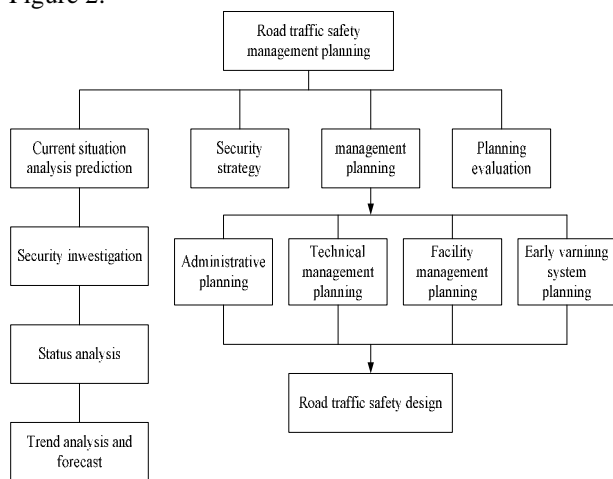


Figure 2. Basic Framework of Road Traffic safety management planning

3.1. Status analysis of road traffic safety

Road traffic safety analysis of the situation is based on a comprehensive investigation of the proposed solutions and ideas. The status quo of road traffic safety should be analyzed from the following aspects:

The status of traffic accidents; Characteristics of traffic accidents; Cause analysis of the accident; The form of traffic accidents and the mode of transportation; Traffic volume and safety management status.

3.2. Road traffic safety management strategy

The road traffic safety management strategy refers to the accident prevention and control technology and policy proposed on the basis of the present situation analysis. It mainly includes: Control of related factors; Accident prevention and control; Road user behavior norm; Casualty control and emergency rescue system construction, etc. [3].

3.3. Trend analysis and prediction of road traffic safety

The content of the forecast can be summarized from the following aspects: Socioeconomic analysis and development forecasting; Prediction of traffic safety; Forecast the time distribution of accident number; Spatial distribution prediction; Accident cause analysis and prediction; Accident shape distribution prediction;

4. Implementation of Road Traffic Safety Management Plan

4.1. Plan for implementation of road traffic safety management plan

The implementation plan of road traffic safety management plan is to divide the planned road traffic safety management plan into a series of construction projects. According to the funds and actual road traffic safety situation to determine the implementation order of each project.

4.2. Rolling and adjustment of road traffic safety management plan

When it is found that the road traffic safety management plan cannot meet the requirements of traffic safety or cannot meet the goal of road traffic safety management, it is necessary to adjust the safety management plan.

5. Conclusions

Road traffic safety management, which as an important component of modern traffic has attracted the attention of relevant departments. As a part of the road traffic safety management planning is particularly important, but the complexity and immaturity of this subject also brings many challenges to the study.

This paper discussed the overall design, road traffic safety management planning and implementation of the

basic framework and rolling these three aspects, and emphatically introduces the road traffic safety management planning process, contents and methods. It is hoped that this study will help the planners and planners of road traffic safety management planning, and hope that more planners will study the model and method of road traffic safety management planning.

References

- [1] Liu Dong, Lu feng. Preliminary study on road traffic safety management planning system [J]. Chinese Journal of safety science, 2004, 14 (5): 51-54.
- [2] Liyan Qin, Shao Chunfu. Research on road traffic safety management based on GIS [J]. Chinese Journal of safety science, 2004, 14 (2): 34-36.
- [3] Guo Zhongyin, Party Shouen etc.. Road safety engineering, [M]. Beijing: China Communications Press, 2003.
- [4] Li Xiucheng. Road traffic safety [M]. Nanjing: Southeast University press, 2001.