

**ROAD SAFETY MANAGEMENT OF THE DEPARTMENT
OF PUBLIC WORKS AND HIGHWAYS: BASIS
FOR POLICY RECOMMENDATION**

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ABSTRACT

The Road Safety Audit in the Department of Public Works and Highways - Isabela First District Engineering Office is very important to address the issue of the accident potential, road accidents and most likely safety performance of the distinct plan for a road scheme, whether for new construction, or a rehabilitation of existing road and existing condition of road networks. The concept of road safety management is that all highway schemes must operate as safe as possible. This study looked into the extent of implementation of the Road Safety Management and the extent of compliance to the policies on road safety management along road networks of the Department of Public Works and Highways-Isabela First District Engineering Office. The study utilized the descriptive research design. The participants of the study consisted of forty (40) participants. The researcher made use of a questionnaire that was subjected to try-out and validation and data gathered revealed that the DPWH-Isabela First District Engineering Office complied to Department Order No. 41 Series of 2016 on the maintenance of existing signages to a moderate extent. Awareness of policies such as Department Orders for road safety is very important. The implementing rules and regulations of these Department Orders for Road Safety must be observed strictly prior for the implementation of road safety management along the national roads of the Department of Public Works and Highways. Road traffic injuries are preventable if all necessary devices are considered during the planning stage. The Implementing Rules and Regulations must be strictly enforced and these rules must be widely disseminated and observed.

Keywords: *Road safety management, Department of Public Works and Highways, policy recommendation*

INTRODUCTION

The Isabela First District Engineering Office is a District Engineering Office of the Department of Public Works and Highways (DPWH) which focuses on the development of major infrastructure projects along its national roads. The Road Safety Management of the DPWH – Isabela First District Engineering Office is tasked and committed to serve the needs of the travelling individuals along its road networks.

Road safety nowadays is one of the concerns of the DPWH. The rapid development of the DPWH-Isabela First District Engineering Office involving road network, changing vehicle population, constraints in road construction and technological advances, has contributed a lot to the environment of increased accident potential.

In the statistical data gathered from the Isabela Police Provincial Office from January 2013 to August 2015, two hundred twenty-one cases of road injuries were reported due to road defects and ongoing roadwork in the Province of Isabela. For the year 2016, a record of two thousand eight hundred twenty-two cases of traffic accidents were reported in the said province based on the statistics record of the Isabela Police Provincial Office.

The Road Safety Audit in DPWH-Isabela First District Engineering Office is very important to address the issue of the accident potential, road accidents and most likely safety performance of the distinct plan for a road scheme, whether for a new construction, or rehabilitation of an existing road and existing condition of road networks. The concept of road safety management is that all highway schemes operate as safely as possible. A safety management of DPWH-Isabela First District Engineering Road Network looks at the situations as if through the eyes of any road user and to make suggestions to solve road accidents using the principle of road safety engineering. The extent of compliance of DPWH-Isabela First District Engineering Office to policies such as Department Orders for Road Safety will bring trust to the safety and comfort of the travelling public. On the other hand, the implementation of policies in terms of planning will be very important to show whether the road projects comply with the different standards for better road safety. The implementation of road projects along busy

roads of DPWH-Isabela First District Engineering Office is very critical in terms of being prone to road accidents, thus, it will also be an assessment of compliance to the Department Orders on Road Safety for Road Works. The evaluation of better road safety management of DPWH-Isabela First District Engineering will improve the effectiveness of better road safety management and it will also be a tool to address new and common problems in the compliance and implementation of road safety.

The study wanted to illustrate, analyze and assess the use of policies of the DPWH-Isabela First District Engineering Office to construct and maintain a safe road and traffic scheme and to minimize and reduce the risks of accidents occurring in the future. Road safety management is a matter of accident prevention and accident reduction.

Statement of the Problem

This study looked into the extent of implementation of road safety management along road networks of the Department of Public Works and Highways-Isabela First District Engineering Office.

Specifically, it sought answers to the following:

1. What is the participants' assessment in the extent of compliance of the road networks to the policies on road safety management when grouped according to type of participants?
2. Is there a significant difference in the participants' assessment in the extent of compliance of the road networks to the policies on road safety management when grouped according to type of participants?
3. What is the participants' assessment as to the extent of implementation of road safety management in terms of:
 - 3.1 Planning and design;
 - 3.2 Operational/implementation; and
 - 3.3 Evaluation?

4. Is there a significant difference in the participants' assessment as to the extent of implementation of the road safety management when grouped according to type of participants?
5. To what extent are the problems and issues encountered in the implementation of road safety management?
6. What policy reforms can be recommended to improve the implementation of the road safety management?

Research Design

The research design used in the study is the descriptive research design. The descriptive survey method of research, according to Pimentel (2000) involves an element of analysis and interpretation of the meaning or significance of what is to be described. Description is often combined with comparison and contrast involving measurement, analyses and interpretation (Pimentel, 2000).

This method was appropriate since the study aimed to determine the implementation of the DPWH-Isabela First District Engineering Office Road Safety Audit and the extent of compliance to the different policies such as DPWH Department Order No. 13, Series of 2008; Guidelines in the Procurement and Installation of Road Safety Devices and Facilities, DPWH Department Order No.36, Series of 2007; Provision and Installation of Road Safety Devices along Critical Sections of all DPWH Preventive Maintenance/ Asphalt Overlay and Reblocking Projects, DPWH Department Order No.41, Series of 2012; Adoption of DPWH Highways Safety Design Standards, May 2012 Edition, DPWH Department Order No.41, Series of 2016; Amended Policy Guidelines on the Maintenance of National Roads and Bridges and DPWH Department Order No. 135, Series of 2015; Strict Compliance to Road Works Safety and Traffic Management and Construction Safety and Health Requirements during Construction and Maintenance of Roads and Bridges.

Research Participants

The research participants of the study consisted of forty

(40) participants, ten (10) DPWH-Isabela First District Engineering Office Engineers, nine (9) Contractors of DPWH-Isabela First District Engineering Office, namely: EGB Construction, BMJ Construction, Dragon 12 Builders and Construction Supply, GAPT Construction and Supply, Atlantic Construction, 4As Construction, MC Taguba Construction, ES Pua Construction, Megabucks Construction and Development Corporation and a total of twenty one (21) Road Users from the Provincial Disaster Risk Reduction and Management Council, City Disaster Risk and Reduction Office of the City of Ilagan, Isabela State University, Isabela Police Provincial Office, Municipal Engineers Office from the Municipalities of Tumauni, Delfin Albano, Cabagan, San Pablo and City of Ilagan Isabela, Businessmen from Delfin Albano and Cabagan, Office of the Provincial Engineer, Engineering Students and Road Users from the Municipal Planning and Development Council of Delfin Albano, Isabela.

Table 1

Frequency and Percentage Distribution of Research Participants

Participants	Number of Participants	Percentage
DPWH Engineers	10	25.00
Contractors	9	22.50
Road Users	21	52.50
Total	40	100.00

Table 1 shows the profile of the research participants.

Instrumentation

The researcher made use of questionnaire consisting of statements, and rated using a 5-point Likert scale with five as the highest, to gather data. The statements were designed to enable the participants to assess the extent of implementation of the road safety management system of the DPWH-Isabela First District Engineering Office. The data gathering tool used in the research was reviewed and validated by an Engineer III from the DPWH Central Office-Bureau of Quality and Safety; Assistant Regional Director of the DPWH, Regional

Office No. 2; Ret. Police Chief Superintendent, Assistant Public Safety Officer of the Department of Public Order and Safety of the Provincial Government of Isabela.

The first part of the questionnaire consisted of statements meant to assess the compliance of the roads to policies under DPWH Department Order for Road Safety. The second part assessed the extent of implementation of road safety management system in terms of planning, operational implementation patterned from Road Safety Around School Task Force, Audit Checklists, by Metropolis and Associates and followed by evaluation or the overall assessment based on planning and implementation. The last part dealt with the issues and problems on the implementation of road safety management of DPWH-Isabela First District Engineering Office which was recommended by the content assessor of the questionnaire.

After the validation and review of the questionnaire, the first try out was conducted to two DPWH Engineers, nine Road Users and two Contractors and followed by a second administration of the questionnaires after seven days.

Data Gathering Procedure

Before gathering and collecting data, the researcher sought the proper authorization and permission from the District Engineer of the DPWH-Isabela First District Engineering Office with regards conducting an assessment of the agency's road projects with respect to Road Safety Management along its national roads. Upon the grant of approval to conduct the research, the administration of research tools and collection of data were done. Data were collected from both primary and secondary sources with an attached informed consent letter to the participants.

Data Analysis

The data collected were tabulated, analyzed, interpreted and summarized using descriptive statistics. Descriptive statistics, like frequency counts, percentage, and mean were used to analyze the safety performance of DPWH-Isabela First District Engineering Office

on the extent of their road projects' compliance to Road Safety Policies and the extent of implementation of Road Safety Management System.

The following scale was used to interpret the weighted means on the extent of compliance to road safety policies and extent of implementation of road safety management system to national roads of the DPWH-Isabela First District Engineering Office.

Mean Range	Description
4.20 – 5.00	VGE - Road Safety aspects are evident and met exceedingly, neatly complied and extremely well organized in implementation. (A MODEL COMPLIANCE TO POLICIES – Excellent / Complied to a Very Great Extent)
3.40 – 4.19	GE - Road Safety aspects are evidently met. (COMPLIED TO WHAT IS EXPECTED – Very Satisfactory / Great Extent)
2.60 – 3.39	ME - Almost complied with all Road Safety aspects. (ALMOST COMPLIED TO POLICIES – Satisfactory/ Moderate Extent)
1.80 – 2.59	LE - Most of the policies under Road Safety aspects were not fairly met. (SORT OF WHAT IS EXPECTED – Fair/ Little Extent)
1.00 – 1.79	VLE - The compliance to policies for Road Safety is poorly met (NOT WHAT IS EXPECTED – Poor/ Very Little Extent)

For the inferential questions stated in the problem statement, One-Way ANOVA was utilized using 0.05 level of significance to assess the extent of compliance of the road projects to road safety policies and extent of implementation of road safety management of the DPWH-Isabela First District Engineering Office when participants were grouped according to type.

RESULTS AND DISCUSSION

Findings on the extent of compliance to the policies on road safety management

The DPWH-Isabela First District Engineering Office's compliance to Department Order No.41, Series of 2016, on Maintenance of existing signages was assessed and rated with overall mean description of 'moderate extent' of compliance.

The extent of compliance in terms of the implementation of road safety management by the DPWH-Isabela First District Engineering Office to all road safety policies is to a "great extent"

Findings on the test for significant difference on the extent of compliance to the policies on road safety management

There is no significant difference on the participants' assessment as to the extent of compliance of road projects to road safety policies when grouped according to type of participants.

Findings on the extent of implementation of road safety management in terms of:

Planning

The extent of implementation of road safety management in terms of planning corresponds to Road Right of Way issue was rated to a moderate extent of compliance.

Planning of pedestrian and cyclist route were quite observed.

During the planning stage, the inclusion of safety nets on road shoulder was quite observed based on the mean description of moderate extent of compliance.

The road design, with the inclusion of overtaking and passing sight distances, was not fully clear to all obstruction, mostly to the line of sight based on assessment.

There was insufficiency of roadside stopping areas within the road section of DPWH-Isabela First District Engineering Office Road Networks.

The overall assessment on the implementation of road safety management in the DPWH-Isabela First District Engineering Office in terms of planning is only satisfactory.

Operational Implementation

During the implementation or the operation of all road projects, clear travel path for both directions was not fully observed with the inclusion of clarity of sight and stopping distances.

Street lighting, safety barriers, road signages were not fully installed, maintained, and are insufficient during roadworks.

Untrained flagman during roadworks.

Consideration to the movements of pedestrian along the project site was not fully observed.

There was presence of some road defects along the national roads of DPWH–Isabela First District Engineering Office.

Evaluation

The overall assessment in terms of the implementation of road safety management along the national roads of DPWH-Isabela First District Engineering Office was rated with a moderate compliance in terms of planning and operational stage.

Findings on the test for significant difference on the extent of compliance to the policies on road safety management

There is no significant difference on the participants' assessment as to the extent of implementation of road safety management when grouped according to type of participants.

Findings based on the issues and problems encountered in the implementation of road safety management

Funding for road safety activities needs necessary attention by the DPWH.

Research agenda for road safety and seeking professional help for road safety activities were rated low by the participants.

Low assessment rating was given to road safety awareness and limited scope of curriculum on road safety aspect.

Coordination between agencies for road safety is not observed.

Installation of necessary road safety devices such as “help sign” and “Lay bay rest areas” are not included in the planning stage.

Enforcement of penalties to all road safety violators needs necessary attention.

Proposed policy reforms to improve the implementation of the road safety management

Inclusion of Road Safety Action Plan to all road projects of the DPWH.

Immediate attention to the inclusion of 20% additional allocation for road safety aspect to all road projects of the DPWH.

Prioritization in the improvement of hazardous prone areas of the different road networks of the DPWH-Isabela First District Engineering Office.

CONCLUSION

Based on the findings of the study the following conclusion is formulated:

The cause of accidents involves numerous factors, all of which

cannot be possibly explored. They are not easy to predict yet a focus can be made, highlighting them to enhance authorities' awareness. Awareness of policies such as Department Order for Road Safety is very important. The implementing rules and Regulations of these Department Orders for Road Safety must be strictly observed prior to the implementation of road safety management along the national roads of the DPWH. During the planning stage, there is an insufficiency of consideration on some inclusions to the plans and programs of works for various road projects. Road traffic injury is preventable if all necessary devices are considered during the planning stage. Operational stage of road project is very critical to which roadworks are prone to road crashes. Implementation based on the Implementing Rules and Regulations must be enforced in actual scenario. However, these rules can be successful only if they are widely known and obeyed. Based on the overall assessments, the road safety management system of the DPWH-Isabela First District Engineering Office was not fully implemented to what is expected from the public. Strict compliance and strict enforcement must be observed while non-observance to these rules must be sanctioned strictly based on the Implementing Rules and Regulations of these Department Orders.

RECOMMENDATIONS

Based on the findings and the conclusion reached, the researcher hereby recommends the following:

The DPWH Engineers and Contractors must strengthen their political commitment in the implementation of road safety in all national roads.

Establish a road safety leadership at DPWH–Isabela First District Engineering Office.

Make the DPWH Engineers, the Head of the Agency and Project Engineer fully implement policies and be held accountable for those tasked in the projects.

The DPWH–Isabela First District Engineering Office must organize proper coordination among Contractors and the DOTr/LTO.

Establish a relation goals, plans, organization, and road safety with appropriate funding.

Disseminate knowledge and information concerning road safety to the public by way of an information system.

Engineers from the Department of Public Works and Highways – Bureau of Quality and Safety of the Central Office must monitor and evaluate systematically the implementation of plans and programs on road safety in compliance to the different Department Orders of DPWH.

Train and maintain road safety professionals in the DPWH – Isabela First District Engineering Office who will monitor the compliance and implementation of road safety plans and programs within the national roads of this district engineering office.

Include civil society in policy formulation (politicians, administrators, policy makers, road safety practitioners, and the community and road users).

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