



## TRAFFIC LAW ENFORCEMENT IN THE PROVINCE OF CAGAYAN: AN ASSESSMENT

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### ABSTRACT:

*Road accidents are enormous economic and health problem worldwide. In the Cagayan Valley Region, road accident is identified as the number 6th mortality leading causes in 2013. The study uses descriptive and correlation research design. Respondents were 322 drivers involved in vehicular accident and 58 traffic enforcers. The study assessed the level of implementation and compliance with the traffic rules; and determines the relationship between the level of compliance and implementation with the traffic rules. The study was conducted to produce information in ensuring road safety within the province. Findings indicate that in general the respondent drivers “much” comply the traffic rules while the traffic enforcers “much” implement the same rules also. However, the findings indicate that there is a poor relationship between the extent of compliance and the extent of implementation with the traffic rules. It means that drivers usually tend to violate traffic rules especially when no traffic enforcers are around or when the possibility of being undetected is said to be high. From the findings, it is recommended that: driver’s education as requirement for the issuance of driver’s license should focus in improving driver’s attitude; intensifies traffic patrol; and installation of electronic devices to detect traffic violations.*

### Key words:

*Traffic Rules, Drivers, Traffic Enforcers, Enforcement, Compliance.*



## **INTRODUCTION**

The Asian Development Bank in its 2015 Report stated that road accidents are enormous economic and health problem facing the Asian Region [1]. The report disclosed that each year, over 75,000 of the people dies, and over 4.7 million are injured or crippled, many of whom are disabled for the rest of their lives—which in some cases perpetuates poverty for their families [1]. In the last five years, over 310,000 have died, and around 20 million have injured; the region has lost about \$52 billion through property damage, medical costs, and productivity losses. Many of these casualties are young people, those who are most economically active and who are the future of the region [1]. The Association of Southeast Asian Nations member countries are now spending increasing amounts of their annual health budgets on treating the victims of road accidents, thus diverting scarce resources—financial and human—away from other urgent health problems [1].

In the Philippines, there were 43,306 totals of road accident happened from year 2010-2012 and 34,313 of which is attributed to human factor or error that includes bad overtaking, over speeding, bad turning, overloading, hit and run, drunk driving, using cellular phone while driving and self-accidents [2].

In the Cagayan Valley Region, the province of Cagayan is one of the leading from among the five (5) provinces in the region as far as accident rate is concerned [3].

The province of Cagayan lies in the northeastern part of mainland Luzon, approximately 17° 30' north and 121° 15' east, occupying the lower basin of the Cagayan River. Tuguegarao City, its capital is 483 kilometers north of Manila, about one hour by air travel, and ten hours by land, through the Maharlika Highway, also known as the Cagayan Valley Road [4].

The Cagayan Police Provincial Office recorded 2,679 cases of road accident from year 2015-2016 which involved 2,828 motor vehicles and human error is seen as the primary cause of accident.

The most tragic road accidents in Cagayan that happened was on September 2003 when a passenger bus collided with another bus and a van before plunging into a ravine that killed at least 14 people and injuring 31 along a winding mountainous road in Gattaran town [5].



Another fatal accident happened on February 15, 2010 somewhere in Piat Cagayan when a passenger jeep and a truck collided with each other killing fourteen (14) people; mostly students and thirteen (13) were injured [5].

This study was conducted to assess the extent of compliance of the drivers on the existing traffic rules and the extent to which the traffic enforcers implement the traffic rules to find ways and means to mitigate the occurrence of road accidents and improved road safety within the province of Cagayan.

## **OBJECTIVES OF THE STUDY**

This study has been initiated to:

- 1) Assess the extent to which the traffic enforcers implement the traffic rules;
- 2) Assess the extent of compliance of the drivers with the traffic rules; and
- 3) Determine whether there is a significant relationship between the extent of compliance of the drivers on the traffic rules and the extent to which these are implemented by the traffic enforcers.

## **HYPOTHESIS**

This research undertaking is guided by a lone hypothesis that:

- 1) There is no significant relationship between the extent of compliance of the drivers on the traffic rules and the extent to which these are implemented by the traffic enforcers.

## **STATEMENT OF THE PROBLEM**

In order to attain the objectives of this study, the following three main questions are propounded.

- 1) What is the extent to which the traffic enforcers implement the traffic rules?
- 2) What is the extent of compliance of the drivers with the traffic rules?



- 3) Is there a significant relationship between the extent of compliance of the drivers with the traffic rules and the extent to which these are implemented by the traffic enforcers?

## **METHODOLOGY**

### **Research Design**

The study uses the descriptive and correlation research design since it measures the extent of enforcement with the traffic rules by the traffic enforcers and the extent of compliance of the drivers with the same rules and determine the relationship between drivers' extent of compliance with the traffic rules and the extent to which the traffic enforcers implement the same rules.

### **Population and Locale of the Study**

A sample size of 322 was selected through a purposive random sampling from a total of 2,205 licensed drivers involved in road accidents in the province of Cagayan. The sample size of 322 was determined using the Table of Required Sample Size from The Research Advisors (2006) with a confidence level of 95% and a margin of error of 5.0% [6]. Drivers involved in road accident issued with student permit and unlicensed were excluded since they do not have actual knowledge of traffic rules. Licensed drivers who suffer mutilation or grave injury like loss of hearing, inability to speak or write as a result of the accident were not included for ethical grounds.

All traffic enforcers from the Philippine National Police-Highway Patrol Group (28) and traffic officers from the Land Transportation Office (30) within the province directly assigned in the enforcement of the traffic rules were taken as respondents.

### **Data Gathering Tools**

The data were collected through a survey questionnaire. The questionnaire consists of two (2) separate parts, one (1) for the drivers designed to measure their extent of compliance with



the traffic rules and the other one to measure the traffic enforcer's extent of implementation with the traffic rules. All questionnaires were formulated based on Republic Act No. 4136 or the "Land Transportation and Traffic Code and other laws related to traffic. All questionnaire used were undergone through a testing and validation process.

### Data Gathering Procedure

The questionnaire was personally administered and retrieved by the researcher. The address of the respondent drivers was traced through the official records of the Investigation Section of the Cagayan Police. Attached to the questionnaires is the consent form explaining the role of the respondents to include their freedom to choose either to participate or not in the study. For ethical grounds, personal information, responses, and data given were treated with utmost confidentiality. Questionnaires intended for the traffic enforcers were administered personally upon the approval of the request letters by the Provincial Director of Cagayan Police and the Regional Director of the Land Transportation Office of Cagayan.

### Treatment of the Data

To interpret and analyze the extent of compliance of the respondent drivers with the traffic rules and the extent to which the traffic enforcers implement the same traffic rules, a four-point Likert scale was used as shown below:

Numerical Values	Mean Range	Verbal Interpretation
4	3.26-4.00	Very Much Complied Very Much Implemented
3	2.51-3.25	Much Complied Much Implemented
2	1.76-2.50	Moderately Complied Moderately Implemented
1	1.00-1.75	Not Complied Not Implemented

Spearman's Rho Correlation Coefficient was used to analyze the relationship between Drivers' level of compliance with the traffic rules and the extent to which the traffic enforcers implement the traffic rules.



The Intraclass Correlation Coefficient guideline was used in determining relationship between level of knowledge and extent of compliance with traffic rules [7].

Range of ICC Values	Descriptive Interpretation
0	No Correlation
.01 - .20	Very Low Correlation
.21 - .40	Low Correlation
.41 - .60	Moderate Correlation
.61 - .80	High Correlation
.81 - .99	Very High Correlation
1.0	Perfect Correlation

## RESULTS AND DISCUSSION

**Table 1 Extent of Implementation on Traffic Rules by the Traffic Enforcers.**

Traffic Rules	Weighted Mean	Interpretation
Rules on Speed Limit	3.21	Much Implemented
Rules on Overtaking & Passing	3.08	Much Implemented
Rules on Right of Way	3.03	Much Implemented
Rules on Starting, Turning & Stopping	3.23	Much Implemented
Rules on Parking	3.22	Much Implemented
Required Motor Vehicle Accessory	3.27	Very Much Implemented
Other Traffic Rules	3.26	Very Much Implemented
Regulatory Signs	3.05	Much Implemented
Danger Warning Signs	3.20	Much Implemented
Informative Signs	3.09	Much Implemented
Pavement Markings	3.16	Much Implemented
<b>Overall Weighted Mean</b>	3.16	Much Implemented



As shown in Table 1, an overall weighted mean of 3.16 indicates that in general, the traffic enforcers (PNP and LTO) “much” implement the traffic rules. It implies that the traffic rules within the Province of Cagayan are enforced with a considerable degree. This further means that the traffic enforcers are performing their mandated task to apprehend or issue citations against traffic law violators as a way of promoting and ensuring road safety. However, the data suggest that the implementation of the traffic rules is not to the highest degree. Therefore, drivers are not completely prevented from violating the said rules which in most cases perpetuates road accidents.

An area mean of 3.27 and 3.26 means “very much” implemented shows that the traffic enforcers apply to the fullest extent the rules on required motor vehicle accessories and other traffic rules like drunk-driving respectively. It indicates that the traffic enforcers do not tolerate drivers having no or with defective headlights, horns, tail lights, side mirror and brakes in their motor vehicle. Likewise, the traffic enforcers implement to the highest degree the rules on drunk and distracted driving as well as the use of seatbelt and helmet. This further implies that most of the accidents within the province are neither due to defective vehicles nor drunk driving.

Moreover, an area mean of 3.03 and 3.05 and 3.08 being the lowest mean indicates that the traffic enforcer “much” implement the rules on right of way, traffic safety rules embodied under regulatory signs and on overtaking traffic regulations respectively. This further implies that the said rules are given least attention from among the different areas of the land transportation and traffic rules in the enforcement process. The findings indicate that violations easily detected and enforced by the traffic enforcers are usually and fully implemented. These include rules on required motor vehicle accessories, use of seatbelt and helmet than violations that need extra attention pursuits like violations on the right of way, rules on overtaking and traffic safety rules embodied under the regulatory traffic signs like over speeding, improper overtaking and reckless driving.

Findings generated has a close link with the National Statistics Office of the Philippines in its 2014 report that among the 43, 306 total of road accidents in the country from 2010-2012 34,313 cases attributed to human factor that includes improper overtaking, over speeding and



lousy turning among others [2]. The data indicates that the enforcement of traffic rules on overtaking and over speeding is often neglected or not implemented to the highest degree possible making drivers unrestrained which usually resulted to road accidents. Henceforth, to improve road safety against any form of reckless driving, traffic enforcers must focus their attention on preventing road accidents by concentrating on moving offenses and preventing unsafe driver behavior. Hence, increasing surveillance levels must be introduced to ensure that perceived apprehension risk is high. In areas of traffic enforcement, there is a need to strengthen and simplify the application of the law and the use of new technology to aid enforcement [8-10].

**Table 2 Extent of Compliance of the Drivers on Traffic Rules.**

Traffic Rules	Weighted Mean	Descriptive Interpretation
Rules on Speed Limit	2.77	Much Complied
Rules on Overtaking & Passing	2.97	Much Complied
Rules on Right of Way	2.85	Much Complied
Rules on Starting, Turning & Stopping	3.35	Very Much Complied
Rules on Parking	2.78	Much Complied
Required Motor Vehicle Accessory	3.50	Very Much Complied
Other Traffic Rules	2.82	Much Complied
Regulatory Signs	2.81	Much Complied
Danger Warning Signs	2.90	Much Complied
Informative Signs	2.90	Much Complied
Pavement Markings	2.45	Moderately Complied
<b>Overall Weighted Mean</b>	2.92	Much Complied

The over-all mean of 2.92 means “much complied” indicates that the respondent drivers observed with considerable degree the traffic rules. It is inferred that they usually obey most of the traffic rules, but not to the fullest degree which in most cases perpetuates their





involvement in accidents. Moreover, the data suggest that to prevent road accidents, compliance with all the existing traffic rules shall be absolute and observe to its fullest extent rather than optionally and superficially observe. An area mean of 3.50 and 3.35 being the highest mean indicates that the drivers are “very much” compliant with the provision of required motor vehicle accessories along with the rules on starting, turning, stopping. It implies that the drivers always ensure that their vehicles are equipped with the necessary safety accessories like headlights, tail lights, functional dual hydraulic brake and side mirrors. It indicates that most motor vehicles involved in road accidents in the province have the required necessary safety accessories such as those mentioned. These further manifests that road accidents occurred within the Province are not due to vehicle factor.

Moreover, the respondent drivers always follow safety measures when starting, turning and stopping their vehicles and ensure that such movement made in safety. This further implies that they use plainly visible and audible signals, proper maneuvering procedure when about to stop, while entering to the roadway and when attempting to change their courses of direction.

An area mean of 2.45 being the lowest indicates that the drivers “moderately” comply traffic safety rules embodied on pavement markings. It denotes that they display indifference with the meaning of pavement markings and usually fail to follow traffic safety regulations on pavement markings. This further implies that most drivers overtake in horizontal or vertical curves, residential or business districts and on foot of bridges and tend to disregard pedestrian crossing lanes which are a manifestation of ignoring of one’s safety and safety of other road users. Hence, their failure to follow traffic safety rules under pavement markings is one of the underlying causes of driver’s involvement in road accidents. This despite the fact that the Department of Public Works and Highways (DPWH) responsible for the provision and maintenance of road safety features and facilities comply with considerable degree the provisions on road safety design standards to include pavement markings (Casiw et. Al. 2024).



**Table 3 Extent of Compliance of the Drivers and Extent of Implementation of the Traffic Enforcers on the Traffic Rules**

Traffic Rules	ICC Value	Interpretation of ICC Values	p-value
Rules on Speed Limit	-0.23	Poor Correlation Negative	1.000
Rules on Overtaking and	-0.06	Poor Correlation Negative	0.893
Rules on Right of Way	-0.11	Poor Correlation Negative	0.985
Rules on Starting, Turning	0.077	Poor Correlation Positive	0.067
Rules on Parking	-0.27	Poor Correlation Negative	1.000
Required Motor Vehicle Accessory	0.14	Poor Correlation Positive	0.0025
Other Traffic Rules	-0.22	Poor Correlation Negative	1.000
Regulatory Signs	-0.16	Poor Correlation Negative	0.999
Danger Warning Signs	-0.19	Poor Correlation Negative	0.999
Informative Signs	-0.14	Poor Correlation Negative	0.997
Pavement Markings	-0.38	Poor Correlation Negative	1.000
<b>Overall</b>	<b>-0.21</b>	<b>Poor Correlation Negative</b>	<b>1.000</b>

Results indicated that there is a poor correlation between drivers' extent of compliance with the traffic rules and the extent to which the traffic enforcer implements the same traffic rules. It suggests that implementation of the traffic rules by traffic enforcers is not related to the compliance of the drivers. It further implies that compliance with the traffic rules is usually optional on the part of the drivers especially on moving traffic violations where traffic enforcers cannot efficiently detect and apprehend violators without the aid of technology or devices capable of recording such violations.

Findings yielded under the study are supported by Masigan [11] who pointed out that it is necessary to place the primary responsibility for compliance squarely on the shoulders of the



drivers. Drivers must be forced to obey traffic regulations on their own while Yahia et al. [12] found out in their study at Tripoli-Libya that majority of the respondent driver (28.3%) strongly agreed and (46.1%) somewhat agreed that traffic law has an impact in reducing road accidents. Also, the results showed that Libyans tend to behave and drive better when the police are present hence, traffic enforcement and patrol is indispensable.

**Figure 1. Scatter Plot Showing the Relationship Between Extent of Implementation and Extent of Compliance on Traffic Rules.**

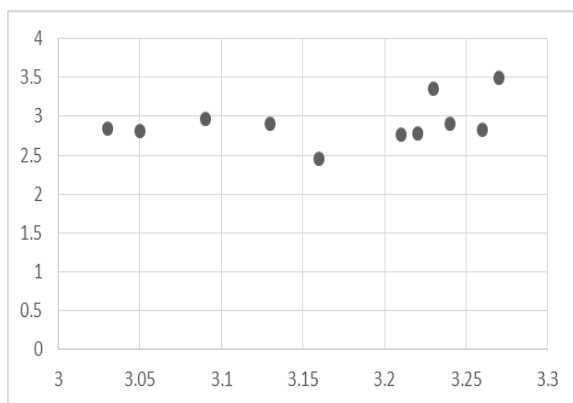


Figure 1 shows the relationship between the extent of compliance with the traffic rules by the drivers and the extent of implementation by the traffic enforcers. The figure shows that there is a poor relationship between the extent of compliance with the traffic rules and the extent to which the traffic enforcers implement the same. It means that drivers usually tend to violate traffic rules especially when no traffic enforcers are around or when the possibility of being undetected is said to be high.

## RECOMMENDATIONS:

1. Intensify the enforcement of the traffic rules particularly rules on right of way, traffic rules embodied on pavement markings and rules on parking.
2. Driver's education as requirement for the issuance of driver's license should focus in improving driver's attitude and discipline;
3. Intensify visibility of traffic patrol to pre-empt traffic violations;
4. Installation of electronic devices capable to detect and record traffic violations.



5. Increase penalty against traffic law violators.

## **CONCLUSION**

From the findings, it is concluded that respondent drivers obey with the traffic rules except those governed by pavement markings. Hence it can be drawn that their failure to observe said traffic rules serves as the primary cause of their involvement in road accidents.

Moreover, the capability of the traffic enforcers to efficiently enforce the traffic rules is affected by their inability to detect moving violations henceforth; it is concluded that the aid of technology capable of recording violations is vital in the field of traffic enforcement.

Moreover, it is concluded that traffic safety education is very indispensable to effectively addressed traffic accident problems and improved road safety within the province.

## **REFERENCES**

- [1] Philippines: Transport Sector Assessment, Strategy, and Road Map (2012). Mandaluyong City, Philippines: Asian Development Bank. Available from <https://www.adb.org/documents/philippines-transport-sector-assessment-strategy-and-roadmap>
- [2] Transportation Philippines Yearbook (2014, p. 23) Philippines National Statistics Office. Online available from [www.google.com/search?q=transportation+philippine+year+book+2014](http://www.google.com/search?q=transportation+philippine+year+book+2014).
- [3] Cagayan Valley Statistical Yearbook 2013. National Economic Development Authority, Regional Office No. 2, Regional Government Center, Carig Sur, Tuguegarao City. Published by Regional Development Council (RDC) 2's Regional Research and Statistics Committee.
- [4] Cagayan, Location, Land Area and Political Subdivisions. (2015). Online available from <http://cagayano.tripod.com/>



- [5] [Casiw, G. M. & Pinera, J. B. \(2024\). Road Safety Design Standards: A Traffic Management Approach in the Province of Cagayan. International Journal of Advanced Research in Management and Social Sciences, 13\(5\). ISSN: 2278-6236.](#)
- [6] Charlie Lagasca (2010). 14 killed, 13 Hurt in Cagayan Road Mishap. Online available from <http://beta.philstar.com/headlines/2010/02/16/549813/>
- [7] Sample Size Table: The Research Advisors. Online available from <https://www.research-advisors.com/tools/SampleSize.htm>
- [8] Cicchetti, D. V. (1994). "Guidelines, Criteria, and Rules of Thumb for Evaluating Normed and Standardized Assessment Instrument in Psychology". Psychological Assessment. 6 (4): 284–290. doi:10.1037/1040-3590.6.4.284.
- [9] Road Safety Guidelines for the Asian and Pacific Region. Asian Development Bank (1996). Available from <https://www.adb.org/sites/default/files/publication/29532/road-safety-guidelines.pdf>
- [10] Zaal, D. Traffic Law Enforcement. Federal Office of Road Safety, Department of Transport Monash University, Melbourne, Victoria(1994, Report #53).
- [11] B. Delizo. Traffic Management and Accident Investigation (2nd ed.). Wiseman Book Store Manila Philippines, 2014.
- [12] Masigan, Andrew J. Duterte's Iron Hand Can Solve Traffic. Manila Bulletin: The Nation's Leading Newspaper. 522, (6), C-3. (2016, June 6).
- [13] H. Yahia, I. Shaban, B. Amiruddin, Attitudes and Awareness of Traffic Safety Among Drivers in Tripoli-Libya, Research Journal of Applied Sciences, Engineering and Technology 7(24):5297-5303 DOI: 10.19026/rjaset.7.929