

## Addressing Motorcycle Safety through Regulations: Challenges and Issues in the Philippines

Ma. Sheilah G. NAPALANG<sup>a</sup>, Aileen U. MAPPALA<sup>b</sup>, Teresita R. RONQUILLO<sup>c</sup>,  
Maribelle E. LOBENDINO<sup>d</sup>, Bernadette M. ANGELES<sup>e</sup>, Ramil P. ALMAZAN<sup>f</sup>

<sup>a</sup> *School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City 1100; E-mail: mgnapalang@up.edu.ph*

<sup>b,c,d,e</sup> *National Center for Transportation Studies, University of the Philippines, Diliman, Quezon City 1100*

<sup>b</sup> *E-mail: aileen.mappala@up.edu.ph*

<sup>c</sup> *E-mail: trronquillo@yahoo.com.ph*

<sup>d</sup> *E-mail: bhejl.espiritu@gmail.com*

<sup>e</sup> *E-mail: bgmangeles@gmail.com*

<sup>f</sup> *Email: ramilalmazan6@gmail.com*

**Abstract:** Due to its perceived operational flexibility (i.e., allows motorcycle rider to weave through traffic) and affordable acquisition cost, the motorcycle has become a popular mode of transportation. However, with increased utilization, its involvement in road crashes has likewise increased. This paper looks into the key regulations on motorcycle operations in the Philippines and attempts to evaluate how effectively these regulations have been enforced based on secondary data. It also presents the result of a survey conducted with more than 1,000 respondents to determine a composite socio-economic profile of motorcycle drivers and their awareness of the key regulations pertaining to motorcycles. The results of the research show that 1) although the regulations governing motorcycle operations are considerably robust, these do not give emphasis on driver education, except perhaps in relation to the application and renewal of licenses, and 2) enforcement of these regulations is weak due to lack of equipment and corruptible manpower.

*Keywords:* Sustainable Transport, Road safety regulations, enforcement

### 1. INTRODUCTION

There are three key pillars in the pursuit of sustainable transportation. These are: safety, affordability, and minimization of consumption of non-renewable resources such as fuel by reducing congestion (Littman, 2016). Likewise, enhancement of road safety is also acknowledged as a key target in the pursuit of sustainable development as reflected and articulated in the 2030 Agenda for Sustainable Development (UN, 2015) which has set the following transport safety related targets:

- 1) Under Goal 3 (Ensure healthy lives and promote well-being for all at all ages), Target 3.6 aims to reduce global road traffic deaths and injuries by 50% by 2020;
- 2) Under Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable), Target 11.2 is set for the provision of safe, affordable, accessible and sustainable transport systems for all by 2030.

The 2015 Global Road Safety Report estimated that about 1.25 million people die and millions other injured due to road crashes, with the highest incidence in low and medium income countries (WHO). Moreover, it has also been recorded that in Southeast Asia, about half of these fatalities are among those who have least protection: motorcyclists (34%),

pedestrians (13%), and cyclists (3%). This emphasizes the need for more focus on improving the road safety conditions in low to middle income countries.

This paper presents the existing regulations covering motorcycle use and extent of enforcement of these, based on available secondary data. It also presents the results of a survey conducted to determine the level of awareness on the pertinent laws.

## **2. USE OF MOTORCYCLES IN THE PHILIPPINES**

The increasing requirement for mobility in urban centers and the poor level of service of public transportation has led to worsening congestion. Because of its perceived operational flexibility (i.e., allows motorcycle riders to weave through traffic) and affordable acquisition cost, the motorcycle has become a popular mode of transportation in urban centers. Moreover, in rural areas that have intermittent or no public transportation, it is also considered the go-to means of transport. Thus, the number of motorcycles in the Philippines has increased at an average rate of 10.5% per annum from 2009-2015, much higher than the overall vehicle growth rate.

Figure 1. Motorcycle registration and renewals (2006-2015)

*(Source: MMDA)*

However, alongside its increasing popularity as a transportation mode is its higher exposure to involvement in road crashes. Based on the data of the Traffic Accident Recording Analysis System (TARAS) of DPWH between 2007- August 2009, the motorcycles showed the highest occurrence of involvement in both fatal crashes and serious injuries.

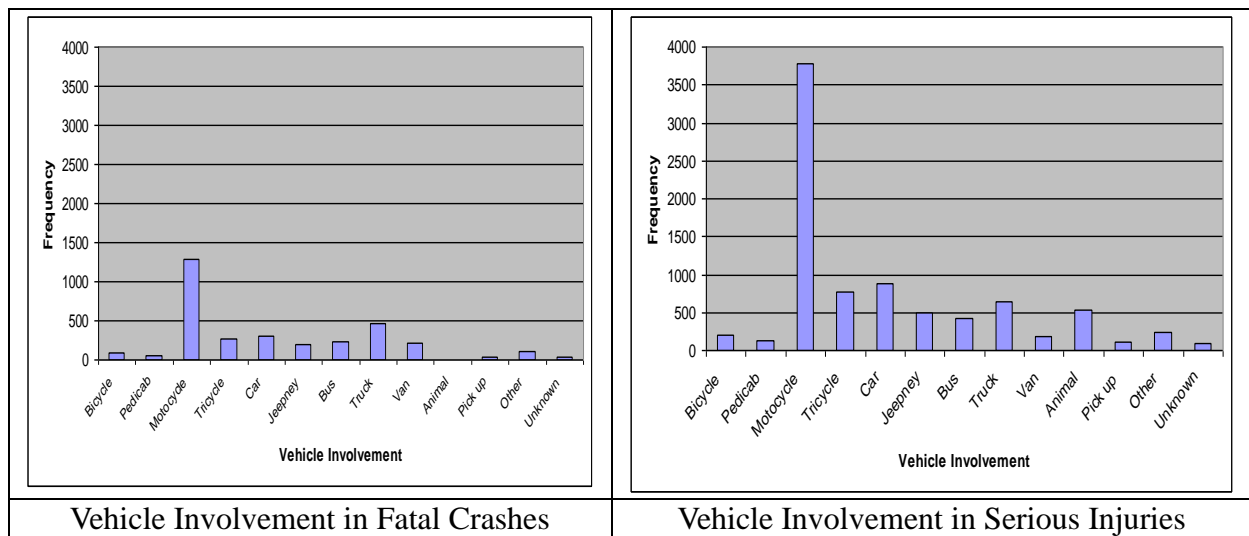


Figure 2. National Road Crashes Vehicle Involvement (2007- August 2009)  
Source: Traffic Accident Recording Analysis System (TARAS), DPWH

The same pattern is revealed by the 2016 road crashes data obtained from the Metropolitan Manila Development Authority (MMDA) where motorcycles constituted 35% of the total number of vehicles involved in road crashes leading to deaths.

Table 1. Road Crashes in Metro Manila, 2016

Vehicle Type	Fatal	Non Fatal Injury	Damage to Property	Total No. of Vehicles
Cycle-Pedicab	23	882	491	1,396
<b>Motorcycle</b>	<b>218</b>	<b>11,456</b>	<b>11,431</b>	<b>23,105</b>
Motor Tricycle	21	1,399	2,353	3,773
<b>Car</b>	<b>98</b>	<b>7,544</b>	<b>100,665</b>	<b>108,307</b>
<b>Jeepney</b>	<b>44</b>	<b>1,922</b>	<b>9,191</b>	<b>11,157</b>
Taxi / Fx	13	973	7,374	8,360
Bus	31	719	8,813	9,563
<b>Van</b>	<b>34</b>	<b>1,332</b>	<b>17,406</b>	<b>18,772</b>
<b>Truck</b>	<b>103</b>	<b>1,459</b>	<b>18,052</b>	<b>19,614</b>
Train	14	11	9	34
Kuliglig	-	12	33	45
Animal-drawn vehicle	-	-	3	3
Heavy Equipment	-	3	1	4
Unknown Vehicle	25	558	5,826	6,409
<b>TOTAL</b>	<b>624</b>	<b>28,270</b>	<b>181,648</b>	<b>210,542</b>

MMDA (2016)

This brings to the fore the urgency to evaluate existing regulations covering motorcycle operations and how these are enforced.

### 3. EXISTING TRAFFIC REGULATIONS

#### 3.1 General Regulation

The mother regulation for land transportation in the Philippines is the Republic Act 4136 known as “Land Transportation and Traffic Code”, enacted on June 20, 1964. The stipulations in the aforementioned law which are pertinent to the operations of motorcycles in the Philippines include:

- registration of motor vehicles
- licensing of drivers
- driving on the right side
- overtaking on the left side
- speed limits, prescribed according to road type, to wit:

Table 2. Maximum allowable speeds for various Road Types in RA 4136

Road Type	Maximum allowable speeds for passenger cars and motorcycles
On open country roads, with no ‘blinds corners’ not closely bordered by habitations	80 km. per hour
On ‘through streets’ or boulevards, clear of traffic, with no ‘blind corners,’ when so designated	40 km. per hour
On city and municipal streets, with light traffic, when not designated ‘through streets’	30 km. per hour
Through crowded streets, approaching intersections at “blind corners,” passing school zones, passing other vehicles which are stationary, or for similar dangerous circumstances	20 km. per hour

#### 3.2 Specific Regulations on the Operations of Powered Three Wheelers

##### 1) Regulations issued by National Agencies

##### Department of Public Works and Highways

The earliest regulation focusing on motorcycles was Department Order No. 123 issued by the Department of Public Works and Highways (DPWH)<sup>1</sup> known as “Revised Rules and Regulations Governing Limited Access Highways” on July 18, 2001. The regulation stipulates that only motorcycles with engine displacement of at least 400 cubic centimeters (cc) will be allowed to operate inside the toll roads and limited access highways. It further stipulates that motorcycles should not overtake in between lanes (lane-split).

<sup>1</sup> DPWH is the primary national government agency in the Philippines tasked with the development of the national highway network, including drainage and flood control.

## Land Transportation Office

According to the National Statistical Coordination Board (NSCB) ‘from 2005 onwards, motorcycles/tricycles overtook the utility vehicles with the gap between them increasing gradually which by 2008 has become 48% vs. 31% in favor of the motorcycles/tricycles.’<sup>2</sup> The marked increase in the use of motorcycles prompted the Land Transportation Office (LTO), the national agency tasked with the enforcement of RA4136 and other related regulations, to issue two department orders on the use of motorcycles in 2008. These are:

- i. Land Transportation Office (LTO) Administrative Order AHS-2008-015 Rules and Regulation for the use and operation of motorcycle on highways enforced on May 15, 2008, which prescribed penalties for the following violations in the operation of PTW: 1) failure of driver/rider and/or back rider to wear prescribed helmet, 2) for carrying more passengers other than the back rider or cargo other than the saddle bags and luggage carriers, 3) for defective accessories such as headlight, tail light, signal light, brake light, side mirror and horn, 4) for modifying any part of the original designs of a motorcycle or scooter without approval of the LTO and the DTI, and 5) for wearing of flip flops, sandals or slippers or being bare footed while operating motorcycle or scooter on a road or highway. The Department Order also stipulates that motorcycle and scooter drivers should turn-on headlights while operating on the Highway. Penalties ranged between P500 to P2,000.
- ii. The same stipulations were reiterated in Land Transportation Office (LTO) Administrative Order AHS-2008-01 issued on September 2008.

## National Regulations

- Republic Act 10054 (Motorcycle Helmet Act of 2009)

Following the efforts of LTO, Republic Act 10054, otherwise known as the “Motorcycle Helmet Act of 2009” was enacted on March 23, 2010 and stipulates: 1) mandatory use of helmets for driver and back rider, and 2) sellers/dealers must make available motorcycle helmets which bear the Philippine Standard (PS) mark or Import Commodity Clearance (ICC) of the Bureau of Product Standards (BPS) upon purchase of new vehicle. Under this law, penalties for failure to wear the prescribed helmet is One thousand five hundred pesos (P1,500.00) for the first offense; Three thousand pesos (P3,000.00) for the second offense; Five thousand pesos (P5,000.00) for the third offense; and Ten thousand pesos (P10,000.00) plus confiscation of the driver's license for the fourth and succeeding offenses. On the other hand, any seller and/or dealer who violates Section 5 of this Act is to be punished with a fine of not less than Ten thousand pesos (P10,000.00) but not more than Twenty thousand pesos (P20,000.00). Those who sell sub-standard helmets or alter/tamper/forged/imitate the PS mark and the ICC certificates in the helmets shall be fined not less than Ten thousand pesos (P10,000.00) but not more than Twenty thousand pesos (P20,000.00), without prejudice to other penalties imposed in Republic Act No. 7394 or the "Consumer Act of the Philippines".

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<sup>2</sup> [http://nap.psa.gov.ph/headlines/statsspeak/2009/101209\\_rav\\_raab\\_trans.asp](http://nap.psa.gov.ph/headlines/statsspeak/2009/101209_rav_raab_trans.asp)

- Republic Act 10586 (Anti-Drunk and Drugged Driving Act of 2013)

Republic Act 10586 (Anti-Drunk and Drugged Driving Act of 2013) was enacted on May 27, 2013. Under this law, drivers of public utility vehicles, trucks, buses, and motorcycles should have a blood alcohol level of 0.0%. Penalties prescribed are as follow:

Table 3. Prescribed Penalties for Violation of RA 10586

<b>Violation</b>	<b>Prescribed Penalty</b>
If violation did not result in physical injuries or homicide	Three (3) months imprisonment, and a fine ranging from Twenty thousand pesos (P20,000.00) to Eighty thousand pesos (P80,000.00)
If resulted in physical injuries	Penalty provided in Article 263 of the Revised Penal Code (imprisonment, the term of which will be dependent on the extent of the injuries) and a fine ranging from One hundred pesos (P100,000.00) to Two hundred thousand pesos (P200,000.00)
If the violation resulted in homicide	Penalty provided in Article 249 of the Revised Penal Code (punished by reclusion temporal) and a fine ranging from Three hundred thousand pesos (P300,000.00) to Five hundred thousand (P500,000.00)
Non-professional driver's license of any person found to have violated Section 5 of this Act	License to be confiscated and suspended for a period of twelve (12) months for the first conviction and perpetually revoked for the second conviction
Professional driver's license of any person found to have violated Section 5 of this Act	License to be confiscated and perpetually revoked for the first conviction. The perpetual revocation of a driver's license shall disqualify the person from being granted any kind of driver's license thereafter.

- Republic Act 10666 (Children's Safety on Motorcycle Act 2015)

Republic Act 10666 known as “Children's Safety on Motorcycle Act 2015” was enacted on July 21, 2015. With the increasing number of families using motorcycles as a main mode of transportation, this law was enacted to ensure that children are not placed in bodily harm while riding. Under this law, children can only be allowed to board/backride motorcycles in heavy volume of vehicles where a speed limit of more than 60/kph is imposed, unless:

- o The child passenger can comfortably reach his/her feet on the standard foot peg of the motorcycle;
- o The child's arms can reach around and grasp the waist of the motorcycle rider; and,
- o The child is wearing a standard protective helmet referred to under Republic Act No. 10054 ("Motorcycle Helmet Act of 2009")

However, this prohibition shall not apply to cases where the child to be transported requires immediate medical attention

- Republic Act 10913 (Anti-Distracted Driving Act)

On July 21, 2016, Republic Act 10913 (Anti-Distracted Driving Act) was enacted which prohibits the use of mobile and electronic devices while the motor vehicle is in motion or temporarily stopped at a red light. However, the ‘operation of a mobile communications device is not considered to be distracted driving if done using the aid of a hands-free function or similar device such as, but not limited to, a speaker phone, earphones and microphones or other similar devices which allow a person to make and receive calls without having to hold the mobile communications device. Provided that the operation of the hands-free device does not in any way interfere with the safe operation of the motor vehicle and does not interfere with the line of sight of the driver.’

The figure below summarizes the key regulations and laws that have been issued to cover the various aspects of motorcycle operations in the Philippines.

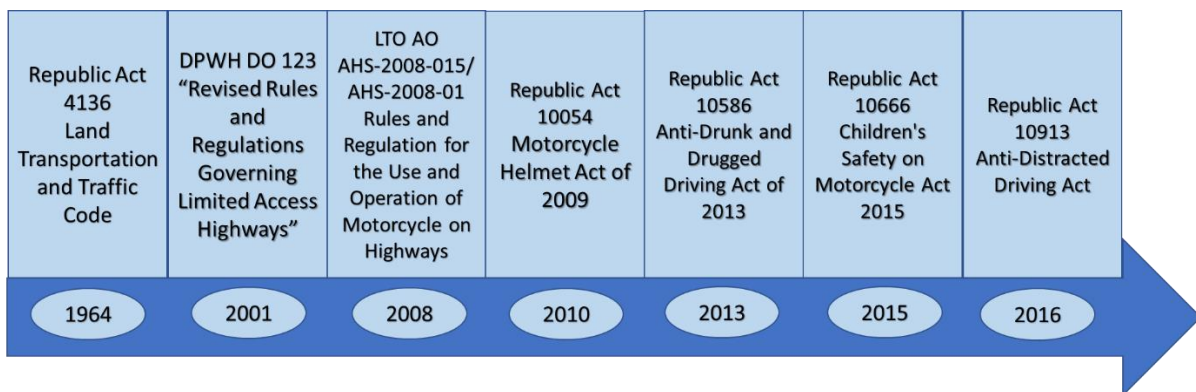


Figure 3. Timeline of Regulations for Motorcycle Operations in the Philippines

#### 4. LEVEL OF ENFORCEMENT OF THE EXISTING REGULATIONS

The effectiveness of the existing regulations is dependent on the quality of enforcement. According to Zaal (1994), successful enforcement is shown in ‘its ability to create a meaningful deterrent threat to road users’. This section attempts to evaluate the level of enforcement of key regulations based in secondary data and visual observation.

- Drunk driving law<sup>3</sup>

The Philippines was rated 1 out of 10 by the World Health Organization in the 2015 Global Status Report on Road Safety on the enforcement of the drunk driving law and it is apparent that this has not improved. The 2016 data obtained from the Land Transportation Office (LTO) does include any record of apprehension due to drunk driving. This is attributed to the difficulty of enforcing the law due to lack of equipment. As of December 2016, only 150 breath analyzers were available and distributed among the 16 regional units of the Land Transportation Office (LTO) and the Central Office. Hence, for the most part the field sobriety test will require one-leg stand, walk-and-turn, and eye tests of the person apprehended.

<sup>3</sup> <http://newsinfo.inquirer.net/849935/lto-mmda-fielding-more-enforcers-vs-drunk-driving>

- Helmet Law

Data obtained from the Land Transportation Office Central Office indicate that 74% of the motorcycles apprehended were for violations of the Helmet/ICC sticker law. This highlights the prevalence of using cheap helmets that do not meet the required standards.

Table 4. No Helmet/No ICC Sticker Violations in the National Capital Region (NCR) for 2016

Month	A	B	C	A/B %	B/C
	# of violations of No Helmet/No ICC Sticker	# of MC/TC apprehended	Total Apprehensions (all Veh)	% of MC/TC committing No Helmet/No ICC	% of MC/TC apprehended
Jan	110	264	1648	41.67%	16.02%
Feb	123	278	1185	44.24%	23.46%
Mar	140	184	1243	76.09%	14.80%
Apr	103	171	705	60.23%	24.26%
May	620	721	1430	85.99%	50.42%
Jun	451	535	1938	84.30%	27.61%
Jul	6	10	351	60.00%	2.85%
Aug	6	18	1129	33.33%	1.59%
Sep	150	186	2345	80.65%	7.93%
Oct	233	280	2906	83.21%	9.64%
Nov	463	605	2354	76.53%	25.70%
Dec	76	95	735	80.00%	12.93%
<b>Total</b>	<b>2,481.00</b>	<b>3,347.00</b>	<b>17,969.00</b>	<b>74.13%</b>	<b>18.63%</b>

Source: Land Transportation Office Central Office

- Children Safety on Motorcycle Law

No secondary data was obtained on violations for this particularly law. However, ocular observation show that it is a common practice for parents to carry their children in between, at times with no protective head gear and whose feet do not reach the foot peg, as required by law.

## 5. END-USERS' AWARENESS OF EXISTING REGULATIONS

One of the key components of compliance is the awareness of existing regulations. Hence, as part of the research on motorcycle regulations, a survey was conducted to determine the typical profile of motorcycle riders and their level of awareness of the key regulations. A total of 1,072 respondents were interviewed. The results are summarized in the following sub-sections.



### 5.1 Profile of the Respondents

The driving experience of the respondents ranged from 6 years to more than 30 years, with those driving for 11-19 years with the highest number (34%). This group is followed by those with 6- 10 years (20%), and 21-29 years (17%). A significant number of motorcycle drivers interviewed had been driving for less than 6 years (15%).

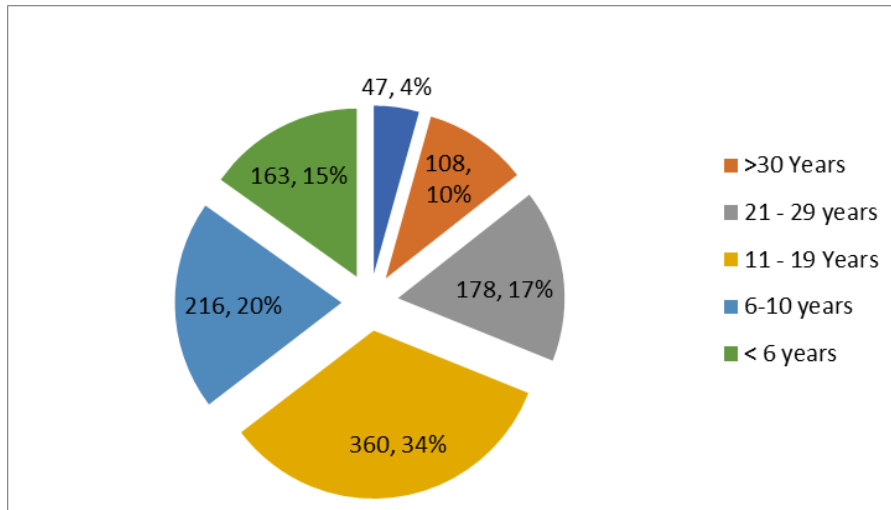


Figure 4. Driving Experience in Motorcycle Driving

Most of the respondents learned how to operate a motorcycle by themselves or through the tutelage of relatives/friends. Only 2% went to driving school and 10% taught by professional MC rider.

Table 5. Source of Driver Education

How Did You Learn To Drive	No. of responses	% of Total
Self-Taught only	478	45%
By Professional MC Rider only	102	10%
By Relative/friend	326	30%
Driving School	21	2%
Combination of Self-taught + Others	102	10%
Not self-taught but combination of Rider & School	38	4%
No Answers	5	0%
	1072	100%

Most survey respondents started driving when they were between 18-30 years old. But a considerable number started when they were under 18 years old.

Table 6. Age Respondent Started Driving MC

Age Started Driving	No. of responses	Percent of Total
Less Than 18 years old	341	32%
Between 18 to 30 years old	595	56%
more than 30 years old	134	13%
No Answers or Inappropriate Answer	2	0%
	1072	100%

It was also noted that of those who were interviewed, 21% stated that they have no valid MC licenses.

Table 6. Type of Driver's License Used

Type of Driver's License	No. of responses	% of Total
Motorcycle License	842	79%
Without Valid MC License	227	21%
Student License	2	0%
No Answer	1	0%
Total	1072	

## 5.2 Awareness of Existing Regulations

The respondents were asked whether they were aware of key regulations pertaining to motorcycles. The top five laws known by the respondents are: 1) wearing of helmet, 2) anti-drunk driving, 3) headlights, 4) number of backriders, and 5) maximum speed limit.

Table 7. Awareness of Pertinent Motorcycle Regulations

Law	No. of Respondents	% of total
Wearing of Helmet	1037	97%
Anti-Drunk Driving	902	84%
Headlights	866	81%
Number of Backriders	865	81%
Max Speed Limit	785	73%
Footwear	709	66%
Anti-Distracted Driving	683	64%
Height and Width of Cargo	504	47%

To validate the answers, details on the respective regulation were put forward to the respondents. Most respondents were aware that it is a requirement of the law that helmets to be worn by motorcycle riders should bear the ICC sticker. Likewise, most respondents knew that the allowed number of back rider is restricted to 1.

Table 8. Awareness of Requirement of Helmet Law

Helmet with ICC sticker	No. of responses	% of total
Yes	1011	94%
None	50	5%
No Answer	11	1%
	1072	100%

Table 9. Awareness of Prescribed Number of Backriders

Number of Backrider	No. of responses	% of total
0	15	1%
1	996	93%
2	50	5%
3	1	0%
4	1	0%
No Answer	9	1%
	1072	100%

When asked about the maximum allowed blood alcohol content (BAC) for motorcycle riders, although majority of the respondents answered correctly (68%), a significant number of respondents (27%) replied that 0.05 is the BAC level, which is the allowable level for private vehicle drivers.

Table 10. Knowledge of Prescribed Blood Alcohol Content

BAC Level	No. of responses	% of total
0.00	732	68%
0.05	290	27%
0.08	32	3%
0.10	7	1%
No Answer	11	1%
	1072	100%

Most respondents (76%) are also aware of the regulation of turning their headlights on even on daytime and stated that they practice this. Moreover, 85% of the respondents stated that they do not use cellphones while driving. But only 38% indicated that they use the prescribed closed footwear while driving a motorcycle.

### 5.3 Violations and Apprehensions

The respondents were also asked if they have ever been apprehended for any violation. About 37% of the respondents stated that they have been apprehended and issued tickets. However, 15% stated that they were apprehended but were able to negotiate their way out of being issued a ticket. The top five violations reported include: 1) moving violation (disregarding traffic signs, beating the red light), 2) Not wearing of helmets, 3) inappropriate clothing/footwear, 4) expired or non-existent Original Receipt/Certificate of Registration (OR/CR), and 5) expired or no driving license.

Table 11. Apprehension of Regulation Violation

Apprehended	No. of responses	% of total
No	497	46%
Yes and got ticket	398	37%
Yes but no ticket	157	15%
No Answer	20	2%
	1072	100%

Table 12. Top 10 Violations/Apprehensions

Violations	No. of Replies	Rank
Moving Violation (Disregarding traffic signs, beating the red light)	201	1st
No Helmet of Rider or Backrider	180	2nd
Clothing /Footwear	46	3rd
OR/CR Related (None or expired)	36	4th
License Related (Did not bring or expired)	32	5th
Speeding	29	6th
Light-Related (Headlights and/or taillights)	26	7th
Muffler Related	25	8th
Non-Standard Helmet	20	9th
Overloading (more than 1 backrider)	17	10th

## 6. OBSERVATIONS AND RECOMMENDATIONS

The review of the existing motorcycle safety regulations indicates that the important aspects of safety in motorcycle operations are amply addressed. The survey results also revealed a high level of awareness on the requirements of the law. However, the results show that awareness of the law does not always result to compliance. This is attributed to weak enforcement of these regulations, largely due to lack of equipment and corruptible enforcement officers. This low level of enforcement has failed to create a deterrent threat to motorcycle riders, with some knowingly violating the laws. This situation compromises the goal of achieving quality of life through safe travels, particularly for vulnerable road users like motorcycle riders.

To improve enforcement of the laws and consequently enhance road safety, the following actions are recommended:

- 1) Development and application of stricter driver's licensing application process for motorcycle riders which should include practical exams in test tracks and actual traffic conditions, to be complemented by a rigorous written examination, to be implemented by the Land Transportation Office;
- 2) Strict implementation of the provisions on the helmet requirement through the motorcycle dealers;
- 3) Implementation of the 'contactless' apprehension to minimize negotiations on penalties;
- 4) Acquisition of equipment necessary to implement the laws;

These actions have to be complemented by a legislation similar to the pending House Bill entitled 'An Act Requiring Motorcycles Dealers to Conduct A Seminar on Motorcycle Safety to Motorcycle Owners, Providing Penalties Therefore, and for Other Purposes' to increase awareness and understanding of the repercussions of unsafe behaviors.

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