

# Review of the National and Cities' Truck Policies in Metro Manila

Riches BACERO <sup>a\*</sup>, Alexis FILLONE <sup>b</sup>

<sup>a,b</sup> Gokongwei College of Engineering, De La Salle University, 2401 Taft Avenue, Manila

<sup>a</sup> *E-mail: riches\_bacero@dlsu.edu.ph*

<sup>b</sup> *E-mail: alexis.fillone@dlsu.edu.ph*

**Abstract:** This study described and discussed the truck regulations that are implemented by national and city governments in Metro Manila. The main purpose of this study is to have a clear understanding on the truck ban regulation, one truck lane policy, and anti-overloading scheme in order to draw out recommendations for their improvement. The study found out that there varied truck ban restriction times across cities in Metro Manila. Combining truck ban routes and alternate truck routes in the road network, it was found out that there are inconsistencies with regards to the links/routes tagged both truck ban route and alternate route. Issues identified for one truck lane regulation are long queue and competition of other modes of transport on the third lane. While the anti-overloading scheme has issues on the maximum allowable weight of the vehicle and weight of the container shipment in the port. Lastly, the study recommended that concerned government agency to be consider and include all stakeholders in the formulation and crafting policies to have a rational, well-rounded and balanced policy.

*Keywords:* Truck Ordinance, Truck Ban, Truck Routes, Cities

## 1. INTRODUCTION

In every city, there are policies or schemes being implemented to address issues confronting the transportation system. These policies are crafted for the purpose of improving traffic flow. However, these policies could create further problems to the general public because of varying and unclear regulation which need to re-assess and evaluate for appropriate action.

Metro Manila is composed of 16 cities and 1 municipality. Each of these government entities have their own policy or traffic management code. One specific policy is the truck ban regulation. The truck ban ordinance of most cities in Metro Manila are embedded in their traffic management code while others have a specific ordinance pertaining to truck ban. Restriction time and truck ban routes create confusion to the truck drivers because cities across Metro Manila have varied, vague and uncoordinated truck regulations which creates misunderstanding and leads to further congestion along the streets. Furthermore, the implemented truck ban in Metro Manila causes other undesirable impacts due to transporting deliveries during night time of transport operators to maximize operation. Rate of accidents might rise as a result of overloaded trucks and disrupted sleep patterns of the truck drivers (Castro and Kuse, 2005).

The one-truck lane scheme is implemented in several major thoroughfares in Metro Manila which aims to prevent accidents and address heavy traffic on the major streets. However, the regulation creates competition among the different modes of transport on that specific lane, which creates more congestion and safety risks to the general public. Chang and Chien (2013) confirmed that truck accidents typically have a bigger risk of creating severe injuries or fatalities, because of car/truck size disparity.

Another national policy related to trucks is anti-overloading policy. The main purpose of this regulation is to promote safety and prevent untimely deterioration of the road. However, there are issues on the maximum gross vehicle weight as indicated in the public advisory matrix based on truck classification.

This study described and discussed the truck regulations that are implemented by national and city governments in Metro Manila to have a clear understanding on the truck ban regulation, one truck lane policy, and anti-overloading scheme.

## **2. REVIEW OF RELATED LITERATURE**

There are studies related to truck regulation and truck restriction policy conducted in the past. The necessity to study the truck regulation and truck restriction policy such as truck ban is highly important in the present time. Castro et al. (2003) discussed the impact of the existing truck ban on Metro Manila's urban transport system. They compared the traffic patterns in the form of loaded traffic flows in the road network for different truck ban schemes to determine the effectiveness of the truck ban. Punzalan (2000) studied the impacts of truck ban on the trucking industry policy in Metro Manila. The study revealed that truck operators are not using alternate truck routes rather they prefer their usual routes and change the delivery time to night time which may increase the risk of accidents due to disorderly truck driver's sleeping patterns. On the other hand, Lyons et al. (2017) presented a macroscopic analysis of the impact on the time restriction policy for heavy trucks on the main access corridors in Mexico City pertaining to the traffic congestion and local pollutant emissions which includes the NO<sub>x</sub> and CO.

One of the popular policies is a restricted delivery hours which being applied in some cities. For instance, in Boston, commercial vehicles are not allowed to utilize some streets in city center, except during a specified period of time. Only United States Postal Service and other newspaper delivery firms are permitted to come in after 2 p.m., application of one day special permit should be done to enter the restricted zone (Seattle Urban Mobility Plan, 2008). In the case of Dutch city of's-Hertogenbosch, silent and green trucks are permitted to enter the center of the city at any time. While other commercial freight trucks are allowed only between 7:00 and 12:00, and between 18:00 and 20:00. In Italian cities like Rome, Milan, Bologna and Florence, admittance of diesel vehicles to the center of the city at certain times of the day are restricted, for example, from 7:00 to 20:00 in Bologna. (Franceschetti et al., 2016).

Siuhi and Mussa (2007) emphasized the need to study the restriction on the truck lane happening unlimited access highways because of the majority of the studies in the evaluation of the restriction on the truck lane were performed on limited access highways. In the United States of America, Freight-exclusive lanes are implemented to truck traffic only to/from port amenities or at international border crossings. In the Port of New Orleans, the highway to the Port is divided into general traffic and commercial vehicles (Seattle Urban Mobility Plan, 2008). While,

Mwakalonge and Moses (2012) evaluated the effect of various traffic, geometric, and signalization variables which could impact the operating efficiency and safety of the restriction on the truck lane in unlimited access highways, predominantly on city major roadways with substantial volume of the truck.

According to Patten et al. (2012) and Zabat et al. (1995) driving near together lessens fuel consumption when trucks are in the platoon. Experiments showed that leading truck could save up to six percent and following trucks could save up to ten percent (Alam et al., 2015; Lammert et al., 2014). Moreover, platooning can improve traffic safety which lower reaction times and less human error that can lessen the number collisions at rear-end. Similarly, less road space will be used by trucks in a platoon compared to when separately driving, so traffic congestion may reduce (Schladover et al., 2015; Van Arem et al., 2006) and as a result, traffic throughput will increase (Lioris et al., 2017).

Muñuzuri et al. (2011) discussed access restrictions in Spain which always depends on weight of the truck, usually forbidding vehicles beyond 3.5 Tm. from central business district. Another strict regulation like special permits for city truck routes and requirements to travel in the central areas, for trucks over 12 Tm that are generally related with construction work. All of the main cities in Spain have access restrictions related to weight. Hence, this shows an example of a cut-and-paste policy which is adapted for uncertain reasons. With akin historical city centers, there is no obvious basis why weight ranges from the very restrictive 3.5 tons implemented in Badajoz to the 16 tons implemented in Gijón and Santander. On the other hand, Hang & Li, (2010) developed a methodological framework using System Dynamics for regulation evaluation of truck weight.

There are advantages and disadvantages of the restriction policies on trucks that need to be addressed considering congestion, pollution, and accidents.

### **3. METHODOLOGY**

The truck ban regulations in national government (MMDA) and local government units were collected and reviewed. These data were tabulated, and the specified truck ban routes and alternate truck routes were plotted in the road network. Mabuhay lanes were also considered in the study. Mabuhay lanes are express routes to and from different parts in Metro Manila for private vehicles to avoid heavy traffic particularly in EDSA during Christmas season. The mabuhay lanes were also plotted in the road network and compared if there are inconsistent on the links for truck ban routes and alternate truck routes. For one truck lane policy, the policy was collected from MMDA. Also, the researcher conducted ocular visit and record the behavior of trucks using video camera along C5. For Anti-loading policy, the policy was taken from DPWH website and then, it was reviewed.

### **3. TRUCK POLICIES AND TRAFFIC SCHEME IN METRO MANILA**

#### **3.1 Truck Ban**

The main goal of the truck ban regulation is to reduce traffic congestion. This is applied to more than 4,000 kilograms gross vehicle weight of cargo trucks. Cities in Metro Manila implement either of the three variants of the truck ban regulation, i.e. Ordinance No. 78-04; Ordinance No. 5,

series of 1994; and the MMDA Resolution No. 3, series of 2015. Table 1 tabulates the differences in restriction times.

The regulation however exempts cargo trucks loaded with perishable and agricultural goods, and trucks registered under the Terminal Appointment Booking System (TABS). TABS is an electronic platform used to book containers at Manila South Harbor and MICT which mainly aims to reduce trucks during traffic peak hours without making a negative impact to the number of exports and imports passing through the ports.

Table 1. Truck Ban Restriction Time

Time Restriction	Morning	Afternoon/Evening
Ordinance No. 78-04	6:00 a.m. - 9:00 a.m.	4:00 p.m. -8:00 p.m.
Ordinance No. 5 Series of 1994	6:00 a.m. - 9:00 a.m.	5:00 p.m. - 9:00 p.m.
MMDA Resolution No. 3, s. 2015 - present	6:00 a.m. - 10:00 a.m.	5:00 p.m. - 10:00 p.m.

A fine of PhP 2,000.00 is imposed against violators including a 1-year suspension of driver’s license for violators apprehended thrice.

The MMDA Truck Ban Regulation in Metro Manila is implemented in the following routes/streets shown in figure 1.

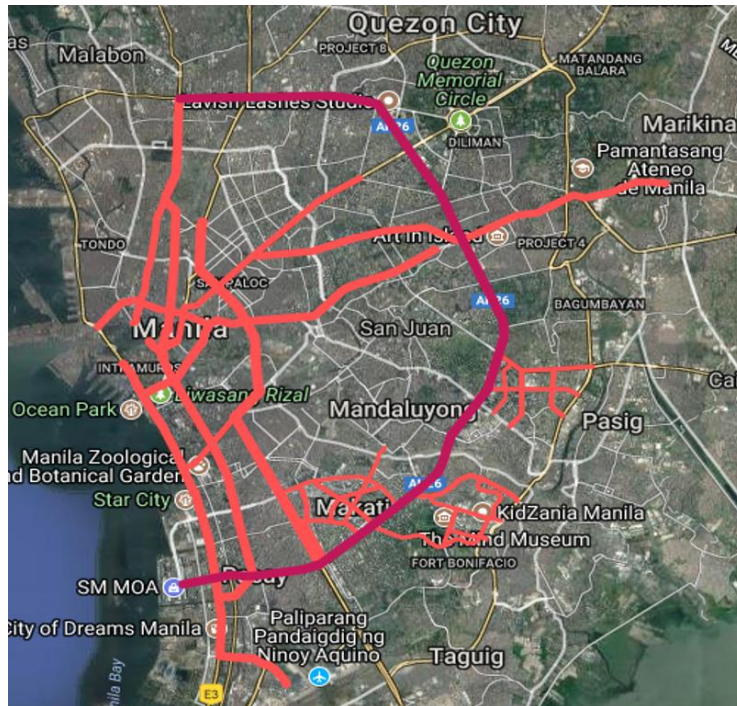


Figure 1. Truck Ban in Metro Manila

### City Truck Ban Ordinance

The general regulation of truck ban in most of these cities states that “Cargo trucks, gravel and sand trucks and other heavy cargo trucks with eight wheels and up, or whose gross vehicle weights

exceed 4,500 kilograms, including tractor trailers or containerized haulers, shall not be allowed to travel on any Municipal Streets with no more than two lanes, except along the streets specified as truck routes as reflected in the list of truck routes prepared by the Traffic Management Office and approved by the Sangguniang Bayan. The use of the truck routes shall be restricted to 6:00 a.m.-9:00 a.m. and from 4:00 p.m. to 8:00 p.m.. Other cities have varied restriction times such as from 6:00 a.m. - 9:00 a.m. and 5:00 p.m. - 9:00 p.m., and from 6:00am to 10:00am and 5:00pm to 10:00pm.

Shown in table 2 is the individual ordinances and specific truck ban time of every city in Metro Manila.

Table 2. Truck Ban Ordinance of Every City in Metro Manila

City	Ordinance No.	Truck Ban Time
Manila	8092	6:00am-9:00am, 4:00pm-9:00pm
Caloocan	0391, s. 2005	6:00am-9:00am, 4:00pm-8:00pm
Las Pinas	652-04	6:00am-9:00am, 4:00pm-8:00pm
Makati	2011-010	6:00am-9:00am, 4:00pm-8:00pm
Malabon	May-06	6:00am-9:00am, 4:00pm-8:00pm
Mandaluyong	639,S-2016	6:00am-10:00am, 5:00pm-10:00pm
Marikina	259, series of 1997	
Muntinlupa	11-022	6:00am-10:00am, 4:00pm-9:00pm
Navotas	2015-02	6:00am-10:00am, 4:00pm-8:00pm
Paranaque	05-04, series of 2004	6:00am-9:00am, 4:00pm-8:00pm
Pasay	2916, series of 2004	6:00am-10:00am, 5:00pm-10:00pm
Pasig	23	6:00am-10:00am, 5:00pm-10:00pm
Quezon City	1444,s-2004, 604,S-97, 1989,S-2009, 2004, S-2010, 2572, S-2017	6:00am-10:00am, 5:00pm-10:00pm
San Juan	37, seris of 2004	6:00am-9:00am, 4:00pm-8:00pm
Taguig	103, series of 2003	6:00am-9:00am, 4:00pm-8:00pm
Valenzuela	113, series of 2014	6:00am-10:00am, 5:00pm-10:00pm
Pateros	2005-019	6:00am-9:00am, 4:00pm-8:00pm

In total, 8 cities and 1 municipality which includes: the city of Manila, Caloocan City, Las Pinas City, Makati City, Paranaque City, Pasig City, San Juan City, Taguig City, and municipality of Pateros do not specify specific routes for truck bans and only stated in the regulation that trucks are not allowed on any city/ municipality streets with no more than two lanes. City of manila however specified particular alternate truck routes from port area to southern and northern part of Metro Manila and vice versa.

Seven (7) cities namely Malabon City, Mandaluyung City, Marikina city, Navotas City, Quezon City, Valenzuela City, Caloocan City have stated specific routes/ streets for truck ban in their regulation. After reviewing and considering the National ordinance (MMDA) and each city's ordinance, the truck ban routes/ links were plotted in the road network shown in figure 2.

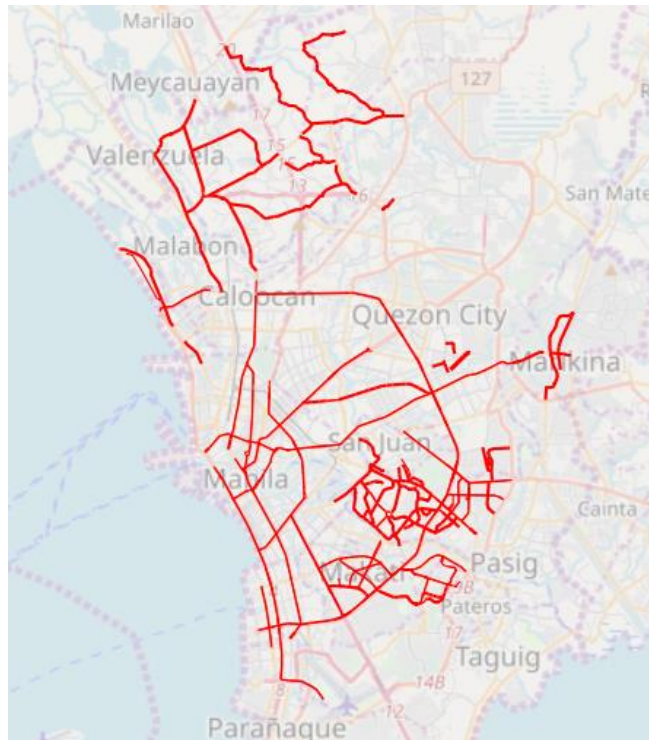


Figure 2. Truck Ban routes/ links

### 3.2 Mabuhay Lanes

Another scheme considered in the study is the Mabuhay Lanes. There are 17 Mabuhay Lanes implemented by MMDA in Metro Manila. These lanes serve as alternate routes intended for heavy traffic during Christmas Season. Mabuhay lanes include routes from EDSA to specific destinations such as Greenhills in San Juan City, Baclaran in Paranaque City. There are also routes from NLEX to C5 and Manila Area, from Manila area to Carriedo and Divisoria, and from the southern to northern parts of Metro Manila. The Mabuhay lanes will serve as alternate routes for motorists which shown in figure 3.



Figure 3. Mabuhay Lanes

### 3.3 Alternate Truck Route

Another traffic scheme included in the study is the Alternate Truck Routes. There are alternate routes leading to and from the Port Area that are not be included in the ban. These are from the Port Area to South Superhighway and vice versa, from South Superhighway to Port Area and vice versa, from Port Area to North Diversion Road and vice versa, form Port Area to Marcos Highway and vice versa. These routes were also plotted in the road network which is shown in figure 4.

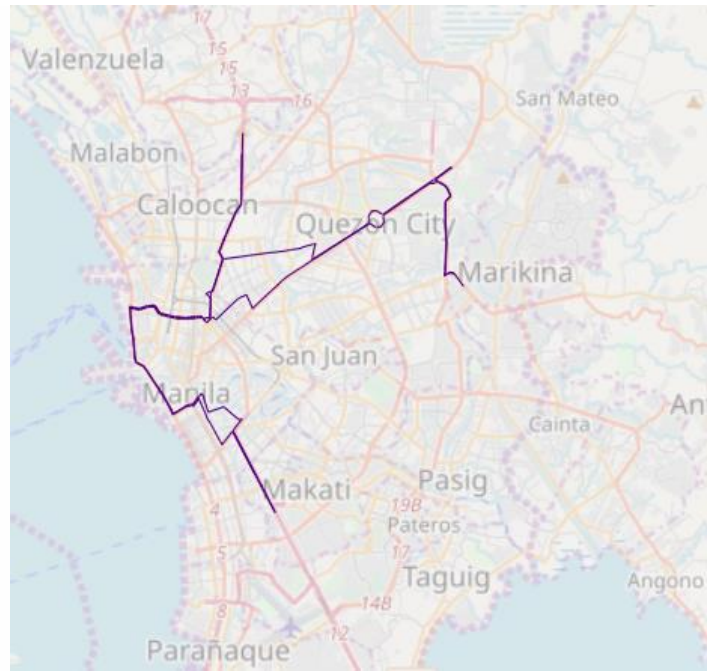


Figure 4. Alternate Truck Routes

The truck ban, Mabuhay Lanes, and Alternate Truck routes were plotted in the road network of Metro Manila which is shown in Figure 5.



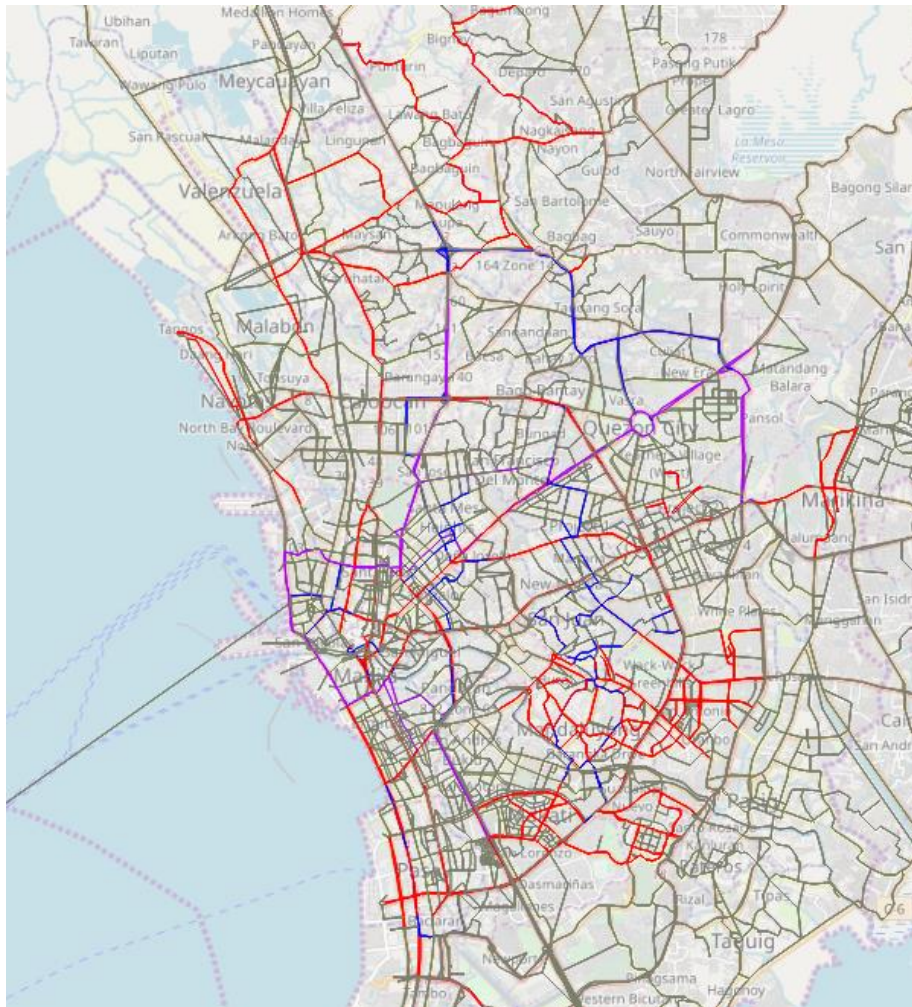


Figure 5. Combined Links of Truck Ban, Mabuhay Lanes, and Alternate Truck Routes

After combining the Truck Ban, Mabuhay Lanes, and the Alternate Truck Routes on the road network in Metro Manila, the study found out that there are links/routes that are conflicting or inconsistent. For instance, Quezon Avenue, Quirino Avenue, and South Superhighway were tagged as truck ban routes but were also marked as alternate truck routes. With respect to the Mabuhay lanes which is intended for private vehicles, the routes for trucks are becoming limited that the existing alternate routes could not cater to truck traffic efficiently so these routes are always congested.

### 3.4 One Lane Policy

The One Truck Lane Policy which is Resolution No. 02 series of 2016 of special traffic committee of MMDA is implemented along C2, C5, Katipunan Avenue, Congressional Road, Mindanao Avenue and R-10. It stated in the regulation that all trucks shall only use the third lane from the

sidewalk and strictly observe the one-lane policy. Moreover, trucks are not allowed to park on any of the streets along the implemented areas at any time of the day.

A fine of PhP 2,000.00 is charged to violators and that the MMDA shall recommend the cancellation of its franchise and/or vehicle registration with the Land Transportation Franchising Regulatory Board (LTFRB) and Land Transportation Office (LTO).

The purpose of One Truck Lane Policy is to reduce congestion and minimize truck-related accidents along the highway. However, during ocular visit and observation along C5, as trucks occupy the third lane, private vehicles and other mode of transport can also use the third lane, which results in competition and further traffic congestion.




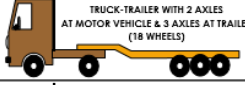
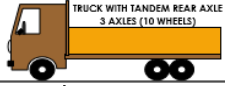

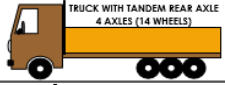








Figure 6. Queue of trucks along C5

Another issue is due to the long queue of the trucks on the third lane (shown in figure 6), the concentration load causes premature or faster deterioration of the pavement for that specific lane especially on the asphalt concrete pavement. Thus, it will lead to high maintenance cost of the highway.

### 3.5 Anti-overloading Policy

Anti-overloading policy is pursuant to the provisions of Republic Act 8794 otherwise known as “An Act Imposing a Motor Vehicle Users Charge on Owners of all Types of Motor Vehicle and for Other Purposes”, whose main purpose is to promote the safety of motorists and prevent premature deterioration of roads cause by overloading. A truck is considered to be overloaded when any of its individual axle exceeds 13.5 tons or if its gross vehicle weight exceeds the allowable Gross Vehicle Weight (GVW). Shown in table 3 is the revised truck class and its maximum allowable gross vehicle weight.

Table 3. Maximum Allowable Gross Vehicle Weight

TRUCK CLASS	MAX. ALLOWABLE GVW (in kg)	TRUCK CLASS	MAX. ALLOWABLE GVW (in kg)
 TRUCK WITH 2 AXLES (6 WHEELS)	18,000	 TRUCK-TRAILER WITH 2 AXLES AT MOTOR VEHICLE & 3 AXLES AT TRAILER (18 WHEELS)	41,000
 TRUCK WITH TANDEM REAR AXLE 3 AXLES (10 WHEELS)	33,300	 TRUCK-TRAILER WITH 2 AXLES AT MOTOR VEHICLE & 2 AXLES AT TRAILER (14 WHEELS)	39,700
 TRUCK WITH TANDEM REAR AXLE 4 AXLES (14 WHEELS)	35,600	 TRUCK-TRAILER WITH 2 AXLES AT MOTOR VEHICLE & 3 AXLES AT TRAILER (18 WHEELS)	43,500
 TRUCK SEMI-TRAILER WITH 3 AXLES (10 WHEELS)	34,000	 TRUCK-TRAILER WITH 3 AXLES AT MOTOR VEHICLE & 3 AXLES AT TRAILER (22 WHEELS)	42,000
 TRUCK SEMI-TRAILER WITH 4 AXLES (14 WHEELS)	40,600	 TRUCK-TRAILER WITH 3 AXLES AT MOTOR VEHICLE & 2 AXLES AT TRAILER (18 WHEELS)	43,500
 TRUCK SEMI-TRAILER WITH 4 AXLES (14 WHEELS)	39,700	 TRUCK-TRAILER WITH 3 AXLES AT MOTOR VEHICLE & 3 AXLES AT TRAILER (22 WHEELS)	45,000
 TRUCK SEMI-TRAILER WITH 5 AXLES (18 WHEELS)	41,500		

Revised as of 2013 (DPWH)

Penalty for overloading is equivalent to 25% of the Motor Vehicle User's Charge (MVUC) applicable to the truck at the time of infringement. This penalty can be waived when the recorded GVW is less than 5% of the allowable GVW.

The implementing government agency of this regulation is the Department of Public of Work and Highways (DPWH). While the purpose of this regulation is to prevent faster wear out of the pavement of road, there are issues on the gross vehicle weight and on the maximum allowable gross vehicle weight. First, the maximum vehicle weight of the truck vehicle is specified by the manufacturer and not by the DPWH matrix. Second, the average weight of containers arriving in the Philippines is 30,000 to 36,000 kilograms. For instance, the average tare weight of a semi-trailer with 5 axles (18 wheels) is 15,000 kgs. If we added this to the average minimum weight of container, the total weight would be 45,000 kgs which is higher than the prescribed 41,500 kgs., thereby automatically violating the Republic Act 8794. Compliance however with the weight matrix could lead to cost implications of freight, handling and storage facilities, and doubling of truck trips leading to traffic congestion.

#### 4. CONCLUSION

This study described and discussed the truck policies and regulations in Metro Manila namely the truck ban, one truck lane policy, and anti-overloading. For truck ban regulation, there are varied restriction time among cities. Based on the review of each city ordinance, 11 cities and 1 municipality use the old regulation and 5 cities use the new regulations. 8 cities and 1 municipality do not specify routes/ streets for truck ban in their regulation while 7 cities have specific routes/ streets for truck ban in their regulation.

After combining truck ban and other traffic schemes in the road network in Metro Manila such as Mabuhay lanes and Alternate truck routes, there are inconsistencies on the links/ routes as

both tagged as truck ban and alternate truck routes which creates confusion to the motorist. The implication of this result is that truck routes is becoming limited for trucks and trucks driver will find and use secondary or even city's road that will increase their distance travelled and travel time.

On the One Truck Lane Policy, there are 6 major highways covered for this regulation. Issues identified in this regulation are long queue and competition from other modes of transport on the third lane which post higher risk to the general public. Moreover, long queue of truck on the road will result to faster deterioration of pavement of the road.

On the Anti-overloading policy, there is public advisory matrix for maximum allowable gross vehicle weight. There are issues on the maximum vehicle weight and weight of the container shipment on the port. Using this matrix, most of the truck vehicles tend to be overloaded which violates this regulation.

## 5. RECOMMENDATION

It is highly recommended that truck ban regulations should be uniformed and coordinated across cities in Metro Manila. It is recommended to review and revise the regulation in general to resolve the inconsistency of the truck ban links/ routes compared to the alternate truck routes in Metro Manila.

It is recommended to specify in the one truck lane regulation that the third lane is for trucks only or explore other lanes for trucks that might be effective for truck traffic.

Also, it is recommended for concerned government agency to study thoroughly the prescribed maximum allowable vehicle weight for anti-overloading policy to balance the possible impacts of this regulation.

Lastly, in the formulation of regulation or policies such as truck ban, one truck lane policy, and anti-overloading, all stakeholders should

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