Analysis of Trip-Cutting Behavior of Jeepneys and UV Express With Respect to LRT Line 2 Santolan and Katipunan Stations

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Abstract: Trip-cutting of public utility vehicles in the Philippines, especially jeepneys, and recently UV Express, has been a habit of the drivers, cutting short of their franchised route. Although trip-cutting is considered to be a traffic violation according to various local and national laws, this has been widely practiced by the drivers, especially in road corridors which experience heavy traffic volume. In this study, the conditions along the Santolan and Katipunan stations of the LRT Line 2 will be inspected. Trip cutting tendencies were characterized and evaluated by conducting 12-hour traffic volume surveys for a period of five (5) days in four (4) different study areas, as well as conducting interviews with the concerned PUV drivers. At the end of this study, it has been proven that trip-cutting behavior of PUV drivers traversing along the study area is a common practice, and the certain overlying factors involve trip-cutting behavior by PUV drivers were identified.

1. INTRODUCTION

1.1 Background

Aurora Boulevard and Marcos Highway, both part of the Radial Road 6, are two of the major thoroughfares in eastern Metro Manila and Rizal province which suffer heavy traffic at most parts almost every day. Agencies such as local government units (LGUs) and the Metro Manila Development Authority (MMDA) designed traffic schemes within the area to mitigate the problem. One of these schemes was closing major intersections along the highway and creating U-turn slots. However, with the presence of undisciplined drivers and commuters, this issue is still unresolved.

For the national government, it has long been recognized that there was a need to build a mass rapid transit along this corridor, connecting the areas of Marikina, Pasig, Antipolo and Cainta to downtown Manila. Car ownership was increasing, and there was no room for public utility vehicles (PUVs), especially jeepneys, to expand as traffic density will increase further, although more jeepneys have received franchises to operate. Also, the rise of the FX taxis in the 1990s, which later evolved into the UV Express service, did not fully cope with the passenger demand as the suburban areas rapidly expanded in size and population into the 21st century.

So the 13.8-kilometer heavy rail Manila Light Rail Transit System Line 2, also known in various names such as LRT Line 2, LRT-2, Megatren, and Purple Line (this was changed into the Blue Line by the Aquino administration), operated by the Light Rail Transit Authority (LRTA)alongside the old LRT Line 1, was built from 1996 until the opening of the Santolan, Pasig to Cubao segment in 05 April 2003, while the rest of the line until Recto in Manila was opened in late 2004. It traverses the cities of Pasig, Marikina, Quezon City, San Juan and Manila, and covers 11 stations from Santolan to Recto.

Despite the presence of the LRT Line 2 in this stretch, PUVs such as jeepneys and UV Express, and some buses, still dominate the route. The expected passenger diversion from road transport to rail has not yet been reached (Kawabata & Aoki, 2009). And these PUVs still do not transform into full feeder modes or support to the LRT. Due to heavy traffic, PUV drivers have the tendency to cut their designated routes, which is a violation of their franchise. This behavior is called trip cutting. And trip cutting has been a common practice for jeepneys and UV Express in LRT Santolan and Katipunan stations.

Two scenarios of trip cutting by drivers have been observed. One is when a driver puts a placard on the vehicle's windshield that explicitly shows the area where the vehicle will cut its trip, as in the case of a Cogeo-Cubao jeepney with a placard of "LRT Santolan," meaning it will travel until the LRT Santolan station only, and will not continue until Cubao as it was franchised to do. Another scenario is when a jeepney driver, in the middle of the travel, suddenly decides to cut his trip for a variety of reasons, such as only few passengers remain, lack of further potential passengers, or there is a heavy traffic congestion ahead. As such, the driver calls up another vehicle, preferably the same route as his, and lets the passengers transfer vehicles.

Despite the presence of the LRT 2 line in this stretch, public utility vehicles (PUVs) like Jeepneys and UV

Express still dominate the route. Due to heavy traffic, PUV drivers have the tendency to cut their designated routes, which is a violation of their franchise.

1.2 Statement of the Problem

This study aims to assess the present traffic conditions along the study area, focusing on the effects of trip cutting practiced by PUV drivers, specifically the members of jeepney and UV express franchises. Moreover, this study will determine the answers to the following questions:

- Why do drivers resort to trip cutting? What are the conditions in the area that affect this behavior?
- How often do drivers cut short their routes?
- How many jeepneys/UV Express cut their trips per hour and per route?
- How do we rationalize trip cutting behavior?

1.3 Objectives

The objectives of this research are:

- Characterize and evaluate the trip cutting tendencies of PUV drivers;
- Identify the factors involving trip cutting to help address solutions for this behavior;
- Study the effects of the supposed violation to the traffic congestion in the area; and
- Effectively communicate with the concerned drivers.

1.4 Significance of the Study

The findings of this study will be significant in a sense that rationalizing trip cutting behavior equates to benefits for both the public utility vehicle drivers and passengers, and also to the improvement of traffic situation in the road corridor. Drivers will benefit that there will be increase in their trips, resulting to increase in income. Passengers will have shorter travel times, whether to the LRT stations or other destinations.

Moreover, due to the upcoming implementation of the LRT Line 2 East Extension Project, it is expected that congestion will increase due to the reduced number of lanes at Marcos Highway to give way to the construction. As such, the study can be used by local traffic departments to plan ahead.The study may also help government agencies in restudying and reevaluating the existing laws and traffic schemes, possibly in order for PUV routes to be revised for the benefit of every stakeholder and the community.

1.5 Scope and Limitation

The study focuses on the cutting trip jeepneys and UV Express approaching Santolan and Katipunan LRT stations, along Marcos Highway and Aurora Boulevard, respectively. Only PUVs bound for Cubao are observed. Those that have been determined as out-of-line, and colorum vehicles, are not considered for this study.

1.6 Conceptual Framework

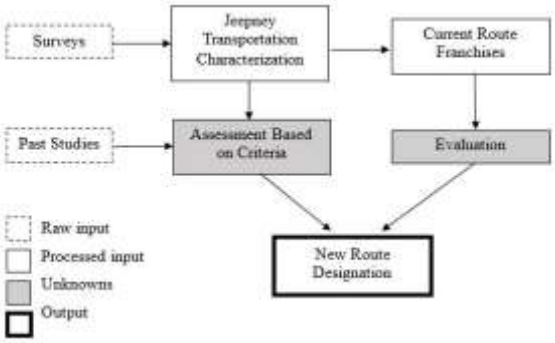

Figure 1. Conceptual Framework of the Study

1.7 Study Flow

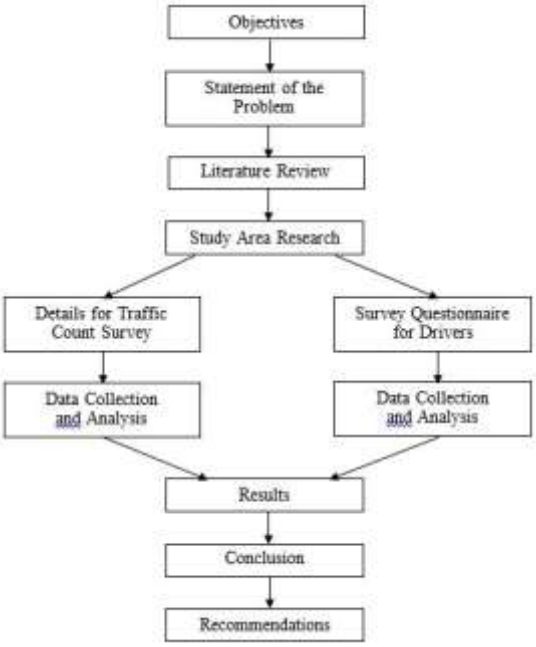

Figure 2. Study Flow

2. LITERATURE REVIEW

2.1 Trip Cutting as described in MMETROPLAN

Section 1.18 of the Metro Manila Transport, Land Use and Development Planning Project (MMETROPLAN), formulated by Freeman Fox and Associates in 1977, mentioned trip cutting as:

"…It is a strict rule that the whole route must be completed by all vehicles serving it, i.e. trip cutting, as it is called, is not allowed. This rule appears to be observed by bus operators but is often infringed by jeepney drivers."

Also, Section. 3.16 describes the reason for trip-cutting behavior:

"Jeepneys often cut their trips – contrary to regulations – whereas buses do not. The jeepney driver may actually refuse to carry long-distance passengers, forcing them to take two vehicles instead of one, paying two fares, so that he may increase his load factor by concentrating his service on the busiest point of the route."

Interestingly, trip cutting of public transport was recognized as early as 1970s. But until this study, only anecdotes, descriptions, and some references to trip cutting behavior were observed in some studies.

2.2 Penalties for Trip Cutting

As per the Joint Administrative Order No. 2014-01 issued by the Land Transportation Office (LTO) and the Land Transportation Franchising and Regulatory Board (LTFRB), penalties for trip cutting range from PhP 5,000 to PhP 15,000 fines, coupled with impounding of vehicle and cancellation of their Certificate of Public Convenience (CPC) where the unit is authorized.

As such, drivers still avoid the possibility of getting apprehended. But due to leniency and lack of implementation of such law, trip cutting is still regularly done.

2.3 The Case of LRT Line 2

Despite the high number of potential passengers in this stretch, the ridership of LRT Line 2, around 200,000 daily passengers, is still below its maximum capacity of more than 580,000 passengers. According to a study done by Kawabata and Aoki in 2009, as it was observed that the line does not reach the area of Masinag in Antipolo, where more passengers are expected to use the system, although at present the LRT 2 East Extension Project until Masinag is already approved by the government. In addition, its connections with other railway lines at Cubao (MRT-3), Pureza (PNR Commuter) and Recto (LRT-1) are inconvenient for the passengers. Thus, the passenger diversion (the expected diversion rate is 50%) from road PUVs such as bus and jeepneys has not yet taken place.

3. METHODOLOGY

3.1 Jeepney and UV Express Trip Cutting Data Collection

3.1.1 Identification of Traffic Count Surveying Sites

Prior to the traffic count, a preliminary research of the study areas was done. Here, it was identified that there are four (4) sites where the PUV drivers make a U-turn after cutting their trip. Three (3) of these are located near Santolan station – Marcos Highway under the Marcos Bridge, SM Marikina, and Barangka – and the other just past the Katipunan station, at the U-turn slot along Aurora Boulevard fronting the Philippine School of Business Administration (PSBA). It was then decided that these sites will be used for the PUV traffic count surveying.

Figure 3. Location of Traffic Count Surveying Sites

3.1.2 Identification of Cutting Trip Jeepney and UV Express Routes

The different cutting trip jeepney and UV Express (bound for Cubao) routes passing through Marcos Highway and Aurora Boulevard were identified, as follows:

a) Jeepney Routes – Marcos Highway

- Cogeo – Cubao
- Antipolo – Cubao
- Padilla – Cubao
- Montalban – Cubao
- Taytay – Cubao
- Cainta – Cubao
- SSS Village – Cubao
- Calumpang – Cubao

b) UV Express Routes – Marcos Highway

- Cogeo – Cubao
- Antipolo – Cubao
- Padilla – Cubao
- Montalban – Cubao and Rodriguez – Cubao
- Marikina – Cubao
- Fortune – Cubao
- SSS Village – Cubao

c) Jeepney Routes – Aurora Boulevard

- Montalban – Cubao
- SSS Village – Cubao
- Parang – Cubao
- Calumpang – Cubao
- Silangan – Cubao
- Marikina – Cubao
- Antipolo – Cubao
- Cogeo – Cubao
- Padilla – Cubao
- Taytay – Cubao
- Cainta – Cubao

d) Jeepney Routes – Marcos Highway

- Montalban – Cubao and Rodriguez – Cubao
- SSS Village – Cubao
- Marikina – Cubao
- Parang – Cubao
- Cogeo – Cubao
- Antipolo – Cubao
- San Mateo – Cubao
- Taytay – Cubao

3.1.3 PUV Traffic Count

The traffic count of cutting trip jeepneys and UV Express was conducted last 13-17 April, 2015, Monday to Friday, for twelve (12) hours straight from 6:00 AM until 6:00 PM. For each of the surveying sites, one (1) surveyor was placed.

For the data collection, each cutting trip jeepney and UV Express in a particular site within a ten (10)-minute period was counted, totaling to sixty (60) periods per day.

The total number of jeepneys and UV Express vehicles per time period of 10 minutes and 1 hour were obtained from data gathered from the transport cooperatives and the Land Transportation Franchising and Regulatory Board (LTFRB).

3.2 Survey Questionnaire for Jeepney and UV Express Drivers

The survey questionnaire for the jeepney and UV Express drivers were conducted with the coordination with the local transport cooperatives in the area, through the Office of Transport Cooperatives (OTC). These cooperatives are:

- Marikina Transport Service Development Cooperative
- Antipolo Transport Service Cooperative
- Eastern Survivors Transport Service Cooperative
- Lungsod Silangan Transport Service Cooperative

The survey form for the drivers, a one-page questionnaire written in Filipino consists of the following:

- Demographic and socioeconomic characteristics
- Travel characteristics
- Trip-cutting perception and preference

3.3 Method of Analysis

The volume and frequency of trip-cutting jeepneys and UV Express will be assessed using quantitative analysis. The study will then focus on the rationalization of trip cutting tendencies of the drivers using qualitative analysis.

In this study, statistical methods will be incorporated to determine the correlation between these schemes to the driver experience (based on questionnaire). Data acquired from traffic survey count will be compared to the survey questionnaires answered by the drivers in order to see the correlation between actual data and data from driver experience.

This research will also focus on the behavior of trip-cutting as practiced by PUV drivers in relation to the current conditions of the major highways, Marcos Highway and Aurora Boulevard. The frequencies of trip cutting will also be correlated with the respect to the situations in the stations which affect decision-making of drivers, mainly the LRT Santolan and Katipunan Stations. This will be used to identify the peak hours of trip cutting in the morning and afternoon, which will also be used to determine the top trip cutting routes per hour for both the jeepney and UV Express vehicles.

Photos will also be provided in order to show the evidences of trip cutting in both LRT Santolan and Katipunan stations, as well as evidences of passenger crowding in the terminal stations in Cubao.

All the method of analysis discussed above will be used to identify the conclusions and recommendations for this research.

4. RESULTS AND DISCUSSIONS

The following results were determined from the data collected from the traffic count surveys and additional researches done within the study period. Most of the gathered data were compiled and analyzed in a manner by which all factors involved in our study are accounted for.

4.1 PUV Counts

The traffic survey count was done on April 13, 2015 to April 17, 2015. The results of the data collection were astonishingly similar to the hypothesis made, and other required information were easily analyzed.

The first step was to list all the survey data and arrange them according to the time of day and the jeepney/UV Express route which cut their trip. Afterwards, getting the average number of jeepneys/UV Express who cut their trip per 10 minutes and per day is necessary in order to identify the following information:

- Peak 30-minutes and peak 1-hr in a day
- Total percentage of trip cutting PUVs relative to the total number of PUVs who cut their respective routes.
- Average number of trip-cutting PUVs per route per day

4.1.1 Data Collection for Jeepneys

The following average counts of jeepneys and UV Express are per the 12-hour (6 AM to 6 PM) window, rounded off to the nearest integer.

a) Marcos Highway (under Marcos Bridge)

The following sets of data are the results of the data gathering done for the Marcos Highway study area which we determined to be the most populated area in terms of trip-cutting jeepneys:

Table 1. Average Counts of Trip Cutting Jeepney by Route along Marcos Highway

Jeepney Route	Average	Percentage
Cogeo - Cubao	364	69.75%
Antipolo - Cubao	99	18.91%
Padilla - Cubao	41	7.85%
Montalban - Cubao	7	1.34%
Taytay - Cubao	5	0.88%
Cainta - Cubao	4	0.77%
SSS Village - Cubao	3	0.50%

It is observed from the chart that in the Marcos Highway U-turn, the Cogeo-Cubao jeepney route made the most number of trip-cuts in the observable time frame, making up 69.75% of all the trip-cutting jeepneys, which is followed by the Antipolo-Cubao jeepneys with 18.91%.

b) SM Marikina

Jeepney drivers like to be more discrete when it comes to trip-cutting, and most of the time, they make it a point not to get caught by cutting their trips in areas where enforcers are out of sight. Such area is located in the underground parking lot of SM Marikina mall along Marcos Highway. The following figures show the observed data from the area:

Table 2. Average Counts of Trip Cutting Jeepney by Route at SM Marikina

Jeepney Route	Average	Percentage
Cogeo - Cubao	62	59.92%
Antipolo - Cubao	18	17.53%
Padilla - Cubao	6	5.39%
Montalban - Cubao	14	13.10%
Taytay - Cubao	4	4.05%

As seen from Table 2, the most prevalent trip-cutters are still those from the Cogeo – Cubao line, which, as discussed earlier, are observed to cut the most trips during the day.

c) Barangka

The following data are observed from the Barangka study area:

Table 3. Average Counts of Trip Cutting Jeepney by Route at Barangka

Jeepney Route	Average	Percentage
Montalban – Cubao	36	63.73%
Antipolo – Cubao	11	18.66%
Cogeo – Cubao	6	10.92%
Padilla – Cubao	0	0.35%
Cainta – Cubao	1	1.76%
Taytay – Cubao	1	1.06%
Calumpang – Cubao	0	0.35%
SSS Village – Cubao	2	3.17%

Though jeepneys cut their trips in this area, the numbers are less compared to the first two areas where trip-cutting is easily observed and counted. Trip-cutting in Barangka is mostly practiced by jeepneys from the Montalban – Cubao line.

d) Aurora Boulevard

Table 4. Average Counts of Trip Cutting Jeepney by Route along Aurora Boulevard

Jeepney Route	Average	Percentage
Montalban - Cubao	97	20.35%
SSS Village - Cubao	118	24.57%
Parang - Cubao	44	9.11%
Calumpang - Cubao	186	38.78%
Silangan - Cubao	4	0.92%
Antipolo - Cubao	23	4.76%
Cogeo - Cubao	3	0.54%
Cainta - Cubao	0	0.08%
Taytay - Cubao	1	0.13%
Marikina - Cubao	4	0.75%

4.1.2 UV Express

Jeepney vehicles are not the only PUVs that practice trip-cutting. UV Express vehicles also take part in traffic congestion along Marcos Highway and Aurora Boulevard with their numbers continuously increasing through the years. UV Express shuttles also violate the rules regarding trip-cutting and they are also aware of the benefits of trip-cutting with respect to their routes and the number of trips they can make within the day. The traffic survey counts made also included the frequency of trip-cutting made by UV Express and the data are further analyzed in this section of the study.

a) Marcos Highway

Table 5. Average Counts of Trip Cutting UV Express by Route along Marcos Highway

UV Express Route	Average	Percentage
Cogeo - Cubao	45	40.65%

Antipolo - Cubao	14	12.23%
Padilla - Cubao	2	1.80%
SSS Village - Cubao	48	42.99%
Marikina - Cubao	3	2.34%

b) SM Marikina

Table 6. Average Counts of Trip Cutting UV Express by Route at SM Marikina

UV Express Route	Average	Percentage
Cogeo - Cubao	3	38.10%
Antipolo - Cubao	1	7.14%
SSS Village - Cubao	5	54.76%

c) Barangka

Table 7. Average Counts of Trip Cutting UV Express by Route at Barangka

UV Express Route	Average	Percentage
Cogeo - Cubao	11	62.64%
Padilla - Cubao	1	3.30%
Masinag - Cubao	0	2.20%
Antipolo - Cubao	1	5.49%
Marikina - Cubao	1	7.69%
SSS Village - Cubao	3	14.29%
Fortune - Cubao	0	1.10%
Rodriguez/Montalban - Cubao	1	3.30%

d) Aurora Boulevard

Table 8. Average Counts of Trip Cutting UV Express by Route along Aurora Boulevard

UV Express Route	Average	Percentage
Rodriguez/Montalban - Cubao	59	38.39%
SSS Village - Cubao	24	15.82%
Marikina - Cubao	55	35.41%
Parang - Cubao	14	8.95%
Antipolo - Cubao	1	0.91%
Taytay - Cubao	0	0.13%
San Mateo - Cubao	1	0.39%

4.1.3 Summary of Totals

Each of the study areas are related to the LRT Line 2 stations in Santolan and Katipunan, and are analyzed depending on which station affects trip-cutting practices of PUV drivers. The data gathered from Marcos Highway, SM Marikina and Barangka are analyzed as trip cutting areas related to the Santolan station, and the Aurora Boulevard U-turn is related to the Katipunan station. The following data in this section are based on the total averages and percentages from the two (2) stations mentioned. As such, the peak 30-mins and peak 1-hour for each of the stations are also analyzed, in correlation to the frequency of trip-cutting violations in the areas.

a) Jeepney Totals

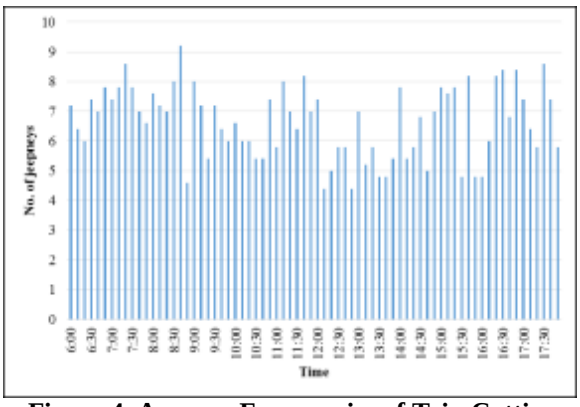

Figure 4. Average Frequencies of Trip Cutting Jeepneys Relative to Katipunan Station

Figure 4 shows the average number of jeepney vehicles that cut their trip in the areas related to the Santolan station, mapped in a 10-min time frame. Here it is observed that the peak hours can be identified in the morning and in the afternoon, of which there is significant evidence that trip-cutting must be regulated during these times as they contribute to congestion during rush hours.

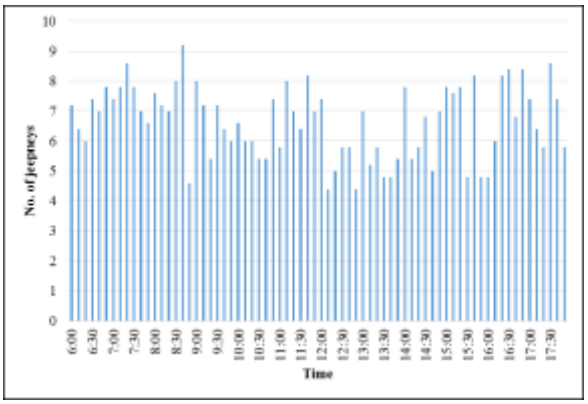

Figure 5. Average Frequencies of Trip Cutting Jeepneys Relative to Santolan Station

Unlike the Santolan station, the trip-cutting practices of jeepney drivers in Katipunan station is manifested the whole day, having peaks in the morning, noon and afternoon. This data shows us how inefficient our traffic system is, and that violators are never apprehended for doing such practices.

The following data are the observed peak 30-mins and peak 1-hour for the Santolan and Katipunan stations; these are the times when trip-cutting violations are mostly observed:

Table 9. Peak 30-Minute Periods of Trip Cutting Jeepneys

Station	AM Peak	PM Peak
Santolan	6:20 - 6:50	5:20 - 5:50
Katipunan	7:10 - 7:40	4:30 - 5:00
	8:20 - 8:50	

Table 10. Peak 1-Hour Periods of Trip Cutting Jeepneys

Station	AM Peak	PM Peak
Santolan	6:20 - 7:20	5:00 - 6:00
Katipunan	6:40 - 7:40	4:20 - 5:20

These data were also used to determine the top trip-cutting jeepneys, of which are identified from the frequency of trip-cutting for the 1-hour frame, and also with the basis of an hourly observation.

Figure 6. Top Trip Cutting Jeepney Routes – Trip Cutting vs. Full Route, per 1 Hour

b) UV Express Totals

Table 11. Peak 30-Minute Periods of Trip Cutting UV Express

Station	AM Peak	PM Peak
Santolan	7:40 - 8:10	5:00 - 5:30
Katipunan	7:50 - 8:20	4:40 - 5:10
	9:00 - 9:30	

Table 12. Peak 1-Hour Periods of Trip Cutting Jeepneys

Station	AM Peak	PM Peak
Santolan	7:10 - 8:10	4:40 - 5:40
Katipunan	7:20 - 8:20	4:20 - 5:20

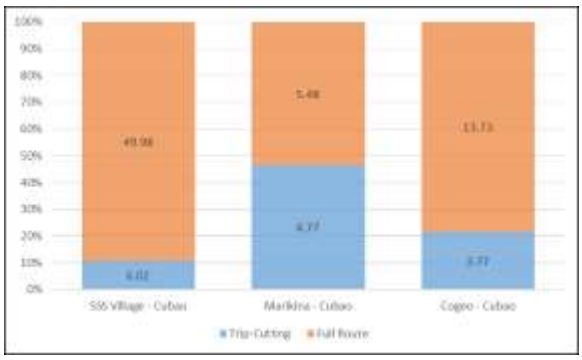

Figure 7. Top Trip Cutting UV Express Routes – Trip Cutting vs. Full Route, per 1 Hour

4.2 Jeepney Drivers Survey

For the whole month of May, interviews were conducted with jeepney drivers who traverse the two major highways, Marcos Highway and Aurora Boulevard, in order to fully understand the PUV drivers' behavior and know the reasons behind their violation practices.

For the whole duration of the interview process, a total of 55 jeepney drivers participated in the survey, most of which from the Cogeo – Cubao line, and some from Antipolo – Cubao, Padilla – Cubao and the jeepneys belonging to the Marikina – Cubao franchises.

Based on the interviews done, the following demographics were acquired and are presented below:

- Average age of drivers: 43 years old
- Average number of years of experience: 16 years
- Average number of trips per day: 5
- Average profit per day: Php 670
- 30 of 55 from Cogeo – Cubao Transport Cooperative (Lungsod Silangan)
- 11 of 55 from Padilla – Cubao Transport Cooperative (Eastern Survivors)
- 8 of 55 from Marikina Transport Cooperative (Marikina Transport Service Development Cooperative)

Of the 55 drivers interviewed, 54 of the drivers did not admit to practicing trip-cutting along any of the major highways. One of the drivers answered yes, but the reasons he had for doing it were unclear. He said that he once did trip-cutting because the terminal where he'll park his jeepney has a curfew. The other 54 drivers however did not admit trip-cutting practices, and obviously denied the questions from the survey forms, and even from the Cogeo – Cubao line where most of the trip-cutting drivers belong to, no single driver admitted to this kind of behavior.

4.3 Further Analysis

As the data show, and based on the interviews done with the drivers, the following factors involving the trip-cutting behavior of jeepney and UV Express drivers were identified:

- The drivers can serve more passengers.
- Increased number of trips means increased profits for the PUV drivers.
- It is not much profitable to complete the trip to Cubao given the benefits of having more income from trip-cutting along Marcos Highway or Aurora Boulevard.
- LTO traffic enforcers do not apprehend the trip cutting PUV drivers, no matter how

many PUVs cut their trips as observed from the traffic counts.

5. CONCLUSIONS

The following findings were made in this study:

- It was proven that trip-cutting behavior is a common practice by both jeepney and UV Express drivers traversing along Marcos Highway and Aurora Boulevard.

- The overlying factors involving trip-cutting behavior by PUV drivers are the following:
    - Demand for jeepneys and UV Express during peak hours at the LRT Santolan and Katipunan Stations.
    - Drivers can maximize profit by having shorter trips and at the same time having passengers at full capacity.
    - The enforcement of trip cutting violations along the study areas are not strict, and drivers who are observed to cut their trips do not get apprehended by LTO enforcers, which encourages the PUV drivers to cut more trips.
    -
- It was observed that the top trip-cutting routes for PUVs along Marcos Highway and Aurora Boulevard are as follows:
    - For jeepney vehicles: Cogeo – Cubao and Antipolo – Cubao routes in relation to the LRT Santolan Station, and the routes Calumpang – Cubao and SSS Village – Cubao for the LRT Katipunan Station.
    - For UV Express vehicles: SSS Village – Cubao and Cogeo – Cubao routes in relation to the LRT Santolan Station, and the routes Marikina – Cubao and Rodriguez/Montalban – Cubao for the LRT Katipunan Station.

These findings are consistent with what the researchers set out to do as stated in the objectives of the study. This research only proves that trip cutting was practiced regularly in the study areas, and that certain actions and regulations must be enforced with the top trip cutting PUVs.

6. RECOMMENDATIONS

The following recommendations are made in relation to the findings of the study:

- Route Modification of top trip-cutting routes.

- Further study on effects of trip-cutting to traffic congestion, as well as its effects on passenger experiences.

- Study on passenger experience and the supply of PUVs with respect to the Cubao terminal station in relation to trip-cutting violations.

- In the future, when the construction of the LRT Masinag and Emerald stations gets finished, we recommend a study on the possibility of a shift in trip-cutting prone areas relative to these new stations.

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