

## A STUDY ON LORRY DRIVERS' SATISFACTION TOWARDS RSA FACILITIES AND SAFETY IN NORTH-SOUTH HIGHWAY, MALAYSIA

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### Abstract

This research was carried out to find out a lorry driver needs on RSA (Rest and Service Area) facilities and their current satisfaction towards existing RSA facilities in North-South Highway, Malaysia. For this purpose, lorry drivers that using the North-South Highway will be given a questionnaire to get their feedbacks on the current facilities provided, their needs and satisfaction on the facilities at R&R along the North South Highway. For data collection one set of questionnaires was designed and distributed to 385 lorry drivers that use the Northbound RSA Services. The major RSA in the northbound was selected, R&R Machap, R&R Pagoh, R&R Seremban and R&R Tapah. Based on the results of this research, it will help PLUS Malaysia Berhad (PMB) to improve their RSA area and upgrade their services.

**Index Terms**-- Rest and Service Area, Customers Satisfaction, Safety and Needs.

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### INTRODUCTION

This research is aimed to study the Rest and Service Areas or also call as RSA or R&R (Rest & Relax) facilities and safety related to lorry driver's satisfaction and needs. RSAs or R&R are the facilities provided for traveler a rest area during their long-distance trip. The expressway links many major cities is also known as, named is PLUS Expressway. The company has changed its name to (PLUS), which is a one of the subsidiaries of PLUS Malaysia Berhad (PMB). This research to study on lorry driver satisfaction towards RSA facilities in North-South Highway this expressway passes through seven states on the peninsula which is Johor, Malacca, Negeri Sembilan, Selangor, Perak, Penang and Kedah but for this research will be focus on R&R Pagoh, R&R Machap, R&R Seremban and R&R Tapah or we called it the Northbound of North-South Highway. The comfortable and safety purpose is the main concerns. Due to the longest of travel time and distance, the possibility to increase the accident is bigger when the driver is not rest for several hours' time on highways.

RSAs in Malaysia's giving several facilities with is the basic needs for the users to such as children's playground for family group, for the vehicle there have petrol stations, for muslim religion there are surau, auto-teller machines (ATM), 'waka' (rest shelters) for the driver to rest and relaxation, public telephones and air-conditioned restaurants for the customer to have their meal. RSAs in Malaysia have 24 places that PLUS offering to the traveler, it is good for the traveler transportation services to rest and relaxation for several hour.

### SIGNIFICANCE OF THE STUDY

This research is important to investigate the lorry driver's satisfaction and needs towards the facilities provided in RAS area. Other important reasons are that the research findings would provide useful data for researchers and industry that:

1. The management of Plus Malaysia Berhad (PLUS) can manage the strategies to increase the quality of RAS services and safety.
2. The improvement of self service facilities in RAS area can be improved especially facilities for heavy vehicles.

3. Researchers can also conduct further studies to investigate the facilities performance in RAS during peak season such as festive seasons.

### OBJECTIVES OF THE STUDY

There are three objectives for this research:

1. To examine the lorry driver's satisfaction towards facilities in North-South Highway.
2. To determine the lorry driver's satisfaction towards safety in RAS facilities in North-South Highway.
3. To suggest the improvement that can be done on the RAS facilities in order to solve the needs of heavy vehicle and the congestion during peak seasons.

### RESEARCH SCOPE

The research area or location is at northbound area of North-South Highway from Gelang Patah to Gurun Kedah. This highway covers through several states which are Kedah, Perak, Selangor, Negeri Sembilan, Malacca and Johor. More precisely the data collection done at Machap (KM74.6), Pagoh (KM146.6), Seremban (KM272.2) and Tapah (KM332.3). This research also focus on investigate and study how far the facilities at rest and service area can satisfy the customer focused on lorry drivers which involve the heavy vehicles. Furthermore, with this better facilities services in the rest and service area, it will able to find the better management in the R&R in order to make the customer satisfaction and also the better process flow in and out at rest and service area. This study also based on the experienced that comes from the customer feedbacks on the issues that happen inside the rest and service area. Therefore, this will allow the business to do related improvement and be more efficient.

### RSA FACILITIES AT NORTH-SOUTH HIGHWAY

According to Thomas Williamson (2003) Rest and service areas are a common sight along the North-South Expressway (NSE) run by PLUS Malaysia Berhad. Better known as R&R—for Rest & Relaxation or the Malay word (Kawasan) Rehat Dan Rawat—they have become an integral part of Malaysian travel experience. With a range of facilities, many R&Rs provide more than just a temporary stop to relax and freshen up after a long drive for

tired travelers. Some of the available facilities include air-conditioned restaurants, playground for children, gas stations, surau (Muslim prayer areas) and auto-teller machines (ATMs). Constructed in 1994, at 772 km from Bukit Kayu Hitam in Kedah to Johor Baru, the NSE is the longest expressway in the world. The highway reports an average of around 1.2 million users on normal days, according to PLUS, while the numbers rise to 1.5 million during the holiday period.

#### **SAFETY AND REGULATION FOR HEAVY VEHICLES DRIVERS**

The Malaysian government implemented axle load limits to reduce the damage caused by overloaded vehicles to the road infrastructures. Through the analysis of the axle load data, it was found that overloaded axles formed a considerable percentage of the total volume. Thus, it is recommended that the axle load limitation enforcement should be increased to reduce the overloaded axles which results in the reduction of maintenance cost and the hazards caused by these overloaded vehicles. Referring to Mark R. Rosekind (2005) in work settings, it is focus on security. In practice, we used sleep medicine to concentrate more on wellbeing, which is related to risk, diagnosis, and other specific sleep disorders. Nevertheless, security is important when it comes to the work situation, because health and its psychological have become widely recognized and incorporated into the work environment, the work environment must be based on the work schedules. This is vital to assume a high level of responsibility in any kind of work environment, and particularly in security—a critical area for transport, health care and public safety. Even in life-threatening situations where "getting the job done" is important, everyone's health, especially the individual operator or contractor, is a major concern. The health consequences of sleep loss, sleep disorders, and shift work are superbly addressed in this research. Hence, the emphasis here will be on how sleep, alertness, and ultimately safety affect work schedules.

Some work not conducted during the day, during standard working hours or on a regular schedule can have a significant impact on both sleep and circadian rhythms. Operational issues are complex and relate to a variety of factors, such as pre-work period acute sleep loss, accumulation of sleep debt over consecutive days, prolonged work or on-call schedules, and other issues to be discussed later. Examples of travel, health care and public safety illustrate how work schedules can lead to acute and chronic loss of sleep.

According to Mark R. Rosekind (2005) the sleep-wake schedules of truck drivers in different operations also have been studied.7 in one large study of commercial drivers operating on different schedules, the drivers averaged 3.8 to 5.4 hours of total sleep. For example, after 10 hours of day driving, the drivers averaged 5.4 hours of sleep during their 10.7 hours off-duty. After a 13-hour night drive, the drivers averaged 3.8 hours of sleep during the 8.6 hour off-duty period; after a 13-hour day drive, the drivers averaged 5.1 hours of sleep during their 8.9 hour off-duty period.

Scheduling can be the biggest challenge from an individual perspective, depending on how much flexibility the employee has when deciding their own specific schedule. The huge number of external factors that determine the need for work can leave little flexibility to choose from. Nonetheless, one simple choice available to someone is whether to work in a specific setting that has routines that create significant disruption to the person. In some cases, individuals have limited options, especially due to economic needs. Seniority, specific job skills, revolving positions, and changing organizational criteria in some situations provide scheduling flexibility and even feedback. Any work environment has an average hourly worker and those who work less or more. Sleep and circadian rhythm can be disturbed by excessive

overtime, extended hours, limited vacation time, and other "opportunities" of employment that may reflect an individual's increased income, as well as increased risk to alertness, health, and security.

Shared responsibility is critical. An individual worker can seek every opportunity to increase work hours and income. An organization or corporate can limit these opportunities in order to reduce potential health and safety risks. Conversely, in busy or emergency situations, individuals who are willing to work beyond schedule can represent a significant resource for a corporation. According to Thomas Williamson (2003) The rest and service area that been offer to the traveller and heavy vehicle like prime mover, lorry tanker and lorry container can get a rest at the Wakaf like figure 2.2. The safety when drive is important to the work, lorry drive must get rest and continue the delivery.

Referring to Tajudeen, Adebayo and Sunday (2014), another element of safety is road bums to enforcing speed limits. The objective of speed bump is to prevent of accident and to avoid the vehicle to get huge damage from accident. It also to control of vehicle speeds. Speed bump also can save another person or another driver to get accident. Speed bump is one of the road traffic safeties because it will slow the speed vehicle in every way for the safety of that place. In the RSAs, there have several places that PLUS put the speed bump. The place that PLUS put is at entrance of RSAs and at the exit entrance.

Another safety element that shall RSA have is the police station. the police officer's primary duty is to protect property and individuals. Other police duties, including traffic control, responding to emergency calls. The officers spend their time working with criminals and dealing with threatening scenarios such as interfering in a domestic assault or foiling a burglary.

#### **SAMPLE OF THE STUDY**

The study was carried out on 385 Lorry Drivers that come and rest at RSA ( R&R Machap, R&R Pagoh, R&R Seremban and R&R Tapah). The sample of the study selected using simple size table of Krejcie and Morgan (1970). The selection of lorry drivers to answer the questionnaire was done by using accidental or convenient sampling. In this procedure, the lorry drivers were selected by researcher as per their agreement and willingness during the data collection at the RSA area. These respondents were represented by various races and gender, with an approximate age of 25 to 60 years old.

#### **RESEARCH DESIGN**

In this study, researcher decided to use single research method. The research method used in this study only involved quantitative component. As this research to study about the lorry driver satisfaction towards RSA facilities North South Highway. The used of quantitative component in this research design because accordance with to study the individual experiences toward service quality in social science by John W. Creswell (2013). As suggested by John W. Creswell (2013), quantitative method is the best method to use in this research.

The design for questionnaire was based on research objectives and questions of the research. It is divided into four sections. The data obtained will be analyze using Statistical Package for Social Science (SPSS).

#### **DATA COLLECTION PROCEDURE**

Generally, the design of the research can be divided into several stages from identify and define the objective of the research until the data is being analyses to get the result of the research. The procedure of research or design of the research need to be plan out carefully in order to get well result. Process to develop survey in quantitative method.

First step in conducting survey through questionnaire need to be designing and construct the questionnaire. In design and constructing questionnaire, it will refer to the information that need for this study. Important thing in designing questionnaire is to make that the question is easy to understand by the respondent.

Second step after done in design and construct questionnaire, the next step is to be identifying and keeping track of respondent. Here means that, it is important to identify first the respondent and the location to distribute the questionnaires. In this research, respondent will focus on safety and satisfaction toward on lorry driver satisfaction towards RSA facilities in south North South Highway.

Third step is need the researcher to research location for distributing the questionnaire to on lorry driver satisfaction towards RSA facilities in North South Highway.

Finally, from the questionnaire data received, the researcher will start to produce data entry and data analysis activity. Each of questionnaires will be analyzed in from of table or graph so that easy to understand.

#### DATA ANALYSIS

The data collected will be classified into different sub-headings. The sub-headings consist of the background of the lorry drivers, satisfaction towards facilities in RSA, safety implementation in RSA and lastly the suggestion on the improvement for RSA services.

The researcher uses primary data collected by questionnaire which means the original data has been collected by researcher itself, this mean the data collected has not been published by others before. The reasons of this technique for this data collection because the original data will contain high validity and reliable standard compared with secondary data which has probably have been altered from previous studies. Furthermore, the upsides of utilizing essential gathering strategies are distinguishing the objective issues, better information understanding, effective data spending, the data is more precise and applicable for information and additionally more prominent control on data.

Researcher uses correlation analysis in finding the result for this research. From an article written by An Gie Yong from University of Ottawa (Yong, 2013) correlation analysis is a function that research uses to determine the statistical correlation between random variables. From the value shown from the correlation, researcher can identify the objective is accomplished or not.

#### RESULTS AND DISCUSSION

##### 1. Discussion on Research Question One

To find is the answers of the most satisfy facilities that user feel at RSAs, Eight (8) question was developed to understand lorry driver towards the facilities collection process at R&R Machap, Pagoh, Seremban and Tapah. These questions cover parking area, petrol station, ATM, toilet and food service. The result revealed that most of the respondents was averaged strongly satisfied or happy with the performance of the facilities which perceived by the respondent is a strategic location for rest in a long journey. The respondent also indicates dissatisfaction on the feature of the number of petrol stations which is only having a few in RSAs and a few parking area. This finding support suggestion according to Muhammad Syimir Abd Wahab, Izzul Ramli, Sitti Asmah Hassan (2015) the number of on major road is a predictor of the number of vehicles entering rest area.

Furthermore, results for question one, researcher doing One-Way Anova to find significant between factors in group and the

dependent is Parking Area, Petrol Station and (Toilet, ATM, and Food Services). The result for Parking Area is the same age and race with is not significant and the comment for 385 respondents is 2.8 (between satisfy and dissatisfy). Next, for the Petrol station and (Toilet, ATM, and Food Services) is the same result with is their have significant for the factor of race with is below 0.05 of significant. The average for 385 respondents is level of average and neutral and the last facilities is majority is chosen to satisfy and strongly satisfy.

##### 2. Discussion on Research Question Two

The methods safety strategy that implement at RSA in terms of the methods safety strategy that implement at RSAs, most studies according to Mark R. Rosekind (2005) in work settings, it is all about safety. In this research question, there have five (5) was develop for this research question. With the presence of police stations and speed bumps, is it possible to reduce accidents at RSAs, the respondent is one of the safety strategy that implement in RSAs. The movement of customer that come to RSAs is clearly monitored by the police station and workers, so that customer feels safe about their vehicle while having a rest and services that provide at R&R. Hazard waning signage will increase the level of safety strategy that implement at RSAs. By 200 respondents, high agree and strongly agree for the rate of safety implementation in RSA are safe.

Other than that, majority of the respondent satisfied with the availability of the safety notice installed at the RSAs. The safety notice was found clear to alert the customer from the potential hazard could harm the customer during enter and exit at RSAs. The proper safety notice will provide the useful information that will protect people and vehicle. To improve the safety strategy that implement in R&R, researcher do test one-way ANOVA to improve group between factor race and age. The significant of age and safety is 0.225, means that more than 0.05 is not significant. There have difference opinion between groups of age. The sum of average of 385 respondent is 3.89, means that the opinion of respondent is agree of five question in safety that implement in R&R facilities. For the factor of age and dependent is safety implementation the significant is 0.00, means that there is significant between factor and dependent because is less than 0.05.

##### 3. Discussion on Research Question Three

What are the causes of congestion do at RSAs. For the last section of this survey is the effect congestion toward R&R, the first question is Traffic congestion and heavy rain is one of the causes of lorry parking is full. The majority of the respondent which 70.0% (59.0% agree and 11.0% strongly agree). Next, 82.5% (46.5% agree and 36.0% strongly agree) of the respondent is agree that road accidents are one of the causes of congestion in the RSAs. That means that when the highway is having accident, it will be congestion in R&R area. This is because there want to rest and relaxed before continuing their journey. Impact of fuel supply zero at Petrol Station in RSAs is one of the courses of congestion in R&R. The majority is chosen 54.0% neutral. This is because for the next R&R is about 60km to arrive. The heavy traffic movement during festive season, most of the respondent agree which contributed the result around 86.5% (45.0% agree, 41.5% strongly agree). Mostly the festive season is public holiday, so many people back for their village for festive season, it will be cause of congestion in highways and will affect to the R&R area.

For One-Way ANOVA, the researcher is asking four (4) question. The significant of age and cause of congestion is 0.116, means that more than 0.05 is not significant. There have difference opinion between groups of age. The sum of average of 385 respondent is 4.2, means that the opinion of respondent is choose between agree and strongly agree of four question in

courses of congestion in R&R. For the factor of age and dependent is safety implementation the significant is 0.00, means that there is significant between factor and dependent because is less than 0.05.

#### RECOMMENDATION

Based on findings for this research, there are few recommendations that can help the researcher to be more understanding and get the better information during the research. The researcher used only one method which is quantitative method. It is quite hard, and many problems faced by the researcher to get the information and to achieve the specific objective. The suggestion for future study is for doing the mixed method which is quantitative and qualitative. Thus, it will get more information and better understanding about the lorry driver satisfaction toward R&R facilities and also will obtain the better result to achieve the objectives.

In order to improve the safety inside the RSAs, the researcher suggest to police officer must monitored in the R&R area for expose with the dangerous or accident will be diminishing. For the hazard warning signage can be more clearly show in risky area such as at parking area because there have many large vehicles enter in R&R area.

During the process to get the result the researcher have some problem need to be faced which is to follow and need to surround all the R&R area. Therefore, it is difficult because some of the respondents have no time and also busy on searching the product, eating or in catching their time. So the researcher suggest for R&R to upgrade for lorry driver facilities in one place because there need to catching their time to delivered their goods and complete their shipments.

#### CONCLUSION

In conclusion, the research has reached the objective of the study. The suggestion of future study also been point out to support weakness which are being identified throughout this research. The researcher hope that this research will be one of the references for Plus Malaysia Berhad (PMB) and future researcher in order to improve and enhanced a lorry driver's satisfaction toward R&R facilities in North South Highways. To give better service in terms and facilities not only for lorry drivers but also to other users as overall.

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