

# Causes and Effects of Traffic Jam in Muscat City, Sultanate of Oman

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**Abstract:** Generally, traffic jam is considered a major challenge to most countries. This is relatively true in the case of the growing traffic problem in Muscat City, Sultanate of Oman. This study primarily aimed at determining the common causes of traffic jam in Muscat City. It also investigates the effects of traffic congestion to individuals, businesses and the environment as well as finding possible solutions to the problem. This study employed the focus group discussion as the main gathering tool to ten (10) respondents with the use of both semi-structured and open-ended questions to solicit responses. Findings revealed that traffic jam were caused by the use of mobile while driving causing accidents on the road; using the roads by motorists at the same time; reckless driving; too much roundabouts; lack of alternative routes; lack of discipline by drivers; growing constructions anywhere; and lack of education by young motorists. Recommendations dictate that, the government should try to address the following considerations: construction of more flyovers; adaptation of public transports; elimination of roundabouts; provision of alternative routes; educating young drivers on road safety and allow carpooling as alternative solution to reduce the magnitude of cars running on the roads. Furthermore, it is also recommended that a follow-up quantitative research study shall be undertaken to investigate and validate further these findings.

**Keywords:** Traffic, Traffic Jam, Motorists, Roundabouts, Routes

## 1. Introduction

Traffic is considered a worldwide problem. When a country continuous to become highly industrialized, the construction of roads, buildings and other infrastructures will increase its visibility that in some way or another can cause traffic jams. However, these factors may not be the sole cause of traffic situations. In the study of Rahane and Saharkar (2014), traffic jams can be caused by different factors such as the increasing population, construction of high-rise buildings, ongoing widening of roads and bridges, non-observance of traffic rules and regulations of drivers, no discipline in using the right lanes while driving and others. Traffic situations vary from places to places and in wider setting, it is different from country to country.

Furthermore, the traffic situation in Muscat is worsening day by day. In the morning for instance, many people are haggling to come to their works on time and yet start driving on the road about few minutes before the office time. This has been a problem not only for workers but to students and even business owners. It is generally viewed that, morning time has the most cases of traffic jams in the road because this is the time where people are moving from their houses to their destinations. In this study, the details of the causes and effects of traffic jam will be discussed in the next sections.

As related to this study, the scope primarily dealt with the traffic situation in Muscat City, being the capital city of the Sultanate of Oman. The result will then be considered as the benchmarks for a wider study in a country-wide setting.

### 1.1. Statement of the Problem

This study tries to address the following questions:

- 1) What are the common causes of traffic jam in Muscat City?

- 2) What are the negative effects brought about by heavy traffic situation in Muscat to the drivers, businesses, and the environment?
- 3) What could be the possible solutions to lessen the traffic situation in the City?

### 1.2. Goals of the Study

This study primarily aimed to achieve the following goals and objectives:

- 1) To determine the common causes of traffic jam in Muscat City.
- 2) To investigate the effects caused by the heavy traffic situation in Muscat.
- 3) To develop and implement plans that can lessen the traffic situation in Muscat City.

### 1.3. Significance of the Study

This study is significant for various reasons.

- 1) This study will increase the awareness of motorists and the general public on the importance of knowing the negative effects of traffic jams in the roads.
- 2) It will create a reliable basis for conducting in-depth studies on the causes of heavy traffic and implementing plans to minimize its negative impacts.
- 3) Give adequate information on linking the ill effects of traffic jam to possible health problems.
- 4) This study can be an input for further studies and critical analysis.
- 5) It will built a strong justification that traffic jam is a recurring problem that needs a long-term solution.

## 2. Common Causes of Traffic Jam in Muscat City

There can be several causes of traffic jams but it generally vary from places to places, classification as to urban and

rural areas and time variances. Considering the situation in Muscat City, one of the most causes of the traffic jam is the increasing cases of accidents in more or less daily basis. According to the data gathered from Royal Oman Police (ROP), in the first week of 2010 alone, about 119 road traffic accidents were recorded in the different parts of Oman that causes 13 deaths and 141 injuries and in eleven months, about 369 traffic accidents, an unusual situation and problematic conditions. On a daily basis, it was computed that more than 20 people are both injured and killed because of accidents (SQUMJ, 2010). Another cause of traffic is increasing population of drivers in the Muscat area, more licenses are obtained by new drivers every day. Based on the results from the interview, it was found out that, there is indeed a growing number of drivers in the larger part of Oman, in Muscat City. New drivers were observed to be visible in many parts of Muscat. In Oman Daily Tribune Newspaper, one of its issued articles concluded that, about 20% of the drivers were added to the present number in just a matter of one month.

Furthermore, an interview was conducted to one traffic officer named Hussein Ali. He stressed that *“the recent constructions of buildings and road expansions causes the traffic in various parts not only in Muscat City but throughout Oman. He added that, in Muscat City alone there are various construction of residential units, establishments and malls that directly affects the roads especially in service roads”*. Information from sources revealed that, constructions directly affect the place where the project is ongoing as it practically take some space in roads and other related areas (Ministry of Transport and Communication, 2010).

Thirdly, traffic is caused by the driver's lack of discipline in the road. Although they know the traffic rules and proper manner while driving but they refuse to follow and instead failed to observe for example taking lanes properly. Some drivers take many turns from one lane to another quickly without observing other drivers. As reported by the ROP, there is an increasing violation for drivers who do not observe proper use of lanes in the roads that may also cause accidents and violations on road safety ([http://www.rop.gov.om/english/dg\\_traffic.asp](http://www.rop.gov.om/english/dg_traffic.asp)). Moreover, most cases that are reported is particularly in the express roads and in places where daily traffics are considered heavy. Also, the increasing use of mobile phones while driving not only causes the traffic but highly contributes to the increasing cases of accidents.

### 3. The Effects of Traffic Jam

There are many negative impacts on heavy traffic or traffic jams. One of the impacts is stress. According to CNN report in 2012, long travels and traffic jams not only consumed time but stir up stress at the same time. The effect of stress will directly affect health related problems such as lower fitness levels, increase blood pressures as well as higher chronic stress. One study has proven that, exposure to daily traffics can build up or can increase the chances of acquiring chronic diseases. According to James (2008), the effect of heavy traffic will include tendencies for drivers to become impatient that if not properly addressed will lead to

resentment and anger and in some countries it may cause fighting and crimes. When the stress level is going high, it would trigger into more health problems.

Another negative effects of traffic jam is air pollution. Drivers who are exposed to air pollution will likely experienced health risk. Air pollution brought by heavy traffic can also cause health diseases particularly lung problem. According to the World Health Organization (2002), the air pollution has killed 3.2 million lives worldwide yearly that can be directly attributed to traffic related incident. With increased traffic pollutant, it can cause incidents for heart attacks, increase blood pressures, and other related problem. Lastly, traffic can also attribute to lack of sleep. Especially traffics during midnights can deprive drivers and commuters of sleep that change their behaviors and moods. Sleep deprivation is known to contribute negative effects on performance, attention and long-term memory. Furthermore, it can cause anxiety, frustration, impulsive behaviors, and lower immunity.

### 4. Research Methodology

This study utilized mainly the qualitative research design and employed the focus-group discussion to ten (10) respondents. Semi-structured and open-ended questions were made to obtain responses. The basis of using the focus group discussion is to primarily allow the respondents to express themselves about their personal views on the traffic situation in Muscat. The respondents represent the college staffs, commuters, motorists, and public official. The results from the interview will be transcribed verbatim in the findings and discussion section.

### 5. Findings and Discussions

The findings of the study were validated and transcribed in this section which is comprised of three research questions. The responses were presented in detailed in the following paragraphs.

#### 1) What are the common causes of traffic jam in Muscat City?

The results showed the common responses on the causes of traffic jam in Muscat City. Specifically, majority of the respondents or 8 out of 10 of the respondents agreed by saying that, *“The number of cars running in the streets are almost equal to the number of drivers or motorists and these drivers use the roads more or less at the same time during the day. They added that, “There are many reckless drivers in the road that causes the many incidents of road accidents which we can identify as due to the use of mobile phones while driving”, and most of the people are rushing just not to be late in their workplaces”*.

However; two respondents identified differently the causes of traffic jam whom they expressly stated that, *“There is too much roundabouts, the lack of roads and alternative routes to counter the traffic jam and flyovers, constructions here and there, and the lack of mechanisms to educate especially the youth on proper use of road safety”*.

It can be specifically noted that, the responses about reckless driving, the use of mobile and the increasing constructions in many places supported the statistics provided by the ROP and the Ministry of Transport and Communication in 2010.

## 2) What are the negative effects brought about by heavy traffic situation in Muscat to the drivers, businesses, and the environment?

The prevalent effects of traffic jam according to majority of the respondents can be summarized into waste of time, effort and energy. Unanimously, they stressed further by narrating that,

*“Everytime we are stuck in the traffic, we feel that we lose our energy, time and effort and become impatient. Not only that, we consume too much petrol and consider the driving as more tiresome than running in long trips”.* Further, they added that, *“traffic jam deprives the companies to see their employees coming on time and lose financially for every single minute delay of time to work. And, the instances of noise pollution is sure possibilities for continuous trend of traffic jams”.*

However; few of the responses linked the negative effects of traffic jam to health problems. One of the ten (10) respondents narrated that,

*“I have experienced high blood pressure as a result of accumulated daily experiences on traffic jam. Considering my age, exposure of traffic jams is not advisable to me anymore”.*

## 3) What could be the possible solutions to lessen the traffic situation in the City?

This question obtained many responses from the respondents based on their experience in driving and personal views of the traffic situation. Different responses elicits different interpretation. Seven (7) of the ten (10) respondents suggested that,

*“There should be close consideration in these areas: construction of more flyovers; replacement of roundabouts into traffic lights; adaption of public transportation or increase visibility of public transport to lessen the use of private cars; and development of alternative routes in cases of peak traffic hours”.*

On the other hand, two (2) respondents recommended that,

*“There should be staggered timing for private and government workers and staffs to encourage simultaneous use of the roads and avoid rush hours. It is also good to introduce the concept of carpooling where private individual drivers can help reduce the number of vehicles running on the road especially to children going to school every day”.*

One of the respondents however; emphasized by stating that,

*“There is an urgent need to educate the young drivers on the correct attitude in driving as well as on road safety as*

*many youth drivers don't observe proper manners on driving in the road and they are not sensitive to other drivers”.*

## 6. Conclusion and Recommendations

Based on the above findings, it is clear that traffic jam is a major problem that requires immediate and long-term solution. Accumulation of traffic jam on daily basis affects individuals, businesses and the environment although its effect is more prevalent on individuals. The causes of traffic jam are evident, the use of mobile while driving causing accidents on the road; using the roads by motorists at the same time; reckless driving; too much roundabouts; lack of alternative routes; lack of discipline by drivers; growing constructions anywhere; and lack of education by young motorists. It can also be concluded that traffic jam affects negatively to individual's health, businesses and the environment. So, this study is very important to encourage more researchers to explore more on its impacts, more solutions and for long-term planning purposes to create and implement a long-term solution of the traffic situations in Muscat and the entire country. To conclude, traffic jam is a major problem that requires major concern and attention.

Moreover; sets of recommendations can be offered:

Government's intervention is very important in attending the following concerns: construction of more flyovers; adaption of public transports; elimination of roundabouts; provision of alternative routes; educating young drivers on road safety and allow carpooling as alternative solution to reduce the magnitude of cars running on the roads. It is also recommended that a follow-up quantitative research study shall be undertaken to investigate and validate further these findings.

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