Assessment of Transit Congestion for Sustainable Urban Transport Management in Quetta, Pakistan

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Abstract

Transit congestion has been followed by increasing population migration from rural to urban areas in the Quetta metropolis, which causes transit congestion. This study determines the degree and depth of transit congestion on different roads in the Quetta metropolis. For this, both quantitative and qualitative descriptive research designs have been used. In this regard, a convenience sampling of 130 respondents was recorded, i.e., pedestrians, administrative officials, and road/street drivers. This study finds that traffic transit in the Quetta metropolis is highly congested between 7:30 to 8:30 a.m. and 4:00 to 6:00 p.m. The transit congestion in Quetta metropolis is daily; at least 30 minutes of time is wasted in traffic jams. The study also finds that there is no transit congestion information system in the Quetta metropolis. The main causes of transit congestion are illegal on-street vehicle parking, school and office timing, non-availability of traffic signals, frequency of vehicles, population growth, old vehicles, and sometimes heavy rainfall. Furthermore, the effects of transit congestion are annoyance, noise pollution, health issues and fuel consumption. The study recommends adequate parking arrangements, improved public transport, ensuring flexible work schedules, employing more traffic wardens or police, appropriate traffic signals, implementation of strict traffic rules and a transit congestion information system to manage transit congestion in the Quetta metropolis.

Keywords: Traffic, Assessment, Transport, Road, Quetta, Balochistan

Introduction

In general, "traffic transit" refers to a transport system that gives

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people and goods access inside cities. Transit includes different types of transport, which are public transport, non-motorized transport, and freight. Public transportation includes shared transportation, non-motorized transportation includes pedestrians and bicyclists, and freight includes shipments, etc. The literature mentioned that transit systems provide access to people in terms of basic facilities and social accomplishments in daily life (Harriet et al., 2013; Lu et al., 2009). The transit system offers different opportunities for individuals to engage in business activities to assure the movement of the bazaar (market), customers, workers, and suppliers in general (Soomro et al., 2022). Transit systems' services also cover the main economic and social facilities, such as commercial travel, travel to work, shopping, and travel to educational centres and cargo supply centres. An efficient transit system accomplishes the need for convenience in the metropolis (Okoko, 2006). Furthermore, efficient transit systems are necessary for the betterment of life and economic activities in any country. In recent years, transit congestion has become a problem, including traffic jams.

In addition to the same existing problems, transit congestion has become a more severe issue in Quetta city. It is due to the population increase, in addition to the natural expansion, and factors that make immigrants and individuals from various parts of the country move to cities in search of employment. Moreover, when maintaining a metropolis, it is clear that these social extensions also need transportation services to achieve their daily accomplishments. Nevertheless, the metropolis has been incapable of managing the higher demands for transportation amenities, including illegal street parking, the non-availability of traffic signals, and a deficiency of good transit management, which are the main reasons for transit congestion. Furthermore, it is necessary to comprehend the current condition of vehicular transport congestion, which is the most significant portion in the direction of the right decisions to resolve the problem and thus maintain continuous transit movement that will bestow the fiscal development of the cities. For such crises to be overcome efficiently, sustainability is crucial, and transportation becomes sustainable only when it holistically considers social, economic, and environmental aspects.

This paper determines the degree and depth of transit congestion on different roads in the Quetta metropolis. Furthermore, the main causes and effects of transit congestion are determined. In the end, some recommendations are provided for managing traffic congestion.

Literature Review

Traffic Congestion as a Concept

Traffic congestion is considered both a physical and comparative phenomenon. The physical marvel relates to how vehicles delay the progress of one another when the need for inadequate road space is reaching its complete volume. In contrast, on the other hand, the comparative marvel relates to consumer expectations regarding the performance of the road system (Talukdar, 2013). Here, transit congestion may also be defined as "A postponement that a commuter experiences during commuting". This traffic congestion is the variance between an actual travel time while assuming congestion and journey time achieved if there were no traffic congestion (Hokao & Mohamed, 2011). Furthermore, in the transportation sector, traffic congestion can be related to many vehicles on a specific part of the highway at a specific time, leading to slow speeds that are sometimes considerably slower than the usual flow velocities. Frequent congestions mean stopping or stopping and going of traffic (Hoogendoorn & Bovy, 1998).

Types of Traffic Congestion

There are two types of traffic congestion: recurrent traffic congestion and non-recurrent traffic congestion (Agyapong & Ojo, 2018). Recurrent traffic congestion: It usually occurs at the same place at the same time every day. This is generally done due to factors that occur regularly or occasionally on the transport system, such as daily travel or weekend travel. Recurrent traffic congestion is foreseeable and frequently occurs during peak hours. However, it shows a great degree of unpredictability in terms of duration and severity. Non-recurrent traffic congestion: It is the consequence of unpredicted or accidental major events. For example, road accidents, road works, special events, etc. which normally affect the transportation system more or less accidentally and, as such, cannot easily be expected.

Causes of Traffic Congestion

Certain circumstances can cause or worsen congestion: fast city populace increase, rising job changes, economic growth, increasing numbers of cars and also numbers of persons using cars, roads design, the little volume of transports infrastructures, insufficient investment in roads infrastructure, inadequate traffic management, lack of parking, damaged traffic signals and equipment, traffic rules violation, inadequate urban development or inadequate control of urban planning, rapid extension of city borderlines, insufficient public transportations, augmented usage of privates vehicle, special measures happening, car

accidents, roads work and worse climate conditions (Andoh, 2014; Fadare & Ayantoyinbo, 2010; Mahmud et al., 2012; Mensah et al., 2014).

Agyapong and Ojo discussed the traffic congestion in developing countries and its causes: The condition has deteriorated for emerging states because of unplanned cities leading to traffic congestion, poor traffic management, limited alternative traffic means, archaic management, and inappropriate lane management (Agyapong & Ojo, 2018).

Causes of traffic congestion in Quetta metropolis: Quetta is the industrial and economic centre of the province of Balochistan. It has large provincial industry units such as marble, cement, PVC pipes, food and beverage manufacturing, and steel mills. People across the province have migrated to the city due to education and employment, which causes congestion to continuously increase in the city.

Adoption of the principles of sustainable transportation has become more important in the Quetta metropolis, where the inefficient public transportation system and rising incomes have stimulated the demand for personal mobility with increased automobile ownership and use.

Effects of Traffic Congestion

The effects of transit congestion could be characterized by four broad classes: economic, ecological, social and health (Levy et al., 2010; Mahmud et al., 2012; Weisbrod et al., 2003). Moreover, the character, severity, and extent of reactions change among the cities based on metropolitan size, road capacity, road structure, operating private and public transportation systems, spatial division of land use, and mode of travel (Kiunsi, 2013).

Besides, there is a large volume of hybrid automobiles on the roads, but still, vehicles stop in traffic congestion, creating a large space for harmful carbon emissions, which result in global warming, and these emissions can result in more problems for the public's health due to a rise in air pollution. Furthermore, according to the World Health Organization (WHO), air contamination is responsible for 3.2 million preventable deaths each year globally. According to the 2012 National Emissions Inventory, 71% of the country's air contamination is the result of road vehicles. Moreover, according to the National Capital Region (NCR), this number is above average, with 85 per cent of air contamination arising from vehicles (Agyapong & Ojo, 2018). The economic consequences include increased consumption of fuel, which increases the cost of transportation, loss of work time, and creates delays

in delivery of services. Health effects, mainly due to long-term exposure to polluted air and unnecessary long-term exposure on roads, include headaches, mental stress, and fatigue. Social consequences include decreased quality of life due to lower personal income and high transportation costs and time loss that could be spent on social engagements (Weisbrod et al., 2003).

Congestion and Sustainable Urban Transport Management Relief Strategies

Although there is no single best way to overcome traffic congestion. It requires a large number of people (due to different processes occurring in different contexts). Demand management strategies can help to solve many problems and provide different benefits to transportation systems, including congestion reduction, improved fuel efficiency, and improved parking (Litman & Doherty, 2009). Some of the effective strategies for overcoming traffic congestion are parking management (Du Toit et al., 2001; Litman, 2008), regulate parking use, flextime or dissimilar work schedules (Örn, 2002; Pearce, 2001), increasing the coverage of road network (Hokao & Mohamed, 2011; Schrank et al., 2005), roads land-use planning (Ramsey, 2012; Winston & Maheshri, 2007), improved public transport (Litman, 2014), etc.

Moreover, it is significant to realize that metropolitan transportation (or movability) is not a common and insulated problem and is relevant to various extra areas of the city lifetime overall.

Study Area

Quetta is the most populated and largest city in the province of Balochistan, Pakistan. It is located close to Pakistan-Afghanistan border in the North-West of Balochistan (Mahar, 2021). The average altitude of Quetta is 1,680 m (Mahar et al., 2019). As of 2017 Population and Housing Census, the city had a population of over 1 million (*PBS*, 2017). The city has witnessed rapid population growth due to the migration of people from rural areas to urban areas (Anwar et al., 2023). New housing developments have been erected spreading the city boundaries to the nearby areas (Mahar & Attia, 2018). Figure 1 shows the map of Quetta city.

The network selected for the case study is Jinnah Road, Sirki Road, Prince Road, Shahrah-e-Liaquat Road, Joint Road, Double Road, Saryab Road, Mission Road, Suraj Gunj Road, Zarghoon Road, Spini Road, Patel Road, Shahrah-e-Iqbal Road, Samungli Road, and Baleli Road. The study network also includes intersections. This location was

selected because it is a major route for automobile traffic and because it also comprises commercial and residential areas. The selected areas are shown by a GIS map in Figure 2.

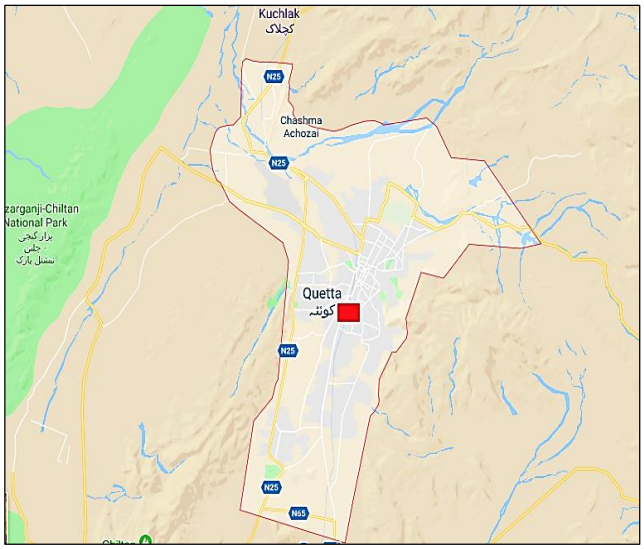

Figure 1: The map of Quetta city (Source: Google Maps)

Methodology

Research Design

The study uses a descriptive research plan that describes the research in the way we want to know why, how, and when transit congestion occurs, and how it affects public annoyances. The mixed-methods paradigm was adopted for this research to assess the effect of transit congestion in the Quetta metropolis. Moreover, in that mixed-methods paradigm, qualitative and quantitative research techniques were incorporated into the study. Using both quantitative and qualitative analysis gives better quality data than a single methodology. Furthermore, the mixed methods paradigm increased reliability by reducing error and overwhelmed the issues of bias and validity (Gorard & Symonds, 2010).

In addition, the study is more focused on the direction of the traffic congestion in the Quetta metropolis. Moreover, the characteristics of traffic congestion vary during the various hours of a specific day. In this sense, quantitative research is carried out. Furthermore, this type of study is beneficial for obtaining quantitative information or making discoveries in figures. Additionally, making quantities of logical information into a figure is the best way to conclude. Furthermore, non-

probability simple random sampling methods were used to collect sample units. The techniques of research establish a randomized association between population parameters and sample statistics. The associations are expressed as percentages, frequencies, etc. Since this research aimed to evaluate the depth and level of congestion in the Quetta metropolis. The qualitative evaluation of the factors that are responsible for traffic congestion is precious. Attitudes, emotions, and perceptions of various stakeholders – drivers, pedestrians, and officials from the Quetta Development Authority (QDA), Quetta Municipal Corporation (QMC), and Quetta Traffic Police (QTP)—were examined using a qualitative research approach.

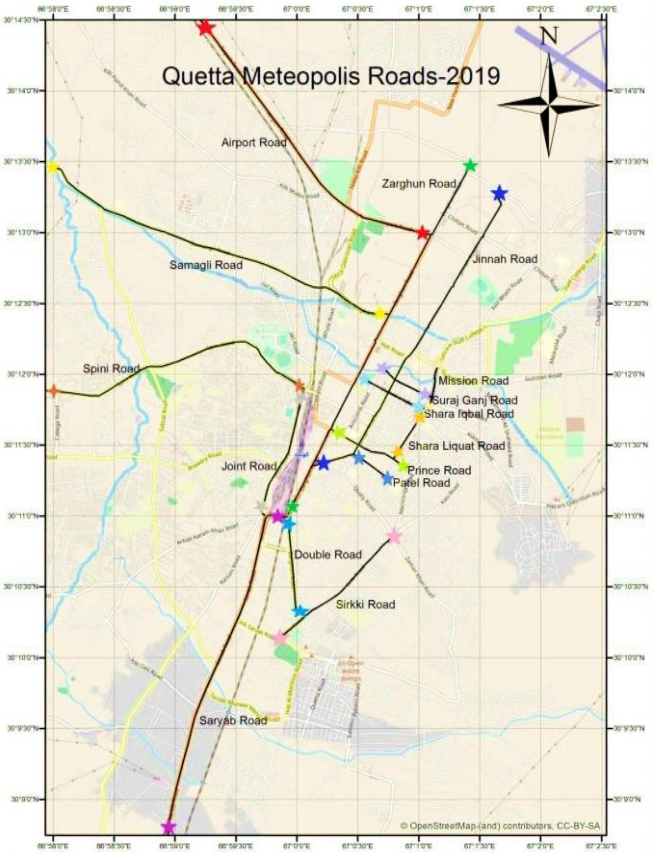

Figure 2: GIS map of Quetta metropolis roads

The primary data were collected by observing road traffic, administering questionnaires, and conducting in-depth interviews. The

questionnaires used included a combination of open- and closed-ended questions. An opportunity was given to the respondents to check or rank the most suitable answers. The questionnaires were provided to the respondents by the researcher/enumerators. Because our research is more about providing a description of a causal relationship; primary data is useful for generalization.

As this research is based on descriptions and data analysis, there is a need for secondary data. Different internal and external sources were used for the accumulation of secondary data. Various sources included:

- The number of road accidents was collected from the traffic police stations,
- Registration of vehicles from different regional transport offices,
- Land use data from Quetta Municipal Corporation (QMC), Quetta Development Authority (QDA) and district statistics office
- Document Analysis

Sample Size and Sampling Technique

The size of the sample was calculated from the standard formula given by (Krejcie & Morgan, 1970). In the sample size, there were 50 pedestrians, 30 officials from QDA, QMC, and QTP, and 50 drivers. Together, 130 responses were collected in the survey from predetermined locations.

Instruments: Questionnaires, observations, and in-depth interviews (IDIs) were generated for the collection of preliminary data in the field. The questionnaires, including a mixed combination of open and close-ended questions, were distributed into seven parts/sections. In section A, the sociodemographic characteristics of respondents and commuters, which are age, gender, marital status, education level, occupation, etc., were focused. The focus of Section B remains on the general background of transportation, such as your daily transport mode, daily commuting average expenses, daily commuting time, the overall quality and condition of the transportation system, traffic congestion at present as compared to five years ago, and traffic congestion in the next five years. Section C was on the causes of traffic congestion, such as illegal on-street vehicle parking, the design of the area (zoning), weather conditions, non-availability of traffic signals, school and office timing, road width, non-motorized vehicles, frequency of vehicles, population, construction and road work, traffic collisions and vehicle breakdowns, and old vehicles. Section D focused on the effects of traffic congestion, such as annoyance, noise pollution, sleeping disturbance, mental stress,

tiredness, hearing impairment, and fuel consumption. Section E concentrated on the frequency and duration of traffic congestion. Section F concentrated on the traffic congestion information system, while Section G concentrated on solutions to traffic congestion in Quetta metropolis, such as public transportation, private transportation, traffic lights timed to control traffic, carpooling, increased road width, proper parking zones, flyovers, service roads, and strict enforcement of traffic rules.

Data Collection Procedures

The main goal is to approach easy and adequate decision-making as an accurate and reliable conclusion. For this, the primary data was collected through questionnaires, observations, and interviews. Moreover, the purposive sampling technique was used in the selection of roads with high transit congestion records. The area selected for the study comprises Jinnah Road, Sirki Road, Prince Road, Shahrah-e-Liquat Road, Joint Road, Double Road, Saryab Road, Mission Road, Suraj Gunj Road, Zarghoon Road, Spini Road, Patel Road, Shahrah-e-Iqbal Road, Samungli Road and Baleli Road. Furthermore, the data for the transit congestion on different roads were examined at both phases of time that is at peak and normal hours. The latitudes and longitudes at the start and ending points of the road were noted, the total time taken during travelling was recorded using a stopwatch and the total length of the road was measured. The same procedure was used for the entire study area network. This process goes on from 7.00 AM till 00.00 AM at night for one week. Then the researcher moved to the other sites and recorded the transit congestion for one week. A GIS map in Figure 2 shows the study area. In addition, the responses of the pedestrians and drivers was collected through questionnaires and interviews with the officials of QDA, QMC and QTP. Since the cluster model was used in this study, the sample size was calculated from the standard formula (Krejcie & Morgan, 1970). The responses of 50 pedestrians, 30 officials (QDA, QMC and QTP) and 50 drivers were included in sample size. Together, 130 responses were collected in this survey from predetermined locations. The sample plans and response rates that we conducted during our study are given in Table 1.

Data Analysis

After data accumulation, the data evaluation tools were used to achieve useful results. Principally, the Statistical Product for Service Solutions (SPSS) 20 was used to analyze the quantitative data. The percentages and frequencies were adopted to show the outcomes obtained

from the questionnaires in charts and tables. The in-depth interviews (IDIs) were evaluated. The data obtained after the in-depth interviews (IDIs) were characterized by precise subjects and analyzed manually (Agyapong & Ojo, 2018).

Table 1
Sample size and response rate

Respondents		Sample size	Response rate (%)
Pedestrians		50	100
Drivers		50	100
	QDA	10	
Officials	QMC	10	100
	QTP	10	
Total		130	100

Results

Background Characteristics of Respondents

The results show that the majority of the respondents (88%) were males. There were 46% of respondents in age between 20-29 years, and the share of other groups were 11%, 32%, 3%, 6%, and 2% for age less than 20, between 30-39, 40-49, 50-64 and more than 65 respectively.

About 39% of respondents were single, and 61% were married. It was observed that 35% of respondents were students, however, government employees (25%), private sector employees (20%) and businessmen (12%) also have a good percentage as they travel for work. It was also revealed that retired and unemployed people have a lower percentage.

As shown in Fig. 3 and Fig. 4, the peaks time for traffic congestion is from 7:30 a.m. to 8:30 a.m. (69%) and significantly reduces afterwards. From 4:00 p.m. to 6:00 p.m. (45%), the peak time continues for two hours. The majority of the respondents (62%) experienced traffic congestion every day as shown in Fig. 2, while 32% experienced it a few times a week. It is further presented in the Table that most of the respondents (48%) experienced a traffic jam for less than 30 minutes, while 38% of the respondents spent 30-60 minutes in traffic.

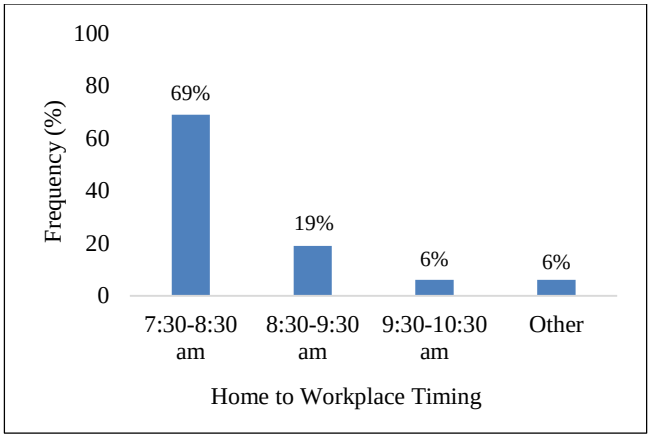

Figure 3: Home to workplace time mostly used by respondents.

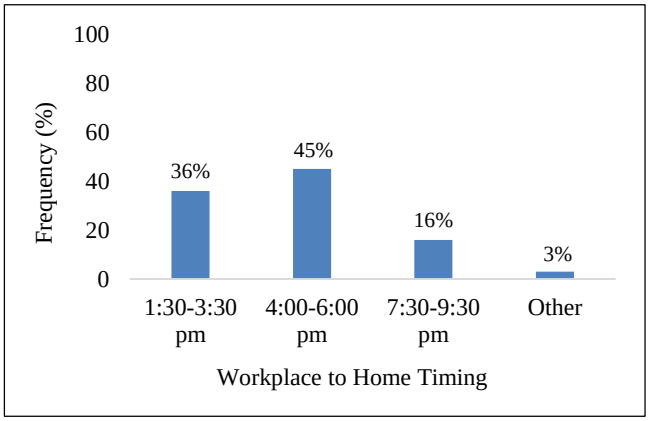

Figure 4: Workplace-to-home time mostly used by respondents.

Causes of traffic congestion in Quetta metropolis

According to Fig. 5, illegal on-street vehicle parking (45%), school and office timing (24%) and non-availability of traffic signals (20%) are identified as leading causes of traffic congestion in the Quetta metropolis. Traffic congestion in the Quetta metropolis is also caused by the design of the area (zoning), road width and non-motorized vehicles. As indicated in Fig. 6 and Fig. 7, old vehicles (58%) and heavy rainfall (90%) are the primary cause of traffic congestion in Quetta metropolis. Furthermore, as indicated in Fig. 8, traffic congestion also occurs due to the frequency of vehicles (56%) and population growth (56%).

Effects of traffic congestion

As presented in Table 3, (87%) of the respondents feel annoyance due to traffic congestion, all most all of the respondents (100%) agreed at the point that traffic congestion creates noise pollution, (49%) are feeling mental stress, (23%) of the respondents are feeling tiredness due to traffic congestion and 11% of respondents said that they have hearing impairment problems due to traffic congestion. Table 3 further shows that all the respondents (100%) agreed at the point that the traffic congestion is consuming time.

Measures to Manage Traffic Congestion

The respondents proposed some steps to tackle traffic congestion in the Quetta metropolis. According to Fig. 9, most respondents (55%) said that there should be an appropriate public transport system in Quetta city to minimize traffic congestion and fulfil the requirements of the commuters. About 36% of the respondents said that there should be proper traffic lights at the intersections to control traffic flow in the city.

Table 2

Frequency and duration of experiencing traffic congestion in Quetta metropolis.

Characteristics	Frequency (n=100)
Frequency of traffic congestion	
Everyday	62
A few times a week	32
A few times a month	5
A few times a year	0
Never	1
Total	100
Duration of traffic congestion	
Always on time	4
< 30 mins	48
30-60 mins	38
60-120 mins	6
> 120 mins	4
Total	100

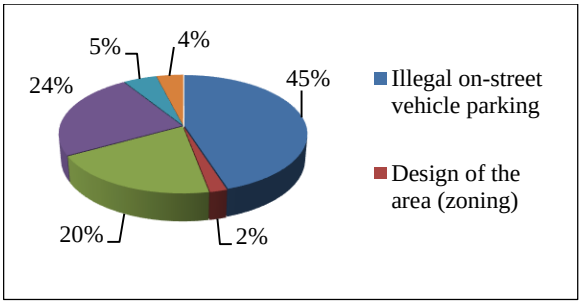

Figure 5: Main causes of traffic congestion in the Quetta City

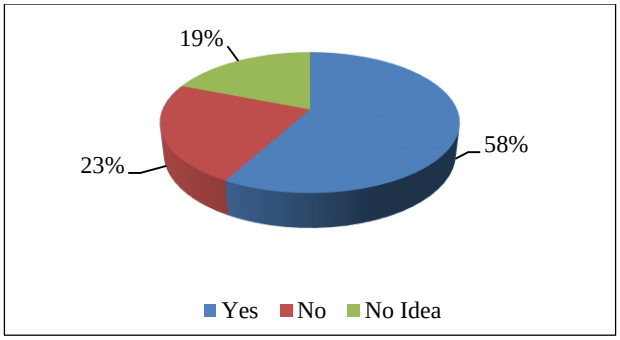

Figure 6: Old vehicles distribution

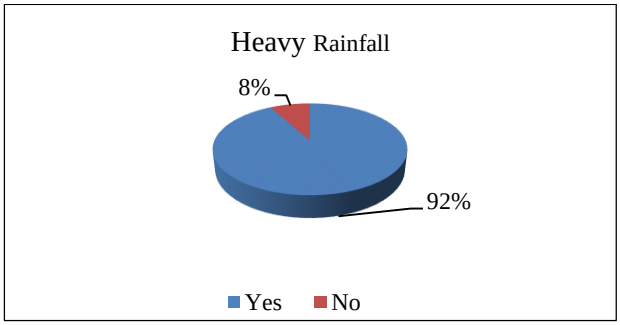

Figure 7: Traffic congestion due to heavy rainfall distribution

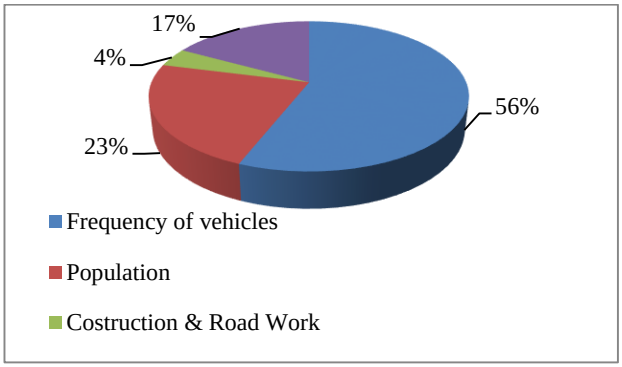

Figure 8: Main causes of traffic congestion on respondents' daily routes

Moreover, Fig. 10 reveals that most of the respondents (36%) think there should be proper parking zones in Quetta city to overcome traffic congestion and fulfil the requirements of the commuters. About 29% of the respondents said that as the roads are narrow, the roads' width should be increased to overcome traffic congestion in the city. In comparison, 23% of respondents said that there should be strict traffic rules for traffic

congestion relief.

Table 3
Effects of traffic congestion in Quetta metropolis

Characteristics	Frequency (=100)	Percentage (%)
Annoyance		
Yes No	87	87
Maybe	12	12
Total	1	1
	100	100
Noise pollution		
Yes No	100	100
Total	0	0
	100	100
Health effects		
Sleeping disturbance	8	8
Mental stress	49	49
Tiredness	23	23
Hearing impairment	11	11
No	9	9
Total	100	100
Fuel consumption		
Yes No	97	97
Total	3	3
	100	100
Time consuming		
Yes	100	100
No	0	0
Total	100	100

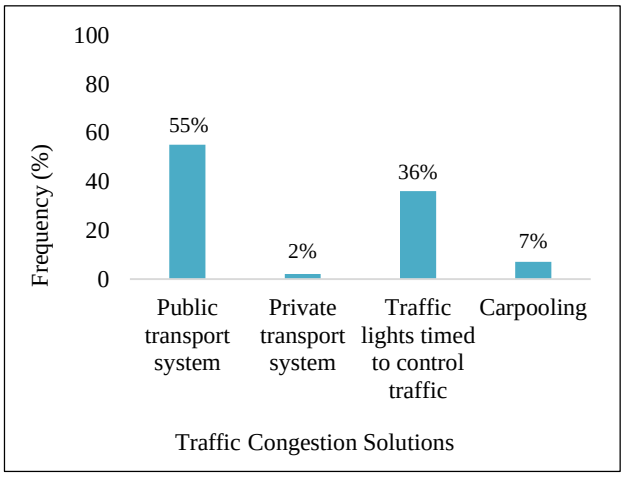

Figure 9: Traffic congestion solutions distribution

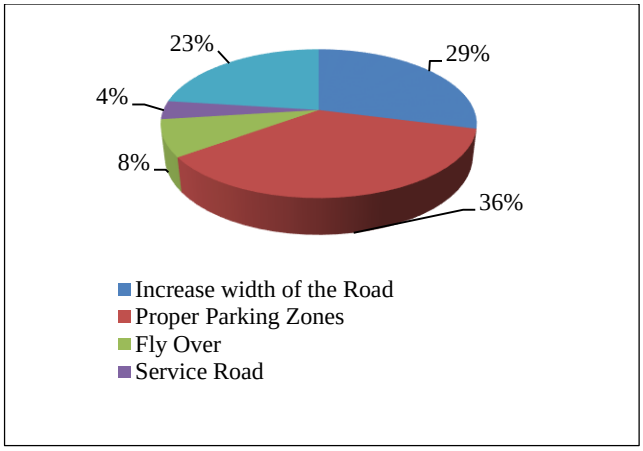

Figure 10: Traffic congestion solutions distribution in respondent's opinion

Discussion

According to the U.S. Federal Highway Administration, transit congestion occurs as a state of road jam due to limited road networks. Transit congestions also occur when the size of a vehicle is bigger as compared to the accessible space on the road (Harriet et al., 2013). In addition, transit congestion has become a common factor in metropolitan transport systems within the metropolises of emerging states, resulting in higher operating costs, loss in users' productivity time, and higher fuel usage, amongst others (World Bank, 2002). Additionally, the majority of the world populace and financial development is occurring in under-developing states, so the rapid emergence of urbanization has created the immigration of individuals from remote regions to metropolis regions, which has led to more people, also more goods to travel in the metropolitan areas usually over large distances (Dhakras, 2004). Due to rapid urbanization huge increase occurring in the number of vehicles, which could lead to serious problems for the upcoming traffic congestion.

In addition to the same existing problems, transit congestion has become a more severe issue in the Quetta metropolis from time to time; it is due to population increase - in addition to the natural expansion, drawing factors that make immigrants of individuals of various parts of the countries to cities in search of employment. Moreover, when maintaining a metropolis, it is clear that these social extensions also need transportation services to achieve their daily accomplishments. Nevertheless, the metropolis has been incapable of managing the higher demands for transportation amenities, including illegal on-street parking, non-availability of traffic signals and a deficiency of good transit

management, which are the main reasons for transit congestion. Furthermore, it is necessary to comprehend the current condition of vehicular transport congestion, which is the most significant portion in the direction of the right decisions to resolve the problem and thus maintain continuous transit movement that will bestow the fiscal development of the cities. For such crises to be overcome efficiently, sustainability is crucial, and transportation becomes sustainable only when it holistically considers social, economic and environmental aspects.

Car is the dominant mode of transport in Quetta metropolis while Bikes are the second most dominant form of transportation. Commuting/ travelling times from home to workplace and back from workplace to home are 7:30-8:30 am and 4:00-6:00 pm, respectively, and these are the actual peak hours. The overall quality and condition of transportation in the Quetta metropolis are good during the winter season. However, the traffic congestion at present is getting worse as compared to five years ago. Moreover, traffic congestion in the next five years (future) in Quetta metropolis will worsen. The main causes of traffic congestion in Quetta city were illegal on-street vehicle parking, school and office timing, non-availability of traffic signals, population growth, old vehicles and heavy rainfall. Some of the effects of traffic congestion in the Quetta metropolis were annoyance, noise pollution, fuel consumption and health impacts such as mental stress, tiredness, hearing impairment and sleeping disturbances. Traffic congestion in the Quetta metropolis occurs every day. All most half of the commuters' waste less than 30 minutes on the roads due to traffic congestion. There was no traffic congestion information system in the city, and the commuters recognized that there is traffic congestion when they are stuck (during commuting). Most of the respondents rarely changed their commuting routes, time and mode of transport when there was heavy congestion. The public transport system is the best way to minimize traffic congestion in the Quetta metropolis and fulfil the requirements of the commuters. Another best solution for the traffic congestion in Quetta metropolis is proper traffic lights at the intersections to control traffic flow in the metropolis. Moreover, proper parking zones in the Quetta metropolis overcome the traffic congestion and fulfil the demands of the commuters. Furthermore, sufficient road widths play a good role and overcome traffic congestion in the metropolis. In addition, strict traffic rules help with traffic congestion overcoming.

Some of the suitable recommendations may be applicable to the Quetta metropolis are given below:

- Adequate parking arrangements
- Improved public transport.
- Ensure a flexible work schedule.
- Employing more traffic wardens or police
- Appropriate traffic signals
- Implementation of strict traffic rules
- Installation of traffic congestion information system in Quetta metropolis

Conclusion

It was concluded from the study that the car was the dominant mode of transport in the Quetta metropolis. The survey found that travel demand is reaching a peak between 7:30-8:30 a.m. and 4:00-6:00 p.m. and relatively drop-down (low demand or off-peak) between 9:30-10:30 a.m. and 7:30-9:30 p.m. It was determined that the overall quality and condition of transport systems in the Quetta metropolis are good. It was concluded from the survey that compared to five years ago the transit congestion at present in Quetta metropolis is getting worse. The survey also found that traffic congestion in the next coming five years (future) in Quetta metropolis is getting worse.

In addition, the study concluded that the chief causes of traffic congestion in the Quetta metropolis were illegal on-street vehicle parking, non-availability of traffic signals, school and office timing, frequency of vehicles, population, heavy rainfall, narrow roads and old vehicles.

It was concluded from the study that respondents were feeling annoyed due to traffic congestion and were uneasy. Because of traffic congestion, there were a lot of dins and air pollution which disturbed the respondent's health and environment badly. It includes hearing problems, breathing problems, sweating, sleep disturbances, eye problems, mental stress, fatigue and headache. There is also a lot of time and fuel consumption due to traffic jams because vehicles consume a maximum of their time on the roads.

It was concluded from the study that transit congestion is regularly occurring daily. Less than 30 minutes of the time of greater than half of the respondents were wasted on the roads due to transit congestion. There was no traffic congestion information system in the Quetta metropolis. Moreover, most of the respondents rarely change their time, route and mood of transport when they realize heavy traffic congestion on the route.

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Conflict of interest

The authors have no conflict of interest.

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