

PERCEPTION OF SAFETY AND SECURITY OF USING PUBLIC BUS  
(MILLIE BUS) IN KABUL CITY-AFGHANISTAN

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PERCEPTION OF SAFETY AND SECURITY OF USING PUBLIC BUS  
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## **DEDICATION**

This thesis/project report is devoted to my father, who guides and taught me the guideline of living and motivate me to attempt my life dreams and get knowledge. Also, it dedicated to my mother, who taught me how to cope with difficulties and never give up. Thirdly, to my family and friends for their best wishes to me in my overall education career.

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## **ABSTRACT**

In recent years, safety and security issues have widely known as key challenges to the public transport system. These issues have been studied in limited transportation planning studies to achieve a safe and secure transport system. Nevertheless, previous studies did not consider the impacts of terrorist attacks on the public bus. Therefore, such issues were critical challenges for the Afghan government to balance the infrastructures in Kabul City. The main objectives of this study are to evaluate the current usage and the perceptions of safety and security of public buses in the city. In this research, a quantitative method was applied, and the data were collected through a questionnaire survey. The questionnaire was analyzed for descriptive statistics (frequency), and the secondary data were reviewed. The results highlighted that dependency on private transport was higher than the public bus. Also, it showed that residents regularly use public bus service for work and education purposes every day. They usually walk from their house to the bus stop more than a standard distance (400 m). In addition, users of public buses have unpleasant perceptions of safety and security. The current study is significantly vital for transportation relevant authorities and policymakers to improve the safety and security of public buses.

## **ABSTRAK**

Dalam beberapa tahun kebelakangan ini, isu keselamatan dan keselamatan telah dikenalpasti sebagai cabaran utama sistem pengangkutan awam. Isu-isu ini telah dikaji dalam kajian perancangan pengangkutan untuk mencapai sistem pengangkutan yang selamat dan terjamin tetapi terhad. Walaupun begitu, kajian terdahulu tidak mempertimbangkan kesan serangan pengganas di bas awam. Oleh itu, isu-isu tersebut merupakan cabaran kritikal bagi pemerintah Afghanistan untuk menyeimbangkan infrastruktur di bandar Kabul. Objektif utama kajian ini adalah untuk menilai penggunaan semasa dan persepsi keselamatan dan keselamatan bas awam di bandar. Dalam penyelidikan ini, kaedah kuantitatif diterapkan, dan tinjauan soal selidik dijalankan bagi pengumpulan data. Statistik deskriptif (frekuensi) digunakan bagi menganalisis data dari borang soal selidik dan perincian data sekunder dijalankan. Hasil kajian menunjukkan bahawa kebergantungan pada pengangkutan persendirian lebih tinggi daripada bas awam. Selain itu, kajian menunjukkan bahawa penduduk selalu menggunakan perkhidmatan bas awam untuk tujuan kerja dan pendidikan setiap hari. Mereka biasanya berjalan kaki dari rumah ke perhentian bas lebih daripada jarak standard (400 m). Keseluruhan, pengguna bas awam mempunyai persepsi yang tidak menyenangkan terhadap keselamatan dan keselamatan. Kajian semasa ini sangat penting bagi pihak berkuasa pengangkutan dan pembuat dasar ke arah meningkatkan keselamatan dan keselamatan bas awam.

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## LIST OF ABBREVIATIONS

VS	-	Very Safe
S	-	Safe
N	-	Neutral
U	-	Unsafe
VU	-	Very Unsafe
EX	-	Extremely Afraid
VA	-	Very Afraid
LA	-	A Little Afraid
NA	-	Not Afraid

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

In recent years, there has been an increasing interest in the safety and security of the public transport system. Today safety and security issues have widely known as key challenges to public transport use (Delbosc & Currie, 2012). Moreover, the transport systems are more vulnerable due to the concentration of large numbers of people in a limited and low-security area. Besides, these safety and security issues, especially the terrorist attacks, have the potential to disrepute economic trends and public transport infrastructures. The train bombing in March 2004 Madrid, the underground and double-decker bus bombing in July 2005 London, and the Moscow Metro bombing in March 2010 are the extreme example of the vulnerability of the public transport system (Cox, Prager, & Rose, 2011).

In addition, the security of public transport as a significant factor has the potential to influence on daily travel behavior at every stage of a trip. In the United Kingdom, studies have found it that the reduction in fear of crime while traveling and waiting at the station would be increased an additional 10 % trips during off-peak times and 3% at peak times (Beecroft, 2019). Furthermore, the public negative perception related to the security issues of public transport may have short and long-term traveling behavior effects. In the short-term, the passengers may change their traveling behaviors, including changing travel mode, routes, destination and even may repeal some of the activities and delay others. In the long term, the effects may consist of a significant decline in the share market of especial traveling modes and may affect the land use patterns (Elias, Albert, & Shiftan, 2013).

## 1.2 Background of the Study

Kabul is the capital and most populated city of Afghanistan which located in the eastern part of the country; the city has grown as a pivot for political, commercial, cultural, educational, social, and economic activities. The city is one of the most rapid development cities in south Asia. In 1999, its population was around two million, but it has grown by nearly 5.266 million, according to Central Statistic Organization 2019 (CSO). The city divided into east and west based on its geographical layout. Furthermore, it has 22 districts and shares borders with neighbouring provinces such as Nangarhar in the southeast, Logar in the south, Parwan in the northwest, Kapisa in the northeast, Laghman in the east and Maidan Wardak in the southwest. The total land area of the city is 300 km<sup>2</sup> (European Asylum Support Office (EASO), 2019).



Figure 1.1 Location of Kabul. Source: State of Afghanistan Cities in 2015

After 1989, the city hosted bloody civil wars which destroyed all infrastructures, including transport system (Vlv et al., 2016). The establishment of a new government in 2001 after the collapse of the Taliban regime. The international community tends to take part in the reconstruction of a new Afghanistan. The city launched to rebuild its infrastructures, including the transportation system. During that



time, the city had suffered due to many challenges such as lack of the investments in infrastructures, noncompliance with land use regulation, insufficient space for public facilities, heavy traffic congestion, less accessibility to social services, poor traffic discipline and enforcement of traffic regulation (Asian Development Bank, 2017).

### **1.2.1 Transport System in Kabul City**

In Kabul City, the following three sectors are involved in transportation services.

- The Ministry of Transport Works (MPW) is responsible for planning, design, implementation and maintenance of all transport infrastructures such as roads and railways.
- The Kabul Municipality has responsibility for planning, design, implementation, and maintenance of urban transport facilities, including streets, bus stations and bus terminal.
- The Ministry of Transport and Civil Aviation (MOTCA) is responsible for making comprehensive transport policies and administrate public transport services (Vlv et al., 2016).

### **1.2.2 Millie Bus (National Bus) Company**

Kabul City hosted one mode of public transport called Millie Bus (National Bus). The Millie Bus (National Bus) Company is a government run-bus service company that established in 1964 under the authorize of Transport Ministry. The purpose of this company was to improve mobility within the cities. In 1982, the company with 1500 buses offered transport services in the capital and other provinces. At the same time, 467 of Millie Buses were operating on 55 routes within the city and districts. Due to the high demand for public buses, the company had decided to launch

the trolleybus services in the city, which was widely used by the citizens (Transport, 2019).

Table 1-1 The Millie Bus Company Capacity

No	Model and Capacity	Total
1	TATA (1313 Hindy Bus)	278
2	Ashok Leyland (Hindy Bus)	111
3	Shahab small bus	50
4	Caster Minibus 709	83
5	Caster Minibus (Hindy 613)	188
6	Hino Bus	100
7	Caster (Japanese)	13
8	98 Isuzu Bus (Japanise)	94
9	Bus (Italian)	34
10	TATA remaining buses after the civil war	85
Total number of Millie Bus		1036

Source: The Millie Bus Company



Figure 1.2 Kabul City Millie Bus. Source Google



Figure 1.3 Kabul City Trolley Bus, 1990. Source: Google

After the outbreak of bloody civil war (1992-2001), obliterated all infrastructures of the city, including transport such as sidewalks, traffic signs and singles, parking lots, workshops, and administration sections of Millie Bus and trolleybus and almost the entire public transport system.

### **1.2.3 Challenges for Public Transportation (Millie Bus)**

In recent years, public transportation especially the Millie Bus faced many challenges that significantly affected its quality of services and operating hours. These challenges are:

- The existing number of public buses are not sufficient to meet the demand for public bus within the city that made dependency more on private vehicles.
- The Millie Bus offered public transport services on 24 routes of the 55 rousts.
- Inadequate facilities at the bus stops and terminals.

- Inadequate facilities at the bus stop and terminals, commuters forced to wait on the road that directly contributed to the traffic congestion.
- The existing old Millie Buses and poor bus workshops have significant impacts on the quality of services, for instance, it makes it difficult to maintain regular schedules, and it exhausts excessive gas that contributes to the air pollution.
- Less attention to the Millie Bus in developing policy made poor public transportation and lead to heavy traffic congestion and air pollution.
- The demand for public transport services will be double due to the growth of the population.
- The concentration of the bus terminal and city bus routes at the center of the city led to heavy congestion.
- Lack of spare parts, low capacity, and old bus significantly affected the quality of services of Millie Bus.
- The security issue is another factor that has the potential to affect the performance of Millie Bus in the city, such as attacked in June 2019 and August 2019 on public buses, which caused hundreds of civilian casualties and led to evil faces of civilians while in the city or using public transportation.

Table 1-2 The latest Terrorist Attacks on Public Bus in Kabul City

No	The Terrorist Attacks on Public Bus in Kabul City	Source
1	On July 1, 2020, roadside bombing against a bus that was belonging to a local TV in Kabul City.	abc News reported
2	On June 3, 2019, a bomb attached to a bus that was carrying government employees in Kabul City.	abc News reported
3	On July 25, 2019, a suicide attack on Millie Bus, which was carrying government staff in Kabul City.	Khaama Press reported
4	On August 4, 2019, deadly attacked a minibus that was carrying employees of private TV in Kabul City.	VOA News reported
5	On June 20, 2016, a deadly suicide bombing on a minibus that was carrying government staff in Kabul City.	Express News reported

These are the key challenges that affected the usage of Millie Bus in the city (Transport, 2019).

### **1.3 Problem Statement**

Kabul is the capital and most populated city of Afghanistan. Massive concentration of government offices, international and national organizations, and diplomatic compounds and international and national security forces have made the city to have a unique security view than other provinces of Afghanistan. The United Office for the Coordination of Humanitarian Affairs (UNOCHA) stated Kabul City, as one most conflict-affected city (Focus, 2018).

The city has progressed to rebuild its infrastructure. However, the city was regularly witnessed of violence and complicated attacks on civilian and public infrastructure, such as attacked on public transport, urban centres, and public places. For example, attacked in June 2019 and August 2019 on public buses, which caused hundreds of civilian casualties and led to evil faces of civilians while in the city or using public transportation (Focus, 2018).

Because of that, the government is facing a problem in developing a balanced infrastructure for the public. In terms of public transportation, the dependency on a private vehicle is higher compare to public transport, due to poor and costly public transport, heavy congestion, and security issues (Asian Development Bank, 2017).

In the UK, recent studies highlight that an additional 10.5% of the trips would be increased if the residents have felt more secure while commuting and waiting at the station (Delbosch & Currie, 2012). Thereby, there is an urgent need for a study to reveal the effects of safety and security issues on the accomplishment of public transport (Millie Bus) services, and also an essential need for safety and security strategy to make public transport system safer and secure and simultaneously more attractive for passengers in a post-war-city such as Kabul, where the residents do not have other affordable alternative modes.

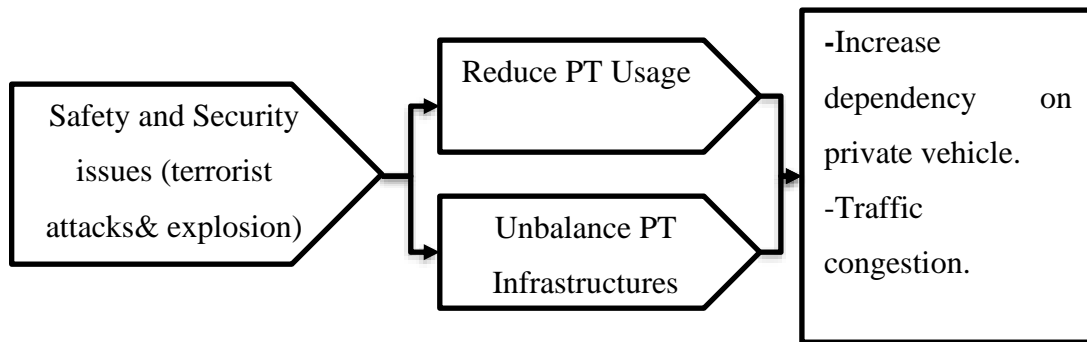


Figure 1.4 Pathway of Problem Statement

## 1.4 Research Gap

According to the literature review, previous studies have focused on the built environment attributes (land use attributes, density, diversity, and street design), socio-economic, lifestyle, and attitude effects on daily travel behaviour. However, these studies are conducted majority in developed countries such as in the United States, the UK, Netherlands (Yang, Fan, Deng, & Cheng, 2017).

The result of these researches may not be applicable in developing countries due to the various level of urban development between developed and developing societies (Yang et al., 2017).

Currently, there is no data on the effects of some factors such as security (explosion and terrorist attacks) on daily travel behavior. Therefore, this study is concentrated to investigate the effects of safety and security issues on daily travel behavior, especially to evaluate the impact on abstaining from Millie Bus usage and as a result on mode choice, and measure users 'fear and risk perception of terror acts in post-war cities, such as Kabul. As Safety and security are critical issues, they are demanding more consideration. Also, they may have remarkable impacts on the way that facilities and services are provided.

## **1.5 Research Aim**

The purpose of the current study is to investigate the perception of safety and security issues (terrorist attacks and explosion) on public transportation users in a post-war city Kabul.

## **1.6 Research Objectives**

The objectives of this study are the following:

- i. To evaluate the current usage of public transport in Kabul City.
- ii. To evaluate the perception of safety and security of public transportation (Millie Bus) in Kabul City.

## **1.7 Research Questions**

These are the research questions, which respectively indicated below.

- I. What is the current usage of public transport in Kabul City?
- II. What is the perception of safety and security of public transportation (Millie Bus) in Kabul City?

## **1.8 Conceptual Framework**

Figure 1.5 illustrated the conceptual framework for this study to understand the perceptions of safety and security of using a public bus. Therefore, the following factors, such as demographic (gender, age, education level and income level), bus stop design and location, travel characteristics, safety and security issues and victims' previous experiences that were studied in the majority of the transportation planning studies. This concept has been outlined in the bellow figure.

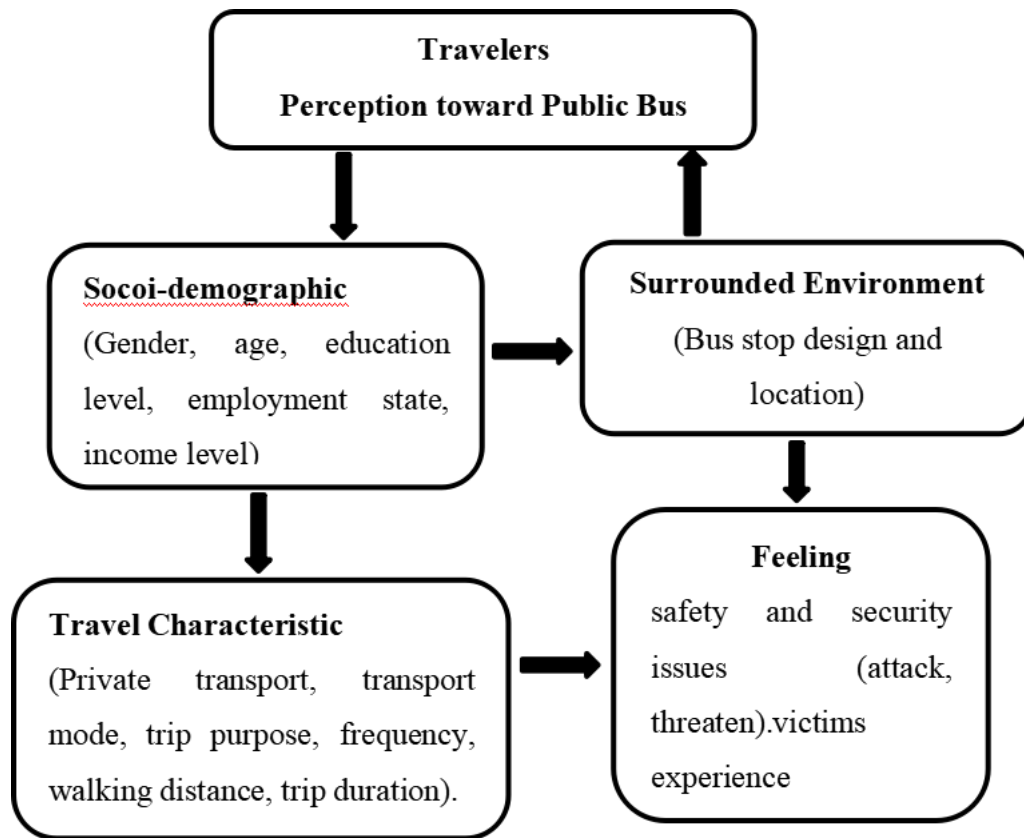


Figure 1.5 Conceptual Framework

## 1.9 Research Significance

Some essential attributes make this research significant. Initially, this research evaluates the current usage of public buses in a city like Kabul that has faced rapid urbanization and dramatic growth of population, inadequate transport infrastructures. Secondly, the previous studies investigated the impacts of the built environment, lifestyle, gender difference, and attitudes on daily travel behaviour. At the same time, there are some remaining factors, such as security issues (explosion and terrorist attacks) that were not considered by these studies. Furthermore, the effects of demographic variables and personal safety on the usage of the public bus are evaluated in this study.



### **1.10 Scope of Research**

This research studies the effects of safety and security on the usage of public buses in Kabul City because the city has experienced systematic violence and faced with complicated terrorist attacks on civilian and public infrastructure. Simultaneously, there are limited researches focused on safety and security (terrorist attacks and explosion).

### **1.11 Chapter Outline**

The main contents of this research are as follows. Chapter 1 is focused on the introduction, problem statement, research objectives, research questions, significance and scope of the study. Chapter 2 is mainly concentrated on the literature review. In addition, the research methodology is discussed in chapter 3. The result is summarized in chapter 4 and the conclusion is drawn in the final chapter 5. Figure 1.5 indicates the outline for this research.

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