

The Role of the Kuwait Metro System in Fostering Economic Development, Making the Nation Safe and Clean

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Abstract Because of its significant social and economic effects, the metro system has emerged as an important means of developing urban economies, improving industrial structures, and raising citizens' living standards. With the expansion of the economy, its role in stimulating domestic demand and driving economic growth has become more apparent and it will become a major impetus for driving green GDP growth and promoting urban sustainable development. From the standpoint of urban sustainable development, this paper examines the social and economic properties of the Kuwait Metro system, highlighting the direct and indirect effects of urban rail transit construction on economic development, and safety.

Keywords Metro System, Economic Development, Safety

1. Introduction

Urban rail transit (URT for short) is an important component of the public transit system in urban fundamental facilities. Railways are one of the transportation modes of increasing relevance to the growth of developing countries and influencing civilizations. Transport activity depends on the development of other economic sectors; it is associated with the social and economic development of a country. The significance of urban rail in economic growth has been established around the globe for more than a century now. Cities have revived and innovated urban rail projects due to the local demand and for broader economic objectives. There is a need for an alternative mode of mass public transportation to encourage mode shift back from private vehicles. Mass rapid transit projects are often taken by the government of developing countries. Yair Wiseman states that the concept of trains is transporting many passengers from one central station to another central station, in an era of autonomous vehicles such a concept is obsolete and outdated but here in this research paper author's view is entirely different as author highlights the importance of railways to reduce traffic on road. Yair Wiseman also stated that driverless cars are much more restful and comfortable

for passengers than rail services but recently railway compartments have improved significantly and been renovated to maximise passenger comfort. Furthermore Yair Wiseman stated that COVID-19 along with autonomous vehicles will put an end to rail systems in isolated territories whereas post covid it is observed that in many countries railways are running fully reserved as railway appears to offer natural advantages over other forms of transportation, allowing it to play a prominent role in future travel choices, particularly due to its low environmental imprint and efficiency. Due to multiple lockdowns and other limitations on movement, the Covid-19 problem has drastically impacted travel in parts of the world. Rail users and stakeholders have had to adapt, and all modes of transportation, both local and long-distance, have been interrupted. Railways has shown exceptional endurance in these trying times, proving to be a crucial service for society by allowing key workers to get to work and commodities to travel to where they need to go, thus in future, metro system in Kuwait can serve the same purpose as seen by other parts of world in case of pandemic. The purpose of this research paper is to highlight the crucial role the Kuwait Metro is expected to play in the overall development of the nation. According to the author, expanding the metro rail transit system will help Kuwait become a safer and cleaner city.

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2. Public Transport in Kuwait

Kuwait does not currently have a railway system. With no

trains, Kuwait residents and visitors alike rely on buses and taxis. The use of public transport is minimal, while private car usage increased tremendously. Private cars make up 80 percent of vehicles on the road, with around 1.6 million cars, according to statistics from the Ministry of Interior. The number of taxis in Kuwait that were registered as in use in 2019 was 16.2 thousand. Thus, the necessity for an expanded metro-based public transit network becomes even more apparent when compared to the metro coverage of other cities across the world as below.

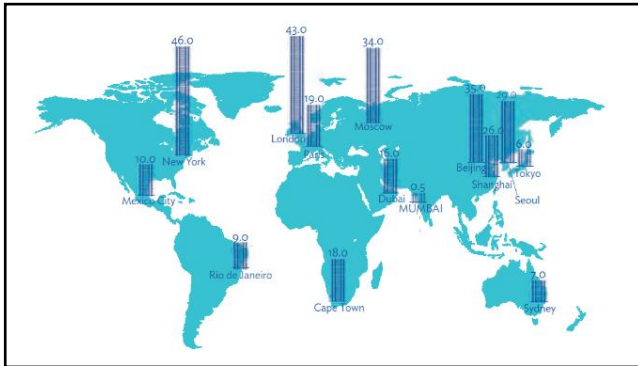


Figure 1. Comparison of Metro Rail Transit System Coverage around the World (Operational kilometer per million population). Source- Oxford Economics. 2016. Global Cities 2030, Oxford Global Headquarters

As illustrated in the above map the operational length per million people across the globe is increasing in recent times. The use of public transportation in Kuwait would continue to decline if Kuwait is deprived of a mass transit system. This would exacerbate the city's development issues, as metro systems normally provide faster access, a cleaner environment, safer transit, and more comfortable rides to many people, as well as assist in inclusive socio-economic growth.

3. Proposed Kuwait Metro System Plan

Kuwait's geographic location, wealth in natural resources such as oil and gas, and broad trade ties with other countries all contribute to Kuwait's considerable and quick development. Despite a population of 4.1 million people and a land area of 17,820 km², Kuwait's high driver traffic density has resulted in frequent and often fatal accidents on the roads. These factors have compelled the state government to lead the development of a metro train system. According to The Public Authority for Roads and Transport (PART)'s plan, the metro project is targeted to be built to provide a rapid means of transport within urban areas, which is due to start from the business center in downtown Kuwait City and head to different directions thereof. According to the concept, the Metropolitan Rapid Transit System (KMRT) will be constructed in five phases across 160 kilometers, with 68 stops along three lines. The project's first phase involves a 50-kilometer railway from Kuwait City to Kuwait International Airport, with 27 new stations,

30 percent of which will be underground, two underground stations, and a heavy-duty maintenance warehouse. The initial phase will contain nine stations in Kuwait's business center and will span areas across many governorates.



Figure 2. A map showing the suggested routes of Kuwait's metropolitan rapid transit system network. (Source- Kuwait Times)

4. Metro System-Contributing to Economic Development

The construction and operation of the metro system can help to spur the growth of related industries such as manufacturing, transportation, and real estate, as well as increase employment and land value along the route & expand space for urban development. The project's economic benefits greatly outweigh its book profit. The rail transport network's tremendous assembling and releasing effects enable the rapid circulation of various types of resources and services, including consumer flow, logistics, money flow, and information, across places within the city. This can influence the way people consume, live, and produce in society and how nations operate economically. The metro system network possesses the scale economic circle property. It can have an impact on most of the areas inside its network as well as the adjacent territories. Metro construction promotes the growth of the service industry.

5. Metro System - Contributing toward a Safer Nation

Kuwait has an extremely high rate of vehicle ownership and a superbly modern highway system, yet it has a very bad record of traffic accidents. In Kuwait 428 road-related deaths, 10305 severe injuries, and a whopping 71161 accidents were documented in 2017. The safety of its passengers is the most critical feature of every transportation network. Passengers strongly choose networks that provide safer ways of transportation. According to new research by the American Public Transit Association (APTA), public transportation is still the safest mode of transportation. Overall, according to

the APTA's new analysis, riding public transportation, such as trains, reduces the risk of being involved in an accident by more than 90% when compared to driving cars. Railway accidents result in a small number of fatalities. Metros have the advantage of being the safest means of transportation in the city in which they run.

6. Metro System-Contributing toward a Cleaner Nation

According to the World Health Organization (WHO), air pollution is a leading cause of death, ranging from stroke to lung cancer and heart disease. It has a significant deleterious impact on human health, particularly that of youngsters and the elderly. According to a study by Lancet Planetary Health, Kuwait has the highest rate of new childhood asthma cases due to traffic pollution. The presence of a mixture of organic and chemical particulate matter (PM) present in the air is one of the main causes of this negative health impact. The two biggest contributors to the overall PM emissions in the world are industrial emissions and transport. Further, it is projected that, given the status quo in 2030, transport emissions will become the biggest contributor to PM. Thus, the most significant contributor to controlling PM emissions and reducing air pollution will be controlling transport-related emissions. Because emissions from private modes of transportation (such as cars) are significantly higher than emissions from public means of transportation, metros can play a vital role in controlling pollution. The introduction of a Kuwait metro rail transit system is intended to drastically alter how residents move daily. Encouragement of modal shift away from motorized vehicles can result in large reductions in pollution.

7. Conclusions

The completion of the Kuwait Metro Plan could usher in a new era for Kuwait's public transit. When all lines are completed, everyone in Kuwait will have easy access. The metro will not only relieve congestion on existing roads, but it will also improve safety. It would build a sophisticated transportation infrastructure to support Kuwait's financial situation. The Kuwait Metro is expected to encourage a modal shift while also improving commuting circumstances. It will provide low-income individuals, women, and the differently-abled with a modern and high-quality mode of transportation that is air-conditioned, noise-free, dust-free, and comfortable. The Kuwait Metro will improve everyone's access to important socioeconomic development centers

such as schools, hospitals, and business centers. It is also expected to reduce the use of private vehicles, thereby lowering carbon dioxide emissions and the associated environmental, business, and social costs of traffic congestion. This, in turn, is expected to improve Kuwait's air quality. Overall, the Kuwait Metro will serve to improve Kuwait residents' quality of life.

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