



المرصد الحضري
لمنطقة القصيم
QASSIM URBAN OBSERVATORY

LIVABILITY RANKING FOR BURAIDAH





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Introduction

The Livability report presented a different perspective of the city of Buraidah through measuring and evaluating the Livability Score in the city as the first step toward achieving better levels of Livability in order to make the city of Buraidah more civilized, sustainable and attractive, which is reflected in a better life for its residents.

The main aim of this report is to assist both local administration institutions and the local community in understanding the challenges and potentials that characterize the city and that increase its ability to improve living standards. While looking for sustainable livability has become one of the most important urban issues in the world, improving the livability of cities has also become one of the main concerns of the governance at all levels, from global organizations and central governments of states to local authorities, civil societies and the private sector.

The literature indicates that a Livable Place that is safe and secure, has affordable and appropriate housing and transportation options, provides the highest level of services and the necessary economic opportunities that are compatible with the environment. These elements constitute the set of indicators that were used during the world's leading initiatives to measure the degree of livability.



Livability Concept and Dimensions

Livability has emerged as an important concept in the field of urban planning, especially in developing the policies and communities planning at all levels. The term "Livability" is often used in describing long term goals within a wide range of the planning, such as transportation and community development. In addition to many other subdisciplines such as those related to social welfare and improving the quality of life in different societies.

“ Livability calculation methods are varied from city to city and from one country to another. This report of Buraidah reviewed a wide range of these methods that were used in this regard and chose the appropriate sets of indicators that had been issued by the Urban Observatory of Buraidah. ”

The categories of indicators that were used to calculate the Livability in Buraidah



The considerations that were acknowledged in calculating the score of Livability:

The score of livability, in Buraidah, was calculated based on (38) indicators (nine of them were at a neighbourhood / district scale). These indicators were divided into seven main categories. Each category contains a different number of indicators ranging from three to nine. To facilitate the comparison of the different indicators, standardisation was processed by converting the values of the variable from its original unit to a scale from (zero) to (100). In this standardisation process, any value that exceeds (100%) was coded as (100%) and any value lower than (0%) was maintained as (0%).

The average value of each category was calculated from the values of each indicator. Then depending on the strength of each category's influence on the livability of Buraidah, we reach the overall score of livability.

The main categories	No of indicators
Health	9
Engagement	3
Opportunity	3
Housing	3
Neighbourhood	6
Transportation	5
Environment	9
Total	38



The main categories	The final weights
Health	19.5
Opportunity	15.5
Environment	15
Neighbourhood	15
Housing	13
Transportation	12
Engagement	10

The weights of the main categories





Health Category

Health is so deeply related to the quality of life; therefore, a set of public health indicators has been chosen including three main indicators reflecting healthy habits and behaviours. Moreover, there are six other indicators that reflect the efficiency and quality of the healthcare that has been provided to the community.

Healthy habits and behaviours

Regarding the healthy habits and behaviours in Buraidah, it was found that both smoking and obesity prevalence have reached low levels compared to global rates, meanwhile, the percentage of sports practice recorded low values in Buraidah compared to the global average, its standard value did not exceed (39%). So, this indicator is the main cause for a decrease in the total value of healthy habits and behaviours sub-category to reach (79.6%).

|| **Consequently, the total average value of the Health Category reached 87.1%.** ||



Quality of Healthcare

Regarding the efficiency and quality of healthcare being provided by the city to its residents, we note that the continuous efforts during the previous period have resulted in improving the efficiency and quality of health services. As it was noticed that many indicators exceed the international standards. The life expectancy at birth and the vaccination coverage ratio were close to global averages, with the standardized value of each reaching (88.9%) and (97%), respectively. Thus, the efficiency of healthcare has reached (90.8%).

The Indicators of the Health Category :

Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Healthy Habits and Behaviours	Smoking Prevalence	11 %	100
	Obesity Prevalence	5.9 %	100
	Percentage of Sports Practice	28.4 %	38.5
Standardised Value of Healthy Habits and Behaviours			79.6
Quality of Healthcare	Patient Satisfaction with Medical Services	85 %	100
	The Density of Doctors	2.32 Doctors /1000 Persons	100
	Under-five Mortality Rate	14.7 Death / 1000 Live Birth	100
	Mortality Rates from Chronic Respiratory Diseases	0	100
	Life Expectancy at Birth	74.4 Years	88.9
	Vaccination Coverage	96 %	97
Standardised Value of Quality of Healthcare			90.8
Average Standardised Value of Health category			87.1





Environment Category

Distinguished communities maintain a clean environment for their residents. These great communities also adopt policies to improve and protect the environment for future generations. Therefore, the air and water quality indicators are considered two of the most important environmental indicators for livability.

Water Quality

The latest monitoring indicates the percentage of houses have access to improved water reached its maximum (100%). While the percentage of drinking from public network decreased by (3.6%) on the global average (100%), the latest indicator affected the standardised value of water quality to reach only (98.2%).

Sanitation Quality

(73.8%) of houses, in Buraidah, have access to improved sanitation network, which is (25%) less than the global average, and its standardised value was (75.3%). While treated wastewater safely is five times higher than global average, so its standardised value is (100%), this indicator helps in raising the unified value of the Sanitation Quality in the city to (87.7%).

|| The total average value of the Environment Category reached **84.5%** ||

Solid Waste Management

The weight of solid waste per capita reached (0.42 kg per day). This indicator is less than its global average by (0.1) kg per day. Accordingly, the standardised value of this indicator reached the maximum (100%). The percentage of households using a system of regular waste collection reached (96.7%), it is (3.3%) less than the global average. The standardised value of this indicator was (96.7%). Solid waste recycling is still in its early stages, as the percentage of waste recycled does not exceed (7.4%). The standardised value of the indicator reached (14.8%). Accordingly, the overall standardised value of solid waste management was (70.5%).

Air Quality

The annual average of fine particles reflecting air quality in Buraidah reached (13) micrograms/m³ and this value is considered high compared to the global average which reached (10) micrograms/m³. Accordingly, the standardised value of air quality in the city was (76.9%).

Public and Green Spaces

Green space per capita reached (12.8 m²/capita). Its standardised value reached 85.3%. Public space per capita reached (4.7 m²), which exceeds about (0.3 m²/capita) comparing to the global average (4.4 m²/capita). Accordingly, the standardised value of this indicator reached the maximum (100%). Consequently, the overall value of public and green spaces was (92.7%).

The Indicators of the Environment Category:

Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Water quality	Access to Improved Water	100%	100
	Percentage of Drinking from Public Network	96.40%	96.4
Standardised Value of Water Quality			98.2
Sanitation Quality	Percentage of Houses Access to Improved Sanitation Network	73.80%	75.3
	Percentage of treated wastewater safely	96.60%	100
Standardised Value of Sanitation Quality			87.7
Solid Waste Management	Weight Of Solid Waste	0,42 Kg/Person /Day	100
	Percentage of Households in a System of Regular Waste Collection	96.70%	96.7
	Percentage of Solid Waste Recycling	7.40%	14.8
Standardised Value of Solid Waste Management			70.5
Air Quality	Annual Average of Fine Particles	13 Microgram /M3	76.9
Public and Green Spaces	Green Space per Capita	12.8 Person/M2	85.3
	Public Space per Capita	4.7 Person/M2	100
Standardised Value of Public and Green Spaces			92.7
Average Standardised Value of Environment Category			84.5





Opportunities Category

Prosperous societies embrace the utilization of opportunities to improve their levels of development. Levels of Livability depend on the extent to which societies embraces diversity, as well as providing decent living opportunities for its residents – of all ages and backgrounds – by providing equal opportunities for livelihoods, and thus improving levels of well-being and educational services.

Education Opportunities

Education opportunities are measured by the percentage of continuing study and graduation from high school (82.9%), which is almost equal to global rates (82%). The standard value has reached the maximum value (100%).

Economic Opportunities

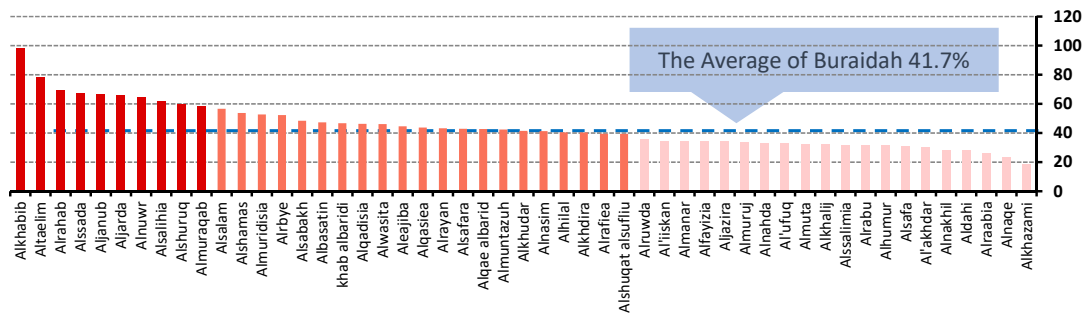
The economic opportunities in the city, which are measured by the rate of economic density, is low compared to the rate of the global economic density, as it did not exceed one-fifth of the world average. Accordingly, the standardised value of this indicator reached (19.4%).



Human Resources

Human resources were measured by the rate of employment of the total population, the average value of this indicators was (41.7%). The standardised value reached (71.9%).

|| The total value of the impact of the Opportunity Category on the degree of livability in the city was **63.8%** ||



The difference in the employment rates of the total population between Buraidah's districts

Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Education Opportunities	Continuing and Graduating from High School	82.90%	100
Economic Opportunities	Economic Density	102.5 million SR/Km2	19.4
Human Resources	Employment of the Total Population	41.70%	71.9
Average Standardised Value of Opportunities Category			63.8





Housing Category

Housing is a central component of Livability. Deciding where to live influences many of the other indicators such as dwelling costs and patterns, connectivity and proximity to the services. One city is distinguished from another in the range of housing opportunities that they provide for different ages, income levels, purchasing power and mobility.



Multi-Family Housing

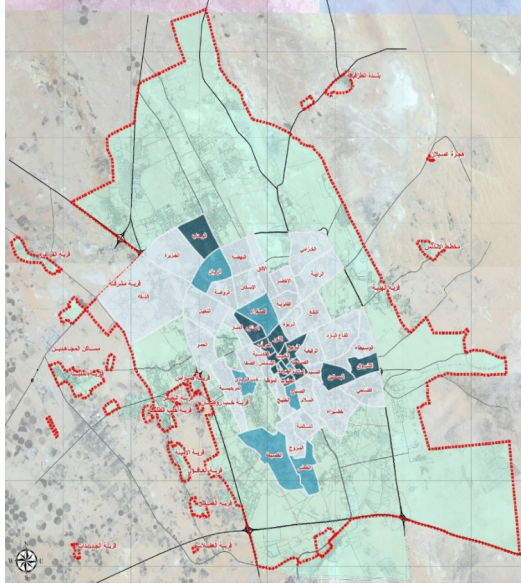
The percentage of households living in multi-family housing reached (32.3%) of the total number of households in the city. The standardised value reached (77.1%). However, this value varies from one district to another in the city.



Housing cost

House price to yearly income rate, in the city, is low. It is about a third of the world average. Accordingly, the standardised value reached the maximum (100%). The ration of the housing fund from the Real Estate Development Fund Loans is less than the global average by about a quarter. accordingly, the standardised value reached (75.5%).

|| The total value of the impact of the Housing Category on the degree of Livability in the city was **84.2%** ||



- Less than average
- Around the average
- Above the average

Buraidah's average is
32.3%

Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Multi-Family Housing	Multi-Family Housing	32.30%	77.1
House Price / Yearly Income Rate		4.3 Year	100
The Ration of Housing Funds from the Real Estate Development Fund Loans		26.50%	75.5
Average Standardised Value of Housing Category			84.2





Neighbourhood Category

The access and comfort are two main factors to make a neighbourhood truly livable. The urban compact and the mixed-use pattern has potential to improve connectivity and easily obtain the daily and weekly logistic needs of residents from shops or libraries or even job. Nearby parks and places to buy healthy food help people lead a healthy lifestyle. Moreover, the neighbourhoods should be characterised by a variety of land uses to motivate residents walking to shops, restaurants and entertainment, which makes life much more enjoyable.

Proximity to Destinations

Proximity to destinations, whether logistical services or work, was measured through two indicators.

The first is the percentage of using a private car to commute to and from work which reached (87.7%), it exceeds the global average by about a quarter. Accordingly, the standardised value reached (78%).

The second is the possibility of access to open spaces which was a very low (13.4%), although open spaces per capita are higher than the global average. However, the poor distribution of these spaces led to a decrease in the standardized value of that indicator.

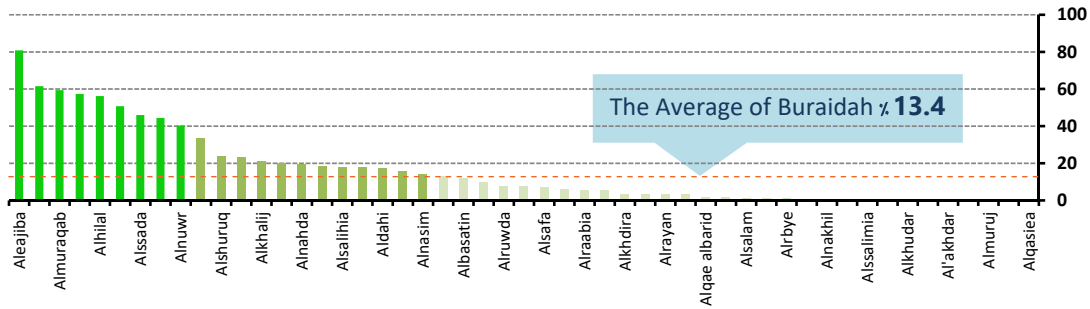


Neighbourhood Quality

The percentage of vacant units was used to measure the quality of the neighbourhood, which was (3%).

It is a small percentage indicating the available housing units that are in popular demand, which may lead to an increase in the housing prices and rents in the city. Accordingly, the standardised value of this indicator was (21.4%).

|| The total average value of the Neighbourhood Category reached 48.4% ||



The difference in the possibility of access to open spaces between Buraidah's districts.

Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Proximity to Destinations	Percentage of Using a Private Car to Commute to and from Work	78.70%	78.8
	Possibility Of Access To The Open Spaces	13.40%	13.4
Standardised Value of Proximity to Destinations			46.1
Personal safety	Juvenile Crime Rate/100.000	2.8 Crime / 100.000	92.9
Standardised Value of Personal Safety			59
Neighbourhood Quality	Vacant Units	3	21.4
Average Standardised Value of Neighbourhood Category			48.4





Transportation Category

How to move easily and safely from one place to another within the city's neighbourhoods has a major effect on the quality of life. Livable communities provide their residents with adequate transportation options that connect them to social activities, economic opportunities and medical care. These options should be comfortable, affordable, healthy and accessible from anywhere. The transport category contains two main indicators to determine the nature and importance of the transportation means in the city and its various neighbourhoods.

Convenient Transportation Option

Due to the absence of public transport in the city and depending mainly on taxis or private cars, the average journey time to health services was used to assess the most convenient transportation options. It reached (7.2 minutes) which is better than the global average (10 minutes). Accordingly, the standardized value of this reached the maximum (100%).

|| The total average value of the Transportation Category reached **82.7%** ||



Safe Streets

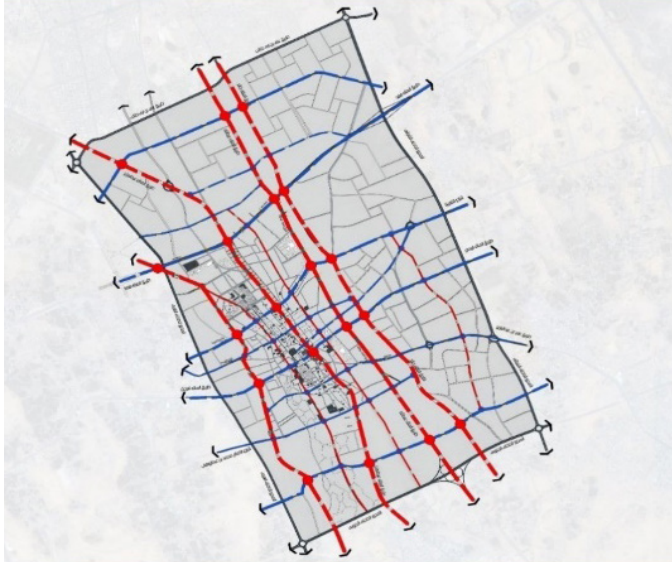
Despite reducing the rate of road accidents during the past period, it is still around (14 accidents per 100,000 people) which represents seven times the global average (2 accidents/100,000 people).

The length of the road network reached (9.8 km per 1000 people). This indicator exceeds the global average by (25%).

The road density in the city was almost equal to the global average (19.85 km/km²).

The standardised value of road density in the city was (99.3%).

Consequently, the standardized value of safe street subcategory was (78.4%).



Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Convenient Transportation Option	The Average Journey Time to Health Services	7.2 Minutes	100
	Accidents Rates	14 Accidents/ 100.000	14.3
Safe Streets	Length of the Road Network per Capita	9.8 Km	100
	Road Density	19.85 Km / Km ²	99.3
	Roads Intersection Density	115 Intersection / Km ²	100
Standardised Value of Safe Streets			78.4
Average Standardised Value of Transportation Category			82.7





Engagement Category

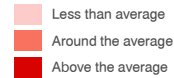
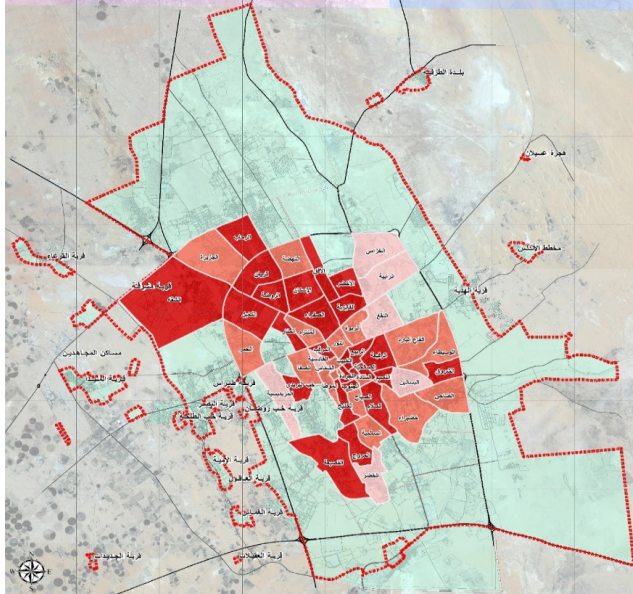
A livable community fosters interaction among residents. From social engagement to civic action to internet access, residents' individual opportunities to connect and feel welcomed help lessen social isolation and strengthen the greater community. This category includes three main indicators which explore and examine the different ways in which residents engage with and support their communities.

By comparing these three indicators with the global average, it was found that both the percentage of internet users and rates of domestic violence were almost equal to the global average, and the standardised value of each reached (100%).

While the voter turnout indicator, which reflects societal participation in administrative and political affairs in the city, is still far from the global average. Its standardised value reached only (27%).



|| The total average value of the Engagement Category reached **75.7%** ||



Buraidah's average is
88%.

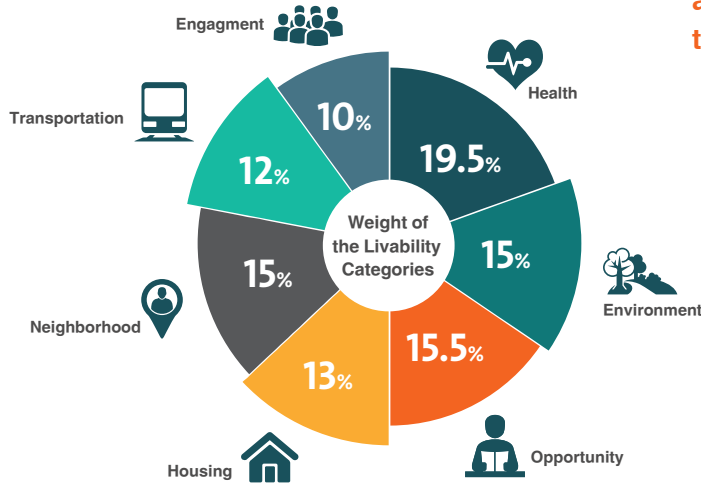
Main Indicators	Sub-Indicators	Indicators Value - 2019	Standardised Value
Internet Access	Percentage of Internet Users	88%	100
Social Engagement	Domestic Violence	13%	100
Civic Engagement	Voter Turnout	27%	27
Average Standardised Value of Engagement Category			75.7

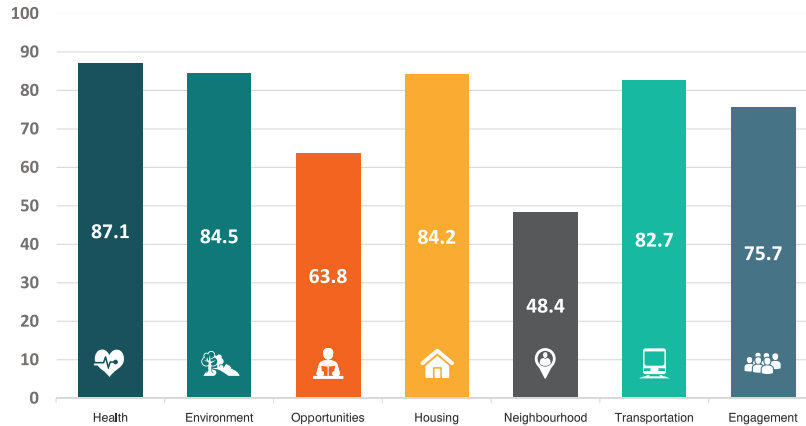


Livability Ranking for Buraidah








Based on the relative weight of the indicators' category. The health category received the highest weight between the other categories, reaching (19.5%). It means that the health indicators are responsible for (19.5%) of the degree of livability in the city. This is followed by the opportunity category (15.5%). While the weight of both neighbourhood and environmental categories are equal (15%). However, the transportation indicators are responsible for only (12%) of the degree of livability in the city. Finally, the engagement category comes in the last rank of relative weight (10%).

“ livability Ranking for Buraidah has reached (75.2%). This high score of livability in the city compared with other cities around the world may be due to the slight difference between the categories of indicators relied upon in this report from the indicators that the Economists used. This difference is due to the lack of some of these indicators in Buraidah. So, this report recommends a list of these indicators to produce in the near future, and then to re-evaluate this degree after they have been produced. ”





The degree of livability in Buraidah in 2019

Main Categories	Weight of Categories	Standardised Value	Degree of Livability
Health 	19.50%	87.1	17
Environment 	15%	84.5	12.7
Opportunities 	15.50%	63.8	9.9
Housing 	13%	84.2	10.9
Neighbourhood 	15%	48.4	7.3
Transportation 	12%	82.7	9.9
Engagement 	10%	75.7	7.6
Livability Ranking for Buraidah in 2019			75.2







Urban Issues

The report ended up defining the urban issues in each of the main dimensions of livability in Buriadah. Based on the nature of these issues and their development during the previous period, it became clear that it is difficult to deal with all these issues at the same time. Therefore, these issues must be prioritised according to their importance to reduce the negative effects on the quality of life in the city and then make tangible progress towards improving the levels of sustainable livability. In this context, the issues were classified into three levels (first, second, and third priority).

The Main Factors to Prioritise the Issues

- The weight of the categories and the indicator relating to issues during the previous period.
- The level of relative deterioration or improvement in the issues during the previous period.
- The value of the numerical gap between the current situation and the global target.

Liveability Dimensions		First Priority Issues	Second Priority Issues	Third Priority Issues
Health 	Healthy Habits and Behaviours			Poor Physical Exercise
Environment 	Solid Waste Management	The Decline of Solid Waste System		
Neighbourhood 	Proximity to Destinations		Difficulty in Accessing Open Spaces	
	Neighbourhood Quality		The High Percentage of Unutilized Land	
Transportation 	Safe Streets	High Rate of Accidents		
	Convenient Transportation Option		The Absence of a Public Transport System	

Policies of Urban Development to Reduce the Severity of these Issues and the Continued Progress towards Better Levels of Sustainable Livability

The urban development policies of Buraidah were formulated from a perspective to unite all the efforts that have been made by relevant authorities. For instance, the comprehensive urban vision for the city of Buraidah and the pilot project for sustainable urban intensification in the city have been considered.

Encouraging the People to do Sport Exercises

This policy aims to encourage the population to do sport exercises by providing sports centres and networks of pedestrian and cycle routes as well as raising awareness of the dangers of obesity.



Developing the System of Solid Waste Management

This policy aims to change the current methods of dealing with solid waste as a problem to using it as an economic resource, therefore, achieving productive revenues.



Balancing Mixed Uses

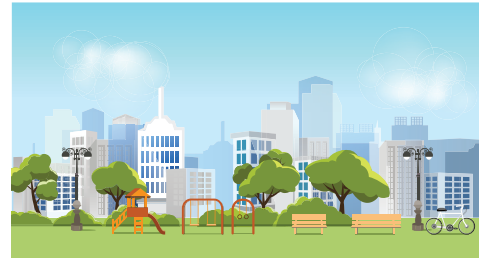
To achieve this balance, the residential neighbourhoods have been designed to include commercial areas on the main roads, while the interior spaces have been preserved to the residential buildings. Consequently, pedestrian spaces along the paths surrounding the residential areas and on the main roads are available. Also, industrial areas and warehouses are moved out of the city. On the other hand, services and waiting areas have been provided around commercial activities on the main axes as well as a network of pedestrian paths designed around these activities to increase the number of arrivals.



■ Building mass
■ Commercial areas

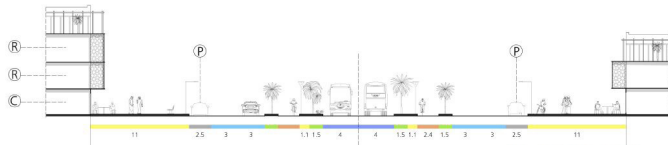
Easy Access to Open and Green Spaces

By developing the Green & Blue Infrastructure to increase green and open spaces in the city, residents have easier and quicker access to these areas. This policy will also help reduce the environmental burden on nature and seek to reduce temperatures and absorb huge amounts of CO₂.



Reducing Accident Rates

The proposed public transportation system will also contribute directly to reducing accident rates as a result of a significant reduction in dependence on private cars. On the other hand, the King Abdulaziz and King Fahd Road sectors should be redesigned to reduce high vehicle speeds, therefore, reducing the risk of accidents. On another hand, redesigning these roads as wide, pedestrian-friendly streets within the city will help to connect and merge the different parts of the city.

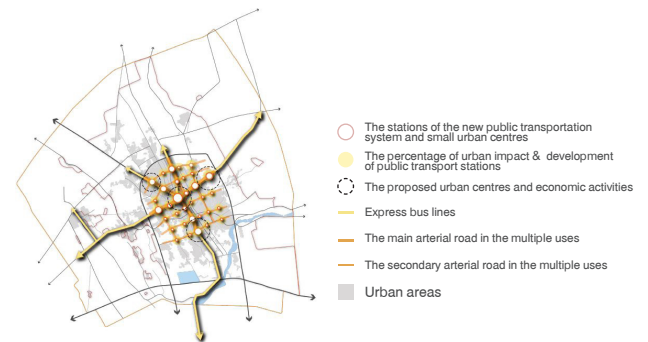


The proposed sector of the main highways in the city, such as King Abdulaziz and King Fahd

Shifting Towards a Public Transportation System

The shift towards the proposed public transport network in the city begins with implementing two means of transportation:

- 1- The tram line that runs from the centre of Buraidah to Unaizah.
- 2- The express bus system, which includes six main routes. The most important is King Abdul Aziz Road, which represents the backbone of the public transport network in the city and crosses the city from the North to the South. This will be followed by the King Fahd Road which runs from the East to the West.





Teamwork

Teamwork of Al-Qassim Region Municipality

Arch. Mohammad bin Mubarak Al-Mejally	Mayor of Al-Qassim Province
Arch. Khaled Ibrahim Al-Hudaib	Deputy Mayor for Urban Development
Arch. Abdulhakeem Abdullah Alreshoodi	Director of Urban Planning - Rapporteur of the executive committee of the Urban Observatory

Consultant Teamwork

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Arch. Ahmed Abdel Fattah Tawfiq	Vice manager of Al-Qassim Region Projects
Arch. Mohamed Mubarak Elsharif	Project Manager
Arch. Mostafa Solieman AboAlazm	Urban Designer
Mr. Abdulrahman Alsheikh Sayed Ahmed	Typist for two languages

Experts of Short -time working

Dr. Emad Hemdan Kenawy	Urban Planning & Development Expert– Post-doctoral researcher in the University of Liverpool – UK
Dr. Hosny Mohamed Sayed	Urban Observatories Expert in UN
Eng. Hany Mohamed Emara	Design and Presentation Expert





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