

Al Daayen Municipality Vision and Development Strategy



Volume 1 of the Al Daayen Municipality Spatial Development Plan



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***Al Daayen Municipality
Vision and
Development Strategy***

1.0 General Requirements and Procedures

1.1 Al Daayen Municipality Spatial Development Plan (MSDP)

The Al Daayen MSDP seeks to achieve the orderly planning and development of land and infrastructure across the Al Daayen municipality in response to expected future growth. The MSDP has been prepared in accordance of the Qatar National Development Framework (QNDF)

It sets out a clearly defined urban structure and a coordinated development approach for the municipality over the next 20 years. The MSDP is made up of the following parts:

1. **Strategic Context** - The Vision and Development Strategy for the Municipality.
2. **Zones and Land Use Regulations** – land uses and development standards applying in each zone.
3. **Zone Maps** - showing the future land uses across the municipality.

In addition, **Action Area Plans** (AAP's) will be prepared from time to time and progressively added to the MSPD for specific locations within the municipality, in order to provide a more detailed level of planning.

1.2 Purpose and Effect of the MSDP

The Al Daayen MSDP provides the land use planning framework and regulations for the entire Municipality and the strategic context for growth and change to 2032. The detailed land use zoning maps and the zoning regulations set out the rules which development will be assessed.

The Al Daayen MSDP has full legal force and effect in the assessment, decision-making and enforcement of land use development applications, and the manner in which land use development is undertaken within the municipality.

It will be reviewed every 5 years to ensure it responds appropriately to community changes at a local and National level.

Developments are also required to separately address the requirements of the Building Regulations.

1.3 Management of Development

Al Daayen Municipality is divided into a series of Land Use Zones identifying the particular land which uses may be permitted in the zone. Development within each zone is controlled by way of a Zone Code containing:

- a Land Use Table showing the range of uses appropriate within the zone; and
- Zone Regulations specifying the development standards which apply within the zone.

Development within each zone may be classified as being either:

- Permitted - does not require a development application but must comply with the development standards in the relevant Zone Code;
- Conditional - requires a development application which will be assessed against the MSDP and the development standards in the relevant Zone Code, and which may be subject to additional conditions of approval; or
- Prohibited – uses considered inappropriate in the zone and where an application for development approval cannot be made.

Further details are contained in the Zone and Land Use Regulations in this MSDP.

- the Purposes and Objectives of the Zone;

1.4 QNDF Context

The Qatar National Development Framework (QNDF) is the overarching physical and spatial planning policy and strategy context for the state of Qatar to 2032.

It establishes a series of guiding principles and objectives that have been based on the Qatar National Vision 2030 (QNV2030) and contains Structure Plans developed for each Municipality which provide a strategic planning context for each MSDP.

Based on the QNV2030's Four Pillars of Sustainability, the following guiding principles for sustainability were established for the QNDF:

- **Quality of Life for All** – Improving the living, working, playing and learning environment and offering choice, affordability and access for all people.
- **Economic Growth and Diversification** – Fostering competitiveness, encouraging business investment and stimulating innovation.
- **Connectivity of People and Places** – Providing integration, mobility, accessibility and connectivity to improve social, cultural and economic interaction of people, institutions and businesses.
- **Ownership in Planning and Implementation** – Encouraging coordination and commitment

among stakeholders in the QNDF's planning and implementation.

- **Environmental Values** – Supporting the preservation and rehabilitation of the natural and built environments.
- **Identity** - Acknowledging and respecting the Qatar national identity.

The translation of the National Vision and the sustainable guiding principles into a spatial and physical development dimension gave rise to a vision for the future urban development of the country which has guided the preparation of the QNDF and subsequent Municipality Spatial Development Plans (MSDPs).

The QNDF vision is to:

“Create a role model for Sustainable Urban Living and Livable Towns and Cities in the 21st Century”

The Al Daayen MSDP has been prepared in accordance with the QNDF as the regulatory framework for managing development in a way that advances the purpose of the QNDF, the National Development Strategy and the Qatar QNV2030.



2.0 Al Daayen Municipality

2.1 Location and Description

Al Daayen Municipality is located on the eastern coast of Qatar to the north of Al Daayen, immediately east of Umm Slal and south of Al Khor municipalities.

Almost three quarters of the land area of the Municipality falls within the proposed Metropolitan Doha Plan boundary. The central eastern part of the Municipality which comprises the majority of the coastal landscape has been designated as the Al Wusail Environmental Protected Area.

The Municipality is made up of 3 distinct character areas.

The northern part is rural in character and features farms and agricultural land, whilst the central area is predominantly open and natural desert with Environmental Protected Area status. Development restrictions apply within these areas. Three rural settlements are located in the northern area: Jarian; Tenbek and Umm Swaya

In **the central part** of the municipality; the Metropolitan Greenbelt reinforces these development restrictions to prevent the further urban sprawl of Metropolitan Doha. Growth will be guided to existing settlements to sustain local economies and consolidate catchments for the more effective and efficient provision of a range of commercial services and community facilities.

The southern part of Al Daayen is in the urban area Metropolitan Doha. It presently serves mainly as a residential dormitory area with most employees living here commuting to the employment in Doha. This area will continue to be promoted as a modern family-oriented living environment supported by mixed-use, mixed density centers, with good connectivity to the established urban areas of Al Daayen and Al Rayyan. The future growth and emergence of Lusail City as a major metropolitan urban area will have a major impact on the future development of the municipality.

All three sections of the Municipality share a coastline on the eastern edge, while Al Shamal Road forms the western boundary.

Cultural, historic and archaeological sites within the Municipality include Umm Qarn, an abandoned village and the fishing villages north of Lusail.



2.2 Population and Employment Growth Expectations – 2010 – 2032

The population of the municipality is expected to increase by 130,000 from 43,000 in 2010 to 173,000 in 2017. By 2032 the population is estimated to increase by a further 45,000 to approximately 218,000. The large increase in population is due to the development of Lusail City, and the impact of residential subdivision and plot allocations under Qatari National Housing Program throughout the northern suburbs within Metropolitan Doha.

A major change in the demographic and social profile of the municipality is expected. Although the municipality will see a large increase in Qatari population, the balance of the municipality will continue to shift towards non-Qatari residents due to significant increase in the expatriate population, resulting largely from the development of Lusail City.

The proportion of the Municipality's population that resides within the Metropolitan Doha Plan Boundary is also expected to grow significantly over the long term. A large part of this additional growth will occur within Lusail. Employment numbers within the municipality in 2010, were approximately 7,000 but comprised around 5,800 construction workers (83%). The majority of employed Al Daayen residents, presently work outside the municipality. This is expected to change markedly in the future as Lusail City grows and attracts new residents and employees to its future residential communities, commercial areas and economic activities. The presence of the Red Metro Line will assist in achieving this future residential and employment growth at Lusail.

Table 1 Al Daayen: Population (2010-2032)

Year	Population
2010	43,000
2017	173,000
2032	218,000

2.3 Development History

Al Daayen Municipality was established in 2005. It comprises 2.5% of Qatar (283km²).

Municipality development within the urban growth limits of Metropolitan Doha has occurred in a sporadic manner, leaving large swathes of vacant land between developments. Thus, sporadic development has resulted in high levels of investment for scattered infrastructure provision and community facilities.

Low density suburban sprawl is affecting the natural desert character, agricultural land and the northern aquifer. The rural economic base is eroding with loss of rural land due to the un-planned urbanization.

The municipality lacks character and identity due to ad-hoc residential development in the absence of a comprehensive planning and development strategy.

The Lusail City mega project will play a significant role as it develops into a predominant urban area accounting for most of the future population and employment growth in the municipality.

2.4 Key Planning Issues for Al Daayen

Some of the key planning issues now facing the municipality include:

- Single use building typologies which contribute to the loss of identity and hinder vibrant street activity.
- Environmental Protected Areas are under threat from urban encroachment.
- Lack of community identity due to poor quality and unsympathetic urban development.
- Lack of adequate public transport services.
- The lack of pedestrian permeability within residential areas due to poor public realm design characterized by wide roads and fast moving traffic.
- Historic and cultural sites in the municipality are neglected, and susceptible for destroying.
- Worker accommodations are located within sensitive environmental Rural/Desert areas and Aquifer zones causing negative impacts.
- There is a need to recognize the value of heritage and cultural assets in creating a distinct character for the municipality.
- There are limited employment opportunities within the municipality.
- Severe lack of commercial facilities, business services, and community facilities.
- Mixed uses is dispersed throughout the municipality, resulting in through traffic, noise and lack of privacy for residents.
- Ensuring complementarity co-existence with the adjoining Umm Slal municipality to avoid duplication and oversupply of urban facilities.

Key development potentials in Al Daayen are:

- The Strategic location of Al Daayen municipality which can aid the integration of physical and socio-economic development of all municipalities.
- Availability of vacant land to the west of Al Khor Coastal road for development to 2032 and beyond.
- Two major arterial roads, Al Shamal road and Al Khor road ease and facilitate the connectivity & accessibility to the municipality.
- The proposed Al Daayen – Al Shamal metro line (Red line) would increase the connectivity between the municipality zones and with other municipalities.
- Maximize the benefits of the two Environmental Protected Areas (Lusail & Wadi Wasail) for recreational and Eco Tourism.
- Farms and Ezbas can be better utilized for agricultural and zoological development in the north of Al Daayen.
- The heritage sites provide opportunity for tourism and recreation.
- More than (35) Kms of costline can be developed for public beaches and coastal resorts with a potential to develop an economic base.
- Mega projects such as Lusail, Data city and the proposed Lusail sport precinct will generate more employment opportunities and new life styles. This will stimulate the provision of public facilities.

2.5 Municipality Objectives

Planning

The planning objectives that apply to Al Daayen Municipality are:

Economic Prosperity

- Encourage the growth of the local economy by providing opportunities for small and medium business enterprises in Umm Qarn Town Center and the district and local centers.
- Encourage the diversification of the economy by attracting new knowledge based industries to in the Lusail Metropolitan Center.
- Promote Lusail Racing Circuit and Al Daayen Golf Club as international sporting venues.
- Maintain and encourage the rural uses in the northern section of the Municipality to sustain rural communities.
- Encourage tourism and hospitality related activities in Lusail.
- Promote the purpose built energy center at Lusail's Energy City, catering to the needs of the oil and gas industry in the Gulf Region.
- Encourage the use of Treated Sewage Effluent (TSE) in farming and livestock activities.

- Support efforts by the Qatar National Food Security Program and where necessary safeguard suitable land in the Metropolitan Greenbelt for uses such as farming, livestock, aquaculture, hydroponics etc.

Living in the Community

- Encourage new housing for Qataris to be located within the urban areas of Metropolitan Doha.
- Reinforce the Qatari character of the municipality through the provision of a range of low density housing typologies, including family compounds, that support Qatari's preferred way of living.
- Promote community cohesion through the provision of daily facilities at the neighborhood level through the creation of a series of local centers.
- Ensure land for Non-Qatari housing is used efficiently, providing a wider range of housing types to cater to different affordability levels.
- Improve open space provision in Umm Qarn, Lubaib and Rawdat Al Hammama through the provision of Town and District Parks.
- Encourage the redesign of all subdivisions to promote more climatically and culturally responsive development forms that contribute to an enhanced sense of place and distinctive identity.
- Ensure the provision of adequate and publicly accessible community facilities.

Natural Environment

- Safeguard the Metropolitan Doha Greenbelt Zone to ensure that development does not go beyond the designated urban growth boundaries and to help maintain the connection between the desert and the sea.
- Protect and enhance the natural environment in the Wadi Wusail and Al Wusail Environmental Protected Areas primarily for the conservation of environmental resources and also for the benefit of future eco-tourism enterprises, education and scientific research.
- Protect natural features such as wadi and rodah, which provide greenery to the urban environment, shading, form important wildlife habitats and form part of the natural storm water management system
- Protect groundwater resources in the Northern Aquifer by monitoring all development activity.
- Maintain and promote the green character of the Municipality through the protection of farms and date plantations.

Built Environment

- Develop a high quality mixed-use, mixed density Metropolitan Center at Lusail City which complements the Capital City Centers located in Al Daayen Municipality.
- Lusail City should provide modern housing options; be well connected to other major urban areas

through linkages with the Red Line metro and focus on fostering knowledge based industries that complement and contribute to the proposals in the Energy City.

- Develop Umm Qarn Town Center into a high quality center catering to the northern part of the Municipality within a vibrant, mixed-use, medium density community integrating the municipality complex and other community facilities into the urban fabric.
- in the short term, develop mixed-use District Centers that provide local communities and surrounding areas with access to community facilities and Government offices at Lubaib and Rawdat Al Hammama.
- The urban edge should respond to geographical features such as wadi and rodah and the greenbelt.
- Ensure open spaces promote and support key pedestrian routes within centers.
- Local centers should develop where there is a requirement for community facilities and services to support a local community.
- Enhance the streetscape of Umm Qarn Town Center, Lubaib District Center and Rawdat Al Hammam District Center integrating pocket parks and plazas into the centers.
- Develop buildings that are sustainable, address GSAS standards, and respond to the climate by taking inspiration from historic Islamic architecture to create a new architectural language for Al Daayen.

- Improve the quality of local residential neighborhoods to promote family living and community interaction through the provision of recreation and open spaces, networks of local parks, public realm amenities, and community facilities.
- Provide a range of open spaces from nationally significant parks through to pocket parks at the local level that meet the diverse needs of different cultures and age groups.



Movement

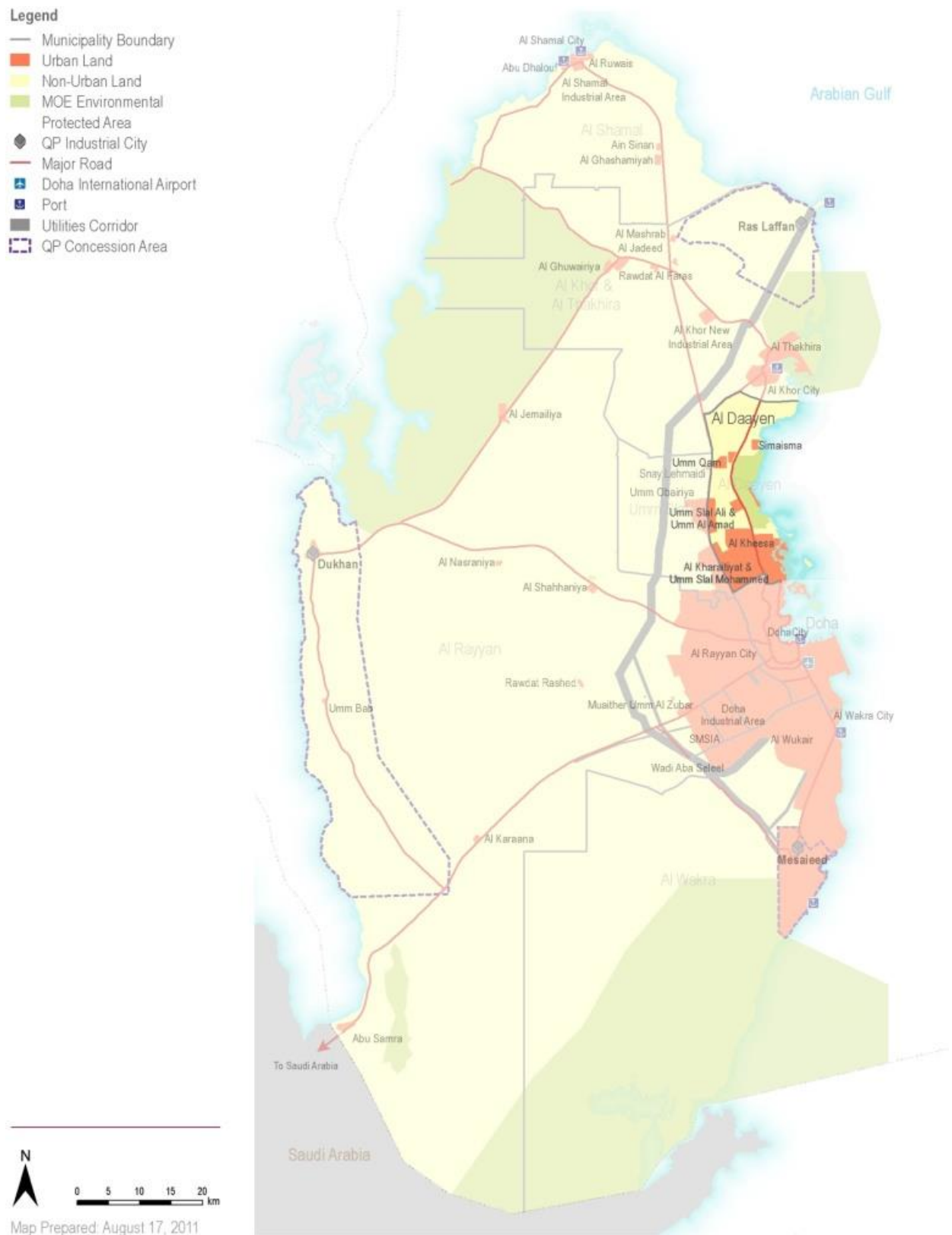
- Promote the use of high quality bus based public transport within and connecting residential neighborhoods with the mixed use centers, the Lusail Metropolitan center, and the rest of Metropolitan Doha.
- Provide bus feeder connections to metro stations located on the Red and Green Metro Lines within the urban areas of Al Daayen and Umm Slal municipalities. .

- Promote east west connections for private and public transport.

Utilities

- Ensure that new urban centers are served by the appropriate level of utilities infrastructure delivered in a coordinated, integrated and timely manner.
- Encourage the co-location of utilities infrastructure within utility corridors and on sites (where possible) ensuring the incorporation of appropriate safety buffers.
- Minimize the impact of utility infrastructure on the natural and built environment.

Figure 1 Al Daayen Municipality Context



3.0 ***Vision and Development Strategy***

“Develop Al Al Daayen as an attractive, sustainable place that balances growth with the protection of environmental assets and the cultural identity of Qatari communities”

3.1 ***Vision 2032 for Al Daayen***

The vision for Al Daayen Municipality is to:

- Build on existing and committed urban development to forge a new and distinctive identity with iconic buildings and gateway landmarks.
- Promote Lusail Metropolitan Center as the new major mixed use, high density urban and economic growth locality for Al Daayen.
- Create attractive lower density family living areas which reflect the green character and historic fabric of the municipality, and supported by a high level of urban amenities and community facilities.
- Develop the Umm Qarn mixed use Town Center as the civic focus and main location for community facilities and local employment for the northern part of the municipality.



The vision will build on both existing and committed developments to forge a new and distinctive identity with iconic buildings and gateway landmarks.



3.2 Development Strategy

The Development Strategy for Al Daayen Municipality is summarised spatially in the Al Daayen Municipality Structure Plan derived from the QNDF (Figure 2).

3.2.1 Development Strategy Summary Future Growth Management

The Municipality is made up of three distinct areas. The northern area is rural in character and features farms and agricultural land, whilst the central area is predominantly open and natural desert with Environmental Protected Area status. Development restrictions will apply to both these areas in future. Located within this area and outside Metropolitan Doha are the existing settlements of Umm Qarn and Simaisma. Both settlements will continue to grow into the future with Umm Qarn Town Center being the civic focus and main location for community facilities and local employment for the northern part of the municipality.

In the central area the designation of the Metropolitan Greenbelt will reinforce the growth boundary to prevent further urban sprawl of Metropolitan Doha.

The southern area is the urban area located within Metropolitan Doha. This area will be promoted as a modern family oriented living environment supported by the development of mixed-use, mixed density District centers at Rawdat Al Hammam and Al Ebb, with good connectivity to the established urban areas of Al Daayen, Umm Slal, Al Khor and Al Rayyan.



A major influence on the future growth of the Municipality will be the new city of Lusail presently being constructed. Lusail City will be a high density, mixed use Metropolitan Center extending over an area of 38 square kilometers, and containing 19 mixed use residential, hospitality, leisure, entertainment and commercial districts set in a landscaped environment. It will have access to the Red Line metro, water taxis, and will be serviced internally by a light rail network and an extensive pedestrian network. Lusail is planned to accommodate up to 200,000 residents within self-contained residential communities

supported with community amenities and facilities. It will provide jobs for up to 170,000 employees living within and travelling to the different districts in the city. Some 80,000 visitors to the various shopping, entertainment and leisure facilities are expected daily. The total estimated daily population of Lusail City will eventually reach 450,000 people.

Elsewhere within Al Daayen Municipality, future urban growth will be concentrated around existing facilities in three separate locations, to encourage a greater level of self-containment and to create communities of interest and identity. These areas are:

- Umm Qarn Town Center
- Rawdat Al Hammam District Center
- Lubaib District Center

3.2.2 Strategy Implementation

The broad overall spatial strategy for Al Daayen Municipality implements the principles of the compact city model, responding to the specific characteristics and opportunities associated with the municipality.

Neighborhoods will be focused around community facilities to enable greater accessibility for residents. Each neighborhood will have a daily or Juma mosque, a convenience store, health clinic or doctor's surgery and a small number of retail uses such as men's and women's salon's, dry cleaners and bank branches or ATM. A nursery or primary education facility and neighborhood parks should be provided in the center. Access to centers

should be via a choice of routes including safe pedestrian and cycling paths as part of a permeable network.

Safe and healthy Neighborhoods for residents require the provision of open space for play, pedestrian friendly routes and crossing points and low traffic speeds within residential streets. Pedestrian and cyclist friendly streets and pedestrian only routes, incorporating the Arabic tradition of the *sikka* into neighborhood design may be provided.

The key actions to achieve the future development of Al Daayen Municipality are:

- Containing growth within the existing urban growth boundary of the municipality.
- Developing Lusail City as the designated high density, mixed use Metropolitan Center and major economic driver for Qatar.
- Focussing new development outside of Lusail in the pre-established housing areas of Al Ebb, Laubaib, Rawdat Al Hammama, and Umm Qarn to ensure more self-contained and compact urban growth to avoid excessive infrastructure provision whilst creating sustainable, vibrant neighbourhoods and identifiable communities of interest.
- Consolidating future retail and commercial development into the mixed use centers of Lusail Metropolitan Center, Umm Qarn Town Center, Laubaib and Rawdat Al Hammama District Centers.
- Maintaining the important government role of Umm Qarn Town Center in serving the population of the

northern area of the municipality including Sumaisma.

- Developing a series of local centers to complement the growth of town centers, and providing a range of community services and facilities.
- Designing mixed use Centers with a pedestrian oriented public realm that encourages walking between stores.
- Ensuring the public realm includes soft landscaping to provide shading as no shade will be available from buildings.
- Limiting building heights to G+1+P in residential communities outside Lusail City to maintain the mainly low density, family residential character of the other parts of municipality.
- Enhancing existing housing areas with improved landscaping and design features, and preserving traditional low density, walkable community lifestyles.
- Providing open space and recreation facilities into urban areas which also incorporate natural green features into the urban fabric.
- Preserving the inter-urban break created by the Greenbelt and EPA 's to maintain the rural character of the central and northern areas of the Municipality.
- Maintaining the northern area of the Municipality as predominately rural, characterized by *rodah's* and *wadi*, agricultural holdings (Desert Homes, *Ezbas*) and farms.

- Supporting farming and related agricultural activities by protecting the land from urban development encroachments and by more efficient means of supplying irrigation water which does not adversely affect the environment.
- Providing upgraded public transport services which enable residents and workers to access local amenities and services as well as provide efficient connections to major activities, employment areas and the Metro Red and Green Lines.
- Enhancing access to education, health and religious facilities and improving the provision of open spaces, particularly in and around town centers.
- Extending the coverage of civil defense facilities.

In addition, the Development Strategy comprises several components which together work to realize the Vision. The contribution of each of these elements and their significance for the future form and development of Al Daayen Municipality is outlined below.

1. Hierarchy of Centers
2. Key Employment Nodes outside Centers
3. Residential Areas
4. Community Facilities
5. Open Space and Sports
6. The Natural Environment
7. Movement
8. Utilities
9. Heritage

3.3 Hierarchy of Centers

The most important component of the spatial structure for Al Daayen Municipality is the QNDF hierarchy of centres. Centers are the main locations of employment, community services, retail and commercial activity, and transport services. The hierarchy consists of a network of mixed-use and mixed-density centers each with a specific role, function and scale serving a surrounding population catchment. A high level of self-containment is sought with the TOD Concept which concentrates the public facilities around Metro or bus stations. The hierarchy as it relates to Al Daayen is discussed below.

3.4.1 Lusail Metropolitan Center

Second in the hierarchy of centers, are Metropolitan Centers which serve catchments of city-wide significance (150,000 – 300,000 people). They provide major economic and employment activities as well as higher order commercial offices, comparison retail, professional and municipal level government services. Residential communities within and adjoining Metropolitan Centers are high to medium density in nature. Metropolitan Centers are also significant trip generators and contain major metropolitan public transport facilities such as bus and rail interchange stations.

The Lusail Metropolitan Center will serve the Al Daayen Municipality as a whole and the northern area of Metropolitan Doha. Lusail City is planned to have a

resident population of approximately 200,000 people, jobs for 170,000 workers, and 80,000 daily visitors.



The light rail transit system will have connections with the Metro Red Line at the Pearl and along the Al Khor Expressway.

Lusail City will have a strategic employment, entertainment and retail role in addition to its strategic residential role. It will be characterized by mixed-use, high and medium density development with scope to provide community facilities and a regional hospital to serve the wider northern Metropolitan Doha catchment.

There are a number of districts that will have a strong commercial element, particularly the Marina, Waterfront Commercial and Boulevard Commercial Districts. The Energy City districts will provide a specialist environment for energy related industries to locate in Qatar. Entertainment City and Entertainment Island will be the

focus for leisure based activity with the residential district having smaller centers to support the residential population.

The first phase of Lusail City is the Marina District which is a mixed use area that will act as a lively downtown hub. The Marina District will provide waterfront residential units, high-rise towers for offices, mixed use commercial

and hotel space with large open spaces leading to a connected, continuous waterfront boardwalk.



The population of the Marina District is approximately 80,000. The Marina District will be served by a light rail transit system that will provide connections to the rest of Lusail.

The Boulevard Commercial and Lusail Town will serve as one of the main gateways and all year round commercial hub for Lusail. The Boulevard will include flagship stores, corporate offices and high end residential development located behind. The four Lusail Towers designed as iconic landmark buildings are mixed use and together with their ancillary buildings will engulf the central piazza. The population of the Boulevard and Lusail Town is expected to reach 19,000 people.



Lusail City will be provided with golf courses and the Lusail Football Stadium, and will also play a key role in the provision of high order community facilities which will include:

- Hospital, Health Care Facility
- Emergency services such as Police Station and Civil Defence
- Sports Facilities and Cultural Facilities
- Library, Museum and Post Office
- Marine Academy.

3.4.2 Town Centers

Town Centers are at the third level of the centers hierarchy and designed to cater to the daily needs of the residents of the northern area of Al Daayen. There is one Town Center designated in Al Daayen Municipality, **Umm Qarn**

Umm Qarn Town Center

The Umm Umm Qarn Town Center serves the rural north of the municipality. The scale and function of the town center is relative to its catchment population and its proximity to Lusail Metropolitan Center.

Its purpose in Al Daayen Municipality is to cater for more local level mixed-use business, convenience retail, small commercial premises and branch offices of government, banking, community services, and local employment for the resident population in the northern part of the municipality. Town centers may also contain lower-order cultural, entertainment, health, and education facilities.

The Umm Qarn Town center will continue to be developed around the existing, well-defined central core of public and private facilities.



Currently Umm Qarn contains a range of government services including:

- Municipality Office
- PHC center
- Civil Defense Center
- EMS Station
- Police Office
- Two primary schools

Umm Qarn Town Center will provide the main administrative function for the Municipality until at least 2017, and will then act as the main service center for both the local community of Umm Qarn and the wider northern rural catchment of the municipality, including Simaisma.

Umm Qarn will develop into a high quality mixed use Town Center with good access to public transit services

such as the proposed Red Line metro station which will extend north from Doha to Al Khor by 2020. A metro station will be located adjacent to the Town Center.



Residential densities will be higher within and immediately around the town center core, but graduate down to medium-low density residential development in the surrounding suburbs.

The following actions are required to successfully implement the town center:

- Create a compact and legible townscape which integrates existing buildings into a cohesive town center.
- Reflect and enhance the distinctive character, heritage and identity of rural Qatar.
- Ensure links are established between the center and surrounding residential areas.
- Fully integrate the metro station into the design of the town center and provide a park and ride facility for the rural north of the municipality.

- Provide a range of housing options including affordable housing within the Town Center.
- Include a range of community facilities in the center such as:
 - A Grand Juma Mosque
 - Secondary and Preparatory Schools
 - An MOI One Stop Service Center
 - A Municipality Library
 - A Post Office

An Action Area Plan (AAP) for the Town Center will be developed to ensure a mixed-use, mixed density approach that meets the needs and expectations of the residential catchment served.

3.4.3 District Centers

District Centers are the fourth level within the centers hierarchy and are designed to cater for the weekly and daily needs of surrounding suburban and local area residential catchments of 30,000-50,000 people.

Within Al Daayen Municipality, District Centers include well defined clusters of local-level mixed convenience retail, local supermarkets, small scale local services, food outlets, and a range local community facilities such as primary schools and kindergartens, and public health centers. These mixed use centers are located predominantly within low to medium density residential neighborhoods, and are generally developed around a well-defined central core of public and private facilities.

They have good access to public transit services such metro or bus stations.

Two District Centres have been designated within Al Daayen Municipality. Their roles and functions are described below and more detailed Action Area Plans will be prepared for each of them.

Rawdat Al Hammama District Center

Rawdat Al Hammama District Center will support the daily and weekly convenience needs of the local catchment located in the recently approved National Housing subdivision of Al Kheesa that contains 4,135 plots with a planned population of 26,000 people. The anticipated catchment population for Rawdat Al Hammam District Center will 30,000 to 50,000 people.

As there is no metro line in this part of the municipality, a high frequency bus route is required to provide public transport services for local residents.

Lubaib District Center

Lubaib District Center is located toward the southern boundary of the municipality in close proximity to the ISF site at Duhail which includes the Lekhwiya Sports Club. It is surrounded by low density, detached villas with heights of G+1+P.

The main facilities within this Center are the existing Juma mosque, Eid prayer ground, three schools, a dedicated Civic square and a Health Center.

The population catchment of the center is between 25,000-30,000 people.



This District Center will be developed as mixed use center and with opportunities for future development either for mixed use or low density residential neighbourhoods.

The following implementation actions are required for the successful development of the district center:

- Lubaib District Center will be centered on the proposed bus station, providing the retail hub and mixed use for the area and its surroundings.
- Community facilities needed in the future should be located on vacant Government land within the Center boundaries.
- Acquiring and allocating the existing farm within the center boundary for use as a district or town Park.

3.4.4 Other Centers

Additional local centers will be located throughout the residential areas to meet the daily convenience needs of residents. A number of local centers will also be developed within new residential areas created under the Qatari National Housing Program.

One such project is Rowdat Al Hammama where 9 Ferjan markets are currently under construction. Such Markets will be considered the core of the planned local centers

However, it should be emphasized that no retail developments will be permitted outside these identified centers.



3.5 Key Employment Nodes outside Centers

The traditional economic activity in Al Daayen Municipality was agriculture which was largely concentrated in the north. The most significant future economic activities providing employment for the municipality will be located at Lusail City where accommodation for 170,000 jobs is being planned in a range of commercial, hospitality, retail, entertainment and leisure activities. Additional local employment will also occur in Umm Qarn Town Center, Lubaib and Rawdat Al Hammama District Centers.

Another significant employment node will be the Festival City located adjacent to Al Shamal Road. Lusail International Circuit used for international motorcycle races is a major sporting attraction.

Outside of the Centers and the major activities specified below, the location of future employment development will be restricted in order to create a more transit oriented urban structure.

The farms in the north of the Municipality should be supported and where possible sustainable farming practices introduced to improve efficiency and ensure the natural environment including the groundwater aquifers should be protected.

a) Lusail Sports Precinct

The Lusail Sports Precinct being developed by the Qatar Olympic Committee, will be a significant employment node for the municipality based on the range of sporting facilities and the supporting and ancillary services may be offered. Such activities will include small scale retail, cafes, restaurants and small scale short-term residential facilities associated with the international sporting venues.

b) Data Center

The MEEZA Data Center is located south of the Umm Qarn Town Center. MEEZA is a joint venture with Qatar Foundation and was established to meet the need for world class IT infrastructure and IT services throughout the Middle East and North Africa. The data center offers business continuity solutions for key disaster recovery requirements criteria through service delivery and IT experts.



c) Doha Festival City

Doha Festival City will be the largest retail destination in Qatar with a site area of 43 ha. When completed, it will comprise a retail and entertainment hub complete with hospitality and business facilities, a theme park, and motor showrooms and the world's largest furniture retailer.



The Doha Festival City Mall, with 500 retail stores and a gross floor area of 327,000 m², will be the largest component of the development.



d) Rural Area

Farming plays an important role in Al Daayen Municipality, contributing economically and visually to the municipality. As part of the Qatar National Food Security Program (QNFSP) there is a move to more efficient farming techniques that take advantage of technological advances whilst limiting the impact on ground water extraction. The retention of the farms on the urban fringe is strongly encouraged.



Al Daayen should play a key role in delivering the vision of the QNFSP. It is imperative that any proposals affecting farmland is considered in the light of the QNFSP with applications referred to the Food Security Program for prior approval.

e) Energy City

Located at Lusail, Energy City is expected to create employment opportunities in energy related companies. It will be the first purpose built energy center in the MENA region that will cater to the specialized commercial, technical and human resource needs of the oil and gas industry nationally and in the wider Gulf Region.



In addition, the Energy City is considered a specialist environment for energy related activities. It will contribute significantly to the expansion and diversification of the municipality's economy.

f) Entertainment City (Lusail)

Located at Lusail, Entertainment City will be an integrated family entertainment destination, encompassing international leisure, retail and restaurants.

3.6 Residential Areas

Residential areas comprise most of the urban land of the municipality. The development of these areas has resulted in the rapid northward expansion of the urban areas of Metropolitan Doha. These areas include Lusail City and Al Kheesa.

For the majority of the urban areas in the municipality (outside of Lusail), the residential density is low and is characterized by single family villas. Lusail City will have a range of densities and housing types ranging from detached villas through to apartments.

Planning and design regulations will promote high quality design of urban realm to ensure better responses to the Qatari climate and incorporate aspects of traditional architecture so as to build a unique Qatari identity for Al Daayen and related urban design and architecture outcomes.

Housing growth in Al Daayen Municipality will focus on the delivery of the following:

- Extension of the residential footprint and creation of new neighborhoods through the development of the Lusail City.
- Integration of new housing areas into existing and future housing areas through physical and landscape connections.
- Beautification of large areas of Al Ebb, Al Bubb, Rawdat Al Hammam and their surroundings,

focusing on landscaping streets, upgrading the public realm and bringing vacant land into use.

- Beautification of Umm Qarn and Simaisma with a focus on upgrading the public realm and bringing vacant land within the city future land use into use.
- Expansion in the range, choice and affordability of housing typologies across the municipality.
- Enhancing access to education, health and religious facilities whilst improving the provision of open spaces and other public realm amenities.
- New development in Rawdat Al Hammama should consider the principles of traditional neighborhoods, that aim to create walkable environments and centered on the mosque and Majlis with a series of sikka connecting residents to the local center.

3.8.1 Housing Mix and Housing Choice

There is a need for greater choice in housing options across the municipality. At present there is a limited range of housing types with most of the municipality having only villas or detached housing.

Greater choice and mix of housing will largely be delivered through the development of Lusail City. Outside Lusail City, a range of smaller scale, low density housing options are required in the mixed use centers of Umm Qarn Town Center, Lubaib and Rawdat Al Hammam District Centers. Housing typology will be determined by the location and context of the property, the demographic characteristics of residents.



3.8.2 Qatari Neighborhoods

The development of much of the northern extension of Metropolitan Doha in the municipality will consist of mixed neighborhoods. Lusail City high density residential areas are expected to be largely non-Qatari in make-up. Outside Lusail City areas such as Umm Qarn, Sumaisma, the northern rural settlements, Al Bubb and Rawdat Al Hammama, will be predominantly Qatari neighborhoods.

It is important that new Qatari neighbourhoods are developed to meet the aspirations of Qatari's in terms of plot size, access to retail and community facilities, particularly mosques and parks, within each neighbourhood. It is important that the new neighbourhoods reflect traditional housing and townscapes in their design and layout.

3.8.3 Rural Settlement

Al Daayen Municipality has a number of small rural settlements of various sizes located outside the urban areas such as the village of Tenbek. Most of these settlements are located near the Al Shamal and Al Khor Roads. Their main function and role is to provide for farm residences and farm worker accommodation within the northern part of the municipality.



Future growth of these localities will be limited and tied to the future prospects for agricultural and farming. All these settlements are proposed to retain their non-urban character and additional expansion beyond their current boundaries is not proposed.



3.8.4 Worker Accommodation

Worker accommodation is currently provided on-site for the construction of the Lusail City project. The need for future worker accommodation sites associated with the FIFA 2022 construction project is not considered to be high in Al Daayen municipality. If required, such sites and accommodation will be subject to the MMUP's Worker Accommodation Regulation which includes the provision of on-site community facilities, open space and recreation, and other support services for residents.

3.9 Community Facilities

The existing provision of community facilities in Al Daayen municipality has not kept pace with the residential growth that has occurred. The adequate and timely provision and convenient access to community facilities by matching with catchment population requirements, is a key component of the Development Strategy for the municipality.

Access is most efficient when community facilities are located within the urban centers. This is achieved primarily by locating required facilities within those centers through the Action Area Planning Process.

In addition, smaller scale local facilities such as daily mosques need to be provided within residential neighborhoods where they can be readily accessed by residents through walking and cycling.

Existing community facilities outside of the urban centers are still recognized through the Land Use Zoning Regulations to allow for their efficient continued operation, but the regulations strongly urge new facilities to be located into centers.

3.9.1 Education

To meet the needs of the growing population and expected further increases in demand, an increase in the number of government schools is required across the municipality. Another significant demand will be for private schools to satisfy the needs of those who will live

and work in Lusail City and the New Diplomatic Area. In the short term these schools should be located within or close to mixed use centers as much as possible to ensure the accessibility and the required integration with other community facilities

A balanced distribution of Government and private schools throughout residential neighborhoods is also essential to support stronger community cohesion. Walkability to schools is an important consideration and school entrances should be located away from major roads to avoid adverse pedestrian safety and localized traffic impacts.



3.9.2 Healthcare

There is one existing Primary health Center - **PHC** at the Municipality Office Complex in Umm Qarn, serving the northern part of the municipality.



Al Daayen Municipality has the potential to accommodate several public and private hospitals and Primary Health Care (PHC) projects.



A new medical complex has been proposed in Al Daayen Municipality to provide several types of healthcare facilities including Trauma Mass Casualty - **TMC**, Diagnostic Treatment Center - **DTS**, Secondary Hospital and Medical Research Center - **MRC**.

Three plots have been designated in different parts of the southern area of the municipality, but based on the catchment requirements for PHCs; there is a requirement to develop only two PHCs : one for each approved District Center (Rawdat Al Hammama and Lubaib).

3.9.3 Religious Facilities

The Ministry of Awqaf and Islamic Affairs (MAIA) has been working on increasing the capacity of mosques to serve the growing population of the municipality. MAIA's standard for mosque allocation is based on walking distance - worshippers should be within a 250m walking distance of daily mosques and 400m for Juma mosques.

Mosques should be located at the heart of the residential neighborhoods where they can be co-located within the local centers with retail, other community facilities and local parks. Daily mosques should be easily accessible by foot with a network of safe and convenient pedestrian routes provided within each neighborhood. In all instances, the minaret will provide legibility to communities as well as become a landmark around which to develop non-residential uses.



Grand Juma Mosques are proposed at both Lusail Metropolitan Center and Umm Qarn Town Center. Additional Mosques will be provided for both Lubaib and

Rawdat Al Hammama District Centers to meet the required MAIA standards. The development of new mosques also needs to be aligned with the phasing of new housing development projects.



3.9.4 Emergency Response Facilities

The strategy for the future provision of emergency response services seeks to secure additional station sites so that coverage can be extended to meet the required target response times. Sites for Emergency Management Services - **EMS** and Civil Defence stations must be secured at strategic locations within centres and in relation to the emerging road network, and be coordinated with area-wide traffic management and control systems as they are introduced.

Currently, Al Daayen has a good coverage of EMS through its station in Umm Qarn town center. There is a requirement for additional Emergency Management Services

- **EMS** and Civil Defence stations – **CD** to serve and cover Lusail City. Civil Defence coverage of the municipality will follow the Civil Defence Department' requirements and strategies , however MOI is planning to develop a new Civil Defence Station at Lusail City which will provide for better overage. There is the opportunity to combine the facilities of Civil Defence Station and the EMS Station onto one site. It is worth to point out that EMS as a service can be provided as a part of PHC.

3.9.5 Other Community Facilities

Other Government service facilities, such as MOI service, Post Offices, Youth Centers and Governmental Libraries are important community facilities and will be provided within the mixed-use centers.

The municipality complex at Umm Qarn Town Center provides a range of community facilities including Municipality Office, Civil Defence Station, and the Primary Health Center so as to satisfy the needs and requirements of the northern residents. It is proposed to provide additional community facilities which are required to satisfy the resident's needs and desires. Lusail Metropolitan Center will need to provide the required community facilities such as a Post Office, MOI one-stop service, Government Library, Youth Center, and Social Development Center.

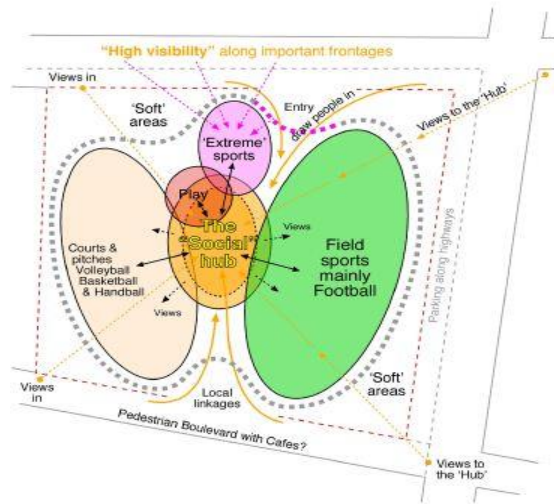
In order to expand Government services to cover the whole municipality, sites will be allocated within the existing and planned mixed-use centers where a range of Government facilities have to be co-located.

Table 2 Community Facilities

Community Facility			Aver. Standards	Existing		Demand (2017)		Required (2017)		Required Area (m2)
Education				Boys	Girls	Boys	Girls	Boys	Girls	
	Independent Schools	KG	4000	1	2	10	10	9	8	3,500
		Prim. Sch.	2 Sch. \15,000	4	4	5	5	1	1	18,000
		Prep Sch.	2 Sch. \30,000	1	1	3	3	2	2	20,000
		Sec Sch.	2 Sch. \40,000	1	-	2	2	1	2	25,000
Health	Private Schools	Polarized Sch.	1 SCH \40,000	2		3		1		25,000
	PHC		30,000	1		2		1		20,000
	PHC –C		50,000	-						25,000
Religious										
	PHC - SML		75,000	-		1		1		15,000
	Daily mosque		1200	20		69		47		2000
	Juma mosque		3000	14		28		16		5000
Social /Cultural Facility										
	Grand Juma		40,000	-		2		-		10,000
	Eid prayer		50,000	-		2		1		50,000
	Post Office	local	50,000	3		16		13		1,500
	MOI Ser.	Type C	50,000	-						3,000
		Counter ser.	30,000	-						200
Emergency	Library	Town	50,000	-		1		1		500
		District	20,000	-		2		2		500
	Youth Center	General (S)	50,000	-						2,000 –3,000
	Social Center	SC	30,000	-		2		2		2,000 –5,000
Emergency										
	Civil defence	Local Station	30,000	1		3		2		3,000
	Mid. Emergency	Local Station	30,000	1		3		2		-
Emergency										
	Police Res.	Local Station	30,000	1		3		2		4,000

3.10 Open Space and Sports

An important part in delivering the vision for the municipality is to enhance the supply and quality of open space. While the municipality is characterized by large rural areas, access to formal parks and open space is limited. The current provision of parks is insufficient to meet the needs of existing and future residents. An important objective is to provide parks within walking distance of residential areas. The design of parks also needs to consider the needs of families, women and those with special needs, and the cultural and traditions of the region.



Al Daayen Spatial Development Strategy incorporates an open space network, comprising a Town Park, District Parks, and a green corridor and local parks. The two

Environmental Protected Areas in the municipality also function as open space areas (although public access to them is constrained).

Lusail City integrates large open spaces into its design. In addition to golf courses there are extensive parks and open space networks at both the neighborhood level and in the form of linkages at the city level. These networks will be connected to the proposed open spaces outside Lusail.



A number of local parks are currently being established elsewhere throughout the municipality. Sumaisma beach has been redeveloped to provide facilities for passive recreation including a children's playground, lighting, refuse disposal, barbeques, shade structures and showers.

Sumaisma Olympic Park located just outside of Simaisma provides recreational facilities including a Youth Center, a Swimming Pool (for Men, Women and Children), Cafeteria, Fountain, Mosque, Football Fields, Sitting Plaza, Parking Spaces and Walking Tracks.



3.10.1 Metropolitan Park

There is demand for a metropolitan park to serve as an integrated leisure venue for the municipality. The metropolitan park should be located in close proximity to Lusail City and should be a minimum of 30 ha in area and contain playing fields. A series of linear green corridors should connect the residential neighborhoods to the metropolitan park.

3.10.2 Town Park

A Town Park is required for Umm Qarn. This should be located on the farm situated in the middle of the main urban area of Umm Qarn and adjacent to the Umm Qarn heritage area. This will provide for a wide range of leisure and sports activities. The park should be developed with a rural theme in order to preserve existing components of the farm land.

3.10.3 District Parks

Two District Parks are proposed in the vicinity of each of the district centers. These will provide the same type of facilities and services for a collection of neighborhoods on a larger scale usually with additional features that meet the expanding recreational needs and/or facilities that are not provided at the local park level.



3.10.4 Green Network

Where possible, green corridors should link urban areas with the Greenbelt, and connections between the desert and the sea should be preserved and enhanced. The inter-urban break between Umm Slal Ali and Al Ebb must be safeguarded to maintain the connection of the central desert area in Umm Slal Municipality and beyond to the Arabian Gulf and the east coast of Al Daayen.



The Lusail City master plan proposes a green swathe of land stretching east to west as an extension of the wadi that runs across the municipality from Umm Slal Ali. This wadi should be preserved and incorporated into a green open space network incorporating leisure routes.

Public access to the waterfront should be provided through the provision of open spaces along the waterfront areas.

3.10.5 Local Parks

A series of local parks are currently being developed throughout the municipality. Overtime, as residential development progresses, there will be a need to further enhance the provision of local parks and small ferjan football grounds throughout residential areas to ensure that residents have immediate access to a small area of open space for passive recreation.

3.10.6 Sports Facilities

The Lusail International Raceway hosts national and international motorsports events, is located on the western side of Al Khor Expressway and half way between Al Kheesa to the south and Umm Qarn to the north. The Lusail Shooting Club is located to the south of the International Raceway. The Lusail Multi-purpose Hall to be used for indoor sports is located between both of these facilities.

The Qatar Olympic Committee is developing a Sporting Precinct which will be supported by the Metropolitan Red Line.



Additional facilities include:

- An enclosable aquatic center with Olympic class swimming pool, diving pool and training facilities
- An indoor Olympic class valeodrome, BMX circuit and Road Racing facilities
- A men's and women's high performance sporting center
- Supporting and integrating these activities will be the development of a community interpretive and education center focusing on educating the community on sporting, health and well-being initiatives

Doha Golf Course is located on the southern boundary of the municipality. It is the only grass course in Qatar. Two further golf courses are to be developed within Lusail City.

Lusail Stadium to be located at Lusail City will host the opening and closing matches of the FIFA2022 World Cup.



A Youth Center is located at the Sumaisma Olympic Park which provides for both passive and recreation needs.



Al Farjan and Ladies Clubs (Indoor Ladies Only Sports Playgrounds) are proposed to be developed at the Districts Centers. The Ladies Clubs are dedicated to

women and their children enriching their social and sports culture.



3.10.7 Sports Facilities

Al Farjan (Sports Playgrounds)

The existing sports playgrounds within Al Daayen municipality are substandard ones according to study outcomes. New types of more advanced sports playgrounds are recently introduced by QOC that match the international standards.

In the open space and recreation facilities master plan, Al Farjan sports playgrounds are strongly encouraged to accommodate the advanced services and a variety of sport activities.

The most recommended form of the recreational and open space facilities is where the sports playgrounds are

provided within the parks as people can use both active and passive open space in the same destination. According to the land availability issue within Al Daayen municipality, the active and passive open spaces will be provided separately, but in a close proximity to each other within the same center.



Ladies Clubs (Indoor Ladies Only sports Playgrounds)

Ladies clubs are dedicated to women and their children, aiming to enrich their social and sports culture; a type of facility that consider the cultural and local trends of the Qatari community and encourages womens participation in sport. In areas that is mainly inhabited by Qataris, a sufficient distribution of ladies clubs have been proposed within the district center at a suitable size to provide indoor sports playgrounds and ancillary services.

Table 3 Public Parks Program

Park Type	Existing Parks		Standards and Guidelines			2017			2032		
	No	Area (ha)	Proposed Area Ranges	Average Area	Catchment Pop.	Total Demand No. 2017	2017 Gap No.	Required Area (ha)	Total Demand No. 2032	2032 Gap No.	Required Area
Neighborhood Park	6	1.31	0.1 - 0.25	0.2	1200	65	59	10	69	63	10.79
Local Park	32	25.53	0.4 to 2	1.2	3000	26	-	-	28	-	-
District Park	5	14.92	2 to 5	3.5	40000	2	-	-	2	-	-
Town Park	0	0	5 to 15	10	75000	1	1	10.00	1	1	10.00
Metropolitan / Municipality Park	0	0	60 to 200	130	200000	1	1	30.00	1	1	30.00
National Park	0	0	N/A	N/A	2 million +	N/A	N/A	N/A	N/A	N/A	N/A

Table 4 Community Oriented Sports Facilities Program (District Level)

Facility Type	Facility Classification	Size		Facility Per User Group				Total No. of Facilities	
		Pitch Dimension	Sqm Plot	Mixed		Female		Quantity	sqm plot
				Quantity	sqm plot	Quantity	sqm plot		
Indoor Sports Field	Sports hall	30*36m	3,200	7	22,400	4	12,800	11	35,200
Outdoor Sports Field (Shaded)	Shaded tartan sports field	15*30m	1,350	1	1,350	0	0	1	1,350
	Artificial grass - FIFA standard	68*105m	10,550	2	21,660	0	0	2	21,660
	Double FIFA Standard/ Cricket Combined (artificial grass)	120*156m	23,075	0	0	0	0	0	0
	Artificial grass - 5 aside	25*35m	1,550	5	7,750	0	0	5	7,750
	Artificial grass - 7 aside	35*50m	3,000	3	9,000	0	0	3	9,000
Swimming Pool	Training	15*25m	4,000	2	8,000	2	8,000	4	16,000
	Standard	25*50m	10,000	0	0	0	0	0	0
Total No. of Additional Facilities				20	59,330	6	20,800	26	90,960

Table 5 Community Oriented Sports Facilities Program (Town Level)

Facility Type	Facility Classification	Plot Size (Sqm per facility)	Facility Per User Group				Total No. of Facilities	
			Mixed		Female			
			Quantity	sqm plot	Quantity	sqm plot	Quantity	sqm plot
Tennis	Tennis Court	1,300	12	15600	0	0	12	15600
Squash	Squash Court	350	3	1050	0	0	3	1050
Beach Volleyball	Beach Volleyball Field	1,500	2	3000	0	0	2	3000
Athletics	Track and Field	22,000	0	0	0	0	0	0
Total (sqm)			17	19,650	0	0	17	19,650

3.11 The Natural Environment

The natural environment of the municipality includes the following:

- the Metropolitan Doha Greenbelt
- Wadi Wusail and Al Wusail EPAs
- the Northern Aquifer
- a rural character in the northern part that and features farms and agricultural land
- the coastal environment along the eastern edge of the municipality.

3.11.1 Protecting and Enhancing the Natural Environment

The environmental importance of the EPAs is of national significance. They also perform an important planning function as part of the Metropolitan Greenbelt. As a result development will be restricted in these areas.

In addition to the EPAs, development is restricted in the key natural environment assets that include the Coastal Zone Protection Area plus the numerous wadi and rodah that are scattered throughout the municipality, particularly those to the north of Umm Qarn. Urban development is also restricted in the Greenbelt Zone.

In light of the approved QNDF Document, Policy-Ene 1 states that both MMUP & MOE are responsible for preparing the "National Environmental Management Plan

This study will address a "Facility Program" that suits the nature of development in such environmentally sensitive areas.



3.11.2 Biodiversity

The flora, fauna, habitats, natural landscapes and vegetation located outside of the designated EPAs in Al Daayen are equally as important as those found in the protected areas. Due to the absence of formal designations they also need to be safeguarded from development pressures under the development regulations and zones.

Applications for development outside of the Al Wusail and Wadi Wusail EPA and the Coastal Zone Protection Areas will need to demonstrate awareness of any natural resources in and around the application site and provide

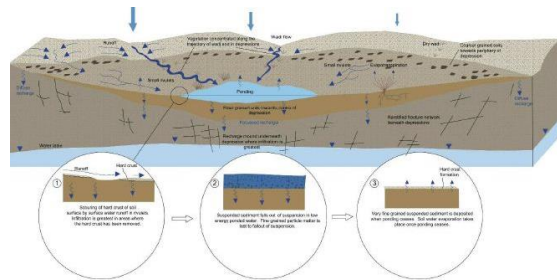
strategies for their protection and retention as part of the development application and how they will be protected when the development has been completed.

The creation of new open spaces and networks creates the opportunity to enhance the biodiversity value of the municipality. Developers should look to incorporate local features into the design of new developments and create habitats suitable for local fauna and flora to survive at the urban fringes, urban development will need to blend the rural landscape within the urban form, softening the boundary and creating green corridors that extend into the wider desert landscape. These corridors should extend across municipality boundaries and meet open space requirements as part of the wider landscape network.

3.11.3 Groundwater

Over half of the municipality is located within the Northern Aquifer. The northern part of the municipality is predominately rural in character and contains farms and agricultural lands. Agricultural activity through water abstraction is threatening fossil water reserves.

In addition, the degradation of the natural environment through urban development and pollution is undermining natural processes which replenish water reserves. Groundwater resources within the Municipality should be protected from excessive extraction and harm from development.



The Northern Aquifer is a nationally significant asset. Groundwater depletion has adverse impacts on the both the quantity and quality of available potable water in case of emergency. Continued depletion of the groundwater resources risks salination of the groundwater resource. Development within the Northern Aquifer will therefore be subject to the following additional controls:

- All new development must be connected to a reticulated sewage system.
- No ground water extraction will be permitted without the express permission of the Ministry of Environment.

3.11.4 Coastal Zone Management

The eastern edge of the Municipality is the coast, lying adjacent to the Arabian Gulf and covered by the Coastal Zone Protection Area. Any physical development must be restricted in this zone.

Potential impacts of climate change for the municipality include sea level rise and rise or coastal flooding. Outside the development boundaries of Lusail and Sumaisma no development will be permitted within 100m of the coastline. Within these development boundaries developers should apply the precautionary approach to development adjacent to the coastline.

The QNDF recommends that the seaward extension of the Al Wusail Protected Area should be considered as part of the National Environment Management Plan.

An Integrated Coastal Zone Management Plan is currently under preparation which will have direct impacts on identifying, managing and monitoring valuable coastal assets in Al Daayen. Development in or near the designated Coastal Zone Protection Area will not be permitted.

3.12 Movement

Transport is the component that binds all other elements together in forming and implementing the Al Daayen Spatial Development Strategy.

Although there will be increased public transport in the future in the form of the Metropolitan railway Red line, the LRT line within Lusail City and new city bus services, the use of private vehicles will still dominate throughout much of the municipality. This is because of the low density of development of Metropolitan Doha outside Lusail City, and the rural nature of the northern areas of Al Daayen.

Within the existing and newly designated centers (Umm Qarn, Lubaib and Rawdat Al Hammama) there is a need to consider the important role that public transport, cycling and pedestrian modes will have in future movement patterns. There is also a need to establish quality public transport systems within the Lusail City development that connect into the metropolitan Red line over the long term.



An integrated transport system including not only roads and road infrastructure, but also convenient public transport and associated facilities, bicycle and pedestrian facilities are essential.

The transport environment for public transport users for residents and visitors in the municipality is generally poor. In particular the following is noted:

- There are limited public transport facilities for passengers;
- The availability of pedestrian facilities such as bus shelters in convenient locations, is poor making accessing public transport difficult and unattractive.
- There are limited cycling facilities both in terms of the cycling network and how it links to the current public transport network, and in terms of inadequate cycle parking or cyclist facilities at destinations such as the workplace.

3.12.1 Integrated Transport Strategy

A transition from a private car dominated society to a pedestrian friendly society needs to occur within the municipality, through the availability of high quality public transport systems and services being essential. This will not necessarily occur prior to 2017; however, every effort should be made towards this.

This transition will depend on two major factors:

- The provision of quality public transport services.
- A change of spatial development pattern.



An increase in residential population and socio-economic activity densities within the existing and newly designated centers in Al Daayen should assist this transition together with improved accessibility and mobility between the centers and other areas through the wider availability of public transport modes and a more pedestrian friendly transport environment.



It is important for current planning to consider and complement the future metropolitan rail Red Line. To maximize the benefit of having the inter-city rail stations (Metro Red Line) at the centers of Al Daayen, it is imperative that the street system to be re-structured in a hierarchical manner to provide and promote excellent mobility, accessibility and integrated opportunities for introducing quality public transport services within the centers and surrounding areas.

This should be progressed by:

- Preparing conceptual plans for such inter-modal facilities once such Metro stations locations are identified. Those stations should be fully integrated into the proposed mixed-use centers.
- Identifying Park and Ride sites to be near of the identified mixed-use centers, and co-location with the metro stations as part of the intermodal facilities.
- Re-structuring of the highway / street systems to meet TOD requirements.
- Designating key pedestrian routes and cyclist networks together with a public realm improvement plan including a green open space network, as part of metro and bus station design and operation.



- Promoting the use of high quality bus based public transport to connect the residential neighbourhoods with the mixed use centers and rest of Metro Doha.
- Developing a choice of metro stations strategically located within the proposed urban areas providing bus feeder connections where required.

- Promoting east west connections for public and private transport.

3.12.2 Public Transport

The current public transport services by Mowasalat in the municipality are limited to a small number of scheduled inter-city bus services. As population and economic growth continue, there will be an opportunity to enhance these services.

Improving public transport by providing convenient and comfortable bus stops and bus shelters, increasing service coverage, frequency and reliability, providing real-time information and an integrated ticketing system to make the transfer between the different modes of public transport easier and more convenient, will greatly assist this culture change. Combined bus/metro stations, in particular for the designated Town and District centers will encourage people to use public transport. This in turn will lead to a reduction in the number of cars on the highway network and help alleviate future congestion problems.



The public transport network should also be consolidated to focus on serving areas where housing growth is permitted over the short term to 2017. Connections between Lubaib and Rawdat Al Hammama District Centers, Umm Slal Mohammed Town Center and Al Gharrafa Town Center together with a dedicated route between the Lusail Metropolitan Center and the Capital City Precinct should be prioritized. In the north of the municipality a public transport connection between Sumaisma and Umm Qarn Town Center should also be introduced.

The proposed LRT in Lusail City needs to be connected to the metro Red Line in an effective and efficient manner. This will help to reduce the traffic demand on Al Khor Expressway. One of the metro Red Line station near Umm Qarn Town Center should also be developed in an integrated manner with the center development.

3.12.3 Street Hierarchy

The street system in the municipality is being re-structured to achieve maximum accessibility in a hierarchical manner by way of the Local Roads and Drainage Program. The streets will be developed in a pedestrian and cycling friendly manner so that new road infrastructure does not restrict pedestrian movement or have a damaging impact on the setting and amenity of residential neighborhoods.

In key activity nodes, local centers and parks, the design of the road must respond to its context by reducing traffic speeds, lane widths and increasing the number of

pedestrian crossing points. The capacity for private cars should be reduced in favor of public transportation, pedestrian facilities and an enhanced public realm.

3.12.4 Park and Ride

Provision of **Park and Ride sites** near inter-city bus terminals and the future metro stations will play an important role in helping to reduce vehicular traffic on the Al Khor Expressway and Al Shamal Road, as it will provide residents with a viable alternative to using private vehicles.

The provision of **Park and Ride** will be considered for the mixed use Centers. A detailed study on the potential Park and Ride sites should be undertaken as a priority in order to secure land, and once identified, a moratorium on future developments at the park and ride sites should be enacted.

Park and ride sites should be designed to be integrated way with existing and proposed mixed use centers. This will enable the dual use of car parking spaces throughout the day. Parking spaces should be covered with shading structures, and include safe and covered pedestrian routes connecting the parking area to metro station entrances and inter-city bus terminals.

3.12.5 Walking and Cycling

Constraints presently exist in the form of Al Khor Expressway and Al Shamal Road acting as major pedestrian barriers for accessibility to neighborhoods in

Al Daayen. Grade-separated pedestrian crossing facilities (including a separated cycling network) are required. Priority should be given to locations around mixed-use centers, the metropolitan rail Red Line stations and development corridors.

Future highway and street development should include space for pedestrians and cyclists, especially within mixed use centers. Streets should be designed to promote pedestrian priority. Other measures include traffic calming techniques such as widening sidewalks, narrowing lane width, reducing the number of lanes, lowering speed limit and street lighting should also be considered.



The National Bicycle Master Plan provides the overarching strategy for enhancing routes and facilities for cyclists in Qatar. Priority should be given to those routes that connect the mixed use centers, and connections that connect to the coast. A long distance leisure route along the coast should be implemented as an extension to the proposed Airport City to Pearl cycling corridor route.

Developers will be required to provide facilities for cyclists in the form of cycle parking in centers and other destinations such as workplaces. Cycle parking should also be provided in mixed use centers and at public transport stations and stops.



3.12.6 Parking

The proposed mixed use centers in Al Daayen promote higher land use densities around a commercial core within a convenient and pedestrian friendly walkable distance for many residents. In Umm Qarn the town center will continue to be detached from the residential areas over the short term and therefore access will be primarily be by private vehicle. In other mixed use center the number of parking spaces can be reduced below the standard parking requirements for retail, office and residential land uses. Also by providing adequate and efficient transportation alternatives and increase transit accessibility to the town center, the demand for parking spaces is expected to fall.

As each center has a different context in terms of walkable catchment and public transport provision, a specific parking demand and management study for each center will be necessary to understand the local needs. Within centers the visual impact of parking can be reduced through suitable design of parking areas and landscaping of the right of way.

3.13 Utilities

With the significant urban growth for Al Daayen, expanded utilities services are required to serve the future urban development.

Significant infrastructure development will occur over the next few years with the provision of utility services. Major utilities developments include sewage connections to the Doha North Sewage Treatment Works, the Local Roads and Drainage Program, the rollout of the broadband network and the implementation of the Integrated Drainage Master Plan.

3.13.1 Water

Water consumption in Al Daayen Municipality is expected to increase in 2017 by more than 8 times the 2008 volumes, in order to serve the needs of new development projects such as Lusail City. In order to accommodate the increase of water demand, Kahramaa has already undertaken the development of new Reservoirs and Pumping Stations (RPS) at Umm Qarn Duhail and Umm Slal.



3.13.2 Wastewater

The majority of the urban areas of the municipality will be served by the foul sewer network that will be connected to the Doha North Sewage Treatment Works. There is the possibility of the network being extended north in the future to serve Umm Qarn and Sumaisma. This would eliminate the use of septic tanks and the tanks of wastewater.

The Doha North Sewage Treatment Works will also provide the TSE for the municipality.

3.13.3 Storm water and Shallow Groundwater Drainage

There are opportunities to enhance storm water quality and limit the impact of rainfall storm events on urban areas and the transportation network through the introduction of sustainable drainage techniques. A potential opportunity also exists to use the network of wadi and rodah in the municipality for managing storm water as natural storage areas thereby reducing the need for expensive infrastructure and further promoting the ecological value of such features.

3.13.4 Electricity

There are potential shortfalls in electricity supply across the most of Al Daayen municipality. Major new infrastructure is required to meet the increased demands of the growing population, especially in new development areas including Lusail City, Lubaib and Rawdat Al

Hammama District Centers. Additional primary substations will be needed in those areas. Since the land values (prices) of urbanized areas are high in general, it is generally recommended that those new substations are placed under ground for minimizing the visual impact and land take.



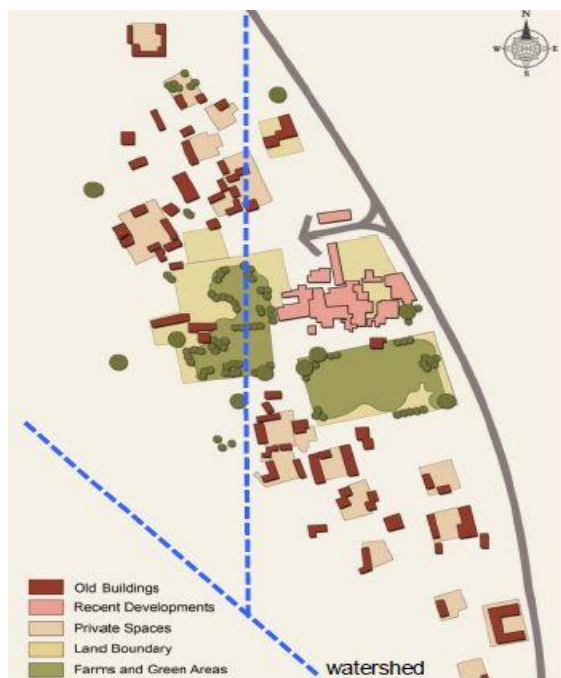
3.13.5 Telecommunications

New mobile phone infrastructure should be integrated to new developments minimizing its visual impact.

The Qatar National Broadband Network will be delivering an open access fiber network over the next 5 years. This will support the development of the broadband service to consumers in the municipality from the existing telecommunications providers, Vodafone and Ooredoo.

3.14 Heritage

There are numerous heritage features within Al Daayen Municipality including wells and springs, mosques, houses, abandoned villages at Al Rehayya, Umm Qarn, Tenbek and the fishing villages located north of Lusail. These features have an important social and economic value that forms part of the national identity of Qatar. The abandoned villages often display an almost intact traditional Qatari townscape.



The Private Engineering Office has been involved with the preservation of the abandoned fishing villages, while the Qatar Museums Authority is in the process of acquiring the buildings and surroundings of the abandoned village at Umm Qarn.



The different heritage features will be protected with the Land Use Zoning Regulations while larger sites including the abandoned villages will require heritage conservation management plans. As part of the heritage conservation management plan a series of urban design and architectural guidelines should be drawn up to inform future development in and around the historic area boundary.