Does Qatar has a Sustainable Metropolitan?

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Introduction

- The Qatar National Vision (QNV2030) emphasizes the harmony between economic growth, social development and environmental protection is the management of environment. In fact, Qatar is facing many challenges to achieve a sustainable development. One of which is the unprecedented urban development and expansion activities, which build up a question of: does Qatar really have a sustainable metropolis?

- This presentation will poses the significant unsustainable risks, issues and challenges behind impropriety urban acceleration in Qatar, as such the sustainable way to solve and plan metropolitans. As a result, an important principle was encompass under the Master Plan Project’s vision of the promotion of sustainable metropolis.
Context

Population = 2.6M (75% male, 25% Female, Qatari Nationals <14%, 1.5M Labors/Construction Workers)

Pace of change - Population needing housing and services:

source: Qatar National Development Framework - QNDF
Context

Pace of Change – Rapid Urban Growth

source: QNMP Technical Information Document (TID) prepared by Oriental Consulting (OC)
Context

Pace of change

**Economic Development** - GDP ~ 20 USD Billion in 2000 to 152 Billion USD Billion in 2016

*(source: GDP figures, MDP&S Statistical data and World Bank)*

**Trade, Industries and Services** are predicted to grow 4 folds between 2010 and 2030

*(source: MDP&S statistics and Ministry of Economy and Commerce Statistical report)*

**Hosting FIFA** – World Cup 2022 and many other international events – brought forward the Planning Horizon from 20 years to 10 years *(source: QNDF and TID for QNDF)*

**Mega Projects** – Rail, Road, Sporting Facilities and other Infrastructure – 285 Billion between 2009 and 2030 *(source: The MEED -Middle East Economic Digest- magazine)*

**Transformation** - Hydrocarbon Economy to knowledge Based Economy from 2017

*(source: GSDP (now MDP&S) QNV 2030 and Advancing Sustainable Development Report)*
Context

Facts MUST need to be considered


**Energy Consumption** – Qatar 15,135 KWH/pp compared to Australia 10,860, US 12,750, UK 5,600, India 502 *(source: Kahramma Statistical Report 2015)*

**Waste Generation** – 1.8 Kg /pppd (USA and some other EU countries are around 2 – 2.5, however 50 – 70% are recycled/reused)

*(source: QNMD technical information document by OC)*

**Carbon Emission** – Highest Per capita generation *(source: World bank and COP reports)*

**Ecological Footprint** – Qatar = 11.64 gha/pp, World avg = 2.6 gha/pp

*(source: Living Planet report 2012, World Wildlife Fund (WWF))*

**Other Factors to Consider** – Annual Rainfall - 76mm – Australia 560mm, Asian Countries = 2500mm) and excessive quantity of evaporation *(source: MDP&S – Annual Statistical report on environment)*
Qatar National Master Plan

“The Qatar National Master Plan Project is guiding the physical and spatial development of Qatar from now until 2032”

A program of work to prepare spatial (land use) Master Plans to guide the future sustainable planning and development of Qatar, its cities and towns.
Qatar National Master Plan

Whole of Government

QATAR
Whole of Gov’t Policy

QNV 2030
National Development Strategy

Policy Documents

GOV’T MINISTRIES, AGENCIES,
Supreme Councils

QNMP Review, Growth
Monitoring & Management

Qatar National Development Framework (QNDF)

Vision; Objectives; Policies; Policy Actions; Regional Roles & Functions
Structure Plans; Urban Growth Boundaries; Center Hierarchies

Municipal Spatial Development Plans

Vision; Objectives; Policies; Zoning Plans, Regulations
Area Action Plans

Development Permits

Level of Planning

SITE

Site Planning & Development

Local/Neighbourhood Planning

City Planning

Regional Planning

National Spatial Policy

Whole of Government

QATAR
Whole of Gov’t Policy
Strategic Planning Objectives

- Promote a high quality Capital City Precinct within Inner Doha
- Develop a number of high quality mixed-use, mixed density centers as transit oriented development (TOD)
- Establish a high quality and integrated public transport network
- Ensure radial routes act primarily as public transit corridors
- Ensure mega projects and other large scale development are integrated into the wider community
- Promote equitable accessibility to community facilities and social amenities
- Protect and enhance the natural, built and cultural environment
- Ensure risks from climate change impacts are evaluated
- Plan, coordinate, deliver, upgrade and manage transport and utilities infrastructure services
- Develop a policy and plan led system
National Spatial Strategy Spatial Strategy Concept (2032)
The QNDF Centers Hierarchy
# Livable Communities

**Hierarchy of Centers**

<table>
<thead>
<tr>
<th>Neighbourhood &amp; Local Planning Components</th>
<th>Low Density Residential</th>
<th>Medium Density Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>-The Neighbourhood Center</td>
<td>Function: provide daily needs of community with daily mosque and park at heart of community where people can meet and socialise.</td>
<td></td>
</tr>
<tr>
<td>Neighbourhood Park</td>
<td>Daily Mosque</td>
<td>Juma Mosque</td>
</tr>
<tr>
<td>Bus stop or feeder bus</td>
<td>Local food retail</td>
<td>Supermarket and other retail</td>
</tr>
</tbody>
</table>

- **The Local Center**
  - Function: provide weekly retail and community facilities around local park and Juma Mosque

- **The District Center**
  - Function: provide alternative housing options and additional community facilities around a transit station

<table>
<thead>
<tr>
<th>National Growth Centers</th>
<th>Mixed Density Residential</th>
<th>High Density Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town Center</td>
<td>Function: Complement metropolitan centers by serving catchments of sub-regional significance</td>
<td></td>
</tr>
<tr>
<td>Metropolitan Center</td>
<td>Function: Regional significant nodes of key employment concentrations and secondary administrative focus.</td>
<td></td>
</tr>
<tr>
<td>Capital City Center</td>
<td>Function: Nationally significant area of highest quality built environment and function</td>
<td></td>
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</tbody>
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Centers and Livable Neighborhoods
Integrated Transport Strategy

- A key focus of the QNDF is to mitigate the effects of high private vehicle usage and the creation and promotion of high quality public transport. Existing forms of public transport, which are currently limited to bus and taxi services, will be significantly enhanced, with new forms of public transport being introduced including water-based public transport, bus rapid transit, Metro rail, tram and long distance rail systems.
Integrated Transport Strategy

- Integrated with the existing public transport system, the Doha Metro will enable car-users to switch to rail travel, thereby alleviating traffic congestion, whilst helping create attractive transit-oriented urban centers.

- The planning and design of these public transportation networks will need to be integrated with land use proposals, including TOD, to ensure improvements in accessibility, community cohesion and economic efficiency are realized. TOD provides opportunities for increasing transit accessibility, through integration of transport facilities with a mix of land uses and, when appropriate, provides off-peak parking at public sites. Limiting the provision of parking spaces around the TOD stations will in turn discourage private vehicles from entering those areas and help create a pedestrian-friendly environment.
Conclusion

- Although Qatar does not have a sustainable metropolitan yet, but it is working very hardly to achieve it.
- Qatar has developed the Qatar National Master Plan with its Municipal Special Development Plans (MSDP), which has planned centers in each municipality in two categories, District and Metropolitan with specific regulation for sustainability approach.
- It has developed an Integrated Transport Strategy which will enhance the use of public transport and reduce the use of high private vehicles.
Thank you