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# URBANISATION AND PHYSICAL ACTIVITY IN THE GCC: A CASE STUDY OF OMAN

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# Urbanisation and Physical Activity in the GCC: A Case Study of Oman

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## About the Author

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## Abstract

Urbanisation and modernisation have dramatically changed the urban landscape in Oman and neighbouring countries. Noncommunicable diseases have become a major health burden. Transforming the urban environment to one supportive of physical activity would have wide-ranging benefits. Using the draft WHO technical package on promoting physical activity as a starting point, interviews were conducted with key stakeholders followed by a literature review on the most salient themes that emerged. This paper describes how the urban landscape needs to change if physical activity is to become a natural part of daily activity in Oman, hence increasing the possibility of meeting the national goal: a 10 percent reduction of physical inactivity by 2025.



## Executive Summary

Urbanisation and modernisation have dramatically changed the urban landscape in Oman and neighbouring countries. Cities, communities and neighbourhoods have designed walking and cycling out of people's lives and automobiles now dominate urban spaces. The car-centred culture and concomitant sedentary lifestyle are destroying the population's well-being, as noncommunicable diseases (NCDs) have become a major health burden. Transforming the urban environment to one supportive of physical activity would have wide-ranging benefits.

This report describes how the urban landscape needs to change if physical activity is to become a natural part of daily life in Oman. Using the draft WHO technical package on promoting physical activity as a starting point, interviews were conducted with key stakeholders followed by a literature review on the most salient themes that emerged. The policy implications, summarised below, build upon the findings outlined in *Urban Oman*, a four-year research project on urban planning and design.

First, adopting a national vision to create communities supportive of physical activity would facilitate the implementation of the WHO technical package on physical activity. Rapid urbanisation, population growth and dispersed low-density settlements hamper sustainable development and have created a car-dependent culture. A more deliberate pursuit of an urban planning strategy would promote physical activity in all areas of life.

Second, changing policymakers' perspectives of physical activity and health as well as urban design and transportation modalities within the environmental and socio-cultural context of Oman would broaden their vision of what is possible. Careful urban planning and design based on people's needs can encourage greater physical activity despite the warm weather. Innovative eco-friendly communities require an increase in residential density, land use mix and street connectivity. By making active travel and public transportation attractive alternatives to cars, the country could achieve the goal of a 25 percent modal shift in transportation by 2040.

Third, a participatory approach to the planning process would facilitate in achieving universal accessibility of public open spaces. This approach can help identify the best ways to address key cultural, physical, psychological and economic barriers to mobility since this kind of information is limited, especially for the most vulnerable groups like women, children, older adults and people with disabilities.

The final section demonstrates how the concepts of urban design can be used to create walkable neighbourhoods in the Omani capital of Muscat. Understanding the core principles advocated by both urban planners and physical activity experts is key for transforming the urban landscape. Existing communities, where a majority of Omanis live, need to be carefully (re)designed to help meet the physical activity goal by 2025. Otherwise, the trend towards the sedentary lifestyle and urban sprawl will continue unabated.

## Introduction

*Beauty has an address*, the tag line for Oman's Ministry of Tourism, aims to attract tourists and international investments. This branding is a key effort as the country strives to diversify an economy dependent on fossil fuels. But the undeniable natural beauty of the country stands in sharp contrast to the daily reality of many residents. What this image ignores is Oman's rapid transformation, like many of its neighbours, due to its oil-producing economy.

Urbanisation has changed the way people live in Oman and an increasingly sedentary lifestyle is negatively impacting their health and well-being. NCDs such as heart disease, diabetes, chronic respiratory diseases and cancer, are now a major burden. The design of cities, communities and neighbourhoods – where cars seem to rule the landscape – seems to have forgotten about their inhabitants: physical activity, a key health-promoting behaviour, has been designed out of people's lives. How and why has this happened, and what can be done about it? The following paper attempt to address these questions and identify ways to (re)transform the country's landscape so that people are able to be physically active in their daily lives.

## Urbanisation and Health: The Global Context

Rapid urbanisation has become a global phenomenon. Today, more than half of the world's population live in cities; by 2050, almost three-quarters will live in urban areas.<sup>1</sup> However, this rapid transformation has serious health consequences, including the growing epidemic of NCDs, which accounted for 72.3 percent of global deaths (or 39.5 million deaths) in 2016.<sup>2</sup> Until recently, the connection between urbanisation and health has largely been ignored, but it can no longer be disregarded: people are getting sick.

Urbanisation has been on the global agenda since the 1970's when the first Habitat conference focused on unplanned urban growth which was seen as exacerbating poverty and inequality. Issues of economic development and environmental protection were not central concerns until 20 years later, when the Istanbul Declaration and the Habitat Agenda were developed at the 1996 UN Conference on Human Settlements.

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<sup>1</sup> United Nations, Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2014 Revision* (New York, 2014).

<sup>2</sup> A. A. Abajobir et al., 'Global, Regional, and National Age-Sex Specific Mortality for 264 Causes of Death, 1980–2016: A Systematic Analysis for the Global Burden of Disease Study 2016', *The Lancet* 16/390 (2017), pp. 1151–210.

Subsequent global gatherings around urbanisation were instrumental in keeping these and related issues on the global agenda.<sup>3</sup>

Around the same time, the nutrition transition model was proposed by Popkindescribing the increasing levels of obesity and NCDs resulting from the global shift in diet and activity patterns associated with ‘western’ lifestyles.<sup>4</sup> This trend, usually first observed in urban areas, is accelerating rapidly, particularly in high-income developing countries, where urbanisation is seen as a key underlying factor.<sup>5</sup> A more recent pattern, characterised by behaviour change to prevent or delay NCDs and other degenerative diseases, is emerging as some countries begin making programmatic and policy changes promoting positive shifts in dietary and activity patterns.<sup>6</sup>

The global importance of NCDs was only formally recognised more than 15 years later, in September 2011, when the UN General Assembly adopted the ‘Political Declaration on the Prevention and Control of NCDs’.<sup>7</sup> In May 2013, the World Health Assembly approved nine voluntary targets for 2025, including a 25 percent reduction in mortality due to NCDs and a 10 percent reduction in physical inactivity.<sup>8</sup> The Sustainable Development Goals (SDGs) for 2030 explicitly connect the issues of urbanisation and health in Goals 3 (on health and well-being) and 11 (on sustainable cities and communities).<sup>9</sup>

## Urbanisation and Health in Oman

The countries of the Gulf Cooperation Council (GCC) are among the most urbanised in the world.<sup>10</sup> In 1970, only half (52.7 percent) of the population lived in urban areas; by 2050, that proportion will be closer to four-fifths (82.2 percent). In the geographically smaller states of Bahrain, Kuwait and Qatar, a large majority have been living in urban centres.<sup>11</sup> But the most dramatic population shift due to urbanisation belongs to Oman (Figure 1); three quarters (75.2 percent) of the population currently live in urban centres compared

<sup>3</sup> Eugenie L. Birch, ‘A Midterm Report: Will Habitat III Make a Difference to the World’s Urban Development?’, *Journal of the American Planning Association* 82/4 (2016), pp. 398–411.

<sup>4</sup> Barry M. Popkin, ‘Nutritional Patterns and Transitions’, *Population and Development Review* (1993), pp. 138–57.

<sup>5</sup> Popkin, L.S. Adair, and S.W. Ng, ‘Global nutrition transition and the pandemic of obesity in developing countries’, *Nutrition Reviews*, 70/1 (2012), pp. 3–21.

<sup>6</sup> Popkin, ‘Global nutrition dynamics: The world is shifting rapidly toward a diet linked with noncommunicable diseases’, *American Journal of Clinical Nutrition* 84/2 (2006), pp. 289–98.

<sup>7</sup> United Nations General Assembly, *Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases: Resolution Submitted by the President of the General Assembly* (New York, 2011).

<sup>8</sup> World Health Organization, *Global Action Plan for the Prevention and Control of Noncommunicable Diseases, 2013–2020* [Resolution WHA66.10] (Geneva, 2013).

<sup>9</sup> United Nations General Assembly, *Transforming Our World: the 2030 Agenda for Sustainable Development* (New York, 2015).

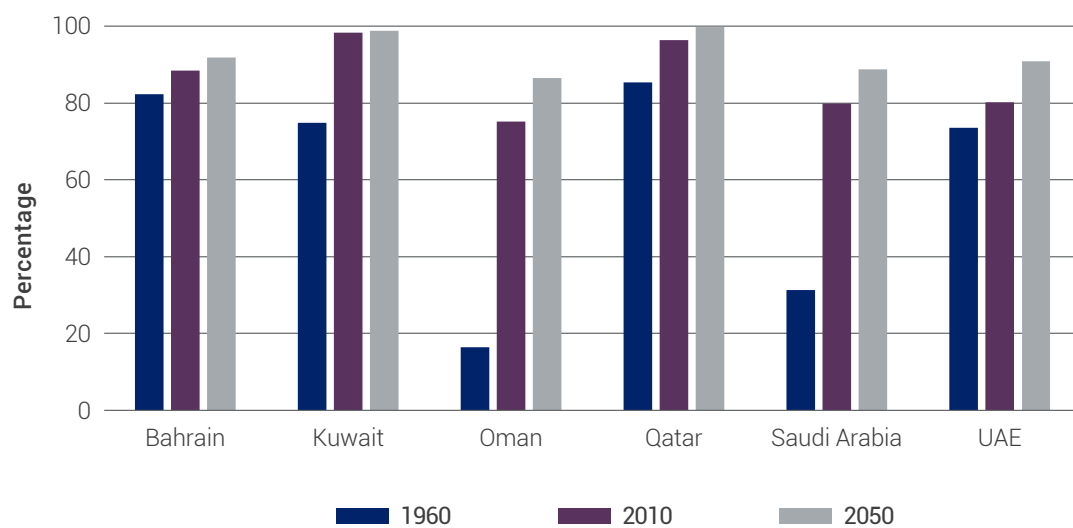
<sup>10</sup> UN-Habitat, *The State of Arab Cities, 2012: Challenges of Urban Transition* (Nairobi, 2012).

<sup>11</sup> World Health Organization, *Global Health Observatory* (2016). Available at <http://apps.who.int/gho/data/node.home>.

to only one in five (16.4 percent) fifty years ago.<sup>12</sup> The Omani population is expected to continue to grow rapidly, doubling by 2040.<sup>13</sup> This ongoing increase places tremendous demand on natural resources, including the land itself, which is being overrun by housing, commercial structures and an ever-expanding transportation network.<sup>14</sup>

**Figure 1. Trends in Urbanisation in GCC States (1960–2050)**

Source: World Health Organization.<sup>15</sup>



Socio-economic development in the GCC has resulted in massive transformations in the urban landscape. Cities illustrate the form of urban modernity known for its architecture, extensive road networks, shopping malls and reclaimed lands.<sup>16</sup> Urban design, often done in a piecemeal effort, follows a Western planning model with functional spatial segregation, high dependence on cars, single-family villas and suburban living.

<sup>12</sup> Ibid.

<sup>13</sup> National Centre for Statistics & Information [Oman], *Population Projections in Sultanate of Oman, 2015–2040* (Muscat, 2015).

<sup>14</sup> Sonja Nebel and Aurel von Richthofen (eds), *Urban Oman: Trends and Perspectives of Urbanisation in Muscat Capital Area* (Zurich, 2016).

<sup>15</sup> World Health Organization, *Global Health Observatory*, 2016. Available at <http://apps.who.int/gho/data/node.home>.

<sup>16</sup> Elnazir Ramadan, 'Sustainable Urbanization in the Arabian Gulf Region: Problems and challenges', *Arts and Social Sciences Journal* 6/2 (2015).



The impact of this type of urbanisation on public health is especially concerning since it is often accompanied by an increase in NCDs,<sup>17</sup> including in the GCC.<sup>18</sup> They are now the leading causes of morbidity and mortality in Oman. Additionally, more than half of Omani adults are currently overweight or obese, 40 percent have high blood pressure and more than 12 percent have high blood glucose.<sup>19</sup> The prevalence of these health conditions is largely driven by dietary exposures and insufficient physical activity, two of the five main contributors to health risk in the country.<sup>20</sup>

The direct and indirect economic costs of NCDs in the GCC were estimated to be \$36.2 billion in 2013 and are expected to reach \$67.9 billion by 2022.<sup>21</sup> In contrast, the economic costs of physical inactivity in the Gulf is still not known; but estimates from high-income countries suggest that the direct medical costs constitute about 1.5 to 3 percent of total medical costs;<sup>22</sup> in China, the percentage is estimated to be much higher (15 percent).<sup>23</sup> If indirect costs are included, the economic burden of physical inactivity would be even higher.

Strengthening the health sector will likely improve the health status of people with NCDs but it will do little to halt the epidemic itself. On the other hand, accelerating efforts to increase physical activity among the Omani population would begin to attack the root of the problem, and also result in significant cost savings to the health sector.<sup>24</sup> The research literature has consistently found a link between the design of cities and physical activity;

<sup>17</sup> Sophie Eckert and Stefan Kohler, 'Urbanization and health in developing countries: a systematic review', *World Health and Population* 15/1 (2014), pp. 7–20.

<sup>18</sup> Hanan F. Abdul-Rahim et al., 'Non-communicable diseases in the Arab world', *The Lancet* 383/9914 (2014) pp. 356–67; Shu Wen Ng et al., 'The prevalence and trends of overweight, obesity and nutrition-related non-communicable diseases in the Arabian Gulf States', *Obesity Reviews* 12/1 (2010), pp. 1–13.

<sup>19</sup> Ministry of Health Oman, *National policy on the prevention and control of noncommunicable diseases* (Muscat, 2016).

<sup>20</sup> Institute for Health Metrics and Evaluation [University of Washington], *GBD Country Profiles* (Seattle, 2010). Available at <http://www.healthdata.org/results/country-profiles>. Unhealthy diet and physical inactivity along with tobacco use are major modifiable behavioural risk factors; these three behaviours combined with non-modifiable risk factors like age and heredity, are among the main causes of the four common NCDs (heart disease, diabetes, chronic respiratory diseases and cancer). See: World Health Organization, *Preventing Chronic Diseases: A Vital Investment* (Geneva, 2005).

<sup>21</sup> Strategy&, *The \$68 Billion Challenge: Quantifying and Tackling the Burden of Chronic Diseases in the GCC* (Illinois, 2013).

<sup>22</sup> Neil B. Oldridge, 'Economic Burden of Physical Inactivity: Healthcare costs associated with cardiovascular disease', *European Journal of Cardiovascular Prevention and Rehabilitation* 15/2 (2008), pp. 130–9.

<sup>23</sup> Juan Zhang and Jad Chaaban, 'The economic cost of physical inactivity in China', *Preventive Medicine* 56/1 (2013), pp. 75–8.

<sup>24</sup> Popkin et al., 'Measuring the full economic costs of diet, physical activity and obesity-related chronic diseases', *Obesity Reviews* 7/3 (2006), pp. 271–93.

physical activity has also been shown to offer other health, economic and social benefits.<sup>25</sup> This report aims to identify public policy opportunities for increasing physical activity in the urban centres of Oman.

## Methodology

Investigating the relationship between urbanisation and physical activity is a complex interdisciplinary process. While their intersectionality seems obvious, effective public policy interventions are made more difficult by the ‘silo’ practice of sectors working independently. In an effort to better understand these matters, this study followed a two-pronged approach: (a) interviews with policymakers and (b) a literature review examining the most salient themes that emerged from the interviews.

The main point of reference for this study is the draft World Health Organization (WHO) technical package promoting physical activity which provided the public health framework. This package (henceforth, ‘WHO package’) outlines 7 action areas: built environment, schools, healthcare, sports, community-wide programmes, workplaces, communication and mass media.<sup>26</sup> The evidence-based interventions in each of these areas are supported by detailed action points. For example, the first action area on the built environment – which relates to urban planning and design, layout of communities, and transportation infrastructure – is about policy integration; it has four action points relating to: establishing a cross-government mechanism; developing guidance and joint plans; conducting impact assessments; and developing human resource capacity.

Two sets of semi-structured interviews were conducted as part of a broader investigation of adopting the WHO package in Oman. The first set of interviews was conducted with 11 policymakers and academics working in the fields of urban planning, transportation and sports, as well as members of parliament to explore their views on implementing the WHO package related to the built environment. Another set of interviews were held with 12 health experts focusing on healthcare interventions. Their comments about the built environment were also included in the analysis.

<sup>25</sup> Peng Chen and Jiangping Zhou, ‘Effects of the built environment on automobile-involved pedestrian crash frequency and risk’, *Journal of Transport & Health* 3/4 (2016), pp. 448–456; James F. Sallis et al., ‘Co-benefits of designing communities for active living: An exploration of literature’, *International Journal of Behavioral Nutrition and Physical Activity* 12 (2015), p. 30; Lars B. Christiansen et al., ‘International comparisons of the associations between objective measures of the built environment and transport-related walking and cycling: IPEN adult study’, *Journal of Transport & Health* 3/4 (2016), pp. 467–78; Sallis et al., ‘Physical activity in relation to urban environments in 14 cities worldwide: A cross-sectional study’, *The Lancet* 387/10034 (2016), pp. 2207–17; Gavin R. McCormack and Alan Shiell, ‘In Search of Causality: A Systematic Review of the Relationship between the Built Environment and Physical Activity among Adults’, *International Journal of Behavioral Nutrition and Physical Activity* 8(2011), p. 125; Casey P. Durand et al., ‘A systematic review of built environment factors related to physical activity and obesity risk: Implications for smart growth urban planning’, *Obesity Reviews* 12/5 (2011), pp. 173–82.

<sup>26</sup> World Health Organization, *Physical activity technical package: Key policies and interventions to promote physical activity* (draft) (Unpublished, Geneva).

## Summary of the WHO Package on the Built Environment and Health Care

(See Annex 1 for detailed action points)

### Built Environment

1. Integrate transport, environmental, health and crime prevention objectives into relevant urban and spatial planning policies at national, regional and city level to support physical activity;
2. Provide equitable access to safe, integrated public transport;
3. Enhance communities to enable equitable access to a diversity of local destinations;
4. Prioritise walking and cycling and public transport, including the provision and preservation of safe infrastructure for walking and cycling;
5. Provide and preserve quality, accessible and safe public open space;
6. Provide equitable access to quality sport and recreation facilities.

### Health care

1. Mainstream physical activity promotion within the healthcare system;
2. Promote physical activity through primary care services;
3. Strengthen links between primary healthcare centres and the community for the promotion of physical activity.

The WHO package was shared with all 23 experts according to their area of expertise (built environment or healthcare) before the interviews which were audio-recorded and transcribed, with appropriate attention given to maintaining experts' confidentiality and anonymity. The interviews were carried out in collaboration with Huda Al Siyabi, Director, of the Department of Community-based Initiatives at the Ministry of Health (MOH), and Muhssen Kannan and Amal Al Siyabi, experts from the same department, following approval by the MOH Research and Ethics Review Committee.

Each interview lasted for around 40 minutes and followed an interview guide developed specifically for this purpose. It began with a brief overview of the focus and aims of the study. Interviewees were then asked to describe their background and responsibilities including their involvement in promoting physical activity, if any. Following a brief overview of the WHO package, the four action points were presented one at a time; interviewees were asked about their relevance, utility and implementation in Oman.

Overall, the experts welcomed the WHO package and found its action points relevant for the country; all were keen to try to implement the action points, if they had not already been addressed. Thereafter, the interviews focused primarily on the perceived challenges to implementing the interventions and possible solutions to those problems. The most salient findings were related to poor understanding of physical activity and haphazard urban planning resulting in an infrastructure unable to support walking, cycling, public

transportation and recreational activity. In addition, attitudes and views of travelling by foot, bicycle and public transport in the hot, humid climate, as well as gender expectations were identified as key barriers.

Peer-reviewed journal articles and grey literature were consulted to contextualise these findings focusing specifically on the local policy, socio-cultural and geographical issues raised in the interviews. However, literature on urban planning and design in the region is still quite scant, with the notable exception of *Urban Oman, Trends and Perspectives of Urbanisation in Muscat Capital Area*,<sup>27</sup> one of the only published works on urban planning and design in Oman, the outcome of collaborative research conducted by the German University of Technology and Sultan Qaboos University in 2010–14. This landmark study provides a comprehensive examination of the history and challenges of urban planning in Oman and as such, forms an important backdrop for this study.

## Defining Physical Activity

Unfortunately, the concept of ‘physical activity’ is commonly misunderstood, making public health advocacy difficult. Most frequently physical activity is equated with exercise, such as vigorous aerobic activity or leisure time physical activity.<sup>28</sup> In actuality, physical activity is a broader category of movement activity that can take place at home or at work, as a mode of transportation (e.g., cycling) or through various recreational activities. In other words, it is not restricted to ‘working out’. For adults, WHO recommends at least 150 minutes of moderate-intensity aerobic physical activity throughout the week,<sup>29</sup> which can be easily accomplished, for example, by incorporating walking into one’s daily routine.

While the human body is designed for movement, the processes of industrialisation and urbanisation have engineered physical activity out of daily life.<sup>30</sup> In Oman, the prevalence of physical activity is quite low (Figure 2), especially amongst women and girls: this gender gap is markedly larger than in other parts of the world;<sup>31</sup> equally troubling is the decreasing rate of physical activity amongst adolescents.<sup>32</sup>

<sup>27</sup> Nebel and von Richthofen (eds), *Urban Oman*.

<sup>28</sup> Fiona C. Bull and Adrian E. Bauman, ‘Physical inactivity: The “Cinderella” Risk Factor for Noncommunicable Disease Prevention’, *Journal of Health Communication* 16 Suppl 2 (2011), pp. 13–26.

<sup>29</sup> World Health Organization, *Global Recommendations for Physical Activity for Health* (Geneva, 2010).

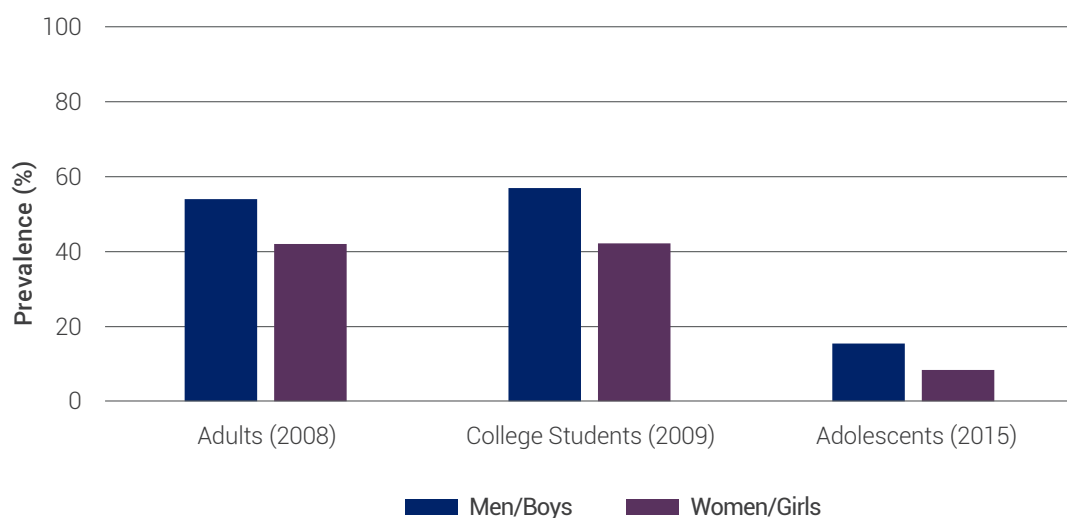
<sup>30</sup> Paul Pilkington, Jane Powell and Adrian Davis, ‘Evidence-based decision-making when designing environments for physical activity: The role of Public Health’, *Sports Medicine* 46/7 (2016), pp. 997–1002.

<sup>31</sup> Ruth M. Mabry et al., ‘Evidence of physical activity participation among men and women in the countries of the Gulf Cooperation Council: A review’, *Obesity Reviews* 11 (2010), pp. 457–64.

<sup>32</sup> WHO recommends that children aged 5 to 17 years do at least 60 minutes of moderate-intensity physical activity per day. See: Mabry et al., ‘Descriptive epidemiology of physical activity among Omani adults: The Oman World Health Survey, 2008’, *East Mediterranean Health Journal* 22/2 (2016), pp. 103–15; World Health Organization, *Global School Health Survey: Oman Fact Sheet, 2015* (Geneva, 2017); Ruth M. Mabry, Neville Owen and Elizabeth Eakin, ‘A National Strategy for Promoting Physical Activity in Oman: A Call for Action’, *Sultan Qaboos University Medical Journal* 14/2 (2014), pp. 170–5.

Increasingly, studies are demonstrating that the built environment impacts the level of physical activity in a population.<sup>33</sup> Studies have identified the main barriers to physical activity in Oman and neighbouring countries: weak infrastructure supportive of walking and cycling, poor systems of public transportation and limited availability of recreational facilities.<sup>34</sup> Since work-related physical activity is also on the decline, concerted efforts are needed to counter these historical trends.<sup>35</sup>

**Figure 2. Prevalence of Physical Activity in Oman<sup>36</sup>**



Daily physical activity is not the norm in Oman; one of the experts interviewed even described it as a ‘burden.’ Girls in particular have learned how to avoid physical education classes, a subject perceived as marginally important, hence, easily dismissed – and replaced – by academic classes.<sup>37</sup> Reflecting the bias noted above, many experts interviewed, including those in the health sector, spoke almost exclusively about recreational physical activity, such as going on a walk or going to the gym. There was a tendency to equate physical activity to ‘athletics’, ‘exercise’ or ‘working out’, forgetting that daily life

<sup>33</sup> Sallis et al., ‘Role of built environments in physical activity, obesity, and cardiovascular disease’, *Circulation* 125/5 (2012), pp. 729–37.

<sup>34</sup> Mabry et al., ‘Addressing physical inactivity in Omani adults: Perceptions of public health managers’, *Public Health Nutrition* (2013), pp. 1–8.

<sup>35</sup> Ng and Popkin, ‘Time use and physical activity: A shift away from movement across the globe’, *Obesity Reviews* 13/8 (2012), pp. 659–80.

<sup>36</sup> Mabry et al., ‘Descriptive epidemiology of physical activity among Omani adults’, pp. 103–15; World Health Organization, *Global School Health Survey, Oman Fact Sheet*, 2015, 2017; Mabry et al., ‘A National Strategy for Promoting Physical Activity in Oman’, pp. 170–5.

<sup>37</sup> Gabriella Berger and Anita Peerson, ‘Giving young Emirati women a voice: Participatory action research on physical activity’, *Health Place* 15/1 (2009), pp. 117–24.



activities like walking or cycling are also equally physical activity.<sup>38</sup> When physical activity is (incorrectly) equated with athletics or games, it comes to be defined as more appropriate for children and young men and less so for girls/women, older adults and the disabled.<sup>39</sup>

Half a century ago, walking was a key mode of transport in Oman; paved roads were limited to barely 10 kilometres in Muscat.<sup>40</sup> The well-worn mountain tracks between villages testify to this previously ubiquitous mode of travel during a time when agriculture, fishing and household-related activity occupied a good portion of people's time. The mechanisation of many of these activities – accompanied by the process of urbanisation, the expansion of office-based occupations and prolonged commutes – has resulted in a sedentary way of life.<sup>41</sup> For families with one or more domestic workers (a quarter of all Omani households),<sup>42</sup> activity levels may be even more reduced.

Active travel, currently the most common form of physical activity in Oman, is limited, illustrative of the shift to a car-based culture.<sup>43</sup> Thus, rather than expecting people to 'work out' – which requires commitment, time and will power, as well as spaces and equipment – the goal, as described by urban designer Jan Gehl should be the incorporation of physical activity into normal daily routine, making walking safe, simple and pleasurable at any time of day or night.<sup>44</sup>

## Addressing 'Haphazard' Urban Planning

Interviewees cited 'uncoordinated', 'haphazard', 'ad hoc' and 'scattered' urban planning at the national and local levels as the key cause for urban sprawl in Oman. In fact, many lingered on the first WHO package action point for the built environment about improving the cross-sectoral integration of public policy. Given the number of stakeholders involved in urban planning and design, it was identified as the most challenging of the four key interventions to implement. They called for a unified approach to urban planning and design, and recounted how the haphazard spatial planning process impacted their lives, both professionally and personally.

<sup>38</sup> Three 10-minute bouts of active travel (walking or cycling) just as easily meets the daily recommendation.

<sup>39</sup> Mabry et al., 'A Systematic Review of Physical Activity and Sedentary Behaviour Research in the oil-producing Countries of the Arabian Peninsula', *BMC Public Health* 16/1 (2016), p. 1003; Habiba I. Ali, Latifa Mohammad Baynouna and Roos M. Bernsen, 'Barriers and facilitators of weight management: Perspectives of Arab women at risk for type 2 diabetes', *Health & Social Care in the Community* 18/2 (2010), pp. 219–28 and 143–59.

<sup>40</sup> Hamed Al-Reesi et al., 'Economic Growth, Motorization, and Road Traffic Injuries in the Sultanate of Oman, 1985–2009', *Traffic Injury Prevention* 14 (2013), pp. 322–8.

<sup>41</sup> Abdul-Rahim et al., 'Non-communicable diseases in the Arab world', pp. 356–67.

<sup>42</sup> National Centre for Statistics & Information [Oman], *Information Report*, 3: *Domestic Workers* (Muscat, 2013).

<sup>43</sup> Mabry et al., 'Descriptive epidemiology of physical activity among Omani adults', pp. 103–15.

<sup>44</sup> Jan Gehl, *Cities for People* (Washington, DC, 2010).

## Urban Planning and Design: Stuck in a Time Warp

Several studies on urban planning in Oman, the oldest dating back to 1989, have made similar observations.<sup>45</sup> Thus, it can safely be said that, despite the important developments in the field of urban planning and design, best reflected in the SDGs, current practice in Oman appears to be stuck in a time warp. The existing framework was developed more than 30 years ago, defined by the functional separation of residential, industrial, administrative and commercial land. Concomitant with this framework is the spatial dispersal of low-density settlements, resulting in high dependency on personal vehicular travel since there are no alternatives – such as a well-integrated public transportation system – connecting different areas.

The speed of urbanisation, along with the population explosion due to natural growth and international migration, have presented a serious challenge for sustainable development.<sup>46</sup> Urban areas continue to expand to meet the demand for housing. This, in turn, has led to inflation in the price of land and a burgeoning need for public services like water supply, sanitation and transportation. Urbanisation, especially in Muscat, has expanded so rapidly that roads and other forms of infrastructure cannot keep pace. The authors of *Urban Oman* describe the extent of this problem quite succinctly:

Areas that have been selected as new residential zones for years remain without basic services. Even roads are not always constructed after people have moved into their new properties, let alone social services such as schools, health, sports and leisure facilities.<sup>47</sup>

Roads and streets necessary for connecting dispersed low-density settlements have begun to dominate the landscape, in large part because they have been designed with little consideration for the climate, surrounding environment and alternative transportation modes beyond private cars. As a result, traditional forms of urban design – more compact and responsive to local conditions – are on the verge of disappearing completely.<sup>48</sup>

In 2004, the Cabinet of Ministers recognised the need to reorganise and better coordinate land use. The Supreme Council of Town Planning was formed and given the task of developing a ‘framework for directing sectoral development programs and identifying the optimum land use and locations according to environmental, social and economic considerations.’<sup>49</sup> Not much had changed by 2012, which may help explain the establishment of the Supreme Council of Planning that same year to assume this responsibility.

<sup>45</sup> Khalfan S. M. Al Shueili, *Towards a sustainable future in Oman: Problem and process analysis (Muscat as a case study)*, PhD thesis, The Glasgow School of Art (Glasgow, 2012); Hana Aljabri, *The planning and urban design of liveable public open spaces in Oman: case study of Muscat*, PhD thesis, Heriot-Watt University (Edinburgh, 2014); Mohammed Awadh Salim Al-Rawas, *Urban transportation problems in the Muscat area, Sultanate of Oman*, PhD thesis, University of Salford (Salford, 1989).

<sup>46</sup> Al Shueili, *Towards a sustainable future in Oman*.

<sup>47</sup> Nebel and von Richthofen (eds), *Urban Oman*, p. 25.

<sup>48</sup> Aljabri, *The Planning and Urban Design of Liveable Public Open Spaces in Oman*.

<sup>49</sup> Supreme Council of Planning Oman, *Secretariat Projects: Preparing the Oman National Spatial Strategy* (Muscat, 2017). Available at <http://www.scp.gov.om/en/Projects.aspx>.

This council is assessing current practice at the national, regional and local levels in order to develop a new planning system and a common vision for urban design – the Oman National Spatial Strategy (ONSS) – which is scheduled to be unveiled in 2018.

Interviews with experts at the Council suggest that the ONSS will address the four dimensions of sustainable urbanisation: economic, social, ecological and political. It is less clear whether (and to what extent) the ONSS will be addressing the recommendations for sustainable urbanisation discussed at a national conference in 2014 and outlined in *Urban Oman*. The most complex of these involve land recycling and infilling, expanding public transportation and the careful (re)design of neighbourhoods in a way that ‘would contribute to a community spirit’.<sup>50</sup> Perhaps more politically sensitive of these recommendations are those that call for decentralisation, participatory decision-making and reconsideration of the land allocation system which currently works through a lottery system.<sup>51</sup>

## Transport Network: Too Dangerous to Walk?

Over the past 40 years, enormous resources have been invested in the transportation network connecting the entire country; a major accomplishment given the rugged topography and dispersed population. Not only does this network connect far-flung communities, it is the primary mechanism that enables the transfer of cars (and people) from one locale to another. In fact, the extensive road network, low petrol prices, a limited public transportation system and dispersed settlements have made driving the preferred choice, which explains the 36 percent increase in vehicle ownership (per capita) between 1985 and 2009. Today, nearly one in two adults owns a car.<sup>52</sup> Not only has this network vastly improved communication between settlements, it has also increased access to schools and healthcare providers, and, as a consequence contributed to a dramatic improvement in population indicators such as life expectancy, mortality and illiteracy rates.<sup>53</sup>

But infrastructural developments also come with certain costs: in this case, the abandonment and decay of Oman’s urban heritage, the near complete disregard of the natural environment in the construction of new roads, and a car-dependent culture that requires significant land use for roadways and parking spaces. The *Urban Oman* researchers note that:

At present, a huge amount of expenses goes into the car-based transportation sector, including high costs for road construction. But the society also has to bear high follow-up costs when taking into consideration the time and stress wasted

<sup>50</sup> Nebel and von Richthofen (eds), *Urban Oman*, p. 248.

<sup>51</sup> All Omani nationals are eligible to apply for a piece of land. The 600m<sup>2</sup> residential plot is drawn through a public lottery from plans prepared by the Ministry of Housing. The high population growth and the expansion of this right to women in 2008 has led to long waiting lists. Because of its random nature with little regard to need and location, interviewees saw the process of land allocation as a key cause of urban sprawl. *Urban Oman* recommends a reform of the land allocation system such as the introduction of eligibility criteria and/or provisions for re-acquisition if plots remain undeveloped.

<sup>52</sup> Al-Reesi et al., ‘Economic growth, motorization, and road traffic injuries in the Sultanate of Oman, 1985–2009’, pp. 322–28.

<sup>53</sup> World Health Organization, *The World Health Report 2008: Primary Healthcare, Now More than Ever* (Geneva, 2008).

in traffic congestion, the high amounts of accidents and the loss of environmental quality.<sup>54</sup>

The concern for road safety was common in the interviews, reflected in comments like ‘people perceive (walking) as a very dangerous thing’ and ‘to do physical activity is risky’. Stories of car-related pedestrian injuries and deaths were not unusual. One interviewee recalled:

I have witnessed an accident on the road which led to the death of a child. It was terrible. The child was cycling and it seems like the driver was not even controlling his speed, so hit him.

Road traffic injuries are a leading cause of injury and death in Oman with the estimated death rate (25.4 per 100,000 population) higher than comparable figures in most GCC and several other high-income countries (Table 1).<sup>55</sup> Pedestrians account for a quarter of those deaths (23.2 percent).<sup>56</sup> Hence, a number of measures have been introduced in an effort to control this problem: higher fines and other penalties for traffic violations and an expanded use of surveillance cameras on roads and at intersections.<sup>57</sup> These and other related measures generally target speeding and reckless driving, both recognised as key causes of road traffic accidents in the country,<sup>58</sup> although road design has also been identified as another contributing factor.<sup>59</sup>

In general, public transportation systems are designed to provide an alternative mode of transport that is safe and efficient; they can also ease traffic congestion, reduce pollution and increase accessibility.<sup>60</sup> In fact, UN-Habitat recommends making accessibility the focus of the transport sector and doing so:

not only put(s) places (e.g. homes and workplaces, or ‘trip origins and destinations’) closer to each other, but also provide(s) safe and efficient pedestrian and cycling corridors and affordable, high-quality public transport options.<sup>61</sup>

<sup>54</sup> Nebel and von Richthofen (eds), *Urban Oman*, p. 243.

<sup>55</sup> Ministry of Health Oman, *Annual Health Report*, 2013 (Muscat, 2014).

<sup>56</sup> World Health Organization, *Global Status Report on Road Safety 2015* (Geneva, 2015).

<sup>57</sup> Rejimon Kuttappan, ‘Get familiar with new Oman traffic rules, drivers advised’, *Times of Oman*, 2 September 2016.

<sup>58</sup> Abdullah A. N. Al-Maniri et al., ‘Road traffic fatalities in Oman from 1995 to 2009: Evidence from police reports’, *International Journal of Preventive Medicine* 4/6 (2013); Al-Reesi et al., ‘Prevalence and characteristics of road traffic injuries among young drivers in Oman, 2009–2011’, *Traffic Injury Prevention* 17/5 (2016), pp. 480–7; M. Mazharul Islam and Ahmed Y. S. Al Hadhrami, ‘Increased motorization and road traffic accidents in Oman’, *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 3/6 (2012), pp. 907–14.

<sup>59</sup> Al-Reesi et al., ‘Economic growth, motorization, and road traffic injuries in the Sultanate of Oman, 1985–2009’; Kai Plankermann, *Human factors as causes for road traffic accidents in the Sultanate of Oman under consideration of road construction designs*, PhD thesis, Universität Regensburg (Regensburg, 2014).

<sup>60</sup> Rakesh Belwal, ‘Public transportation services in Oman: A study of public perceptions’, *Journal of Public Transportation* 13/4 (2010), pp. 1–21.

<sup>61</sup> UN-Habitat, *Global Report on Human Settlements 2013: Planning and Design for Sustainable Urban Mobility* (Nairobi, 2013), p. 199.

**Table 1. Road Traffic Deaths in the GCC and Other High Income Countries<sup>62</sup>**

Country	Road Traffic Deaths per 100,000	Percentage of Pedestrian Deaths to all Road Users
Bahrain	8	31.4
Kuwait	18.7	–
Oman	25.4	23.2
Qatar	15.2	28.4
Saudi Arabia	27.4	–
UAE	10.9	26.1
Australia	5.4	13.2
German	4.3	16.7
UK	2.9	22.9
US	10.6	14.1

This shift in approach in the planning process can meet people's basic needs more efficiently than the more traditional approach that focuses on the structures and designation of land uses.<sup>63</sup>

The current public transport system in Oman, however, is largely based on an informal network of taxis and minibuses that roam the main roads providing pick-up and drop-off services.<sup>64</sup> The Mwasalat bus network, which covers two routes in the capital area, was introduced recently;<sup>65</sup> plans for an extensive transformation of this network were announced in May 2017.<sup>66</sup> This expansion is a boon for people dependent on these services, including both residents and tourists. Experts have stated that 'the best transportation plan is a good land use plan'.<sup>67</sup> Thus, it is important that this plan is well-integrated into the national vision for urban planning and design.

<sup>62</sup> World Health Organization, *Global Status Report on Road Safety 2015* (Geneva, 2015).

<sup>63</sup> Ibid.

<sup>64</sup> Juan Francisco Gonzalez Jiménez, Eva Hitado Hernández and Carolina Sanz Pecharromán, 'Planning the public transport system in Muscat (Oman)', in *CIT2016 – XII Congreso de Ingeniería del Transporte, Universitat Politècnica de València* (Valencia, 2016).

<sup>65</sup> 'ONTC rebranded as MWASALAT', *Muscat Daily* (Muscat, 2015).

<sup>66</sup> G. Viswanathan and Abdullah Al-Harthy, 'Trains back on track in Oman?', *Times of Oman* (Muscat, 2017).

<sup>67</sup> Nebel and von Richthofen (eds), *Urban Oman*, p. 174.



## Creating a National Vision

The promotion of physical activity and urban planning and design share a common goal of creating liveable communities.<sup>68</sup> They also share similar constraints imposed by poor intersectoral coordination aforementioned. This issue was identified by the experts interviewed as the most challenging with regard to the implementation of the WHO package. Fortunately, Oman has made some headway in addressing these concerns.

In 2012, a national intersectoral committee was established to address NCDs. Since then, several steps have taken place to coordinate all stakeholders to address the three main risk behaviours associated with NCDs in Oman: tobacco use, unhealthy diet and physical inactivity. In 2016, the national NCDs policy was approved,<sup>69</sup> global voluntary targets were adopted, and a national year-long campaign to promote physical activity was launched.<sup>70</sup> It is hoped that the intersectoral national action plan – including a detailed plan to promote physical activity – will be launched soon. In addition, tobacco control legislation has expanded, with taxes on tobacco, as well excise taxes on sugary and energy drinks, expected to increase.<sup>71</sup>

Despite these accomplishments, many people interviewed felt that there was still much more to be done, affirming the importance of the first action point on the need for policy integration. They called for a national vision on promoting physical activity backed by firm political commitment at the highest level. Ensuring a whole-of-government approach in this area would considerably facilitate their own work. This is the approach advocated by WHO and other organisations working in the field of NCDs<sup>72</sup> and urban planning and design.<sup>73</sup> It is reflected in the UN Political Declaration<sup>74</sup> and was recommended by a UN Mission to Oman in 2016.<sup>75</sup> Ideally, this vision could be included in the ONSS currently being developed by the Supreme Council of Planning. The deliberate pursuit of this strategy in matters of urban planning and design could make all the difference in meeting the national goal: a 10 percent reduction of physical inactivity by 2025.

<sup>68</sup> Sallis et al., 'Physical activity in relation to urban environments in 14 cities worldwide', pp. 2207–17; UN-Habitat, *Global Public Space Toolkit: From Global Principles to Local Policies and Practice* (Nairobi, 2015).

<sup>69</sup> Ministry of Health Oman, *National policy on the prevention and control of noncommunicable diseases*.

<sup>70</sup> Zainab Al-Nasseri, 'Physical inactivity rate in Oman stands at 37 percent', *Oman Daily Observer*, 28 December 2016.

<sup>71</sup> Jawad Al-Lawati, Ruth M. Mabry and Zakiya Al-Busaidi, 'Tobacco control in Oman: It's time to get serious!', *Oman Medical Journal* 32/1 (2017): pp. 3–14; Conrad Prabhu, 'Excise tax on beverages, tobacco to buoy Oman revenues in 2017', *Oman Daily Observer*, 2 January 2017.

<sup>72</sup> Ruth Bonita et al., 'Country actions to meet UN commitments on non-communicable diseases: A stepwise approach', *The Lancet* 381/9866 (2013), pp. 575–84.

<sup>73</sup> UN-Habitat, *Global Public Space Toolkit*.

<sup>74</sup> United Nations General Assembly, *Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases*.

<sup>75</sup> UNIATF, *UN Interagency Task Force on NCDs Mission Report to Oman, 10–12 April 2016*, World Health Organization (Geneva, 2016).

## Changing Socio-Cultural Perceptions

Experts interviewed for this study expressed differing understandings of the relationship between urbanisation and physical activity. For some, physical activity was understood as ‘exercise’, hence the need to build more exercise facilities in residential areas. Others emphasised the importance of incorporating physical activity into daily life: for them, ‘the challenge is the existing designs of already built cities’, hence they felt that a truly supportive environment would only be possible in new urban areas. There were also different perceptions of the relevance of a hot arid climate for urban design: some felt that it was too hot to expect people to walk, while others stressed the importance of providing shaded areas more amenable to outdoor physical activity.

In light of these different – and at times competing – perspectives, it’s useful to be reminded of the influences of urban design and transportation modalities for a hot climate. In this way, planners and policymakers can better understand the opportunities and constraints, when it comes to promoting physical activity in Oman.

### Public Open Spaces: Where Can We Go?

‘Public realm’ is a term that contemporary urban designers and planners use to describe places – both physical and socio-cultural – that people can enjoy and use.<sup>76</sup> They need not be restricted to decorative parks and gardens. As places that belong to the community, they can also include streets, footpaths, squares, riversides and seafronts. Open spaces such as these not only beautify a city, they also provide opportunities for physical activity and other mental health, social and economic benefits for a community.<sup>77</sup>

Among those interviewed, perceptions of the availability of these spaces varied considerably. One expert observed that apart from schools, ‘there is no sense of space, green space within walking distance (and) there is no neighbourhood spirit’. Another noted, ‘I have everything around me...but how am I going to reach those places if I don’t have a proper pathway?’. Contrasting opinions such as these reflect different ideas of how cities and neighbourhoods should be shaped.

Until recently, public open spaces in Oman and the wider Arab region were associated with religious and economic activity, including spaces outside of mosques and souks.<sup>78</sup> The dramatic transformation of cities in the GCC since the 1970s, however, introduced spaces more commonly seen in Europe such as parks, boulevards and public squares.

<sup>76</sup> Aljabri, *The planning and urban design of liveable public open spaces in Oman*; Steve Tiesdell (ed.), *Urban Design Reader* (London, 2007).

<sup>77</sup> Sallis et al., ‘Co-benefits of designing communities for active living’, p. 30; Javad Koohsari et al., ‘Public open space, physical activity, urban design and public health: Concepts, methods and research agenda’, *Health Place* 33 (2015), pp. 75–82.

<sup>78</sup> Aljabri, *The planning and urban design of liveable public open spaces in Oman*; Sareh Moosavi, Jala Makhzoumi and Margaret Grose, ‘Landscape practice in the Middle East between local and global aspirations’, *Landscape Research* 41/3 (2016), pp. 265–78.

These spaces were introduced to beautify, with little consideration of the local ecology or public need.<sup>79</sup> A more deliberate approach to public space, beyond mere decoration, would allow for ‘a higher variety of neighbourhoods that adapt to local conditions (*wadis*, hills, other local features) and thus create individual, identity-supporting residential estates and contribute to a community spirit and to social sustainability.’<sup>80</sup> This approach can also encourage walking and cycling.

Guidance on creating these spaces is readily available. A landscape that includes invitations to walk and cycle must be central to city planning.<sup>81</sup> The UN-Habitat toolkit provides useful advice:

Promoting walkability is a key measure to bring people into the public space, reduce congestion and boost local economy and interactions. A vibrant street life encourages people to walk or cycle around, while a rational street network enables necessary city administrative services to be offered within walking or cycling distance and ensures security. High density, mixed land use and a social mix make proximity to work, home and services possible.<sup>82</sup>

The literature demonstrates that the design of a neighbourhood, community and city is consistently linked with walking and cycling. Providing sidewalks and improving connectivity reduces the number of road traffic injuries, increases walking and improves accessibility to public transport.<sup>83</sup> People living in areas with higher walkability indices report more walking and cycling and engage in more physical activity.<sup>84</sup> The walkability attributes of residential density, land use mix and street connectivity ensure an environment that allows residents to have a range of different destinations (work, school, parks, and essential services) with short direct routes. Although most of these findings are from research in high-income countries in Australia, Europe and North America, evidence has begun to emerge from other parts of the world.<sup>85</sup> Increasingly, cities around the world are providing excellent examples of how the urban environment can be (re)designed for

<sup>79</sup> Ibid.; Hanan Aljabri and Harry Smith, ‘Users’ perceptions about planning and design of public open spaces: A case study of Muscat’, *11th EAEA Envisioning Architecture: Design, Evaluation, Communication Conference*, 2013.

<sup>80</sup> Nebel and von Richthofen (eds), *Urban Oman*, p. 248.

<sup>81</sup> Gehl, *Cities for People*.

<sup>82</sup> UN-Habitat, *Global Public Space Toolkit*, p. 5.

<sup>83</sup> Chen and Zhou, ‘Effects of the built environment on automobile-involved pedestrian crash frequency and risk’, pp. 448–56; Christiansen et al., ‘International comparisons of the associations between objective measures of the built environment and transport-related walking and cycling’, pp. 467–78; Durand et al., ‘A systematic review of built environment factors related to physical activity and obesity risk’, pp. 173–82.

<sup>84</sup> Christiansen et al., ‘International comparisons of the associations between objective measures of the built environment and transport-related walking and cycling’, pp. 467–78; Sallis et al., ‘Physical activity in relation to urban environments in 14 cities worldwide’, pp. 2207–17; McCormack and Shiell, ‘In search of causality’, p. 125.

<sup>85</sup> Ibid.

multi-modal transport systems and pedestrianised city centres.<sup>86</sup> Similar work is just beginning in the GCC.<sup>87</sup>

## Expanding Transport Options: Overcoming Cultural Perceptions

While talking about public transportation, one interviewee bemoaned that people ‘tend to stigmatise things that they think are not typical’ or are below their standard of living. These perceptions are mirrored in the literature. Negative perceptions of public transportation are quite prevalent throughout the Gulf,<sup>88</sup> including in Oman.<sup>89</sup> In Doha, for example, the main users of public transportation are low-income workers making higher income groups, and especially women, reluctant to use this service.<sup>90</sup> In Dubai, a large portion of residents are hesitant to use public buses even when bus stations are close to their home.<sup>91</sup> But despite these negative perceptions, the Omani government is expanding its public transportation system;<sup>92</sup> several people interviewed seemed to share the government’s confidence that ‘attitudes would change’ over time. It is likely that if, at a minimum, a larger portion of expatriates (who comprise 40 percent of the population and may have more positive perceptions of using public transportation) use this service, there would be fewer cars on the roads.

If Oman is to achieve a 25 percent modal shift in transportation by the year 2040, the vision of the Public Transport Master Plan for Muscat,<sup>93</sup> policymakers should consider the travel behaviour and the needs of the population to ensure accessibility to all.<sup>94</sup> Evidence suggests that short walking distance to/from stops, short waiting times, safety and gender segregated services are key concerns about public transportation in the region.<sup>95</sup> Understanding the amount people are willing to pay for quality services is also important.<sup>96</sup>

<sup>86</sup> Gehl, *Cities for People*.

<sup>87</sup> Khaled Alawadi, ‘Rethinking Dubai’s urbanism: Generating sustainable form-based urban design strategies for an integrated neighborhood’, *Cities* 60 (2017), pp. 353–66; Milica Bajić Brkovic and Mira Milakovic, ‘Planning and designing urban places in response to climate and local culture: A case study of Mussafah district in Abu Dhabi’, *SPATIUM International Review* 25 (September 2011), pp. 14–22.

<sup>88</sup> Mohammad Hassan, Yaser E. Hawas and Kamran Ahmed, ‘A multi-dimensional framework for evaluating the transit service performance’, *Transportation Research Part A: Policy and Practice* 50 (2013), pp. 47–61.

<sup>89</sup> Mabry et al., ‘Addressing physical inactivity in Omani adults’, pp. 1–8; Belwal, ‘Public transportation services in Oman’, pp. 1–21.

<sup>90</sup> Khaled Shaaban and Rania F. Khalil, ‘Investigating the customer satisfaction of the bus service in Qatar’, *Procedia-Social and Behavioral Sciences* 104 (2013), pp. 865–74.

<sup>91</sup> Genanew Bekele, ‘Demand for improved public transport services in the UAE: A contingent valuation study in Dubai’, *International Journal of Business and Management* 8/10 (2013), pp. 108–25.

<sup>92</sup> Viswanathan and Al-Harthy, ‘Trains back on track in Oman?’.

<sup>93</sup> Jiménez, Hernández and Pecharromán, ‘Planning the public transport system in Muscat (Oman)’.

<sup>94</sup> UN-Habitat, *Global Report on Human Settlements* 2013.

<sup>95</sup> Shaaban and Khalil, ‘Investigating the customer satisfaction of the bus service in Qatar’, pp. 865–74; Bekele, ‘Demand for improved public transport services in the UAE’, pp. 108–25; Khaled Shaaban and Hany M. Hassan, ‘Modeling significant factors affecting commuters’ perspectives and propensity to use the new proposed metro service in Doha’, *Canadian Journal of Civil Engineering* 41/12 (2014), pp. 1054–64.

<sup>96</sup> Bekele, ‘Demand for improved public transport services in the UAE’, pp. 108–25.

But cost goes beyond the price of a ticket and should include reliability, speed, frequency and comfort. A media campaign to raise awareness should be bolstered by policy incentives that make public transportation an attractive alternative, such as managing parking spaces and increasing vehicle occupancy.<sup>97</sup>

Negative perceptions also exist around cycling. In fact, some people interviewed consider cycling ‘improper due to the climatic conditions and societal traditions’, ‘inferior behaviour’ or activity appropriate only for children and young men. However, others recognised that low-income expatriates are already cycling and that there is growing interest in recreational and competitive cycling by nationals and expatriates alike, evident in the expansion of groups such as the Oman Cycling Association, Muscat Mountain Bikers and Muscat Cyclists.<sup>98</sup> The annual Tour of Oman, which brings world-class cyclists to the country, has raised the profile of cycling as has the free bike rentals on Muttrah Corniche in an older neighbourhood in the capital.<sup>99</sup> Despite this recent surge in interest, there are only a few locations in the Muscat area with dedicated bike paths, which means that cyclists have to share roads with cars. Since traffic laws do not ensure their safety, these groups have been advocating for the development of traffic rules supportive of cycling as well as a more cycle-friendly infrastructure.<sup>100</sup>

## Climate: A Barrier or an Excuse?

A discussion around walking, cycling and public transportation in Oman would be incomplete without addressing the hot climate, a concern raised by a number of interviewees since the mean temperature is above 30 degrees Celsius for a large portion of the country for six months of the year (Figure 3);<sup>101</sup> and with climate change, temperatures are likely to rise.<sup>102</sup> While older adults will remember a time when air-conditioning was rare, people are now spending most of their time in temperature-controlled spaces. Only a small portion of the population continues to be active outdoors during the summer months, such as dedicated walkers and joggers, avid football players and swimmers. It is not unusual for most people to stay indoors, which may help explain the high prevalence of Vitamin D deficiency, especially among women.<sup>103</sup>

<sup>97</sup> Ibid.; Jiménez, Hernández and Pecharromán, ‘Planning the public transport system in Muscat (Oman)’; Shaaban and Khalil, ‘Investigating the customer satisfaction of the bus service in Qatar’, pp. 865–74.

<sup>98</sup> Erik Prins, ‘Cycling enthusiasts call for better infrastructure facilities in Oman’, *Times of Oman*, 6 February 2016; Kaushalendra Singh, ‘Muscat Cycling gets a boost’, *Oman Daily Observer*, 27 January 2017.

<sup>99</sup> Muscat Municipality, *Tour of Oman* (Muscat, 2017). Available at [http://www.tourofoman.om/about\\_tour\\_of\\_oman.html](http://www.tourofoman.om/about_tour_of_oman.html).

<sup>100</sup> Prins, ‘Cycling enthusiasts call for better infrastructure facilities in Oman’.

<sup>101</sup> National Centre for Statistics & Information [Oman], *Climate Statistics Bulletin* (Muscat, 2016).

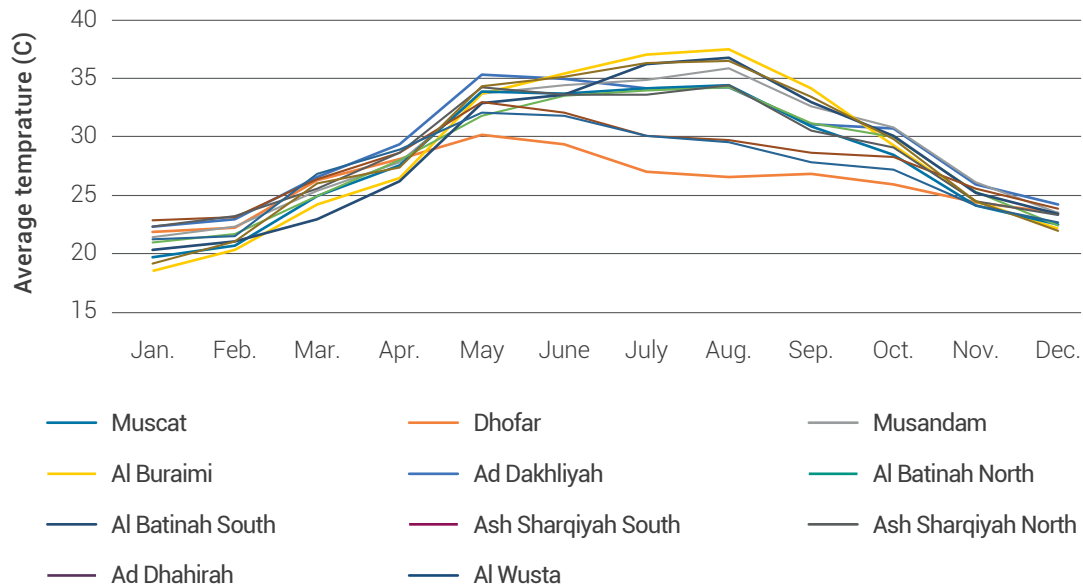
<sup>102</sup> Jeremy S. Pal and Elfatih A. B. Eltahir, ‘Future temperature in southwest Asia projected to exceed a threshold for human adaptability’, *Nature Climate Change* 6 (2015), pp. 197–200.

<sup>103</sup> Moza Al Kalbani et al., ‘Vitamin D status in pregnant Omanis: A disturbingly high proportion of patients with low vitamin D stores’, *Sultan Qaboos University Medical Journal* 11/1 (2011), pp. 52–5.



**Figure 3. Average Monthly Temperature in Oman by Governorate (2015)**

Source: National Centre for Statistics &amp; Information. Climate statistics bulletin. 2016.



The hot weather, however, should be seen as a challenge that needs to be addressed, rather than an excuse, so outdoor activity can be made more comfortable, even during the hottest months. A number of studies have already identified key urban design elements that are relevant to such a task. For example, the traditional urban design – distinctly compact, with narrow streets – is particularly well-adapted to the hot climate.<sup>104</sup> The heat island effect observed in Muscat can similarly be reduced by regulating the heat generated by air-conditioning, cars and industry. Proper design of buildings, the orientation of streets and the materials used for ground surfaces can have similar heat-reducing effects. Landscaping, through the choice and placement of local trees and vegetation, can provide needed shade and facilitate the movement of wind.<sup>105</sup> In other words, deliberate urban planning and landscape design can improve microclimate, it just requires creativity and innovation, and only limited financial investment.<sup>106</sup>

<sup>104</sup> Suhail Zakhour, 'The Impact of Urban Geometry on Outdoor Thermal Comfort Conditions in Hot-arid Region', *Journal of Civil Engineering and Architecture Research* 2/8 (2015) pp. 862–75; Nebel and von Richthofen (eds), *Urban Oman*.

<sup>105</sup> Hanan Taleb and Dana Taleb, 'Enhancing the thermal comfort on urban level in a desert area: Case study of Dubai, United Arab Emirates', *Urban Forestry & Urban Greening* 13 (2014), pp. 253–60; Nebel and von Richthofen (eds), *Urban Oman*; Aljabri, *The planning and urban design of liveable public open spaces in Oman*.

<sup>106</sup> Taleb and Taleb, 'Enhancing the thermal comfort on urban level in a desert are', pp. 253–60; Nebel and von Richthofen (eds), *Urban Oman*; Gehl, *Cities for People*.

## Encouraging Innovations to Broaden Possibilities

Creating pedestrian-friendly urban spaces in Oman requires out-of-the box thinking beginning with envisioning vibrant neighbourhoods and communities that encourage and support walking, cycling and outdoor activity throughout the year. Innovative thinking is only possible using a two-pronged approach already outlined in the WHO package: a clear focused effort to strengthen the regulatory framework and training technical experts from sectors involved in urban planning, transport and health.

Part of the process of developing the ONSS is an in-depth review of the current urban planning standards, which one interviewee reported are out-dated and not utilised by local planners some of whom may not even be aware of them. Thus, this review is an excellent opportunity to revise these standards with the aim of increasing population and housing density, mixed land use and street connectivity,<sup>107</sup> the three components of urban design that encourage physical activity. The standards recommended by UN-Habitat for sustainable urban neighbourhoods,<sup>108</sup> could be tested and adapted for the Omani context.

Establishing new standards for urban design has to be done in parallel with building national expertise in the two disciplines (urban planning and design and health), particularly in understanding their linkages and examining how best they can be made relevant to the socio-cultural context of Oman. Successful examples of humanising urban spaces from cities around the world, including in the GCC,<sup>109</sup> can inspire local innovations. For example, using the Delphi technique to prioritise and contextualise sustainable urban design elements with Dubai-based urban planning experts, a design for a sustainable neighbourhood was developed illustrating residential density and diversity, mixed land use and street connectivity.<sup>110</sup>

## Ensuring Universal Access: Addressing the Needs of Women as a Case Study

Halfway through my very first interview, the expert stated that we should not ‘forget women’; a concern mentioned by many others who were interviewed. The same person clarified this imperative by stating that men ‘can do a lot of things that hinder women from participating in these types of activities’. As already noted, women are significantly

<sup>107</sup> Chen and Zhou, ‘Effects of the built environment on automobile-involved pedestrian crash frequency and risk’, pp. 448–56; Christiansen et al., ‘International comparisons of the associations between objective measures of the built environment and transport-related walking and cycling’, pp. 467–78; Sallis et al., ‘Physical activity in relation to urban environments in 14 cities worldwide’, pp. 2207–17; McCormack and Shiell, ‘In search of causality’, p. 125; Durand et al., ‘A systematic review of built environment factors related to physical activity and obesity risk’, pp. 173–82.

<sup>108</sup> UN-Habitat, *Global Public Space Toolkit*.

<sup>109</sup> Gehl, *Cities for People*; Alawadi, ‘Rethinking Dubai’s urbanism’, pp. 353–66; Brkovic and Milakovic, ‘Planning and designing urban places in response to climate and local culture’, pp. 14–22.

<sup>110</sup> Alawadi, ‘Rethinking Dubai’s urbanism’, pp. 353–66.

less active than men in Oman.<sup>111</sup> Cultural expectations, lack of time, competing priorities with family responsibilities, and lack of facilities have been identified as the key barriers that limit women's physical activity.<sup>112</sup> Given the alarming levels of NCDs among women in the GCC,<sup>113</sup> examining the relationship between urbanisation and women's physical activity is particularly important. Otherwise, much of it will continue to remain invisible and unaddressed.

Universal access, a guiding principle of the WHO package and the UN-Habitat report on sustainable urban mobility<sup>114</sup> and toolkit,<sup>115</sup> applies equally to any other group deserving of such consideration. However, for the sake of simplicity, the following uses the example of women to address the broader issue of accessibility.

The Omani Constitution recognises that:

All Citizens are equal before the Law and share the same public rights and duties. There shall be no discrimination amongst them on the ground of gender, origin, colour, language, religion, sect, domicile, or social status.<sup>116</sup>

Bolstering this powerful declaration and commitment, Oman joined the Convention on the Elimination of All Forms of Discrimination Against Women in 2006. Much progress has been made: women are seen in all walks of life, run their own businesses, hold high positions in government and the private sector, and a few are now members of Parliament and local councils. However, despite legal protection and government encouragement, deep-rooted notions regarding men and women's role in society remain.<sup>117</sup>

As a social construct, gender shapes the division of labour and access to physical amenities like public parks and transportation networks.<sup>118</sup> Obviously, women need to travel,

<sup>111</sup> Mabry et al., 'Evidence of physical activity participation among men and women in the countries of the Gulf Cooperation Council', pp. 457–64; Mabry et al., 'Descriptive epidemiology of physical activity among Omani adults', pp. 103–15.

<sup>112</sup> Tam Truong Donnelly et al., 'Qatari women living with cardiovascular diseases-challenges and opportunities to engage in healthy lifestyles', *Healthcare Women International* 33/12 (2012), pp. 1114–34; Berger and Anita Pearson, 'Giving young Emirati women a voice: participatory action research on physical activity', pp. 117–24; Mabry et al., 'A systematic review of physical activity and sedentary behaviour research in the oil-producing countries of the Arabian Peninsula', p. 1003; Ali, Baynouna and Bernsen, 'Barriers and facilitators of weight management', pp. 219–28; Ali, Bernsen and Baynouna, 'Barriers to weight management among Emirati women', pp. 143–59.

<sup>113</sup> Mashael K. Alshaikh et al., 'The ticking time bomb in lifestyle-related diseases among women in the Gulf Cooperation Council countries: Review of systematic reviews', *BMC Public Health* 17/1 (2017), p. 536.

<sup>114</sup> Belwal, 'Public transportation services in Oman', pp. 1–21.

<sup>115</sup> UN-Habitat, *Global Public Space Toolkit*.

<sup>116</sup> *Basic Statute of the State (Royal Decree No 101/96)* [Oman] (Muscat, 1996).

<sup>117</sup> Government of Oman, 'Second and third periodic report of States parties due in 2015: Oman', *United Nations* (New York, 2016); Ahlam Khalfan Rashid Al Subhi and Amy Erica Smith, 'Electing Women to New Arab Assemblies: The Roles of Gender Ideology, Islam, and Tribalism in Oman', *International Political Science Review* (2017).

<sup>118</sup> Robin Law, 'Beyond "women and transport": towards new geographies of gender and daily mobility', *Progress in Human Geography* 23/4 (1999), pp. 567–88.

just like men. However, the literature demonstrates that women's patterns of travel are quite different to those of men; being more complex and varied: women commute shorter distances, make more trips especially for health and child-related errands, are more likely to use public transportation, are more dependent on informal transportation, and are less likely to own a car or possess a driver's licence.<sup>119</sup>

Little is known about such travel behaviour in Oman. Nevertheless, understanding gender barriers – and a commitment to inclusiveness – can help cities, neighbourhoods and transportation networks become more supportive of women. The barriers to women's mobility raised by the interviewees can be grouped under four themes: cultural, psychological, physical and economic,<sup>120</sup> recognising, of course, that mobility, access to urban space and their participation in public life more generally also varying depending on age, education, class and wealth.<sup>121</sup>

## Cultural Expectations: Women Negotiating Public Space

It is often assumed that in Middle Eastern countries access to space is clearly defined: public urban spaces are for men while women are relegated to the private sphere.<sup>122</sup> Anthropological studies have challenged this simplistic view.<sup>123</sup> In 2000, a national survey confirmed the common perception that the number of places Omani women could go to alone was limited (Figure 4). However, her ability to go out varied by destination and by her age and educational level. The 'risk' of encountering unrelated men also tempered choice of destination; more women reported being able to visit family and friends compared to shopping or walking alone. On the other hand, physical mobility varied significantly with one-third of women able to access all six destinations: family, friends, health centres, schools, shopping and walking alone.<sup>124</sup> Personal characteristics (i.e., demographic, psychological, etc.), family support, as well as the local context are some of the possible reasons why this group of women was different.

<sup>119</sup> UN-Habitat, *Gender Issue Guide: Urban Planning and Design* (Nairobi, 2012).

<sup>120</sup> Anastasia Loukaitou-Sideris, 'A gendered view of mobility and transport: Next steps and future directions', *Town Planning Review* 87/5 (2016), pp. 547–65.

<sup>121</sup> Nazgol Bagheri, 'Mapping women in Tehran's public spaces: A geo-visualization perspective', *Gender, Place & Culture* 21/10 (2014), pp. 1285–301.

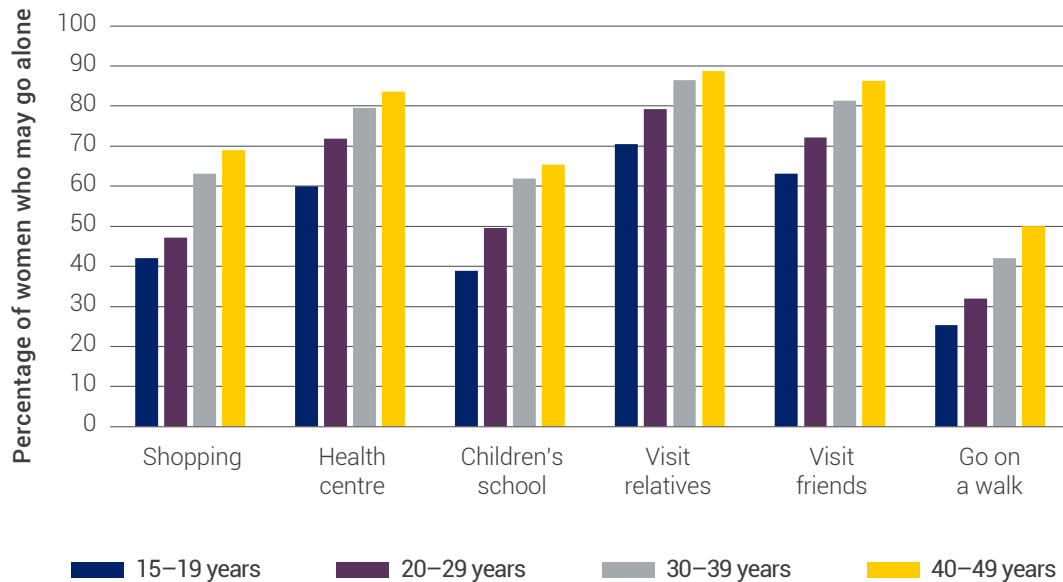
<sup>122</sup> Hanaa Hamdan-Saliba and Tovi Fenster, 'Tactics and strategies of power: The construction of spaces of belonging for Palestinian women in Jaffa–Tel Aviv', *Women's Studies International Forum* 35/4 (2012), pp. 203–13.

<sup>123</sup> Ibid; Bagheri, 'Mapping women in Tehran's public space', pp. 1285–1301; Anke Reichenbach, 'Gender, Nationality and Public Space: the Case of Emirati Women in Dubai', *International Conference on Knowledge and Politics in Gender and Women's Studies* (Ankara, 2015), p. 1; Rachel Newcomb, 'Gendering the city, gendering the nation: Contesting urban space in Fes, Morocco', *City & Society* 18/2 (2006), p. 288–311; Mokarram Abbas and Bas van Heur, 'Thinking Arab women's spatiality: The case of "mutanazahat" in Nablus, Palestine', *Gender, Place & Culture* 21/10 (2014) pp. 1214–29.

<sup>124</sup> Ministry of Health [Oman], *National Health Survey, 2000: Volume 2, Reproductive Health Study* (Muscat, 2000).

**Figure 4. Freedom of Movement for Omani Women by Age and Destination (2000)**

Source: Ministry of Health Oman. National Health Survey, 2000, Volume 2, Reproductive Health Study.



Although cultural expectations have been changing,<sup>125</sup> they continue to constrain women's mobility and access to public open spaces,<sup>126</sup> as the following interviewees observed:

Men can have their friends pick them up, or they could cycle. They can do a lot of things that hinder women from participating in these types of activities. Young men could get a chance play football or go for a walk without many obstacles. But for the women, they need specific places to walk. They need to take care of their families; who would take care of their children if they went out for a walk? I've heard that groups of middle-aged women are organising walks and supporting each other.

Clearly, women are using public spaces but to do so, they are required to negotiate cultural barriers. Walking is the most appropriate physical activity for women in Oman; running, cycling and other forms of physical activity in public spaces are discouraged. A group of women going for a walk is culturally acceptable but the sight of a woman walking alone still remains unusual, even in Muscat. Walking in a group provides a sense of protection and legitimate 'cover' for being outdoors. Walking on one's own to visit family and friends or to go to the health centre or work may also provide a legitimate reason to be outside the home, particularly when within her community.<sup>127</sup>

<sup>125</sup> Ministry of Health [Oman], *Nizwa Healthy Lifestyle Evaluation Report* (Muscat, 2012).

<sup>126</sup> Aljabri, *The planning and urban design of liveable public open spaces in Oman*.

<sup>127</sup> Ministry of Health [Oman], *National Health Survey, 2000: Volume 2, Reproductive Health Study*.



Conservatives in Oman, as in many countries around the world, define women's 'true' role as bearing and nurturing children; this view, rooted in the belief that biology is destiny, shapes and constrains the range of opportunities available to women. Care-taking responsibility and the desire to be a 'good mother' can force women to sacrifice their own needs in favour of those of their families.<sup>128</sup> Domestic workers can provide support with these responsibilities, although this is not a realistic option for all women.<sup>129</sup> Thus, although not unique to Oman, normative beliefs about self-sacrifice and women's role in society are important constraints.<sup>130</sup>

The need to wear an *abaya* and headscarf is inhibiting; although it provides a legitimate cover, it is literally an added layer of clothing making the hot weather more unbearable, as one interviewee noted about her women patients.

## Psychological, Physical and Economic Barriers

Women often fear harassment and possible victimisation. This fear is a common psychological barrier for women's mobility everywhere,<sup>131</sup> including in Oman, a country considered among the safest in the world for tourists.<sup>132</sup> During the interviews, more women raised this issue than men. Some noted that women feel unsafe using public transport; others were concerned about road safety. In addition, many described the necessity to avoid (unwanted) interactions with men, and the imperative of maintaining respectability in order to protect their own – and their families' – reputation.<sup>133</sup> Women in Dubai, for example, reported that they feel the least comfortable in the low-income areas of the old city frequented by middle and working class expatriates as well as the leisure up-market establishments that serve alcohol and are frequented by Westerners. In contrast, malls were considered more appropriate and respectable places to socialise and meet with friends.<sup>134</sup> One study on public squares in Muscat, Oman found that similar to the older areas of Dubai, most users were non-Omani men from low income groups; these spaces were not user-oriented or functional spaces for families to enjoy.<sup>135</sup>

<sup>128</sup> Kerry R. McGannon and Robert J. Schinke, "My first choice is to work out at work; then I don't feel bad about my kids": A discursive psychological analysis of motherhood and physical activity participation', *Psychology of Sport and Exercise* 14/2 (2013), pp. 179–88; Mabry et al., 'A systematic review of physical activity and sedentary behaviour research in the oil-producing countries of the Arabian Peninsula', p. 1003.

<sup>129</sup> National Centre for Statistics & Information [Oman], 'Domestic Workers', *Information Report* 3.

<sup>130</sup> Mabry et al., 'A systematic review of physical activity and sedentary behaviour research in the oil-producing countries of the Arabian Peninsula', p. 1003; Ali, Baynouna and Bernsen, 'Barriers and facilitators of weight management', pp. 219–28; Ali, Bernsen and Baynouna, 'Barriers to weight management among Emirati women', pp. 143–59.

<sup>131</sup> Loukaitou-Sideris, 'A gendered view of mobility and transport', pp. 547–65.

<sup>132</sup> Oliver Smith, 'Revealed: The world's safest (and least safe) countries – Zimbabwe and Nicaragua beat the UK', *The Telegraph*, 11 April 2017. Available at <http://www.telegraph.co.uk/travel/maps-and-graphics/safest-countries-in-the-world/>.

<sup>133</sup> Reichenbach, 'Gender, Nationality and Public Space', p. 1.

<sup>134</sup> Ibid.

<sup>135</sup> Aljabri, *The planning and urban design of liveable public open spaces in Oman*.

In the context of the built environment, not only does safety mean ensuring sufficient lighting and security measures, it also means providing women a sense of legitimacy for wanting to feel ‘safe and comfortable’ in public spaces. One way is to have designated spaces for women and/or families, as explained by one expert:

In some areas it is easy for women to go outside and walk. In others, it may be more difficult. So we need to consider this, especially for women. Even culturally, women prefer to have their own space for walking. So if you provide them space, we could get more people walking... We can even consider the option for a family walk. It's not only for men or women; it can be for the whole family.

Designated women-only sections on public transportation as well as alternative modes (like car-pooling and women-only taxis) are possibilities suggested in the interviews. The feasibility and applicability of these suggestions could be further examined based on experiences in cities around the world,<sup>136</sup> including Dubai.

In general, physical barriers mentioned by interviewees were related to urban planning and design. Everyday errands like taking a child to school, visiting a sick neighbour, or accompanying a family member to the health centre are difficult due to the lack of a walking infrastructure and public transportation, especially when a woman does not drive.<sup>137</sup> In many countries, it is women that carry-out these care-taking activities. Thus, they are the ones who experience infrastructural barriers more acutely than men.<sup>138</sup>

Having access to toilets is another issue that is important for women's mobility in the public sphere.<sup>139</sup> Shopping centres and some parks provide toilets and other amenities; however, their relative scarcity is a concern, both in Oman<sup>140</sup> and in other countries of the Gulf.<sup>141</sup> Sufficient well-maintained public toilets would allow women access to public open spaces without wasting time and experiencing anxiety about the non-availability of such facilities.<sup>142</sup> As one expert explained:

There are certain services that should be put in place for women everywhere, like prayer rooms and public toilets. These are all very simple things and they should be considered.

<sup>136</sup> Amy Dunckel-Graglia, ‘“Pink transportation” in Mexico City: Reclaiming urban space through collective action against gender-based violence’, *Gender & Development* 21/2 (2013), pp. 265–76; Abigail Andrews and Nazanin Shahrokni, ‘Patriarchal accommodations: Women's mobility and policies of gender difference from urban Iran to migrant Mexico’, *Journal of Contemporary Ethnography* 43/2 (2014), pp. 148–75.

<sup>137</sup> Royal Oman Police, *Annual Police Report, 2015* (Muscat, 2016).

<sup>138</sup> Loukaitou-Sideris, ‘A gendered view of mobility and transport’, pp. 547–65.

<sup>139</sup> Yasminah Beebeejaun, ‘Gender, urban space, and the right to everyday life’, *Journal of Urban Affairs* 39/3 (2016), pp. 323–34.

<sup>140</sup> Aljabri, *The planning and urban design of liveable public open spaces in Oman*.

<sup>141</sup> Nussyba Abdelgadir Eribi, *Gender and Public Spaces: Investigating Access and Practice of Females in Public Parks in Doha*, MSc thesis, College of Engineering, Qatar University (Doha, 2017).

<sup>142</sup> Beebeejaun, ‘Gender, urban space, and the right to everyday life’, pp. 323–34.

A few experts interviewed reported that some people cannot afford membership fees of exercise facilities. The health experts were especially concerned about their patients with NCDs. Despite extensive educational achievements in Oman, including near universal enrolment and a high literacy rate (98 percent) among young adults, women's participation in the formal labour market remains low (22 percent).<sup>143</sup> While this is a reflection of conservative beliefs, it is also a measure of the limited employment opportunities and accessible support services, a weak public transportation network and dependence on others for transport.<sup>144</sup> The income of a quarter of Omani households is less than OR500 (£1000) a month, less than half of the average household income. One in ten households do not own a car.<sup>145</sup> Three-quarters have no domestic worker to assist with household responsibilities where the average household size is eight members.<sup>146</sup> Improved community infrastructure making local amenities and services easily accessible and safe for women to go walking would provide a free alternative to gym membership.

### Promoting Active Living through a Participatory Planning Approach

This examination of barriers faced by women sought to underscore the importance of the issue of accessibility to all. A true understanding of a specific group's needs requires not only the gathering of relevant information and data but also their involvement in the planning process. In Oman, as in neighbouring countries, planning still remains largely a top-down process. However, an inclusive planning approach is advocated by many, including urban planners and designers in the GCC,<sup>147</sup> because it ensures consideration of the needs of people most affected by decisions. This is particularly important for a country like Oman with limited (published) local evidence on physical activity, urban design and transport behaviour to guide public policy.

Inclusion in the planning process is best exemplified by the Nizwa Healthy Lifestyle Project, a community-based initiative in the city of Nizwa that aims to prevent and control NCDs.<sup>148</sup> Women are actively involved, both as planners and as community volunteers. Their involvement has been vital in identifying appropriate solutions: the project has used various means to support women's recreational physical activity including building segregated walkways away from the car-filled city centre and establishing a women's gym in

<sup>143</sup> National Centre for Statistics & Information [Oman], *Millennium Development Goals, The fourth national report* (Muscat, 2016).

<sup>144</sup> Shweta Belwal, Rakesh Belwal and Fatema Al Saidi, 'Characteristics, motivations, and challenges of women entrepreneurs in Oman's Al-Dhahira Region', *Journal of Middle East Women's Studies* 10/2 (2014), pp. 135–51; Gerard McElwee and Rahma Al-Riyami, 'Women entrepreneurs in Oman: Some barriers to success', *Career Development International* 8/7 (2003), pp. 339–46; Omer Ali Ibrahim, Sonal Devesh and Vaheed Ubaidullah, 'Implication of attitude of graduate students in Oman towards entrepreneurship: An empirical study', *Journal of Global Entrepreneurship Research* 7/1 (2017), p. 8.

<sup>145</sup> National Centre for Statistics & Information [Oman], *The final findings of the household expenditure and income survey (for the period 20 May 2010–19 May 2011)* (Muscat, 2012).

<sup>146</sup> National Centre for Statistics & Information [Oman], *Population Statistics* (Muscat, 2016); National Centre for Statistics & Information [Oman], *Information Report, 3: Domestic Workers*.

<sup>147</sup> Nebel and von Richthofen (eds), *Urban Oman*; Alawadi, 'Rethinking Dubai's urbanism', pp. 353–66.

<sup>148</sup> Ministry of Health [Oman], *Nizwa Healthy Lifestyle Evaluation Report*.

the local Oman Women's Association building. They have had less success, however, in their effort to redesign the urban area to be more supportive for physical activity despite the demands of community members. This may be due, in part, to current centralised urban planning processes; it may also be due to a limited understanding of the relationship between the built environment and physical activity.

The experts interviewed recognised the importance of accessibility for all. One expert in particular stressed this and ended our discussion with the following:

I would like to emphasise that we are always talking about all the others but we don't have the facilities that are appropriate for children and adults with disabilities and the elderly who are physically challenged. I think we have to involve everybody in the community, not just women.

A guiding principle of the WHO package is a human rights approach with the phrase 'equitable access' repeated six times.<sup>149</sup> This aim to reduce social inequalities and disparities of access to physical activity is also reflected in SDG 11.7 which states:

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

Not only does this goal emphasise 'universal access' and 'inclusive' public spaces, it also specifies four population subgroups for particular consideration.<sup>150</sup> The naming of vulnerable groups reflects the mobilisation and involvement of civil society in developing the SDGs and the rights-based approach that informed the final document.<sup>151</sup> Thus, involving local communities and specific vulnerable groups ensures a whole-of-society effort in creating a supportive environment that would encourage people to be active in their daily lives.<sup>152</sup>

<sup>149</sup> World Health Organization, *Physical Activity Technical Package*.

<sup>150</sup> United Nations General Assembly, *Transforming Our World*.

<sup>151</sup> Naila Kabeer, 'Gender equality, the MDGs and the SDGs: Achievements, lessons and concerns', *South Asia @ LSE Blog*, 5 October 2015; Shahra Razavi, 'The 2030 Agenda: Challenges of implementation to attain gender equality and women's rights', *Gender & Development* 24/1 (2016): pp. 25–41.

<sup>152</sup> Laurette Dubé et al., 'From policy coherence to 21st century convergence: A whole-of-society paradigm of human and economic development', *Annals of the New York Academy of Sciences* 1331/1 (2014), pp. 201–15.

## Inviting People Outdoors: Examining the Possibilities in Muscat

This final section explores the possibilities of creating communities that support the integration of physical activity in residents' daily lives by examining existing communities in Muscat that invite and encourage walking. Although none of the communities are 'ideal' environments, they provide useful examples to explore key components of urban design that encourage physical activity (residential density, mixed land use and street connectivity).<sup>153</sup>

### Designing Communities to Support Active Travel

The most well-known community that illustrates some of the principles advocated by urban planners and physical activity experts is Muttrah, a traditional neighbourhood along a narrow strip of land between the mountains and the sea, popular amongst tourists and residents alike for the traditional souk, the long corniche bordering the sea, restaurants, cafes and parks. Over the past 100 years, this compact community has grown from a small fishing village to a sea port with the highest population density in the country.<sup>154</sup>

Two other neighbourhoods are newer, carefully planned communities with a central shopping area that hosts essential services and leisure activities. This central hub, surrounded by a network of sidewalks, encourages a culture of walking. The first is Medinat Al Sultan Qaboos (MQ), an older up-scale residential area; the second, Al Mouj, is a luxurious seaside community where the walkways are shaded and green, and where the community centre, The Walk, is car-free during the weekend. Both neighbourhoods target wealthier population sub-groups, especially the expatriate community. In contrast to these three communities is Al Khoud, a newer housing development that is representative of the haphazard plans.

Population and infrastructure data assessing and comparing residential density, mixed land use and connectivity are not readily available; thus, analysis is largely limited to maps that provide an aerial view of each area (Figures 5–8). Of the four communities, Muttrah (Figure 5) appears to be the most densely populated; land plots are much smaller and buildings more compactly sited compared to MQ (Figure 6), Al Mouj (Figure 7) and Al Khoud (Figure 8); the latter appears to be the least densely populated of the four. However, given the low number of high rises, it is likely that none of the four communities have a population density of 15,000 population per km<sup>2</sup> one of five principles of sustainable urban

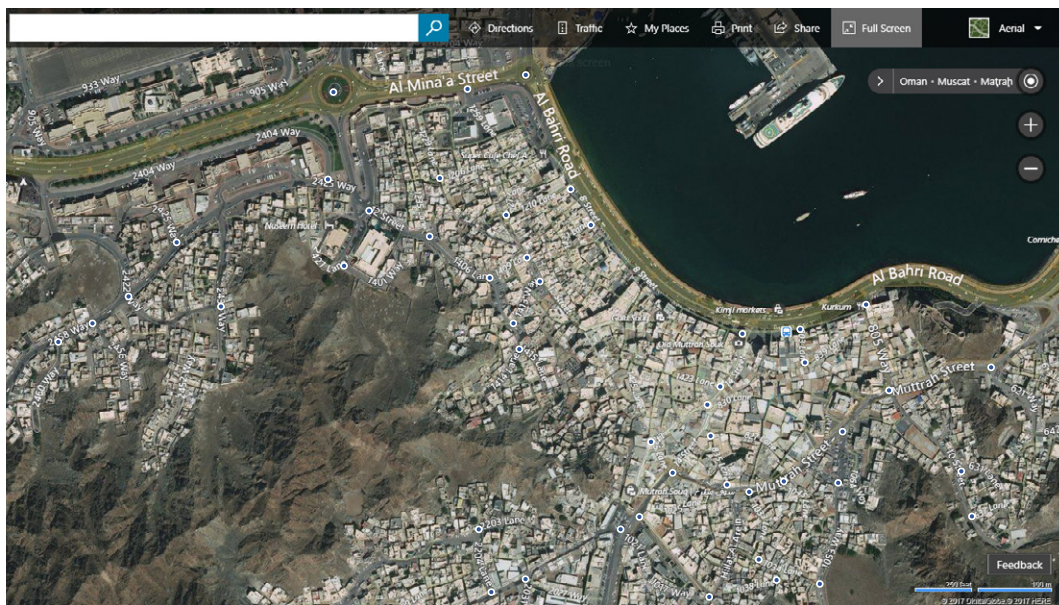
<sup>153</sup> Chen and Zhou, 'Effects of the built environment on automobile-involved pedestrian crash frequency and risk', pp. 448–56; Christiansen et al., 'International comparisons of the associations between objective measures of the built environment and transport-related walking and cycling', pp. 467–78; Sallis et al., 'Physical activity in relation to urban environments in 14 cities worldwide', pp. 2207–17; McCormack and Shiell, 'In search of causality', p. 125; Durand et al., 'A systematic review of built environment factors related to physical activity and obesity risk', pp. 173–82.

<sup>154</sup> National Centre for Statistics & Information [Oman], *Population Statistics*.



neighbourhoods advocated by UN-Habitat.<sup>155</sup> Residential density can also be assessed by the type of housing available or ‘social mix’ which is defined by UN-Habitat as housing in various price ranges so that 20 to 50 percent of residential floor area should be for low-cost housing.<sup>156</sup> Residential properties in Muttrah (Figure 9), Medinat Al Qaboos (Figure 10) and Al Mouj (Figure 11) include a mix of villas and apartments, unlike Al Khoud which is largely single-family villas (Figure 12).

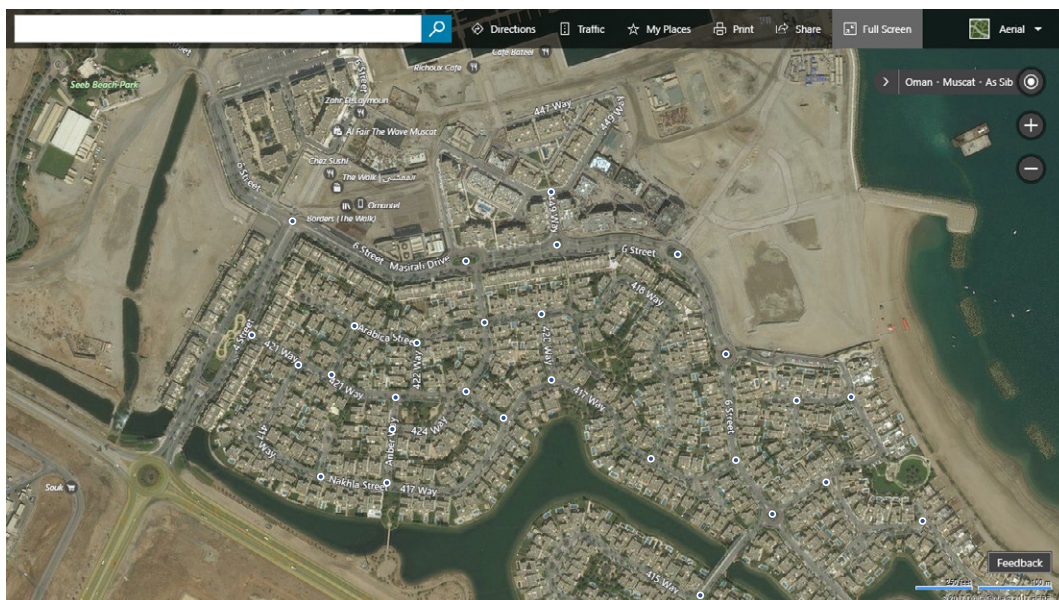
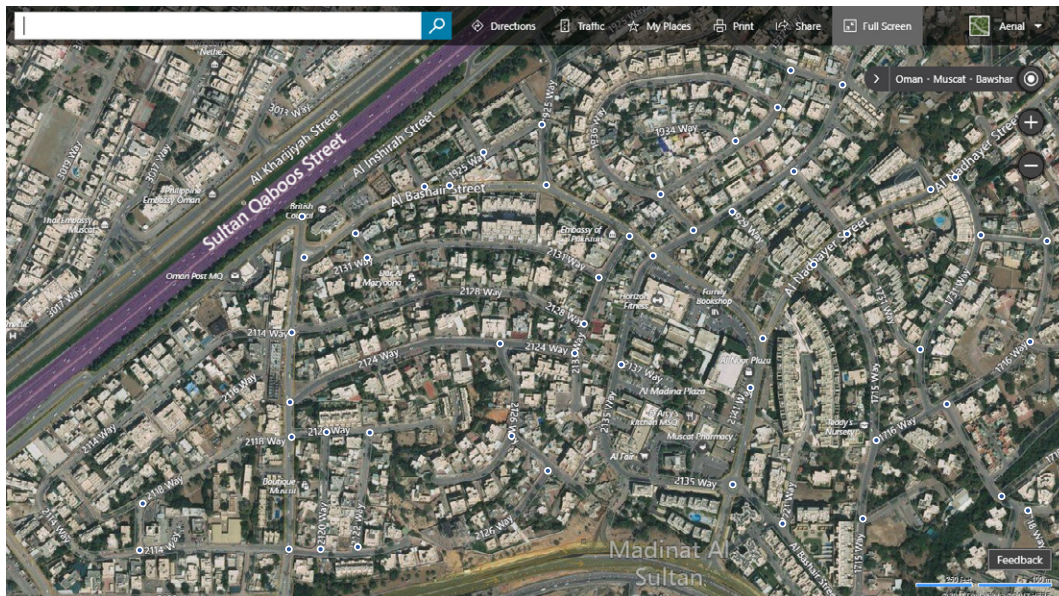
**Figure 5. Aerial Map of Muttrah**



<sup>155</sup> UN-Habitat, *Global Public Space Toolkit*.

<sup>156</sup> Ibid.









All four neighbourhoods provide examples of at least one of the three urban design components that can promote physical activity. Muttrah is an example of high density and land use mix and possibly connectivity. MQ and Al Mouj provide good examples of mixed land use while Al Khoud demonstrates high street connectivity. These designs are applicable to all income levels and are especially appropriate for those with limited means and vulnerable groups. However, it is the compactness of the Muttrah community with various stores, services, restaurants, parks and the corniche within easy walking distance of people's homes that make this area the most pedestrian-friendly. One expert recalled:

I moved to Al Amarat about 6 months ago. And the thing I am actually missing is those open spaces, those green areas. I used to live in Muttrah. Despite it being very crowded you would have...green areas which you would really enjoy. The beach is close; Muttrah corniche is close, so it was easy for me.

Like this expert, many Omani residents have moved to newer developments; as a result, three-quarters of the population in Muttrah are now expatriates.<sup>159</sup>



Figure 9. Ground floor businesses and retail stores with apartments in upper levels in Muttrah, Muscat, Oman (Photo by Abdulrahim Al Bahlani)



Figure 10. Apartments and single-family villas across from the main shopping area, Medinat Al Sultan Qaboos, Muscat, Oman (Photo by Abdulrahim Al Bahlani)



Figure 11. The Walk of Al Mouj, Muscat with apartments above ground floor restaurants and shops is car-free during the weekends (Photo by Abdulrahim Al Bahlani)



Figure 12. Single-family villas in Al Khoud (Photo by Abdulrahim Al Bahlani)

<sup>159</sup> National Centre for Statistics & Information [Oman], *Population Statistics*.

If Oman is to meet the goal of reducing physical inactivity by 10 percent by 2025,<sup>160</sup> urban planning and design must incorporate the three factors that have been found to increase walkability and other forms of active transport. This is particularly important since the neighbourhoods discussed here are rare. A number of large-scale developments currently being planned, like the expansion of Muttrah's waterfront, the development around Duqm port and the new city of Madinat Irfan,<sup>161</sup> provide the opportunity for change. However, to really have an impact and meet this goal, existing communities (where a majority of Omanis live) need to be carefully redesigned. Otherwise, the trend towards urban sprawl – fuelled by a car-dependent culture – will continue unabated.

## Designing Public Open Spaces

Creating invitations to be physically active can be augmented with the development of parks; they provide opportunities to walk, cycle, and play with family and friends. Formal parks and gardens are relatively new features for Oman; the first of these, Naseem Gardens, only opened in 1985. During the past 30 years, the total acreage of public gardens in Muscat has increased significantly,<sup>162</sup> but remains very low compared to green area standards for countries of the GCC (5.8 to 9.5 m<sup>2</sup> per capita).<sup>163</sup> This measure of acreage does not include other (formal and informal) spaces such as public walkways (Figure 12), linear parks (Figure 13), recreational grounds, playgrounds, public recreational facilities, squares and the long stretch of beaches along the northern coast. But their inclusion is unlikely to raise the per capita share of public open space to the expected standard.

The desire for such spaces, especially within residential areas, was affirmed by many people interviewed. There is no doubt that developing and maintaining these spaces in the extreme environmental conditions of Oman is a challenge. Such efforts to beautify the city through parks and other public open spaces are admirable but seem oblivious to the meaning and significance of the public realm – a space people can enjoy and use.<sup>164</sup>

An example of this broadened approach to public open space is the recently developed Wadi Al Atheiba Park (Figures 14 and 15), a carefully landscaped neighbourhood park developed a few years ago in a *wadi* bed (a barren flood-prone area). *Wadi* beds typically remain unused; although, at times, they are used as illegal dumping grounds for commercial waste. The apparent simplicity of the park is actually a sophisticated design that

<sup>160</sup> World Health Organization, *Global Action Plan for the Prevention and Control of Noncommunicable Diseases*, 2013–2020.

<sup>161</sup> Lucy Barnard, 'Omran reveals phase 1 plan for of Muttrah development', *The National*, 17 November 2016; Syed Haitham Hasan, 'Oman tourism: Duqm a city of the future, not just an industrial zone', *Times of Oman*, 17 May 2017; Omran, *Madinat Al Irfan* (Muscat, 2017. Available at <http://omran.om/portfolio/mixed-use-development/madinat-al-irfan>

<sup>162</sup> Muscat Municipality, *Annual Report 2006* (Muscat, 2007); Muscat Municipality, *Annual Report 2015* (Muscat, 2016).

<sup>163</sup> Nadeem Hashem, 'Assessing spatial equality of urban green spaces provision: A case study of Greater Doha in Qatar', *Local Environment* 20/3 (2015), pp. 386–99.

<sup>164</sup> Aljabri, *The planning and urban design of liveable public open spaces in Oman*.



follows the natural form, using drought tolerant plants and limiting the amount of grass, while the lowest area is pebbled and shaped like a stream. Like traditional parks, there are a variety of functional areas, such as shaded spaces for sitting and socialising, a green area for children to play and a circular walkway.<sup>165</sup> The remainder of the *wadi* bed could be developed, as originally planned, to provide an alternative car-free route to the beach 2 kilometers away which would further expand the walkability of this residential area.

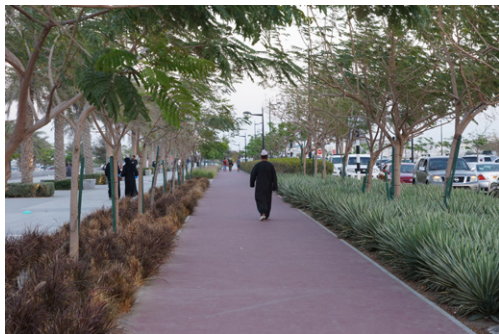


Figure 13. Seeb Public Walkway along the beach, Muscat, Oman (Photo by author)



Figure 14. Airport Linear Park (along Sultan Qaboos Highway), Muscat, Oman (Photo by author)



Figure 15. Socialising and people watching at Wadi Al Atheiba Park, Muscat, Oman (Photo by author)



Figure 16. Walking around Wadi Al Atheiba Park, Muscat, Oman (Photo by author)

This park differs from other parks in Muscat in a number of important ways, not the least of which is its design, which is more attuned to the natural layout of the land. It also has a much larger ratio of shaded expanse, is not fenced in and is sited within a residential area, allowing easier access to the park, day or night. Well-lit pathways ensure easy accessibility for all residents but especially older adults, children and people with physical disabilities. As such, the development of Wadi Al Atheiba Park provides a more sustainable and ecologically sound model for designing public open space. Its use of sustainable and environmentally appropriate methods and culturally-informed aesthetic responds to the climatic and environmental constraints of the region. As a bonus, parks like this help expand the public realm and support the healthier lifestyle of active living.

<sup>165</sup> Landezine, *Wadi Al Azeiba* (Muscat, 2014). Available at <http://www.landezine.com/index.php/2014/07/wadi-al-azeiba-by-atelier-jacqueline-osty-associates/>

## Conclusion

The rapid acceleration of urbanisation and modernisation since the 1970s have dramatically changed Omani lives where walking and cycling, which once were commonplace, have now become a 'burden'. It has also contributed to an epidemic of NCDs. A key to the efforts of reducing this trend is transforming the urban landscape to make physical activity a natural part of daily living. A national vision for this transformation would facilitate the implementation of the evidence-based interventions outlined in the WHO package and increase the possibility of meeting the national goal: a 10 percent reduction of physical inactivity by 2025.

Policymakers need to understand how urban design and transportation modalities fit within the constraints imposed by the environment; such an understanding is key to designing innovative eco-friendly communities that encourage physical activity. Existing research demonstrates that increasing residential density, land use mix and street connectivity are crucial for creating such walkable neighbourhoods. A participatory approach to the planning process would help ensure universal accessibility, particularly since information is limited for the most vulnerable groups like women, children, older adults and people with disabilities.

By implementing the core principles identified by urban planners and physical activity experts, the urban landscape could be remade into a people-centred rather than a car-dependent environment, even more inviting for residents and the increasing number of tourists visiting the country. By doing so, Oman would truly meet the tagline *Beauty has an address*.



## Annex 1. Excerpt from the Draft WHO Technical Package for the Promotion of Physical Activity<sup>166</sup>

### Built Environment

**Objective:** Urban environments and transport systems that provide equitable and safe access for recreational physical activity and transport-related walking and cycling across the life course.

1. Integrate transport, environmental, health and crime prevention objectives into relevant urban and spatial planning policies at national, regional and city level to support physical activity
  - Establish and facilitate a cross-government mechanism for cross-sector collaboration for integrated policy development and implementation;
  - Develop guidance to support integrated urban and transport planning and establish shared goals and joint actions;
  - Conduct health impact assessments of all regional and local urban and transport planning proposals;
  - Develop and enhance capacity of relevant professions to understand and apply physical activity-friendly principles to urban and transport planning through professional development and exchange.
2. Provide equitable access to safe, integrated public transport
  - Establish minimum standards for the provision of public transport in national, state and local planning policies;
  - Assess and monitor the availability, accessibility and safety of public transport;
  - Identify target areas for the provision and/or improvement of public transport that meet the present and future needs of communities;
  - Allocate resources to improve and maintain public transport and facilitate equitable access.
3. Enhance communities to enable equitable access to a diversity of local destinations
  - Develop policy and guidance which support zoning, land use and siting of key services that provides access to a mix of destinations (eg. essential services, retail shops, schools, places of employment, green spaces) within walking distance;

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<sup>166</sup> World Health Organization, *Physical activity technical package: Key policies and interventions to promote physical activity (draft)* (Unpublished, Geneva).

- Ensure the planning and design of local neighbourhoods use the principles of compact urban design and provide high connectivity of the street networks including short block lengths to encourage walking and cycling as preferred mode of transport between destinations.
4. Prioritise walking and cycling and public transport, including the provision and preservation of safe infrastructure for walking and cycling
    - Develop and implement a Walking and Cycling Policy and Strategy that prioritises, provides and preserves: safe, well-maintained, unobstructed and connected sidewalks on all streets allocation of space for pedestrians and cyclists safe, well maintained, unobstructed and connected cycling paths adequate lighting along walking and cycle paths safe road crossings (e.g. safe crossing points, pedestrian over or under passes);
    - Implement traffic control measures that reduce pedestrian and cyclist exposure to high traffic volume and speed;
    - Integrate walking and cycling infrastructure with public transport systems;
    - Engage with relevant local sectors to develop and implement strategies to improve neighbourhood safety to encourage walking and cycling (e.g. neighbourhood watch, increased policing);
    - Develop and implement policy to support workplace and school travel plans that provide infrastructure and support walking, cycling and use of public transport to and from these destinations.
  5. Provide and preserve quality, accessible and safe public open spaces
    - Establish minimum standards for the provision and preservation of greenspace, natural environments, parks and other public open spaces of varying sizes in national, state and local planning policies;
    - Assess and monitor the availability, accessibility and quality of public open spaces (e.g. suitable features, facilities, aesthetics, maintenance, safety, lighting);
    - Identify target areas for the preservation, increased provision and/or improvement of public open spaces that meet the present and future needs of communities, including user groups of all ages;
    - Allocate resources to develop, improve and maintain public open spaces;
    - Design, build, maintain and rejuvenate public open space with consideration of local context and with community engagement to ensure public open spaces are of high quality and meet the needs of multiple user groups;
    - Promote engagement, use and enjoyment of public open space through programs, events and activities that engage the whole community.
  6. Provide equitable access to quality sport and recreation facilities
    - Establish minimum standards for the provision of sport and recreation facilities in national, state and local planning policies;

- Assess and monitor the availability, accessibility and quality of sport and recreation facilities;
- Identify target areas for the provision and/or improvement of sport and recreation facilities that meet the present and future needs of communities;
- Allocate resources to develop, improve and maintain sport and recreation facilities;
- Design, build, improve and maintain sport and recreation facilities with consideration of local context and with community engagement to ensure facilities are of high quality and meet the needs of multiple user groups across the lifespan;
- Promote engagement, use and enjoyment of sport and recreation facilities through programs, events and activities that engage the community.

## Healthcare

**Objective:** Increase the capacity of the health system to promote physical activity.

1. Mainstream physical activity promotion within the healthcare system
  - Establish supportive policies and systems within healthcare;
  - Assess capacity of human resources for health and other supporting professionals to address physical activity;
  - Build capacity of health workers and other supporting professionals to address physical activity;
  - Incorporate measurement of physical activity as part of routine health information for individuals as well as communities.
2. Promote physical activity through primary care services
  - Assess and promote physical activity as standard practice with all patients
  - Provide all patients with brief advice or counselling on physical activity
  - Provide patients with supporting behaviour change resources on physical activity
  - Provide support and reinforcement during follow-up appointments to encourage long-term behaviour change
3. Strengthen links between primary healthcare centres and the community for the promotion of physical activity
  - Ensure that every local primary healthcare facility is a health promoting setting;
  - Establish community-based physical activity promotion facilities with appropriate referral from PHC;
  - Mobilise the community and link with national programmes that are implemented locally.

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**Cover Image**  
Man walking through Old Muscat, with Al Alam Palace in the background, 10 August 2017.

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# التحضر والنشاط البدني في دول مجلس التعاون الخليجي: دراسة حالة عن عُمان

## نبذة مختصرة

أدى التحضر والتحديث إلى تغيير جذري في المشهد الحضري في عمان والدول المجاورة. فقد أصبحت الأمراض غير السارية عبئا صحيا كبيرا. وتحويل البيئة الحضرية إلى بيئة داعمة للنشاط البدني سيكون له فوائد واسعة النطاق. باستخدام مسودة الحزمة التقنية لمنظمة الصحة العالمية بشأن تعزيز النشاط البدني كنقطة انطلاق، أجريت مقابلات مع أصحاب المصلحة الرئيسيين، تلتها مراجعة أدبية لأهم المواضيع التي برزت. ويمكن تلخيص الآثار السياسية المترتبة على النتائج التي تم بحثها في سياق الأدلة المحلية والدولية في ثلاث نقاط: إن اعتماد رؤية وطنية لإنشاء مجتمعات داعمة للنشاط البدني من شأنه أن يسهل تنفيذ حزمة منظمة الصحة العالمية حول النشاط البدني؛ إن تغير فهم صناع السياسة للنشاط البدني والصحة والتصميم الحضري ووسائل النقل ضمن السياق البيئي والاجتماعي والثقافي لسلطنة عمان سيوسع رؤيتهم لما هو ممكن. من شأن استخدام نهج التخطيط التشاركي أن يسهل وصول الجميع إلى الأماكن العامة المفتوحة، وأن يساعد على تحديد أفضل السبل لمعالجة الحواجز الثقافية والمادية والنفسية والاقتصادية الرئيسية التي تحول دون سهولة الحركة، لا سيما بالنسبة لأشد الفئات ضعفا والتي من الصعب جدا إثباتها. ويوضح القسم الأخير كيف يمكن استخدام مفاهيم التصميم الحضري لإنشاء أحياء يمكن المشي فيها في مسقط، منطقة العاصمة. من شأن تحويل المشهد الحضري أن يزيد من إمكانية تحقيق الهدف الوطني وهو تخفيض الخمول البدني بنسبة ١٠ في المائة بحلول عام ٢٠٢٥.

## ملخص تنفيذي

أدى التحضر والتحديث إلى تغيير جذري في المشهد الحضري في عمان والدول المجاورة. فقد صممت المدن والمجتمعات والأحياء على نحو يلغي المشي وركوب الدراجات من حياة الناس. فالسيارات الآن تهيمن على المناطق الحضرية. والثقافة التي تركز على السيارة وما يرافقها من أنماط الحياة المستقرة تدمر رفاه السكان، مع تحول الأمراض غير السارية عبئا صحيا كبيرا. إن تحويل البيئة الحضرية إلى بيئة داعمة للنشاط البدني - الممارسة الأساسية لتعزيز الصحة - سيكون له فوائد واسعة النطاق.

يصف هذا التقرير الحاجة لتغيير المشهد الحضري في حال أصبح النشاط البدني جزءا طبيعيا من النشاط اليومي في عمان. باستخدام مسودة الحزمة التقنية لمنظمة الصحة العالمية بشأن تعزيز النشاط البدني كنقطة انطلاق، أجريت مقابلات مع أصحاب المصلحة الرئيسيين، تلتها مراجعة أدبية لأبرز المواضيع التي ظهرت. وتستند الآثار المترتبة على السياسات، الموجزة أدناه، إلى النتائج المبينة في مشروع عُمان الحضرية، وهو مشروع بحثي حول التخطيط والتصميم الحضريين، مدته أربع سنوات.

أولا، من شأن تبني رؤية وطنية لإنشاء مجتمعات داعمة للنشاط البدني أن ييسر تنفيذ الحزمة التقنية لمنظمة الصحة العالمية بشأن النشاط البدني. فالتحضر السريع والنمو السكاني والمستوطنات المشتتة المنخفضة الكثافة تعرقل التنمية المستدامة كما أنها أوجدت ثقافة تعتمد على السيارات. إن اتباع استراتيجية تخطيط حضري تشجع عمدا النشاط البدني في جميع مجالات الحياة، يزيد من إمكانية تحقيق الهدف الوطني: وهو تخفيض الخمول البدني بنسبة ١٠ في المائة بحلول عام ٢٠٢٥.

ثانيا، من شأن تغيير تصورات صناع السياسة للنشاط البدني والصحة وكذلك التصميم الحضري وطرائق النقل ضمن السياق البيئي والاجتماعي والثقافي لسلطنة عمان أن يوسع رؤيتهم لما هو ممكن. كما أن التخطيط الحضري الدقيق والتصميم على أساس احتياجات الناس يمكن أن يشجعهم على أن يكونوا نشيطين جسديا على الرغم من الطقس الحار. فالمجتمعات الإبداعية الصديقة للبيئة التي تشجع النشاط البدني تتطلب زيادة في الكثافة السكنية، واستخداما مختلطا للأراضي، وشوارع متصلة. ويمكن للبلاد من خلال جعل التجول النشط والنقل العام بدائل جذابة للسيارات، تحقيق التحول الشكلي في النقل بنسبة ٢٥٪ بحلول عام ٢٠٤٠.



ثالثاً، من شأن اتباع نهج تشاركي في عملية التخطيط أن يسهل الوصول العمومي إلى الأماكن العامة المفتوحة. ويمكن لهذا النهج أن يساعد في تحديد أفضل السبل لمعالجة الحواجز الثقافية والمادية والنفسية والاقتصادية الرئيسية التي تحول دون التنقل نظراً لأن هذا النوع من المعلومات محدود، لا سيما بالنسبة للفئات الأكثر ضعفاً مثل النساء والأطفال وكبار السن والمعوقين. وتعرض هنا دراسة حالة عن سهولة حركة المرأة في عُمان لتوضيح أهمية الوصول العمومي والتخطيط التشاركي لمعالجة مشكلة التصميم الحضري والخمول البدني.

ويوضح القسم الأخير كيفية إمكان استخدام مفاهيم التصميم الحضري لإنشاء أحياء يمكن المشي فيها في مسقط، منطقة العاصمة. إن فهم المبادئ الأساسية التي يدعو إليها كل من مخططي المناطق الحضرية وخبراء النشاط البدني هو المفتاح لتحويل المشهد الحضري. تحتاج المجتمعات القائمة، التي تعيش فيها غالبية العمانيين، إلى (إعادة) تصميمها بعناية للمساعدة على تحقيق هدف النشاط البدني بحلول عام ٢٠٢٥. وإلا فإن المنحى باتجاه نمط الحياة قليلة الحركة والتوسع الحضري - اللذين تغذيهما ثقافة تعتمد على السيارات - سيستمر بقوة.

## عن مركز الشرق الأوسط

يبنى مركز الشرق الأوسط على علاقة كلية لندن للاقتصاد و العلوم الاجتماعية الطويلة مع المنطقة. ويوفر محورا مركزيا لمجموعة واسعة من البحوث حول الشرق الأوسط.

يهدف مركز الشرق الأوسط لتعزيز التفاهم وتطوير البحث الدقيق على المجتمعات والاقتصادات و الأنظمة السياسية والعلاقات الدولية في المنطقة. ويشجع المركز كلا من المعرفة المتخصصة والفهم العام لهذا المجال الحيوي. للمركز قوة بارزة في البحوث المتعددة التخصصات والخبرات الإقليمية. باعتبارها من رواد العلوم الاجتماعية في العالم، تضم كلية لندن للاقتصاد أقسام تغطي جميع فروع العلوم الاجتماعية. يستخدم مركز الشرق الأوسط هذه الخبرة لتعزيز البحوث المبتكرة والتدريب على المنطقة.

## عن برنامج الكويت

منذ تأسيسه عام ٢٠٠٧، أصبح برنامج الكويت مركزا رائدا عالميا للبحوث والخبرات عن الكويت ومنطقة مجلس التعاون لدول الخليج العربية. يشكل البرنامج القناة الرئيسية التي يتم من خلالها تسهيل وتوسيع وتعزيز البحوث عن الكويت في كلية لندن للاقتصاد . يقع البرنامج في مركز الشرق الأوسط في كلية لندن للاقتصاد تحت ادارة البروفيسور طوبي دودج.

## السيرة الذاتية

روث مابري باحثة زائرة سابقة في برنامج الكويت، مركز الشرق الأوسط في كلية لندن للاقتصاد والعلوم السياسية. روث مختصة بالصحة العامة، مع أكثر من ٢٠ عاما من الخبرة في الوكالات الوطنية والدولية، بما فيها منظمة الصحة العالمية. وهي باحثة ملتزمة مع مجموعة متزايدة من الأبحاث تتركز إلى حد كبير على تعزيز الصحة والوقاية من الأمراض المزمنة. روث مقررة حاليا في سلطنة عمان.



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