Abu Dhabi Public Realm Design Manual

Application for the 2011 ISOCARP Award for Excellence

Explanatory Report

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Abu Dhabi Urban Planning Council (UPC)

Abu Dhabi, United Arab Emirates (UAE)

1. Project Summary

The first Emirate-wide guide to building a world-class public realm, the Abu Dhabi Public Realm Design Manual (PRDM) represents excellence in planning. This ground-breaking Manual identifies an Emirate-wide approach to public realm projects and ensures that each project meets the criteria for development in Abu Dhabi. The Manual looks at the social and contextual aspects of planning and design, from how an individual project works with other community elements through to creating a high quality of life in Abu Dhabi. Outlined in this Manual is a method for evaluating projects on an Emirate-wide scale, looking beyond the site to the overall picture of planning a community. The innovation within the Public Realm Design Manual is applicable to all cities and has the potential to change how we look at planning for the public realm.

The public realm is our connection to the built and natural environments. A successful public realm ties a community together in a cohesive system of comfortable connections and destinations. Defining the public realm means designing the journey through and around a community. Recognising the importance of this initiative, the Abu Dhabi Urban Planning Council (UPC) created the PRDM through an intensive planning process that involved working collaboratively with various stakeholders. The result is a manual that establishes a planning foundation and the tools to build a public realm that work together towards achieving Vision 2030.

As part of the development of the PRDM, a 'Style Your Life' public realm opinion survey was conducted to gather input on how people make use of parks, streetscape, waterfronts and public places and what they feel is currently missing in terms of programming and design. The survey gauged the public's opinion to help inform the policies and design guidelines represented in the PRDM.

2. About the UPC

Created by Emiri Decree in 2007, the UPC is the agency responsible for planning Abu Dhabi Emirate's urban environments. The UPC is chaired by His Highness General Sheikh Mohammed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Deputy Supreme Commander of the Armed Forces and Chairman of the Abu Dhabi Executive Council. The UPC's website is www.upc.gov.ae/en and the PRDM can be downloaded from www.upc.gov.ae/PRDM.

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3. Project Description

The launch of the Abu Dhabi Public Realm Design Manual symbolises the ongoing evolution of Abu Dhabi as a world-class capital and further delivers on the goals set out in Abu Dhabi Vision 2030, which describes citywide networks of linked parks and open spaces. By implementing the Manual, the UPC aims to provide a comprehensively planned and well-designed public realm, which serves the needs of residents and visitors alike, providing a memorable experience by promoting quality public spaces and routes that are attractive, convenient and safe for all.

The Manual provides a unique opportunity to not only protect what Abu Dhabi already has, but to enhance those elements alongside the development of truly world-class destinations across the Emirate – from Abu Dhabi to Al Ain to Al Gharbia. The Manual reflects the enhancement priorities that will be applicable to the UPC's key urban development projects to ensure safety and comfort, preserve heritage and culture, and improve accessibility to places of leisure while enhancing connectivity and mobility. The Manual also aims to achieve higher levels of sustainable design and practice by utilisng an Integrated Design Process, a key component of Estidama, the UPC's sustainability programme.

The Manual lays the foundations for developing Emirate-Wide Comprehensive Plans of inter-connected parks and open spaces including reserves of ecologically sensitive areas, national and regional parks, commemorative places of National interest and heritage, protected archaeological sites, parkways and boulevards, neighbourhood and urban parks, public beaches and coastal parks, fareej-scaled meeting and play spaces and shaded links between parks.

In this respect, the Manual aspires to establish Abu Dhabi as a world-renowned capital that upholds its unique culture, identity, heritage and environment while serving a rapidly-growing and diverse multicultural population with a fully accessible and engaging experience that encompasses diverse public parks and civic spaces.

A World-Class Public Realm
Creating a world-class public realm is about designing places that 'work' to address complex issues of design, function and process. The challenge this Manual sets out to achieve is how to identify and define these qualities of good public realm design and ensure that they are applicable to all schemes, regardless of scale, location and context.

The Manual establishes the foundation for public realm planning by identifying the planning context including providing clear policies for future development, illustrating concepts for community-wide public realm systems and outlining recommendations for integrating the guiding principles and related policies of Vision 2030. The Manual influences and informs the future design of all exterior places, linkages and built form elements such as streets, pedestrian ways, bikeways, bridges, plazas, nodes, squares, transportation hubs, gateways, parks, waterfronts, natural features, viewing corridors, landmarks and building interfaces.

This approach is embedded in the policies that implement the public realm design guidelines within the Manual. Listed below is a selection of the key policies that will shape a liveable environment:

- By 2030, 90% of all residents in the Emirate will be within 350 metres walking distance of a park;
- The public realm includes amenities for everyone – regardless of age or ability;
- All public realm design embodies the principles of Estidama through the conservation of water, preservation and promotion of habitat and the enhancement of biodiversity through the use of local and drought tolerant plant species;
- The public realm contributes to a high quality of life by providing space for relaxation and enjoyment;
- Interpretive and communication programmes help people understand the value of maintaining clean and healthy waterfronts;
- Activation of streetscapes consider existing pedestrian and retail circulation patterns to strengthen their relationship to the streetscape and stimulate greater use; and
- Public places serve as destinations highlighting the special attributes and attractions of the Emirate by promoting and encouraging social interaction.

Identifying Needs
The foundation for the development of the PRDM is an understanding of the existing and future needs of the Emirate. To identify these needs, a Level of Service study was completed for the public realm, particularly in reference to parks and waterfront access in Abu Dhabi.

By comparing the existing level of service in Abu Dhabi with that of other world-class cities along with Abu Dhabi's vision for the public realm, three key Level of Service (LoS) Standards were identified to create a world-class public realm. These are as follows:

- The provision of 1.3 hectares of developed parks per every 1,000 residents;
- Maintain 20% of developed areas as open space; and
- Ensure the maximum distance to the nearest park is no more than 350 metres or a 10 minute walk.

These LoS Standards are to be used to quantify the amount of parks and/or open space which must be provided to meet a community's basic needs and expectations both now and in the future.

Tying the Community Together
Using public realm networks, the PRDM presents the potential public realm system for three key focus areas in Abu Dhabi: Abu Dhabi Island, Abu Dhabi Mainland and Al Ain City. The networks are designed specifically for each focus area to highlight the

uniqueness of the community. Each network illustrates how to tie the community together with key connections and destinations.

The key theme of each public realm network is highlighted below:

- Abu Dhabi Island Public Realm Network: Focuses on emphasising the Island's cosmopolitan waterfront characteristics by enhancing the urban grid and its connections to the waterfront;
- Abu Dhabi Mainland Public Realm Network: Focuses on emphasising the Mainland's function as the Capital District by creating a system of linear corridors that link future destinations and major public spaces; and
- Al Ain Public Realm Network: Focuses on maintaining the neighbourhood qualities of the City by creating a circular linked open space system with a primary and secondary loop to connect the urban areas to Al Ain's natural features, particularly the oases and wadis.

These public realm networks are central to creating a journey through the community and building a memorable public realm experience.

Character-Based Design Guidelines
A central component of the PRDM is the character-based design guidelines. These guidelines regulate the quality and appropriateness of public realm development, while also promoting a varied environment for a diverse public realm experience.

A key implementation tool, the design guidelines will shape the development of parks, streetscapes, waterfronts and public places in Abu Dhabi.

The importance of the character-based design guidelines is twofold. Firstly, they have been developed to create a unique experience for the end-user. Secondly, is that public places need to be varied in order to create an interesting experience that suits a diverse range of residents and visitors.

Method
One of the greatest challenges to planning for the public realm is how to deal with such a comprehensive topic. The PRDM's ability to plan for the public realm lies in its methodology of breaking it down into manageable and understandable components. To prepare policy, identify Level of Service, create public realm networks and develop design guidelines, the public realm is broken down into three levels: category, hierarchy and typology.

Public Realm Categories
The public realm includes all exterior places, linkages and built form elements that are physically and/or visually accessible regardless of ownership. These elements include streets, pedestrian ways, bikeways, bridges, plazas, nodes, squares, transportation hubs, gateways, parks, waterfronts, natural features, view corridors, landmarks and building interfaces. To simplify and plan for the Emirate, the public realm is organised

into four categories: Parks, Streetscapes, Waterfronts and Public Places. Definitions for these categories are as follows:

- Parks: Public spaces within a community for recreational use. Parks may include natural areas such as mountain ridges and wadi systems;
- Streetscapes: The visual elements of a street including the road, sidewalk, street furniture, trees and open spaces that combine to form the street's character;
- Waterfronts: All land areas along the water's edge; and
- Public Places: All open areas within a community that are visible to the public or for public gathering or assembly.

These categories are used to outline specific policies, standards and guidelines for the public realm that address particular types of public realm spaces to ensure all public realm issues are addressed.

Public Realm Hierarchies

To identify the Level of Service, the public realm is broken down further into five hierarchy levels for each category of the public realm. The hierarchy levels are Emirate, Municipality, City, District, and Neighbourhood. The hierarchy allows for a specific review of the Level of Service, clarifying the standards for a seamless public realm.

Public Realm Typologies

To create character-based design guidelines, the PRDM identifies 27 typologies, each with a unique character. These typologies relate to the many different roles that the public realm plays in a community. The below list contains the different typologies for each category of the public realm:

- **Parks:** Art Park, Baraha, Ceremonial Park, Community Garden, Community Park, Conservation Park, Desert Park, Family Park, Heritage Park, Linear Park, Meyadeen, Oasis Park and Sports Park;
- **Streetscapes:** Ceremonial Route, Gateway, Mushtarak (Shared-Use Access), Parking Area, Pedestrian First Corridor, Pedestrian Crossing, Scenic Route, Sikka (Paved Pedestrian Path), Themed Corridor and Transit Corridor;
- **Waterfronts:** Waterfront Access, Preservation Area, Recreation Area and Urban Area; and
- **Public Places:** Cultural Destination, Heritage Feature, Landmark Destination, Mosque, Plaza and Souq.

Typologies are based on the needs and the wants of each specific community and relate to the culture of Abu Dhabi. The implementation of the typology-based design guidelines enables the development of a unique public realm experience.

Together, this methodology of making the public realm understandable using categories, hierarchies and typologies will help to implement the vision for a world-class public realm in line with Vision 2030.

Implementing the Manual

The PRDM is designed to be implemented. Its function as a manual for use by urban planners and designers, transport planners, traffic engineers and landscape architects necessitates clear presentation and organisation of the policies and guidelines. To facilitate a distinct process for implementation, the PRDM includes a step-by-step implementation process. Each defined project begins with a policy review and an identification of how the project fits into the overall public realm system using the hierarchy, Level of Service and typology outlined in the PRDM. Once the project has identified these key characteristics of the space, universal and typology design guidelines are applied that will guide the project through the Abu Dhabi Urban Planning Council (UPC) Approvals Process.

As development occurs across the Emirate, each project is working towards a shared direction that brings various public realm elements together to form a complete public realm system.

4. Meeting the Selection Criteria

Content

The PRDM helps create a 'Sustainable Arab Capital' by developing liveable communities across the Emirate. This outlook recognises that for continued prosperity, a diverse economy is necessary. Therefore the PRDM looks beyond the current key economic drivers to the future of Abu Dhabi as a cultural hub and tourist destination as well as an attractive place to live and work. The PRDM also helps to promote sustainable urban communities in line with the UPC's Estidama programme by improving quality of life, and preserving and enhancing Abu Dhabi's cultural identity.

By integrating all components of planning and design for the public realm into one all-encompassing manual, Abu Dhabi has developed a clear direction for urban development. Utilising policies, Level of Service Standards, public realm networks and design guidelines, all future government and private development initiatives can work together towards a shared vision.

Process

Planning for the public realm is an undertaking that involves nearly all elements of the community; it is defined as all exterior places, linkages and built form elements that are physically and/or visually accessible regardless of ownership. The vast nature of this subject matter requires a cooperative effort in order to effectively plan and implement a strategy for the public realm.

Through regular meetings and coordination, the PRDM worked to build consensus between the various government agencies and stakeholders. Furthermore, the PRDM established a 'Style Your Life' public realm survey to identify the needs and wants of the local community.
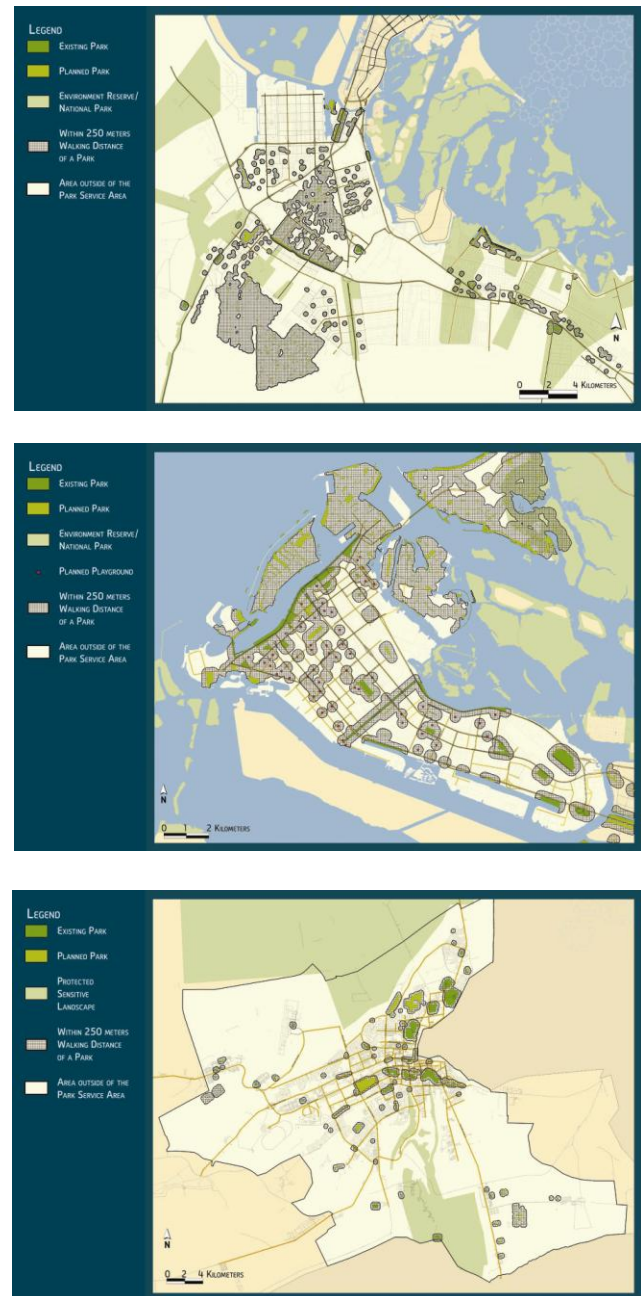
Innovation

The innovation of the Public Realm Design Manual lies in its approach. The Manual establishes the foundation for all public realm planning by first identifying the policy context; providing clear policies for future development and then practical tools and guidelines for implementation. The Manual focuses on how it will impact the residents and visitors of Abu Dhabi to create a Sustainable Arab Capital. The character-based design guidelines take a people-first approach by identifying what types of spaces people are looking for in the public realm and uses design guidelines to promote the creation of these spaces.

The PRDM provides a clear process for implementation using direct guideline statements, clear flowcharts, demonstration graphics and precedent images. The result is a practical design manual that serves as a tool to develop a world-class public realm.

5. Presenting the Project in Maps, Figures and Sketches

Park Coverage Gaps

The maps to the right identify parks and their service areas, highlighting areas outside of the designated desired walking distance to a park and providing the critical information needed for the location of new parks. This information was utilised as part of the Level of Service analysis to establish park needs. The assessment was completed for the three focus areas: Abu Dhabi Mainland, Abu Dhabi Island and the City of Al Ain.

Figure 1: Park Coverage Gaps (from top to bottom): Abu Dhabi Mainland, Abu Dhabi Island and Al Ain City

Public Realm Networks

The maps to the right identify how the public realm should be developed, connecting various public realm elements to make one overarching public realm system. Each public realm network is specific to the community it serves. Shown to the right are the public realm networks for Abu Dhabi Mainland, Abu Dhabi Island and the City of Al Ain.

The Abu Dhabi Mainland Public Realm Network focuses on emphasising the Mainland's function as a capital district by creating a system of linear corridors that link future destinations and major public spaces.

The Abu Dhabi Island Public Realm Network focuses on emphasising the Island's cosmopolitan waterfront characteristics by enhancing the urban grid and its connections to the waterfront.

The Al Ain Public Realm Network focuses maintaining the neighbourhood qualities of the city by creating a circular linked open space system with a primary and secondary loop to connect the urban areas to Al Ain's natural features, particularly the oases and wadis.
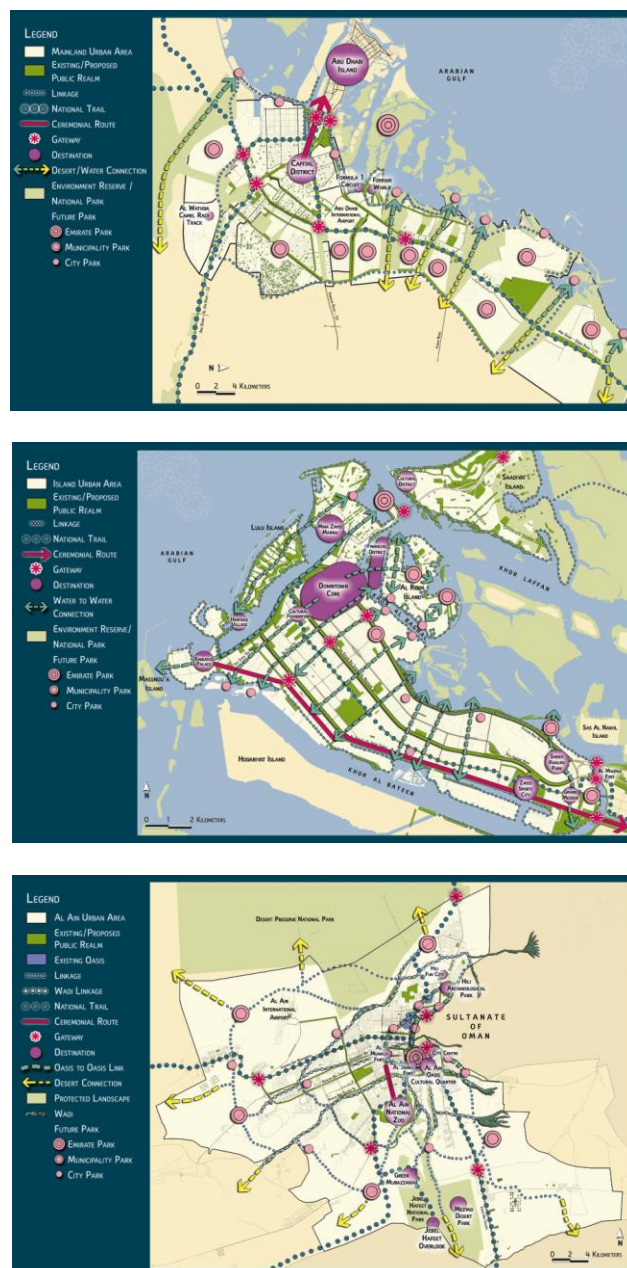

Figure 2: Conceptual Public Realm Network: (from top to bottom): Abu Dhabi Mainland, Abu Dhabi Island and Al Ain City

Implementing the Plan

Integral to the PRDM is the demonstration of how to turn plan into practice. The flowchart below is a step-by-step process of how to use the Manual, from project definition to the approvals process. The pages shown to the right identify how to develop a public realm space using universal and typology design guidelines. The Universal Design Guidelines apply to all parks while the Typology Design Guidelines shown apply specifically to heritage parks in this example. To illustrate the typology design, both precedent images and demonstration graphics present the design guidelines. These four pages are used as field guides to developing a public realm space.
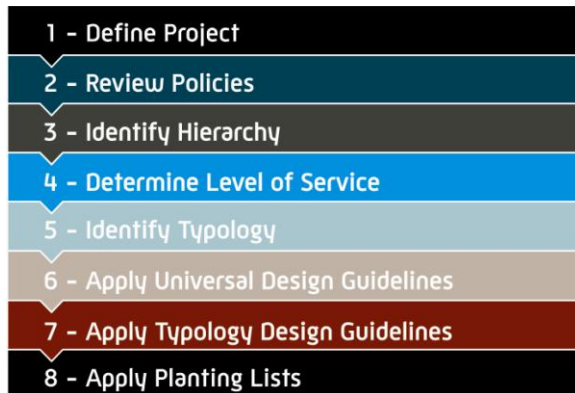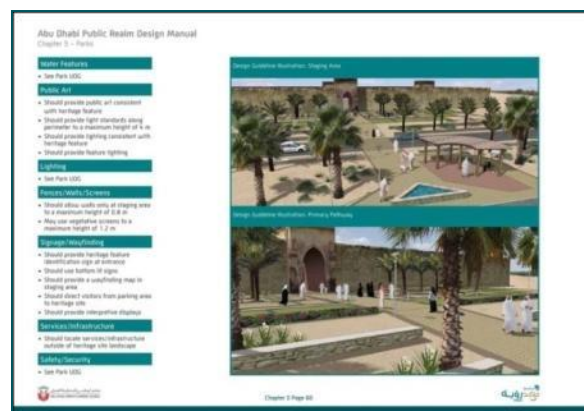

Figure 3: Public Realm Planning Process and Guidelines.

Demonstration Graphics

Each of the graphics shown below illustrates a typology and its respective design guidelines. These graphics are used in the Manual to help users visualise the applied design guidelines.

Figure 4: Urban Waterfront Demonstration Graphic.

Figure 5: Mosque Plaza Demonstration Graphic.

Figure 6: Transit Corridor Demonstration Graphic.

Figure 7: Family Park Demonstration Graphic.