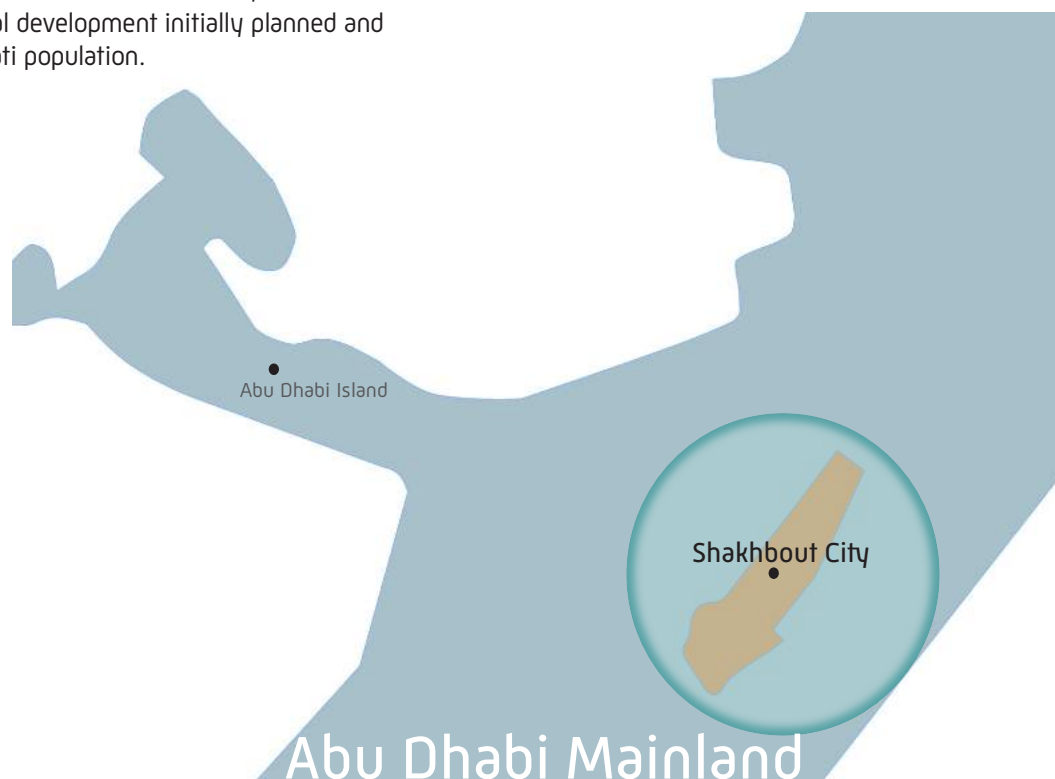


B.1 Introduction

Infrastructure retrofitting is presented in Section 3.3, and provides the principles necessary to retrofit utilities into existing streets in the Emirate of Abu Dhabi.

This sample project demonstrates how the overarching infrastructure retrofitting principles may be applied to a real life project on existing streets and the utility corridors arrangement developed based on the step-by-step guide.

The selected project is located on Abu Dhabi Mainland, south east of Abu Dhabi Island, and is an existing residential development initially planned and built for the Emirati population.



B.2 Shakhbout City Development

Shakhbout City is an Emirati Neighbourhood located in the greater Abu Dhabi City, some 30 km south east of Abu Dhabi Island, initially developed to respond to the Emirate's rapid population growth. The Shakhbout City layout was based on a grid system and mainly consists of residential plots.

Around 45% of the allocated 3,000 plus villa plots are currently built. Shakhbout City's population will continue to expand until it reaches the projected 175,000 figure.

Shakhbout City currently has limited public amenities and parts of the infrastructure are not sufficient to meet future needs. As a result, it is intended to enhance the infrastructure network to respond to demand. All streets are already built and a number of utilities exist.

The following presents an infrastructure retrofitting example, by applying the step-by-step guide to Shakhbout City.

Step I: Understand the Land Use

Step I consists of collecting all the data necessary to understand the existing and proposed land uses and constraints. These may include the following:

- **Land Use Context:** Residential/Emirati Neighbourhood;
- **Existing plot use:** Primarily Residential;
- **Existing community facilities:** Primarily religious with no other public amenities; and
- **Existing Street Families:** Various street types, for which the terminology has been translated to USDM street typology.

Once the existing situation and constraints are understood (the aerial view indicates Shakhbout City as it is today), infrastructure retrofitting objectives may be established based on the intended new land uses as indicated in Figure B.1.

In this sample project, infrastructure retrofitting will be applied to the identified existing Access Lane.