



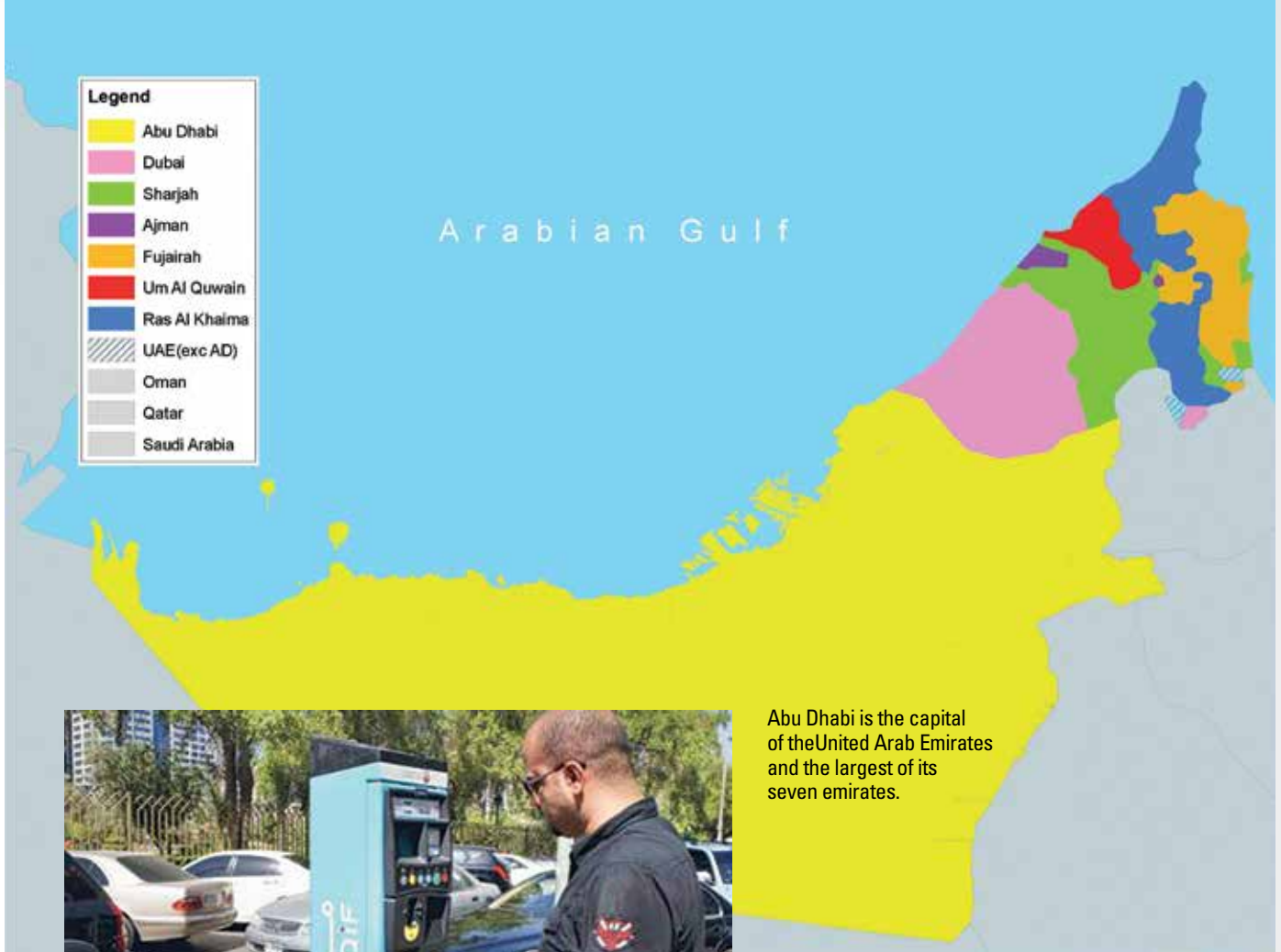
# Parking Management in ABU DHABI

## A Case Study of Transformational Change

By Mohammed Al Muhairi and Tope Longe

**T**HE REGULATION AND CIVIL ENFORCEMENT OF PARKING, though introduced decades ago in some countries, debuted in the capital city of the United Arab Emirates, Abu Dhabi (AD), in October 2009. The strategic management and implementation of change programs often pose challenges to managers, regardless of the industry or sector. Research has shown that the implementation of change initiatives in public sector organizations poses additional challenges and complexity due to the orientation, value, and objectives of the sector.





Abu Dhabi is the capital of the United Arab Emirates and the largest of its seven emirates.

The introduction of parking management in AD has all the elements of transformational change management. Here, we present a historical and current perspective on solutions to the parking dilemma in a modern urban environment such as AD.

**Abu Dhabi**

Many people have heard of or visited Dubai, but fewer people know AD, which is the capital of the United Arab Emirates (UAE). The UAE was formed in 1971 when seven emirates (Dubai, Sharjah, Ajman, Fujairah, Umm Al Quim, Ras Al Khaima, and AD) came together under one flag. The UAE is situated in the Middle East, bordering the Arabian Gulf and Gulf of Oman between Oman and Saudi Arabia. It is said to be ranked as one of the top 20 countries with the highest gross domestic product (GDP) per capita. An oil-producing country, its oil reserve is ranked 17th in the world.

AD is the largest of the seven emirates, accounting for 87 percent of the UAE’s total area of approximately 84,000 square kilometers. Despite its size, it has a population density of approximately 36/km<sup>2</sup>, as compared to a population density of 99/km<sup>2</sup> for the UAE as a whole. AD is the second most populous city in the UAE, after Dubai.

It is accurate to draw a parallel comparison between AD and Washington, D.C., and Dubai and New York City. AD, as the capital of UAE, is the seat for the government. It is a cosmopolitan metropolis and the country’s center of political activities—a major cultural and commercial center. AD is home to numerous multinational corporations and major local financial institutions and the corporate headquarters of many companies.

Development in the UAE has boomed in recent decades. This rapid growth and boom in the economy of the UAE has seen a high movement of people and services to the country and to AD. The country has experienced a population growth in which immigration is higher than the emigration rate. Approximately 70 percent of UAE residents are foreigners. AD recorded an annual growth rate of 7.7 percent between 2005 and 2011. AD generates a sizeable amount to the country’s GDP. In 2008, 60 percent of the GDP of the UAE was generated by AD.



**Figure 1. Parking Solution Timeline**

Year	Study	Action
2006	Parking Management Study	A comprehensive scheme of parking controls
2008	Contract Tender and Award	Parking scheme awarded
2009	Launch of Parking Scheme—MAWAQiF	Initiated on Oct. 4, 2009

**Figure 2. Bay Creation**

Source	Number of Bays Created
Re-routing and utilization of road width	4,998
Surface car park	1,540
Total bays gained	6,538

### Parking Problems

Private vehicle registration increased proportionally with the growth in economy, increasing immigration and resultant population growth. This was exacerbated by the prevalent vehicle-oriented culture that developed due to inadequate public transportation and pedestrian facilities. Illegal house-sharing was also rampant and led to more vehicles per household.

The urban setting is characterized by large, mixed-use city blocks or sectors. The problem was compounded by the fact that existing building footprints did not allow for basement parking; most inner city blocks were unable to meet increased demand for road space and parking spaces in the capital. Available surface parking was free, and enforcement of illegal parking activities was minimal. This led to a number of challenges:

- Illegal and obstructive parking practices were widespread.
- Safety was compromised due to congestion and obstructed streets; emergency vehicles experienced difficulty accessing accident sites.
- Congestion, vehicle emission pollution, and environmental issues were rampant.

### The Solution

In an attempt to resolve the prevailing parking problem, a number of initiatives and studies were undertaken to assess the parking situation and ascertain a strategy. Worth noting is the comprehensive Parking Management Study of 2006, which ultimately led to the establishment of MAWAQiF, which is the Arabic term for parking and the name of the division of the Abu Dhabi Department of Transport established in 2009 to:

- Manage, regulate, and maintain a safe, secure, efficient, environmentally friendly, and well-integrated parking management program (PMP) for AD.

- Maximize the benefit of existing parking supply by increasing turnover.
- Provide a sustainable solution aimed at ensuring a greener, more accessible, and less congested city.
- Respond to the parking needs of stakeholders, including residents, workers, and visitors.
- Plan for future parking supply and projected demand.
- Support “Plan Abu Dhabi 2030,” the Department of Transport’s plan to place Abu Dhabi as one of the leading world capitals with regards to mobility, connectivity, and transport.

Figure 1 presents the timeline for parking solutions in AD. There are several major components to the proposed solution.

### Public Awareness and Communication

A major part of the strategy for the AD parking solution was to raise public awareness of the initiative and the proposed parking solution. Communication is crucial to the success of a change initiative, and selecting the appropriate communication strategy is just as important. Some change programs have tended toward the adaptation of monologic communication strategies—that is, one-way command or a telling and directive style of communication. Here, a dialogic communication strategy that is inclusive and supportive and includes open consultation and a spirit of mutual equality was adopted.

A robust communication plan was embarked upon to communicate the agenda and benefits of MAWAQiF. The plan included the use of different communication media, from press releases to public relations campaigns to advertisements, to mention a few. A Middle East Parking Symposium also took place to further bring parking professionals under the same roof and answer public queries.





Near Mashreq Bank Khalifa Street—  
July 22, 2010  
(below) and  
Oct. 26, 2010 (left).

**AFTER**

**BEFORE**



### Legislative Framework

MAWAQif was established under Law No 18. This comprehensive legislative framework defines, among other things:

- The application of parking fees—the parking tariff per duration of stay of parker.
- Fines to be paid when a vehicle is removed for violations. It also stipulates the power to remove an illegally-parked vehicle.
- Division of authority between enforcement agencies.
- Regulation of private parking.

### Geographic Scope

The launch of the parking management program made the AD parking enforcement program one of the largest in the world. It operates more than 90,000 on-street and 4,000 underground parking spaces in 51 city sectors.

The geographic rollout of the program was carefully managed to avoid spillover and adverse effects on surrounding areas that were not part of the initiative. In areas where a significant supply shortage was evident, a number of initiatives were explored and implemented to allow for better use of road space. These include the addition of temporary or permanent parking supply, park-and-ride programs, re-routing traffic to create more parking spaces, and cross-sector parking permits to allow for the use of resident permits at other locations.

A total of 6,538 parking bays were created from re-routing and revamping areas into a new surface car park (see Figure 2).

### Fee Structure

The parking fee structure was set as follows:

- Fees are applicable from 8 a.m. to midnight.
- A standard parking fee was set at AED2 (\$0.54) per hour and AED15 (\$4.01) per day. This is affordable and well-suited for daily parking.

- A premium parking fee was set at AED3 (\$0.82) per hour with a maximum time stay of four hours. This encourages higher space turnover.
- The system offers flexibility for different classes of parkers with virtual residential permits, seasonal/special permits for multistory garages, and ladies' car parks in garages. Enforcement fees were also adopted:
  - Each violation carried an average fee of AED200 (\$54.20).
  - Towing carried a fee of AED500 (\$136).
  - Storage costs were priced at AED100 (\$27.20) per night.

### Registration Renewals

As a rule, all outstanding parking fines must be settled by vehicle owners prior to the legally required annual re-registration of the vehicle. Vehicle registrations are carried out by AD Police. MAWAQif is linked to the police for transferring and collection of outstanding parking fines. This system has led to high recovery of fines because recipients must register their vehicle every year for roadworthiness, and a condition for re-registration is that all outstanding parking fines have been settled in full.



One of five customer service centers,



### Customer Service

Five parking shops were launched across AD to cater to the needs of customers; they're open six days a week with one opening seven days and until late. The aim is to provide top-notch service from a comprehensive, state-of-the-art, customer service center that is easily assessable from strategic locations across AD Island.

### Diversity of Payment

MAWAQif offers a variety of payment options for both parking fees and violations:

- Pay-and-display and pay-on-foot machines that accept cash or credit cards.
- Mobile phone payments.
- MAWAQif payment service centers throughout AD that accept cash or credit cards.
- Payments via the m-MAWAQif website.
- Payments can be made at MAWAQif kiosks (like an ATM), which are located in and around AD and other emirates of the UAE.
- Environmentally friendly rechargeable payment cards.

### Central Parking Management System (CPMS)

The Central Parking Management System (CPMS) is the brain of MAWAQif. It:

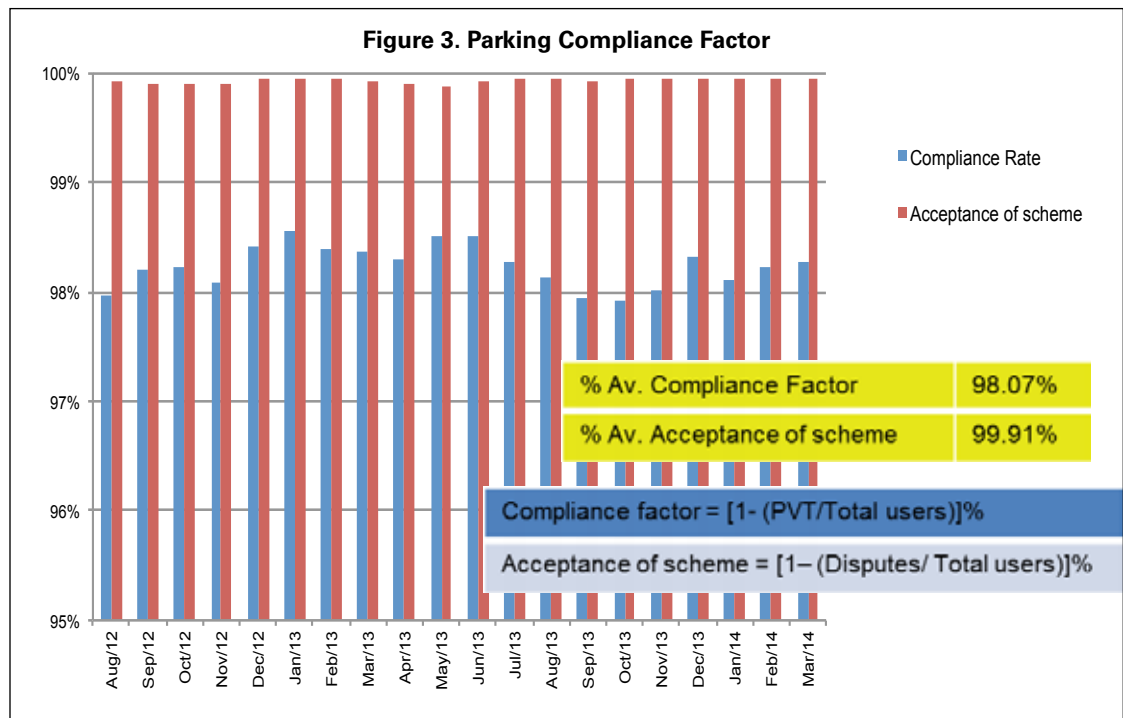
- Integrates the different aspects of service, such as parking payments, violation, permits, etc.
- Monitors various service functions.
- Supports the analysis and management of financial service data.
- Integrates with the Abu Dhabi Police system for registration and collection of outstanding parking fines.
- Acts as a central data store for long-term reference and study.



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All MAWAQif services and transactions are performed through this system.

### The Abu Dhabi Solution: Major Achievements

The major achievements of MAWAQif to date are:

- Parking-related accidents reduced by 24 percent.
- Improved emergency access to hot spot areas.
- Job opportunities (548 parking inspectors and supervisors) were created at all levels of work.
- More than 2,250 pay-and-display and pay-on-foot machines were installed.
- Approximately 5,000 parking bays were created from re-routing and better utilization of road space.
- Park-and-ride sites were successfully launched to ease demand for parking spaces and congestion in the central business district.
- Compliance factor averages 98.07 percent (see Figure 3). Compliance factor is a measure of compliance of road users to parking regulations. It is calculated as: Compliance factor =  $[1 - (PVT/Total\ users)]\%$  where PVT is total number of parking violation tickets issued.
- The city of AD is no longer gridlocked by illegally parked vehicles; parking is organized and regulated.

### Next Steps


The next steps for MAWAQif focus primarily on service improvement and ultimately the improvement of customer experience, including:

- Introducing temporary and/or permanent parking supply in sectors with severe shortages.
- Rejuvenation of sectors to improve the urban setting and make it more conducive to the needs of the local residents.
- Development of truck parking at identified industrial areas outside the city.
- Continual upgrade and improvement to MAWAQif services and performance through the introduction of smart parking solutions and efficiency measures.

The introduction of parking management to AD is a case of implementing profound, fundamental, transformational change that metamorphosed the city and saw the redress of the manifested parking problems. The

parking program's launch is distinguished by its breakdown of paradigms and driver habits from 100 percent reliance on private vehicles and the habit of illegally parking outside home or business to one of adherence and compliance with parking regulations and an increased awareness of the subject. It also spurred other traffic and transport initiatives that focused on other

transportation options to enable transportation modal change.

Parking enforcement requires collaborative work and engagement of stakeholders. This was key to the success of the AD program. As with many other transformational change initiatives, systematic, cross-agency collaboration was integral to the success of the program. 



## Expand your vision

Tightening budgets and rising personnel costs make the need for business intelligence today not a luxury but a necessity. Imagine you have a parking system that does more than manage your pay stations. It enables you to identify opportunities, take action, and measure results. Now imagine you have a system that sits above your various parking technologies. It delivers operational insight and empowers you and your field personnel to make informed decisions that increase efficiencies, productivity, and the bottom line. That system has arrived.



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