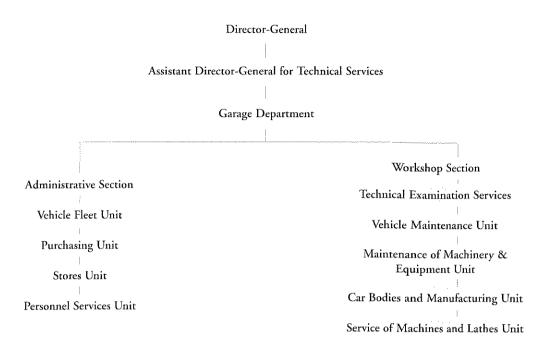
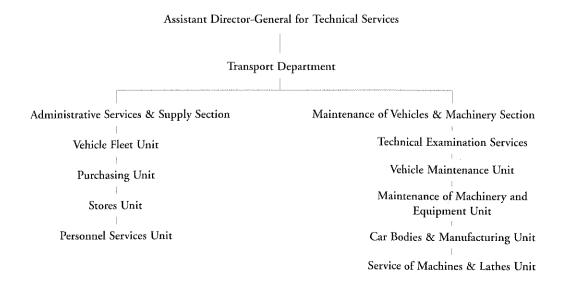
In 1998, the Transport Section\* was separated from the Department, which was renamed the Garage Department, as shown in Chart No. 4.

### Chart No. 4. Organisation Chart for Garage Department in 1998



In 2000, the Department's name was changed to the Transport Department, with Section names and job specifications also being changed. These alterations are shown in Chart No. 5.

Chart No. 5. Organisation Chart for the Transport Department in 2000



# Duties and Responsibilities of the Transport Department and its Sections

The Transport Department is responsible for providing all the needs of the various units of the Municipality with regards to vehicles and machinery, for carrying out the scheduled preventative and corrective maintenance for the fleet of vehicles and machinery owned by the Municipality and the supply of fuel and spare parts.

#### Administrative Services Section

This Section provides administrative services for all Department employees, ensures the supply of fuel and technical services for Municipality vehicles, manages the vehicle and machinery compound, provides vehicles for administrative units and carries out feasibility studies on vehicle use.

## Vehicles and Machinery Maintenance Section

This section carries out all necessary repairs, if necessary through external repair contracts, administers regular maintenance contracts for vehicles and machinery, studies and compile technical specifications for all vehicles used by the Municipality and lays down the policies for, and implementation of management and maintenance.

# Expenditure and Revenue for the Transport Department, by type, 1988 - 2002

Year	Salaries	Current Expenditure	Capital Expenditure	Total Expenditure	Total Revenues
1988	10,703,129.00	1,806,150.00	329,481.00	12,838,760.00	₩
1989	17,041,080.00	4,067,520.00	896,854.00	22,005,454.00	<u></u>
1990	7,204,422.00	2,105,316.00	692,470.00	10,002,208.00	<u>.</u>
1991	9,418,939.00	2,117,804.00	371,186.00	11,907,929.00	-
1992	9,890,925.00	2,193,526.00	339,576.00	12,424,027.00	<u></u>
1993	10,269,682.00	2,296,572.00	1,014,998.00	13,581,252.00	
1994	10,544,825.00	2,007,758.00	846,831.00	13,399,414.00	
1995	9,961,984.00	1,435,103.00	2,556,260.00	13,953,347.00	-
1996	10,583,924.00	9,569,449.00	2,238,676.00	22,392,049.00	125,881.00
1997	10,640,754.00	7,921,206.00	253,875.00	18,815,835.00	108,712.00
1998	11,488,971.80	4,526,824.03	2,059,830.21	18,075,626.04	117,408.00
1999	11,758,918.47	2,144,667.98	414,998.19	14,318,584.64	177,283.80
2000	13,347,371.22	4,017,434.08	192,198.50	17,557,003.80	155,575.19
2001	14,211,989.75	8,378,009.46	533,455.16	23,123,454.37	212,029.35
2002	15,953,499.44	15,986,660.55	747,247.74	32,687,407.73	204,807.00
Total	173,020,414.68	70,574,000.10	13,487,936.80	257,082,351.58	1,101,696.34

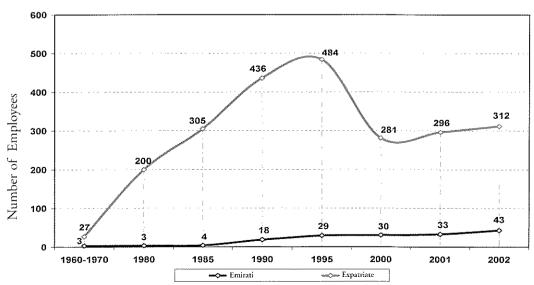
### Development of the Department

During the 1960s and 1970s, the nucleus of what was to become the Transport Department had only a very limited number of employees, reaching a maximum of thirty, of whom three were UAE citizens. By 1980, the total number of employees had risen to 203, still with only three Emiratis, representing 1.47 per cent of the total, while in 1985, only four people (or 1.29 per cent) of the Department's 305 employees were Emiratis. This had risen to 18 out of a total of 454 employees, or 3.9 per cent. by 1990. Continuing efforts to recruit more UAE nationals saw their numbers rise to 30, out of 311 (or 9.65 per cent) in 2000 and to 43 out of 355, or 12.11 per cent, by 2002.

Employees of the Department, 1960 - 2002

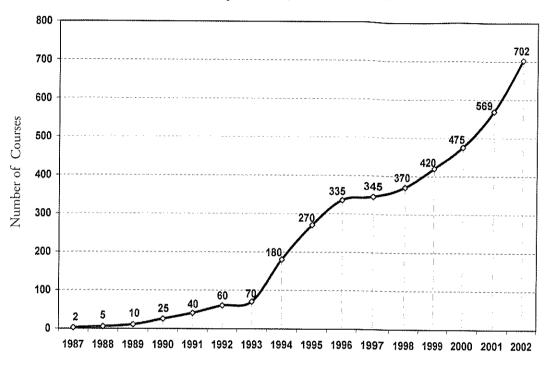
Year	Emirati	Expatriate
1960-1970	3	27
1980	3	200
1985	4	305
1990	18	436
1995	29	484
2000	30	281
2001	33	296
2002	43	312

Employees of the Department, 1960 - 2002



As part of the Municipality's policy of providing training to its employees so as to equip them to perform more effectively, and in accordance with the latest practices, the Department has made it possible for its staff to benefit from both administrative and technical training courses. By 2002, 702 courses had been completed.

# Training courses, 1987 - 2002





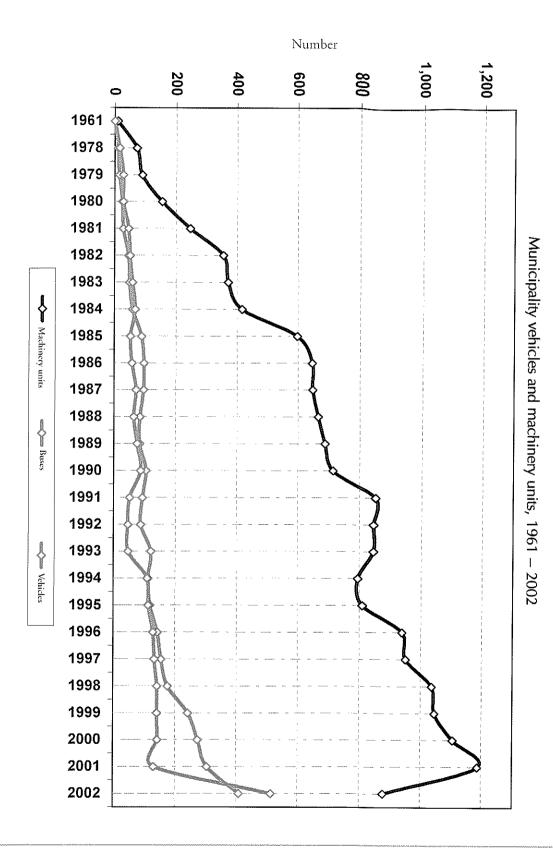
A drivers' training course

#### Fleet

The expansion of Dubai meant that the Municipality needed both more vehicles, and more types of vehicle and other machinery, for its own use. This process of expansion was particularly marked during the 1980s, the number of vehicles owned by the Municipality rising from 133 in 1979 to 848 in 1989. The process continued during the next decade, with the total rising to 1,431 in 1999 and then to 1,798 by the end of 2002.

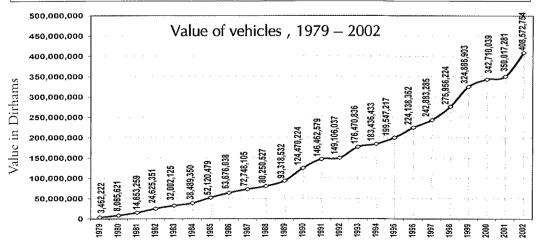
Number of Municipality vehicles & machinery units, by type, 1961 – 2002

Year	Vehicles	Buses	Machinery	Total
1961	10	0	0	10
1978	72	11	16	99
1979	90	15	28	133
1980	154	26	28	208
1981	246	28	46	320
1982	354	46	51	451
1983	370	49	59	478
1984	416	60	68	544
1985	598	89	53	740
1986	646	97	58	801
1987	648	96	71	815
1988	666	85	64	815
1989	688	84	76	848
1990	715	105	87	907
1991	847	93	52	992
1992	842	88	47	977
1993	842	122	48	1,012
1994	795	113	109	1,017
1995	809	119	113	1,041
1996	937	143	129	1,209
1997	949	155	133	1,237
1998	1,037	176	142	1,355
1999	1,047	242	142	1,431
2000	1,107	274	143	1,524
2001	1,187	304	131	1,622
2002	876	409	513	1,798



Cost of Municipality vehicles, 1979 - 2002

Year	Purchase Cost of Cars in UAE dirhams
1979	3,462,222
1980	8,065,621
1981	14,653,259
1982	24,625,351
1983	32,002,125
1984	38,489,350
1985	52,120,479
1986	63,676,038
1987	72,748,105
1988	80,250,527
1989	93,318,532
1990	124,470,224
1991	146,462,579
1992	149,106,037
1993	176,470,836
1994	183,436,433
1995	199,547,217
1996	224,138,362
1997	242,883,285
1998	275,956,224
1999	324,886,903
2000	342,710,039
2001	350,017,281
2002	408,572,754



# Types of vehicle and machinery units owned by the Municipality in 2002

Number
409
5
409
6
156
2
77
4
18
13
4
9
19
3
46
311
19
3
47
21
3
77
114

### Services

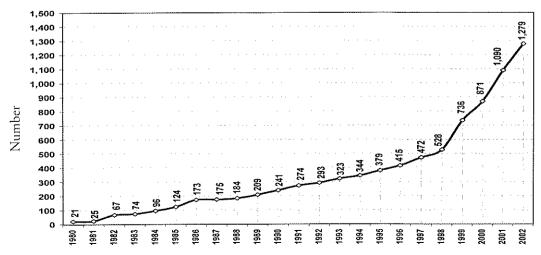
#### Administrative Services

Handling a fleet of vehicles and other units of this size posed both administrative and technical challenges. One is that of ensuring that there are enough reserve and relief drivers for vehicles, and a total of 60 have been employed to supplement the 918 regular drivers.

Municipality drivers, 1980 - 2002

Year	Total Number	Year	Total Number
1980	21	1992	293
1981	25	1993	323
1982	67	1994	344
1983	74	1995	379
1984	96	1996	415
1985	124	1997	472
1986	173	1998	528
1987	175	1999	736
1988	184	2000	871
1989	209	2001	1,090
1990	241	2002	1,279
1991	274		

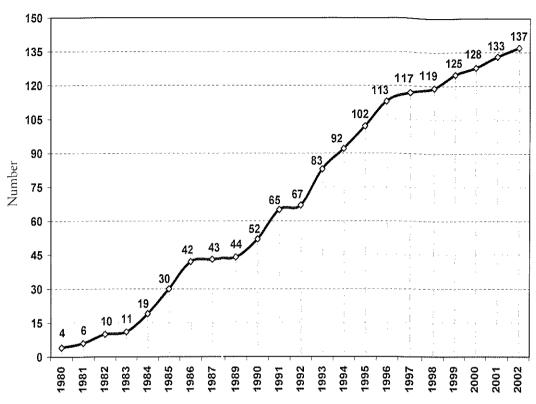
Municipality drivers, 1980 - 2002



# Drivers appointed to the Transport Department, 1980 - 2002

	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Year	Total Number
1980	4
1981	6
1982	10
1983	11
1984	19
1985	30
1986	42
1987	43
1989	44
1990	52
1991	65
1992	67
1993	83
1994	92
1995	102
1996	113
1997	117
1998	119
1999	125
2000	128
2001	133
2002	137

# Appointment of Transport Department drivers, 1980 - 2002



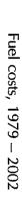


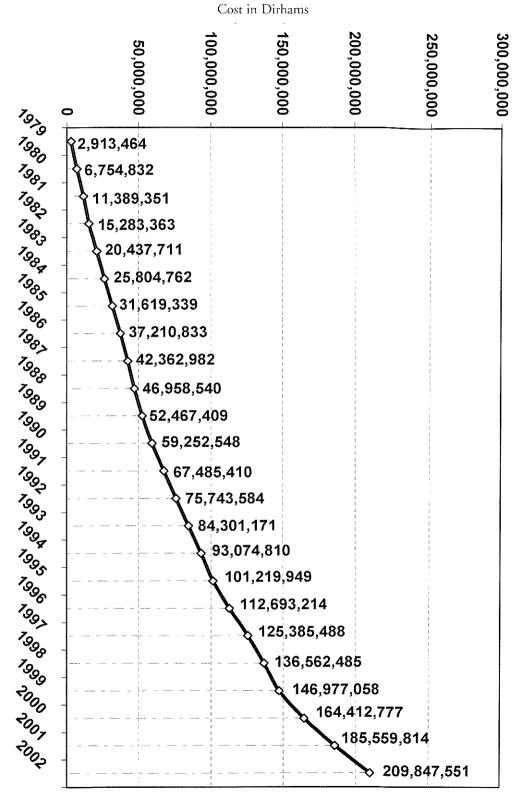
Buses during regular maintenance

In 1995, as noted above, a new petrol station was built to provide fuel to Municipality vehicles and other machinery and to other bodies working in collaboration with the Municipality.

Fuel Costs, 1979 – 2002, in UAE dirhams

Year	Total Cost of Fuel (Dh)
1979	2,913,464
1980	6,754,832
1981	11,389,351
1982	15,283,363
1983	20,437,711
1984	25,804,762
1985	31,619,339
1986	37,210,833
1987	42,362,982
1988	46,958,540
1989	52,467,409
1990	59,252,548
1991	67,485,410
1992	75,743,584
1993	84,301,171
1994	93,074,810
1995	101,219,949
1996	112,693,214
1997	125,385,488
1998	136,562,485
1999	146,977,058
2000	164,412,777
2001	185,559,814
2002	209,847,551

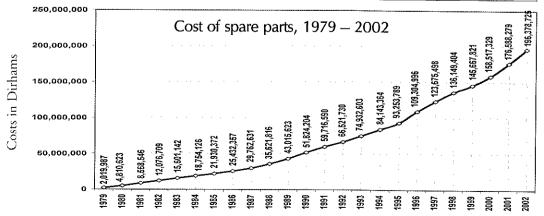




The Department is also responsible for the purchasing of spare parts required for the regular and routine maintenance of all of the Municipality's vehicles.

Cost of spare parts, 1979 - 2002 (in UAE dirhams)

Year	Cost (Dh)
1979	2,019,987
1980	4,810,623
1981	8,568,546
1982	12,076,709
1983	15,601,142
1984	18,754,126
1985	21,930,372
1986	25,432,357
1987	29,762,631
1988	35,621,816
1989	43,015,623
1990	51,824,204
1991	59,716,590
1992	66,521,730
1993	74,932,603
1994	84,143,364
1995	93,253,789
1996	109,304,996
1997	123,675,498
1998	136,149,404
1999	145,667,821
2000	158,517,329
2001	176,588,279
2002	196,378,725



#### **Technical Services**

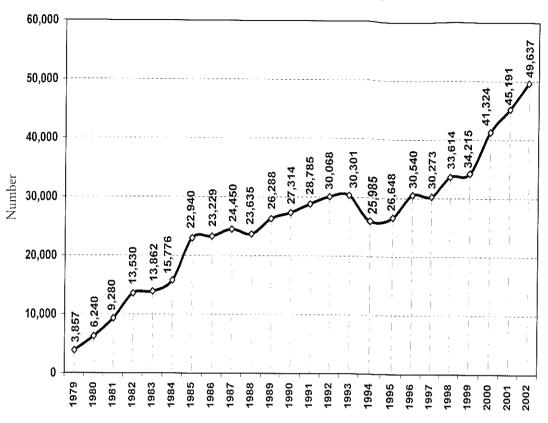
The maintenance of the Municipality's vehicles is a key part of the process required to keep them operational, and in 1987, a Technical Reception Office was established to handle all maintenance and repair.

In 1995, a modern workshop was built, which was fully-equipped to carry out preventative maintenance, and had a capacity of 1,500 vehicles, compared to only 500 for the old workshop, built in 1980.

## Maintenance work (by number of Job Cards), 1979 - 2002

Year	Number of Job Cards
1979	3,857
1980	6,240
1981	9,280
1982	13,530
1983	13,862
1984	15,776
1985	22,940
1986	23,229
1987	24,450
1988	23,635
1989	26,288
1990	27,314
1991	28,785
1992	30,068
1993	30,301
1994	25,985
1995	26,648
1996	30,540
1997	30,273
1998	33,614
1999	34,215
2000	41,324
2001	45,191
2002	49,637

# Maintenance work (by number of Job Cards), 1979 – 2002

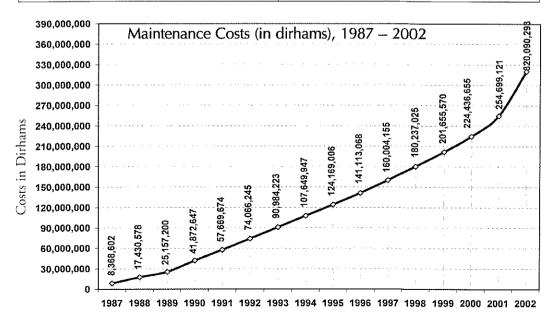




Technical Inspection in the Workshop

Maintenance Costs (in Dirhams) 1987 – 2002

Year	Cost (Dh)
1987	8,368,602
1988	17,430,578
1989	25,157,200
1990	41,872,647
1991	57,669,674
1992	74,066,245
1993	90,984,223
1994	107,649,947
1995	124,169,006
1996	141,113,068
1997	160,004,155
1998	180,237,025
1999	201,655,570
2000	224,436,655
2001	254,699,121
2002	320,090,293



### Systems Development

In 1996, as part of the Municipality's policy of decentralising work as much as possible, the Department was given responsibility for the approval of leave for its employees.

In 1999, as part of moves by the Municipality to introduce computer-based systems of management, the Department introduced a Management Maintenance System to monitor and manage cost accounting. This permitted vehicle maintenance programmes to be planned and to be put into effect, allowed the costs of operating and maintaining each individual vehicle or other item to be monitored and facilitated the creation of a broadranging database. This, in turn, made it possible for annual budgets to be drawn up easily, with the retrieval of data becoming easier, quicker and more accurate. With a capacity to store data for up to 3,000 vehicles and other units of machinery, the system also made it easier to prepare regular reports and to provide services of use in the purchasing of spare parts and stock control.

It was connected to the Contracts, Purchasing and Stores systems already operating within the Municipality and was also connected to the Dubai Government's e-Government system and to the Internet.

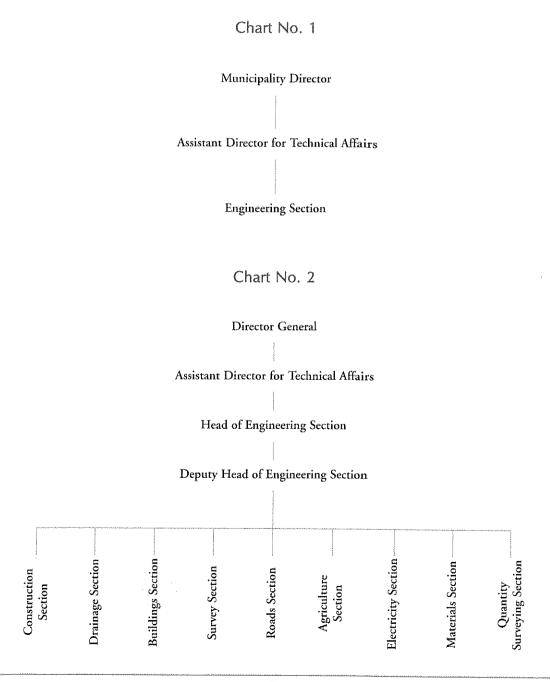
In 2000, an automated system was introduced for stock management and for the administration of spare parts management and purchasing. This was connected through computers linked to the main Purchasing and Stores systems, and was also linked to the broader Dubai e-Government network. 4,495 purchase orders had been processed at the time that this report was compiled.

The new system reduces the length of time that vehicles and other machinery are out of service while awaiting the arrival of spare parts, facilitates automated management of the requirements for and the availability of spare parts, allows stocks to be administered and handled efficiently and also specifies the minimum stock levels for each type. It also makes it possible to specify the economically-viable size of orders and to classify those spare parts for which there is a rapid turnover, as well as more slow-moving items, in accordance with international classifications.

General Projects
Department

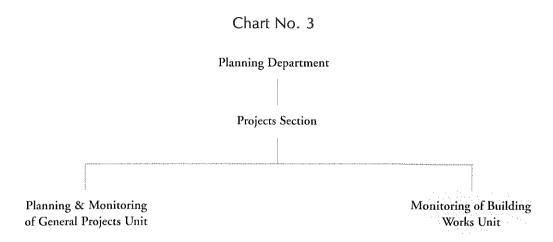
As is the case with other parts of the Dubai Municipality, the General Projects Department began on a small scale, and has grown dramatically over the years, in line with the growth of Dubai as a whole. Until 1986, various small engineering projects undertaken by the Municipality were handled by the Engineering Section, under the Assistant Director of Technical Affairs, as shown in Chart No. 1.

In that year, the continued growth of engineering projects of varying sizes prompted the formation of the Implementation Section, as well as other sections, as shown in Chart No. 2.

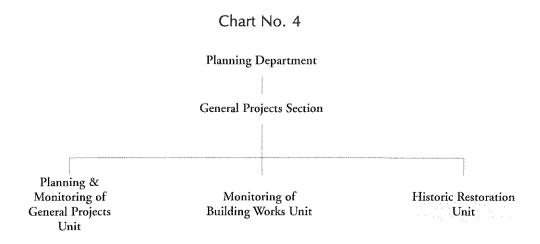


### Development of the organisation chart, 1988 - 2001

The Projects Section was founded in 1988 established as part of the Planning Department by Administrative Directive No. 326/1988, and with the Road and Drainage Units being excluded from the scope of the new Section. It was given responsibility for planning and supervision, in liaison with various other parties, and for ensuring that projects were carried out in accordance with the criteria and standards appropriate, with its internal structure being as shown in Chart No. 3.

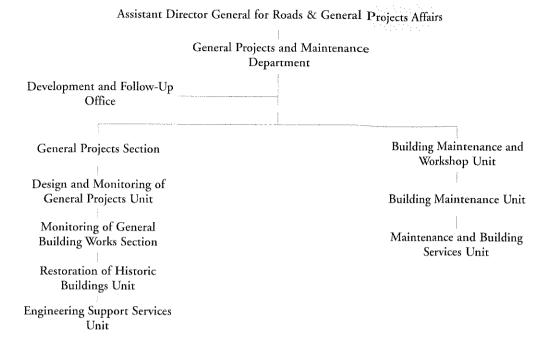


In 1991, a new unit was created in the Section to be responsible for the restoration of historic buildings, under the terms of Administrative Order No. 267/1991, with the consequent changes to the organisation chart being shown in Chart No. 4.



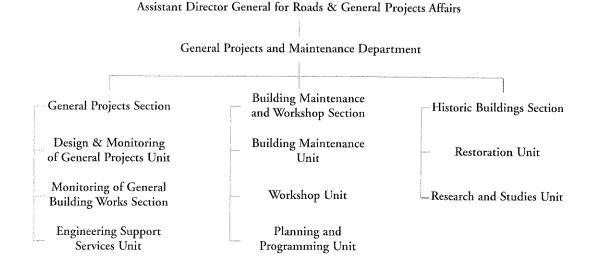
In 1994, Administrative Order No. 131/1994 set up the General Projects and Maintenance Department, with two sections, the General Projects Section and the Building Maintenance and Workshop Section, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for the General Projects Department in 1994



In 1995, the organisation chart was again amended, under the terms of Administrative Directive No. 591/1995, which set up three separate sections, as shown in Chart No. 6, the General Projects Section, the Building Maintenance and Workshop Section and the Historic Buildings Section.

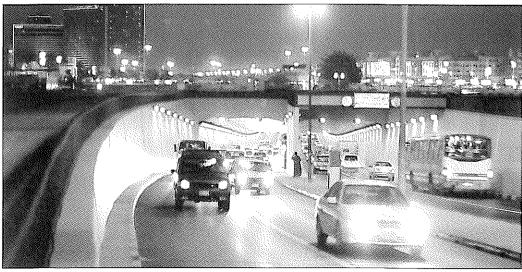
Chart No. 6. Organisation Chart for the General Projects Department in 1995



Then, in 1998, the General Maintenance Department was established in accordance with Administrative Directive No. 185/1998, as shown in Chart No. 7. The Maintenance of Buildings and Utilities Section was moved to the new General Maintenance Department and the organisation chart was amended, with the Department having three separate subsidiary units, the Maintenance of Buildings and Utilities Section, the Road Maintenance Section and the Maintenance Planning Office, as shown in Chart No. 7.

Chart No. 7. Organisation Chart for the General Projects Department in 1998

Assistant Director General for Roads & General Projects Affairs General Maintenance Department Maintenance Planning Office **Building and Utilities** Roads Maintenance Section Maintenance Section Street Lighting Maintenance Asphalt and Soil Works Unit Unit Electro-mechanical Traffic and Signs Unit Maintenance Unit Civil Engineering Bridges and Tunnels Unit Maintenance Unit

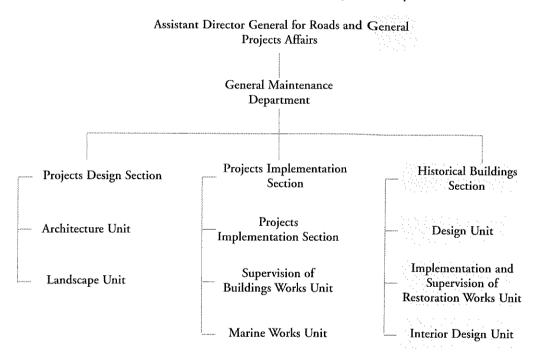


Al Shandagha Underpass

In 1999, further organisational changes took place, with the name of the department becoming the General Projects and Maintenance Department, and with the Building Maintenance and Workshop Section being included within it, under the terms of Administrative Directive No. 10/1999, and as shown in Chart No. 8. the Department then had three sections:

- The Projects Design Section
- The Projects Implementation Section
- The Historic Buildings Section.

Chart No. 8. Organisation Chart for the Projects Department in 1999



Further changes were also made to take account of the continual growth in the responsibilities of the Department, these including the creation of internal administrative units, the upgrading of its specialised technical personnel and the employing of new technical members of staff.

- An Interior Design Unit was added to the Historic Buildings Section, to take responsibility for the furnishing and interior decoration of historic buildings and museums while the Section was also provided with an administrative unit.
- In the Projects Design Section, a Landscape Unit was created, being placed in charge of all gardens and parks in the Emirate. It was also charged with providing support to other units of the Municipality.
- Another step was the setting up of the Marine works Unit, whose tasks included the carrying
  out of studies on Dubai's coastline and the impact on it of various projects, as well as providing long-range projections on the future of the coastline.

### Development of Activities and Specialities

Over the course of the last eight years, the quality and quantity of the activities undertaken by the Department have changed significantly. Having begun by handling only small and medium-sized projects, it then moved on to tackle much larger projects, of various kinds. These included Government projects, service projects undertaken for other bodies in Dubai, the provision of low-cost housing for employees and projects of a recreational nature, such as sports and recreational clubs, public gardens and parks, educational projects, commercial markets and the restoration of historic buildings as part of a programme of preserving Dubai's architectural heritage.

The Department has also made an important contribution to the development of the regulatory framework for the construction industry, has prepared draft documents for regulations on the protection of historic buildings and has laid down regulations for construction activity along the coastline.

Other tasks have included the carrying out of various studies on projects in both the public and private sectors and the supply of information on marine and other topics, while the Department has also been involved in a number of projects carried out by the Municipality itself.

The skills developed with regards to the restoration of historic buildings have also been used in a number of projects elsewhere in the United Arab Emirates as well as abroad.

Other activities have included participation in studies on the marine environment, while the Department has also presented papers at three international conferences, one held in Al Ain and the others in Sweden and Singapore.

Another aspect of its work has been the carrying out of technical studies on thermal insulation of buildings, the results of which were presented at a conference organised by the Municipality that led to the drafting of a Municipal Ordinance on this topic.

# Duties and Responsibilities of the General Projects Department

The main duties and responsibilities of the Department and of its various subsidiary units include the following:

- 1– To ensure that contract applications are processed in accordance with specified Municipality rules and procedures, in co-ordination with the Contracts and Tenders Section and the Cost Control unit of the Contracts and Purchasing Department.
- 2— To monitor work carried out by contractors and consultants employed to carry out work for the Department's projects and to ensure that they adhere to the terms of the relevant contracts, and to present regular appraisal reports to the Assistant Director General for Roads and General Project Affairs.
- 3– To carry out studies on the requirements of the beneficiaries of various projects, in particular relating to provisions for general projects, for buildings and for the Municipality.

- 4–To prepare specifications for large projects that cannot be undertaken by the Department and to follow up on the carrying out of these projects by external consultants and contractors.
- 5– To propose projects for the restoration of historic buildings and to implement those which are approved.
- 6– To co-ordinate with other Departments and Sections, in particular with the Contracts and Purchasing Department, the Building Research Section and the Quality Control unit, on the carrying out of and the and monitoring of projects.
- 7– To ensure the most efficient and cost-effective use of resources, including manpower, equipment and materials.
- 8– To propose and to carry out specialised technical studies on design criteria, implementation, maintenance and supervision, so as to improve efficiency.
- 9– To co-operate with the Personnel Department on training of employees, and, in particular, to suggest career development programmes for Emirati personnel.
- 10— To prepare and present monthly and quarterly reports and to help in the preparation of annual reports on the Department's activities, showing how plans and targets have been met, in accordance with standard Municipality practices.

The General Projects Department has three main sections, each of which has a number of Units and other units, and is mainly focussed on the design and carrying out of projects for public buildings and for the preservation of Dubai's historic buildings.

# **Projects Design Section**

This section has two Units:

- Architecture
- Landscape

## Project Implementation Section

This section has three Units:

- Supervision of Building Work
- Marine Works
- Engineering Support Services

## Historic Buildings Section

This section has three Units:

- For Design

- Implementation and Supervision of Restoration Work
- Interior Design

### **Project Design Section**

This Section carries out initial studies for and the design of special projects for the Municipality as well as for other government projects. It also follows up on, supervises and prepares points relating to designs and studies undertaken by consultants.

Amongst its duties are the preparation of policies and legislation and the development of research to improve performance and the formulation of plans for the study and design of projects. It is also charged with identifying suitable techniques for the restoration of historic buildings, based upon traditional building methods. This work is undertaken through co-ordination, at both an administrative and a technical level, with other parts of the Municipality.

The Section also oversees sensitive or complex projects by preparing individually-designed procedures and makes use of modern engineering techniques, where appropriate, while a more general task is that of ensuring that all projects are carried out in accordance with the technical specifications, whether carried out by the Municipality or by external contractors.

The work of external contractors is monitored on a regular basis to ensure that they adhere to contract terms, with monthly reports being prepared, while reports on projects needing regular or specific maintenance are also prepared.

At an internal level, the Section works closely with the Personnel Department to organise the appropriate training for Section employees, while internal courses, lectures and seminars are also held.

## Project Implementation Section

This key task of this Section is to supervise construction projects to ensure that the approved designs and specifications are carried out. It also provides engineering support to other parts of the Municipality.

Within this broad framework, the Section is responsible for implementing all Municipality policies, rules and regulations on projects, for ensuring that contractors and consultants keep to the terms stated in their contracts and for following up effectively on all phases of project implementation.

Initial and final designs presented by consultants and contractors are reviewed for an audit of specialised electro-mechanical, structural and marine aspects while structural and electro-mechanical designs are prepared for various works, where appropriate, this process being followed up through co-ordination with other Departments within the Municipality.

Consultants and contractors are reviewed and approved, in line with the appropriate Municipality procedures, this work being done in association with the relevant Administrative units, while close contact is maintained with other Sections and Departments of the Municipality, as well as with relevant external bodies, to ensure that their participation in project design and implementation is obtained, where necessary.

On the payment side, the Section reviews and audits payment orders, amending these, where necessary, and also makes suggestions for alternative building materials, where these meet

Municipality specifications.

The Section is also responsible for implementing Municipality policies and rules on project implementation, in particular where specialised expertise is required, as in the case of landscaping and marine projects.

Finally, the Section is responsible for gathering data and for maintaining a database on the marine environment, dealing with topics such as wind, water temperatures and marine currents, and for making sure that this data is accessible for use in Municipality projects or for projects being carried out by other Government bodies.

#### Marine Section

This Section is responsible for decision-making and for providing the necessary expertise, monitoring and data with regards to coastal engineering work.

It is equipped with the necessary equipment and computer programmes, with appropriate regulations having been laid down for it to perform its work.

Its personnel have the requisite experience to undertake their tasks, while, at the same time, keeping in mind environmental, demographic and other issues related to development.

The Section has devoted particular attention to the need to train UAE citizens, and has been successful in recruiting a marine consultant and an assistant data technician of UAE nationality who are being given the appropriate training, both internally and externally.

Further recruitment is under way.

## Historical Buildings Section

This Section carries out research, formulates the plans and techniques necessary for the preservation of historic buildings and then undertakes restoration, including the proposal of alternative uses for buildings and their interior furnishing.

As part of this work, the Section makes proposals for new policies and legislation and also puts forward ideas for research, as well as studying social, cultural and historical aspects of the community, so as to place the restoration of historic buildings within the appropriate context.

It also works closely with international bodies with expertise in the restoration of historic buildings, while, at the same time, ensuring that use is made of the appropriate local techniques, building materials and expertise.

Another task of the Section is to identify buildings that can be placed on international registers of world heritage.

In terms of carrying out its varied tasks, the Section works closely with other parts of the Municipality, while it also ensures that there is proper oversight of the work being carried out and the technical specifications, both for projects it carries out itself and for those being undertaken by external contractors. Regular monitoring of consultants and contractors is undertaken, with monthly reports being prepared.

Finally, the Section works closely with the Personnel Department on the organisation of the appropriate training courses and also carries out its own internal training programme

Development of the Department's Technical Capabilities

In view of the need to cope with its increasing responsibilities and to provide the highest standard of services, the organisation of the Department in terms of its technical expertise has been continually upgraded. The objective has been to ensure that there are suitably trained personnel throughout the Department.

In 2002, a number of new engineers and specialists were taken on, as well as assistants who were capable of undertaking tasks related to the preservation of the architectural heritage of the Emirate.

In 1994, there were 23 technical employees in the Municipality dealing with the functions currently carried out by the Department. By 2002, this number had risen to 60, of whom 34 per cent are UAE citizens, with 48 technical assistants, while the number of administrators rose from nine in 1994 to 35 administrators and administrative support employees in 2002.

Training and employment of Emiratis



A view of the Creek

As a result of carefully-prepared planning, there has been a notable increase in both the total number of and the percentage of Emiratis in the Department. By 2002, as noted above, 34 per cent of those in technical positions were Emiratis, while all senior level administrative staff were also UAE citizens.

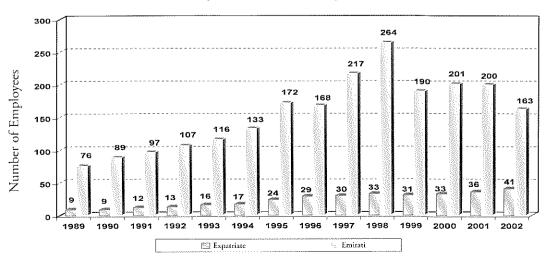
The following table illustrates the growth in the number of Emiratis in the Department between 1989 and 2002.

Year	Administrative	Technical	Technical Assistant	Total
1989	1	6	2	9
1990	<b>1</b>	6	2	9
1991	1	9	2	12
1992	1	10	2	13
1993	3	10	3	16
1994	3	11	3	17
1995	6	12	6	24
1996	6	16	7	29
1997	6	17	7	30
1998	6	17	10	33
1999	5	18	8	31
2000	11	16	6	33
2001	14	15	7	36
2002	24	28	9	61

Emiratis and expatriates in the Department, 1989 - 2002

Year	Emirati	Expatriate	Total	Percentage
1989	9	76	85	10%
1990	9	89	98	9 %
1991	12	97	109	11%
1992	13	107	120	11%
1993	16	116	122	12%
1994	17	133	150	11.50%
1995	24	172	196	14%
1996	29	168	197	15%
1997	30	217	247	12.50%
1998	33	264	297	11%
1999	31	190	221	14.50%
2000	33	201	234	14.50%
2001	36	200	236	15.50%
2002	41	163	204	20%

Emiratis and expatriates in the Department, 1989 - 2002



# Projects undertaken by the Department listed by year

1982 Accommodation for Employees – Phase 1 1983 Health Services Centre Housing for Health Workers in Al-Aweer 1984 Development of Mushrif Park - Phase 1 Al-Hamriyyah Central Market Taxi Station in Dubai Extensions to the Municipality Garage Extension of the Biology Laboratory Development of Al-Safa Park - Phase 1 1985 Housing for Labourers in Al Qusais New stores for the Rashidiya warehouses Cultivating the main playing fields with natural Renovation work in the Municipality's clinic grass in Dubai's clubs - Phase 1 Renovations in Al-Hamriyyah Central Market Extensions to the Materials Laboratory building, Phase 1 1986 Extensions to the Health Office at Tawi Lisaili Construction of 4 indoor sports halls for Dubai clubs Extensions to Hatta School for Girls Furnishing of Municipal Council Hall Rebuild of Sheikh Saeed's House in Shindagha Renovation of Municipality lifts Renovations and lavatories for the Municipality's Al-Quoz Graveyard Lavatories and renovation of the Health Clinic Additions to the Materials Laboratory building Fencing of the hazardous waste facility in Jebel Ali Fencing of Hatta's waste facility Construction of the Microbiology Laboratory -Fencing of archaeological sites in Jumeirah Biology School in Al-Khawaneei Fence and car park for Al-Qusais Graveyard Maintenance of Marine Docks Assembly of playground equipment and games in Landscaping of the Commercial Centre Safa Park Roundabout Construction of waste recycling stations Service buildings for Al-Refa'a Graveyard Cultivating the main playing fields with natural Additions to the Health Offices in Al-Rashidiya grass in Dubai's clubs - Phase 2 Commemorative monument for the Maintenance of Municipality Lifts

1987

Mosque for Labourers Housing complex in Al- | Maintenance of Zabeel Mosque Qusais

**Olympics** 

Al-Rashidiya Market

Fence for Al-Qusais Graveyard

Renovations to the Municipality's VIP Lifts

Veterinary Clinic and Labourers Housing in

Al-Quoz

Fence for Al-Refa'a Gravevard

Fence for Al-Rula Graveyard

Fence for Al-Hamriyyah Graveyard

Fence for Al-Riqqa Graveyard West

Maintenance for Hatta Municipality

Fence for Al-Tawar Graveyard

Eid Prayer area in Al-Rashidiya

Fencing of Jumeirah and Umm Suqeim Graveyards

Renovation of Municipality Laboratory

Scrap Compound Services

Municipality branch offices (Umm Sugeim and Al-Karama)

General Exhibition of Municipality Projects

Survey and study on fire protection facilities

Addition to the Roads Section offices in Al-Rashidiya

Design and fitting of signs for Municipality offices

Irrigation network for Veterinary Clinic

Residential gardens in Al-Hamrivvah

Public squares in Al-Tawar

Car auction services in Al-Qusais

Shaded bus stops in the city

Fencing of Municipality labour housing in Al-

Six stations for the collection and recycling of waste

Construction of Health Centres in Umm Sugeim and Al-Karama

#### 1988

Public squares in Al-Satwa and Mankhool

Gardens in Al-Rashidiya

Renovation of Al-Ittihad Building gate

Renovation of the Health Office in Hor Al-Anz

Expansion of Municipality offices in Al-Ittihad

Square

Maintenance of Al-Ahli Club

Public squares in Nad Rashid

Maintenance of Municipality building

Maintenance of Public Health Offices in Al-Aweer

Maintenance of Jumeirah Zoo

Public Squares, Al-Hamriyyah

Maintenance of men's swimming pool in Mushrif

Park

Navif Market

Fish and Vegetable Market in Al-Ra's

Addition of two check-out counters to the Public Squares

Womenis Association Headquarters

Jumeirah Beach Park - Phase 1

Landscaping of Al-Nasr Club

Furnishing of Sheikh Saced Al-Maktoum House in

Al-Shandagha

Municipality visitors' lifts

Fence for the Post Office in Al-Rashidiya

Landscaping of Al-Wasl and Al-Shabab Clubs

Protection of indoor arenas against birds

Lavatories in wholesale market

Refrigeration equipment for Municipality Abattoir

Equipment for extraction of waste in Municipality

Abattoir

Treatment equipment for Municipality Abattoir

Municipality Abattoir

Greenhouse in Al-Garhood Nursery

Commemorative monument for Dubai Secondary

School

Expansion of the Public Library in Dubai

Al-Dhiyafa roundabout fountains

Landscaping of Al-Ahli Club

Paving of Dubai Museum courtyard

Maintenance of the fire sprinkler system in the

Municipality building

Fence for Municipality Housing in Al-Qusais

Furnishing of meeting room in Al-Bidya building

#### 1989

Al-Khazan Park

Equipment for the kitchen and washing area in the Municipality Abattoir

Maintenance of Municipality Building equipment

Model Library Branches

Additions to Materials Laboratory

Development of Mushrif Park - Phase 2

Landscaping of Deira Corniche and entrance to

the Creek

Fencing of Dubai Zoo

Dubai Central Abattoir

Model for renovation of Hatta Heritage Village District Libraries (Umm Suqeim, Al-Safa, Hor Al-Anz, Al-Rashidiya) Temporary veterinary quarantine centre

Maintenance of Dubai schools – Group A

Maintenance of Dubai schools - Group B

Maintenance of Dubai schools - Group C

Maintenance of Dubai schools - Group D

Maintenance of Dubai schools - Group E

Maintenance of Dubai schools - Group F

Food Market in Al-Mafraq, Deira

Maintenance of Al-Zabeel Mosque

Maintenance and additions to Civil Defence

Centre in Al-Karama

#### 1990

Development of Mushrif Park

Jumeirah Beach Park - Phase 2

#### 1991

Fence for Jumeirah School – Girls

Addition to Mosque in workers' housing in Al-Qusais

Location for collection of waste in Al-Aweer

Maintenance of the stadiums in Al-Ahli and Al-Wasl Clubs

Addition to the Zoo in Jumeirah – Phase 1

Bus and Taxi Station in Bur Dubai

Fencing of children's play area in Mushrif Park

Construction of offices for Employee Housing

Maintenance Section, Al-Qusais

Livestock Market in Al-Qusais - Phase 1

Additions to the Civil Defence Centre in

Al-Karama

Helipad in Jumeirah Beach Park

Maintenance of public fountains project

Additions to Jumeirah Zoo – Phase 2

Additions to Municipality Laboratory building

Multi-story car park in Beni Yas Street

Maintenance of wooden floor – Al-Ahli Club Transformation of laboratory room in Dubai Abattoir into a store

Public squares: Al-Muraqqabat, Al-Mezher, Al-Khawaneej

Extension to Al-Garhood Nursery - Phase 1

Public squares: Umm Suqeim, Al-Bed'aa

Maintenance of Dubai 1991 schools -Group A

Maintenance of Dubai 1991 schools -Group B

Maintenance of Dubai 1991 schools -Group C

Maintenance of Dubai 1991 schools -Group D

Maintenance of Dubai 1991 schools -Group E

Protecting 4 indoor arenas against birds

Landscaping of Al-Nahda roundabout

Maintenance of the fire sprinkler system in

Municipality Building - Phase 2

Fence for Umm Sugeim Park

#### 1992

Installation of fire fighting equipment Central file stores for Dubai Municipality Maintenance of stadiums in Al-Shabab and Al-Nasr Clubs

Construction of public lavatories in Deira – Phase 1 Urgent maintenance work for Zabeel Palace and mosque

Fencing of Mushrif Park

Protection of Sheikh Saeed's House against bird droppings

Development of Al-Safa Park — Phase 2 Maintenance and renewal of public utilities in Al-Wasl Club

Renovation and additions to Al-Fahidi Fort -Phase 1

Vegetable and Food Market in Al-Shandagha Maintenance of Municipality Main Building Coverage of traditional markets Fencing of the Chess Commemorative Monument Bur Dubai Abattoir

Maintenance of Dubai 1992 schools –Group A Maintenance of Dubai 1992 schools –Group B Maintenance of Dubai 1992 schools –Group C
Maintenance of Dubai 1992 schools –Group D
Maintenance of Dubai 1992 schools –Group E
Maintenance of Dubai 1992 schools –Group F
Renovation and maintenance of Hatta Sports Club
Public lavatories in Dubai – Phase 2
Construction of public lavatories in Dubai – Phase

Public lavatories in Dubai – Phase 2 - A Renovation of the Clock Tower

Fire fighting and safety systems for the Municipality building

Renovation of Burj Nahar

Additions to the Municipality Centre in Al-Karama

Waste Recycling Station in Beni Yas Street Maintenance and renovation of Al-Saeediya School in Al-Karama

Veterinary Centre in Hatta

Expansion of the Municipality Public Relations Office

#### 1993

Landscaping of Al-Maktoum Street
Shaded areas and workshops for Civil Defence
Model of Sheikh Saeed Al-Maktoum House
Fence for Jumeirah Beach Park – Phase 2
Additions to Dubai Abattoir (Deira)
Fencing of farms in Margham
Changes to the entrance to Al-Rashidiya Central
Market
Fence for the Health Office in Al-Satwa
Shaded areas for bus stops
Khor Al-Mamzar Park
Construction of offices for the central archiving
stores

Mosque in Zabeel

Shades for Al-Khansa School

Protection of Al-Shandagha Market from birds
Fencing stores for the Renovation of Historical
Buildings Unit
Lighting of football pitch in Hatta Club
Adjustments to Al-Shandagha Food Market
Renewal and construction of stores in Al-Garhood
and Nad Al-Sheba
Maintenance of Dubai Schools 1993 – Group E
Maintenance of Dubai Schools 1993 – Group F
Public Health Services Centre
Al-Khor Park (Creek Park)
Survey of Nayif Fort Project
Landscaping of Al-Ra's roundabout
Survey of historical buildings in Al-Shandagha
Waste facility services in Nad Al-Hamar

Construction of artist halls in the Municipality Deepening of Khor Al-Mamzar Extension to Municipality Main Building Maintenance of Dubai 1993 schools -Group A Maintenance of Dubai 1993 schools -Group B Maintenance of Dubai 1993 schools -Group C Maintenance of Dubai 1993 schools -Group D

Display of Municipality Projects by computer Construction of public lavatories in Deira, Dubai Restoration of historic towers (Burj Nahar, Al-Shandagha, Al-Wa'el, Al-Baraha) Maintenance of fountains Renovation of Al-Fahidi Fort Additions to Al-Khor Park (Creek Park) Competition for the Conference and Cultural Centre

#### 1994

Hatta Gravevard services Maintenance of Municipality Employees' Housing: Building 4 Landscaping of Al-Qusais and Al-Muraqqabat Streets Fence for Umm Suqeim and Al-Satwa graveyards Development and protection of Jumeirah Beaches Replacement of the central air conditioning system in Jumeirah Mosque Coverage of swimming pools in employee resi-

dences in Al-Muraggabat

Expansion of Veterinary Clinic in Al-Rashidiya Dubai Museum

Shading for waste recycling car park in Al-Qusais Fence for Hatta graveyards

Landscaping around Nayif Park

Protection of Municipality Building against birds Shades and services for Jebel Ali Beach

Cattle Market in Al-Qusais

Replacement of air conditioning system in Al-Safa

Replacement of air conditioning systems in Dubai clubs

Model of old Dubai (1950)

Development of Fishing Harbours in Jumeirah Maintenance of Dubai 1994 schools -Group A Maintenance of Dubai 1994 schools -Group B Maintenance of Dubai 1994 schools -Group C Maintenance of Dubai 1994 schools -Group D Construction of additional classes for Dubai schools

Pest Control Centre

Renovation of Hatta Heritage Village Barrier to prevent pollution in Khor Dubai nature reserve

Landscaping of Al-Satwa roundabout Additions to the Food Control Centre Renovations of an old Majlis in Umm Al-Shaif General maintenance of Zabeel, Jumeirah and Al-Rashidiya mosques

Fitting-out and lighting of Sheikh Saeed's House Renovation of buildings in the Large Market in Deira

Khor Al-Mamzar Park Renovation of archaeological sites Model of modern Dubai.

## 1995

Additional furnishing for Dubai Museum Dubai Projects Exhibition Rebuilding of Lootah Mosque in Al-Ra's Renovation of Heritage Residence

Maintenance of the fire sprinklers system in the Municipality building Maintenance of Dubai schools 1995 - Group B Umm Sugeim Park

Renovation of Al-Ahmadiyyah School Landscaping of Nayif Street Model of Dubai 1833 Changes to Al-Quoz Graveyard - Phase 2 Development of Municipality Town Hall Marine protection for a private palace Model of Al-Wasl Park Furnishing of Sheikh Saced Al-Maktoum House in Al-Shandagha Study to improve Dubai Creek Change and expansion of the Municipality Garage in Al-Rumool Mosque for the Fish Market in Deira Construction of a gate for Al-Safa Park Fencing of the waste facility in Al-Qusais Construction of a waste centre behind Al-Manal Centre Additions and maintenance of the Fish Market in Deira Model of Al-Khor Park (Creek Park) Coverage of internal courtyards in the Public Library Municipality Clinic General maintenance of labour accommodation in Improvement of lifts in main Municipality building

Showers and shades for Jebel Ali beach Maintenance of Al-Hamriyyah Central Market Renovation of Al-Bastakiya buildings Dubai International Marine sports club Protection system of Al-Mamzar and Jumeirah beaches Maintenance of roofs in Al-Rashidiya Central Market Maintenance of Dubai schools 1995 -Group C Maintenance of Dubai schools 1995 - Group D Installation of pumps and installations for wells in Hatta Fencing of Al-Hamriyyah Port Maintenance of Building Nos. 1, 2 & 3 in Al-Qusais Maintenance of Municipality villas in Al-Muraqqabat Installation of kitchens, wash rooms and water heaters in labour residence - Al-Ousais Construction of fences and graveyards General maintenance and construction of area for ablution in Jumeirah Mosque Maintenance of Al-Rashidiya Mosque Design of animal and bird zoo in Mushrif Public squares - Phase 3 Survey of old buildings in Dubai Maintenance of Dubai schools 1995 - Group A

### 1996

Model of Al-Shandagha area in 1950
Fence for Dubai Museum
Preparation of Dubai Historical Encyclopaedia
Adjustments to model of city centre
Furnishing of Al-Ahmadiyya School
Maintenance of Municipality employee
residences
Renovation of Hatta's historical forts — Phase 2
Construction of Majlis Al-Ghurayfa Park

Construction of central stores for the Municipality

Dubai Government Garage

Coverage of the old market in Deira

Public Square in Al-Tawar
Landscaping of Al-Dhiyafa Street
Maintenance of Dubai 1996 schools –Group A
Maintenance of Dubai 1996 schools –Group B
Maintenance of Dubai 1996 schools –Group C
Maintenance of Dubai 1996 schools –Group D
Expansion of Hor Al-Anz Library
Additions to the Main Municipality building
Expansions to the Reform and Social Guidance
Association

Renovation of large Market building in Bur Dubai Public lavatories in Beni Yas Museum of photos and Dubai's historical documents (Sheikh Saeed House) Renovation of Under-Secretary's Residence Mushrif Park - Phase 3 Construction of Al-Hamili Residence in Al-Ra's Model of Dubai City in Mushrif Park Colleges of Higher Education for girls Maintenance of air conditioners in Zabeel Mosque Models of government housing buildings Fodder stores for the cattle market Additional shades in cattle market New bus station in Bur Dubai Sunshades in Al-Mamzar Park Coverage of old markets in Bur Dubai - phase 3 Depots for Pavement Unit in Al-Rumool Ladies Club in Jumeirah Shades for bus stops Coverage of Bur Dubai Market Construction of 15 shops in Al-Hamriyyah Market

Development of fire fighting system for the Municipality building Survey of Dubai City 1950 Al-Tawar Park Renovation of old mosques in Al-Shandagha Fishermen's residences in Al-Quoz Maintenance of Hatta Heritage Village Manual of Traditional Architecture in Dubai Iumeirah Beach Park - Phase 2 Renovation of Al-Fahidi Fort, northern tower Manual of traditional ornamentation in Dubai Fitting of traditional seating in public areas Documentation of renovation works Renovation of Creek wharfage in Bur Dubai Wholesale Food Market Public squares - phase 4 Renovation of Al-Barajeel Residence Renovation of room in Umm Al-Shaif Majlis room Renovation of buildings in Al-Bastakiya Expansion of Ittihad Association premises in Al-Hamriyyah

### 1997

Additions to Al-Rashidiya Laboratory Landscaping of Beni Yas public square Improvement of swimming pools and canteens in Mushrif Park Coordination works for Dubai Marine Club Services of Al-Mamzar Park beaches Maintenance of the Municipality main building Coverage of play equipment in public squares -Phase 2 Furnishing of Bin Jam'an Residence Air conditioning for Ladies Club The Diving and Heritage Villages Waste collection point in Hatta General maintenance of Zabeel Mosque - Phase 1 Study of veterinary quarantine stations Tourist Information Centre

Hatta Market and Abattoir

Landscaping of Dubai Central Laboratory Development of Ittihad Square Park Labourers Residence in Al-Qusais Play equipment in Al-Tawar Park Abattoir in Hatta Three-dimensional figure in Jumeirah Beach Park Protection and development of Jumeirah Beach -Development of Coastguard services in Port Rashid Services for Health Department's drivers Umm Sugeim Park Landscaping of Al-Diwan entrance and Al-Saif Street Dubai Central Laboratory Renovation of the facades of the large Market -Phase 2 Rehabilitation Centre for the Disabled in Dubai

Development of Dubai Creek
Furnishing of Under-Secretary's Residence
Lighting of outdoor theatre in Al-Mamzar Park
Construction of applications hall in Ministry of
Labour and Social Affairs
Maintenance of various buildings in Hatta
Maintenance of schools 1997 – Group A
Maintenance of schools 1997 – Group D
Development of Al-Saif Street
Development of Dubai Creek docks
Development of lifts in Al-Riqqa car park

Oud Maitha and Ittihad Square Parks
Maintenance and renovation of Dubai's abattoirs
Maintenance of schools 1997 – Group B
Maintenance of schools 1997 – Group C
Decoration for the Gold Market
Improvement of Burj Nahar Park
Abra jetties in Al-Khor Park (Creek Park)
Maintenance of Al-Mamzar Park swimming pool
Shades and showers in Jebel Ali – Phase 2
Sports halls for Dubai's schools

# Expansion of theatre in Al-Khor Park (Creek Park)

Renovation of facades of large Market, in Dubai Two mosques in Sa'cir and Suhaila General maintenance of Al-Safa Park Municipality offices in Hatta Torch monument in Al-Ittihad Street Park Housing for low income employees from the Ministry of Justice, Islamic Affairs and Awqaf Dubai Chess and Culture Club Renovation of buildings in Al-Bastakiya Housing for the veterinary clinic in Lisaili Hor Al-Anz Park Development of Hatta Sports Club Furnishing of Hatta Heritage Village Services in Ladies Club Drivers waiting building in Port Rashid Abattoir in Zabeel Second-hand car complex

### 1998

Furnishing of Heritage Residence Higher Colleges of Technology for Girls - Phase 2 Health Department's offices building in Al-Quoz Bus Stations in Al-Satwa and Jebel Ali Construction of a building for the Central Customs Department Services for fishing harbours in Umm Sugeim Municipality Employees' Club Mosque and shades for the marina Landscaping at the Disabled Centre Improvement of the Fish Roundabout Girls' Chess Club Landscaping of Municipality Employees' Club Maintenance of workers' accommodation in Hatta Temporary cattle market in Hatta Dubai Central Laboratory Renovation of buildings in the large Market (Bur Dubai and Deira) Maintenance of 14 public squares

### 1999

Health quarantine laboratory at Al-Hamriyyah Port

Renovation of old mosques in Al-Shandagha

Coverage of swimming pools in Al-Mamzar Park Hazardous Waste Treatment Facility in Jebel Ali Maintenance and renovation of the Building Research building Maintenance of swimming pools in Mushrif Park Open-air theatres in Al-Mamzar and Al-Khor (Creek) Parks

Maintenance of Dubai 1999 schools – Group A Maintenance of Dubai 1999 schools – Group B Maintenance of Dubai 1999 schools – Group C Bus Station in Hor Al-Anz and Al-Rashidiyah
Additions to the Grand Mosque in Hatta
Construction of public lavatories in Al-Saif street
Office for the Abra Section in Bur Dubai
Furnishing of the Municipality Club
Shades for the train in Al-Mamzar Park
Traditional Markets in Nad El Sheba
Model of Hatta Heritage Village
Public utilities for truck park in Al-Hamriyyah
Renovation of Al-Barajeel Residence
Mechanical model of drainage station
Boarder guard and Coastguard Base
Maintenance of Rashid Scout Camp in Al-Aweer
Maintenance of swimming pool in Jumeirah Beach
Park

Maintenance of Jumeirah Grand Mosque Design of Al-Khair Residence in Al-Qusais Service station and garage for buses in Al-Qusais 4 sports halls for Dubai schools Maintenance of Dubai 1999 schools – Group D Maintenance of Dubai 1999 schools – Group E Central Civil Defence building Development of Al-Shandagha Market Temporary protection of Jumeirah Beach Mushrif Park – Phase 3 Construction of workshop in Al-Saada School in Hor Al-Anz Development of Lighting system in sports clubs fields

Renovation of buildings in Al-Bastakiya area Renovation of guesthouses in Al-Bastakiya Expansion of a mosque in workers accommodation in Al-Qusais

Housing for low income employees Renovation of Heritage Residence Dubai Centre for Rehabilitation of the Disabled Construction of a central building for the Customs Department Design of park in Al-Sufouh area

### 2000

Development of main parks in Dubai
Showers and shades for Jumeirah Beach
Expansion and maintenance of branch libraries in
Al-Safa and Al-Rashidiyah
Maintenance of sports halls in Dubai clubs
Mosque in Hatta
Expansion of Al-Qusais mosque
Dubai Club for the Handicapped
Building for the Folklore Association in Dubai
Fencing of the Vegetable and Fruit Market
Construction of container rooms in Al-Qusais
Abattoir

Maintenance of Dubai 2000 schools – Group A
Maintenance of Dubai 2000 schools – Group B
Maintenance of Dubai 2000 schools – Group C
Maintenance of Dubai 2000 schools – Group D
Expansion of Municipality store in Al-Karama
Additions to the Municipality Garage
Furnishing of the Meetings Room within the
Municipality building
Marine protection for the length of Jumeirah
Beach

Lavatories on Bur Dubai Corniche

### 2001

Veterinary quarantine at Al-Hamriyyah Port Additions to Ladies Club in Jumeirah Study of sources of marine sand Expansion of Higher Colleges of Technology for Girls in Abu Hail Design of Nad Shema Park
Adjustments to Al Ra's Library
Annual maintenance of Dubai's coastline
Veterinary Clinic and the Environment
Department's Offices

Public Squares in Al-Qusais

Expansion of Municipality offices in Hor Al-Anz and Al-Qusais

Coverage of Markets - Phase 5

Children's City

Flagpole for Dar Al-Ittihad

Development of lighting system for fields in Dubai

clubs

Bus Service Station

Expansion of the Municipality's Clinic

Fencing of Al-Warqa area

Fire fighting system for the scrap yard

Municipality stores in Al-Karama

### 2002

Children's City in Al-Khor Park (Creek Park)
Workshops for coastguards in Port Rashid
Coverage of Deira old markets
Additions and adjustments to the public library in
Al-Ra's

Fence for Zabeel Park in Zabeel area Labourer's residence in Al-Aweer

Shading for Nad Al-Sheba Nursery

Expansion of the mosque in Al-Qusais Graveyard Automatic fire fighting system for the scrap yard in

Al-Qusais

Fences in Al-Warqa, Lihbab and additional work in

Al-Khawaneej

Decorating the main entrance to the Municipality building

Landscaping the Youth Hostel Association headquarters in Al-Qusais Indoor sports halls for schools in the Dubai educational zone, Al-Rashidiya and Al-Barsha

Monument for Dubai International Award for Best Practices work to improve living conditions in Al-Saif Street – Bur Dubai

Additions to Dubai Central Laboratory

Swimming pool and changing room for the Municipality Employees Club

Dubai Women's College (second phase) in Al-Qusais

Public squares in Nad Shema, Al-Qusais and Al-Rashidiya

Abra floating platform in Bur Dubai Environment department Offices in Al-Mezher Improvement of Municipality Stores in Al-Rashidiya



H.H. Sheikh Hamdan bin Rashid Al-Maktoum during a review of plans for Municipality projects

### Major projects completed between 1984 and 2002

## Al-Hamriyyah Central Market

- This was completed in 1984
- Cost 13.5 million dirhams

• Located in Al-Hamriyyah

This is a consumer market, built by the Municipality to serve Al-Hamriyyah and nearby areas. It has 27 shops, selling a variety of goods, including clothing, perfumes, accessories, meat, fruit and vegetables. There are also tourist and travel agencies, shipping and freight companies, a restaurant, barbers, tailors and laundries, as well as a branch of the Co-operative Society, a branch of the National Bank of Dubai and a mosque for 400 people.

### Deira Taxi Station in Deira

• Completed in 1984

- Cost 5 million dirhams
- Located in Al-Ittihad Square in front of the Municipality building

This cost five million dirhams. The area is landscaped and has special stands for travel from Dubai to each of the other emirates and essential services for travellers.

### Development of Al-Safa Park

- Phase One was completed in 1984
- Phase Two in 1992

- · Cost five million dirhams
- Cost 56 million dirhams

In the first phase, the main fence was replaced, with entrance gates being constructed, while internal paths and service utilities were built.

In Phase Two, completed in November 1992, further utilities and services were added, as well as recreational areas and attractions, such as the waterfall and lake, and the small train that runs through the park. A special area was designated for the use of women and children, which was provided with rest areas for mothers and play areas for children, as well as the necessary public services.

## Multi-Storey Car Park in Al-Sabkha

• Completed in 1985

• Cost 14 million dirhams

Located in Al-Sabka

This car park has 16 storeys, with a capacity for 460 vehicles, with additional services including offices and public lavatories.

## Main Playing Fields for Dubai Clubs, using natural grass

Completed in 1985

- Cost5.5 million dirhams
- This project provided playing fields for the

Al-Ahli, Al-Shabab, Al-Nasr & Al-Wasl

Clubs

The synthetic grass surfaces that had previously been used were replaced by natural grass playing fields, with modern irrigation systems and a drainage network to prevent the build-up of salts.

## School in Al-Khawaneej

Completed in 1986

• Cost 4 million dirhams

· Located in Al-Khawaneej

Completed in 1986 at a cost of four million dirhams, this single-storey school has eleven classrooms, a multi-purpose hall, studio and exhibition hall, a medical care centre, a library, laboratories, with a dedicated room for preparation of materials and a music room, along with offices for the School Principal, the administration and a social worker.

## Construction of 4 Indoor Sports Halls for Dubai Clubs

Completed in 1986

- Cost 91 million dirhams
- This project provided new sports halls for the Al-Ahli, Al-Shabab, Al-Nasr and Al-Wasl Clubs.

Each hall has a playing area of 40 metres by 60 metres, with spectator seating. They can be partitioned into three smaller units to permit separate sports activities to take place at the same time, and all also have bowling lanes and the appropriate support facilities.

## Commemorative Monument for the Chess Olympics

Completed in 1986

- Cost 140,000 dirhams
- Located in front of the Municipality building

This was built in 1986 and consists of a 2 metre high camel with a chess piece (a rook, or castle) on top. It is fenced, with special lighting to enhance its appearance at night. The monument was built to commemorate the holding of the 27th Chess Olympiad in Dubai in 1986, in which 111 countries took part.

## Municipality Branch Centres

• Completed in 1987

Cost2.2 million dirhams

This project involved the construction of one-storey branch centres for the Municipality in several areas, including Al Karama and Umm Suqeim, as part of plans to improve services such as licence applications for the Municipality's customers. Each has offices used by several Departments of the Municipality.

## Shelters for Bus Stops in the City

Completed in 1987

Cost1.7 million dirhams

This project involved the erection of around 200 shelters for bus-stops throughout the city of Dubai. Besides providing shade for bus passengers, these can also be used to earn revenue through the selling of advertising space.

## Renovation of Sheikh Saeed Al-Maktoum House in Al-Shandagha

• Completed in 1988

Cost 11 million dirhams

· Located in Al-Shandagha

Involved the restoration of the residence of a former Ruler, which had been built in

Besides its importance for the history of Dubai, the house, which covers an area of 3,600 sq. metres, is also an excellent example of traditional Dubai architecture.

The decision to preserve and restore the house was taken in 1981, with a consultant being commissioned to prepare plans that would ensure the preservation of its traditional architectural features, but would also strengthen the foundations, walls and roof, while allowing for the installation of electric cables and other modern facilities.

The building now contains a museum of old photographs, maps and documents dealing with the history of the Emirate of Dubai, as well as sections to display traditional lifestyle, coinage and wildlife. The photographic collection dates mainly to the 1950s.

The restored building was officially inaugurated in 1986 by H.H. Sheikh Hamdan bin Rashid Al-Maktoum.

## Nayif Market

• Completed in 1988

- Cost 4 million dirhams
- Located behind the Burj Nayif (Nayif Tower)

It has a number of small shops, replacing the open-fronted cubicles that formerly existed, and support services such as a security office and public conveniences, as well as its own fire-fighting system, while the walkways are covered to provide shade for shoppers.

## Libraries in Umm Suqeim, Al-Safa, Hor Al-Anz and Al-Rashidiya

• Completed in 1989

- · Cost 35 million dirhams
- This involved the construction of public libraries in the expanding residential areas of Umm Suqeim, Al-Safa, Hor Al-Anz and Al-Rashidiya, each with a main building and a building for services.

The main buildings include a reading room, with dedicated areas for men and women, a children's room and a reception area, as well as a multi-purpose hall.

### Dubai Central Abattoir

• Completed in 1989

• Cost23 million dirhams

• Located in Al-Qusais

Facilities include slaughtering areas, refrigeration units, a veterinary clinic, to check the health of animals and carcases, administrative offices, a fee collection office, an annex and sale and distribution areas. This fully-equipped abattoir can handle goats, sheep and camels.

### Al-Khazan Park

• Completed in 1989

Cost2.5 million dirhams

· Located in Al-Bed'aa

This fenced park is designed for the use of local residents. Facilities include entrance gates, service areas, pathways, children's play areas and an electronically-operated irrigation system.

### Development of Mushrif Park

• Completed in 1990

- Cost 66 million dirhams
- Located on Al-Khawaneej Road, around

15 km, from the centre of Dubai

The development of Mushrif Park, was completed in 1990 at a cost of million dirhams. The Global Village in the park has houses of different styles from around the world, as well as a games area, a swimming pool, areas for riding horses and camels, barbeque areas and restaurants.

The park covers an area of around 125 hectares, to which has been added another 400 hectares containing natural woodland, which has been designated as a nature reserve. It was inaugurated on the occasion of the 18th UAE National Day.

### Jumeirah Beach Park

• Completed in 1990

• Cost 231 million dirhams

· Located in Jumeirah

The Jumeirah Beach Park covers an area of 13.5 hectares, within which are a beach, cafeterias, playgrounds, grassed areas and a helipad, as well as areas for barbeques.

### Multi-Storey Car Park in Beni Yas Street

• Completed in 1991

· Cost10 million dirhams

· Located in Beni Yas Street

This five-storey building has a capacity of 833 cars, along with support services, offices, including a security office, a waste collection and compression room, lavatories, a cafeteria and a control room. It also has a collection centre for recycling with 61 shops providing retail space.

### Bus and Taxi Station (Bur Dubai)

• Completed in 1991

• Cost 11.5 million dirhams

· Located in Al-Shandagha

To act as an intermediary station for taxi routes between the city centre and the outlying areas of Al-Satwa, Al-Safa and Al-Bed'aa, as well as for buses plying throughout the Emirare of Dubai and for taxi services to Abu Dhabi and Al Ain.

## Dubai Municipality Central Archive Store

• Completed in 1992

• Cost 5 million dirhams

• Located in Deira

To allow the Municipality to store and protect its documents. It has two floors for archives, these being equipped with a fire sprinkler system, and also contains the necessary offices and other facilities.

## Fruit and Vegetable Market in Al-Shandagha

Completed in 1992

Cost 46 million dirhams

· Locared in Al-Shandagha

It has three courtyards, surrounded by shops, seating areas and pathways. Designed for the use of local residents, it has special areas for the sale of fish, meat, fruit and vegetables and is surrounded by ample car-parking facilities.

## Commemorative Monument for the first secondary school in Dubai

• Completed in 1992

- Cost 3.3 million dirhams
- Located on Al-Maktoum Street

This monument, in Al-Ittihad Park, commemorates the opening of the first secondary school in Dubai, in the 1960-1961 academic year. Ten metres high, it is located on top of a special plaza with lighting, a fountain and seating.

### Renovation of the Clock Tower

• Completed in 1992

- Cost 6.6 million dirhams
- · Located at the intersection of Al-Maktoum Street and Abu Bakr Al Saddiq Street

The Dubai Clock Tower was built in 1963. It had a new clock face installed, while the renovation project also involved the building of a fountain with coloured lights, and the Clock Tower has now become one of Dubai's best-known attractions.

## Covering of Traditional Markets

Completed in 1992

- Cost 10 million dirhams
- Involved the covering-over of traditional markets in Bur Dubai and Bur Dubai, like the Bandar Talib Market, the Gold Market, the Deira Market and the Bur Dubai Market.

It included the covering over of alleys between the shops, to provide shade and shelter, decoration and the installation of modern fire sprinkler systems.

The design took into account the architecture of the nearby residential areas, in accordance with a desire to relate the markets to adjacent restoration projects undertaken by the Historic Buildings Section.

#### Bur Dubai Abattoir

• Completed in 1992

Cost 6 million dirhams

Located on Al-Shandagha

It was built to provide a service to residents of the locality.

### Al-Khor Park (Creek Park)

• Completed in 1993

- Cost172 million dirhams
- Located in Al-Maktoum Bridge and Al-Garhood Bridge, along the share of Dubai Creek.

Covers an area of 100 hectares. One of the main venues for events associated with the Dubai Shopping Festival, the park has a horticultural collection of a total of 280 plant species. Facilities include pathways, children's play areas, an 18-hole mini-golf course, an open-air theatre with a seating capacity of 4,000 and four abra stations on the creekside. There is also a train running around the park, and a cable-car that permits visitors to obtain a view of the whole park.

### Renovation of Al-Fahidi Fort

• Completed in 1993

Cost 13 million dirhams

• Located in Al-Fahidi

Believed to be the oldest building in Dubai, and dating back to 1799, the Al-Fahidi Fort is an important example of local defensive architecture and is in the historic centre of the city, in Bur Dubai. It was first opened to the public in 1971, by H.H. the late Sheikh Rashid bin Saeed Al-Maktoum.

This renovation involved the use of traditional materials to repair the foundations and the walls, so that the historic character of the building was preserved.

It was then converted by the Municipality for use as the Dubai Museum, this being undertaken in such a way as to make use of the latest technological aids, such as computers and audio-visual equipment. The displays include material on the archaeology, traditional lifestyle, including a recreation of the old Dubai Market, and marine heritage of Dubai. Also on display are traditional weapons, old musical instruments and artefacts and other items formerly used by the Bedouin.

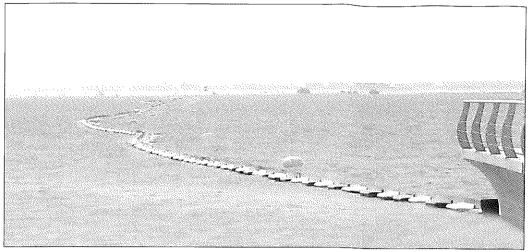
The Museum was opened to the public in 1994.

## Defensive Towers - Burj Nahar, Al-Shandagha, Al-Wa'el, Al-Baraha

Completed in 1993

Cost135,000 dirhams.

These square towers formerly played an important part in the defence of Dubai, and are of a typical traditional design.



The pollution barrier in the Dubai Creek nature reserve

## Pollution Barrier pollution in Dubai Creek Nature Reserve

Completed in 1994

Cost1.5 million dirhams

Involved the building of a 1.3 km. long barrier to collect waste and other residues from the Creek, so as to protect the marine and bird life to be found in the nature reserve. The waste is removed on a regular basis.

## Al-Qusais Cattle Market

• Completed in 1994

• Cost26 million dirhams

• Located in Al-Qusais

The abattoir has 146 enclosures, loading bays and a store for fodder. It also has clinics, quarantine enclosures for sick animals, accommodation for labourers and administrative offices.

## Development of Fishing Harbours in Jumeirah

• Completed in 1994

• Cost1.3 million dirhams

Located in Jumeirah

This project involved the development of three small harbours in Jumeirah for the use of fishermen. Workshops were built for maintaining and servicing of boats and shaded areas were provided, with each of the harbours being fenced to provide security. Toilets and washing facilities were also built for the fishermen while facilities were also constructed for the coastguard. A petrol station was also built.

## Renovation of Hatta Heritage Village

• Completed in 1994

Cost 7 million dirhams

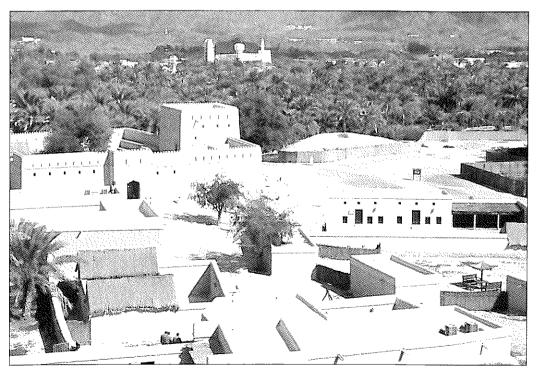
· Located in Hatta

Hatta is one of the oldest settlements in the Emirate of Dubai, with evidence of occupation dating back for at least 2,000, perhaps more than 3,000, years. The old village itself still has around 30 more recent buildings, both domestic and defensive in nature, overlooked by high mountains. From the two nearby peaks, the area was formerly known as Hajarain – or 'the two peaks. The project allowed the restoration of the surviving buildings of the old village.

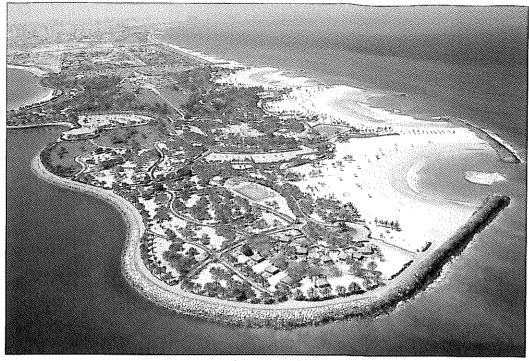
First, the Municipality commissioned a specialist consultant to study the buildings and to make proposals for their restoration, under the supervision of Municipality engineers, using traditional techniques. For the lower courses of the walls, rocks from the nearby mountains were used, with mud-brick being used for the upper courses. The roofs were restored using the traditional palm trunks.

The Historic Buildings Section then re-built some of the smaller out-buildings.

In 1995, management of the restored village was given to a suitably-qualified firm to develop as a tourist and cultural centre, and the project was opened to the public in 2000.



Hatta Heritage Village



Al-Mamzar Park

### Al-Mamzar Park

• Completed in 1994

- Cost 106 million dirhams
- · Located in Al Mamzar Park, north-east of Al Hamriyyah Port

On the shores of Khor Al-Mamzar, on the eastern side of Dubai. The park covers an area of 90 hectares and has four beaches, these being divided by groynes to protect the beaches against erosion.

There are also swimming pools for both adults and children, lawns, areas for barbeques, a traditionally-designed cafeteria with a wind-tower (barjeel) and 15 other small cafeterias.

Other features include an eight metre tower, permitting views over the whole park, while there are also a number of air-conditioned chalets on the beachfront which can be rented from the Park's Administration.

### Pest Control Centre

• Completed in 1994

• Cost 6 million dirhams

· Located in Al-Quoz

With an area of over 3,000 sq. metres, it has offices, exhibition halls and a reception area

as well as a laboratory building, including a specimens' store and a store for poisons, a workshop, a room for protective clothing, a laundry, and other essential facilities.

### Development of Jumeirah Beach

• Completed in 1994

Cost 90 million dirhams

• Located in Jumeirah (1)

One of the most important parts of Dubai's attractions for tourists is its beaches. The first phase of this project was designed to protect the beaches in the Jumeirah area by building barriers to protect them against erosion.

Facilities for visitors, like car-parking, walk-ways, changing rooms, toilets, open-air showers and courts for playing sports, were also built.

### Dubai Government Garage

• Completed in 1995

Cost 18 million dirhams

Located in Al-Jadaf

It includes an administrative office as well as a workshop equipped to undertake all types of repair work, as well as other facilities such as an oil-change station, car-washing and scrapyards.

## Renovation of Al-Ahmadiyya School

Completed in 1995

Cost 4.3 million dirhams

· Located in Al-Ra's

The Al-Ahmadiyya School was the first school to be built in Dubai, in 1912, and is an important historic monument. The building has many traditional architectural features. It covers an area of 528 sq. metres.

Traditional building materials and techniques were used throughout the process of strengthening the foundations and walls and in restoring the plaster ornamentation and flooring, so as to preserve its original character, although electric wiring and other modern facilities were introduced so as to permit the building to be given a new use.

It has now been furnished as a museum of Dubai's educational history and was opened to the public in 1999.

### Rebuilding of the Lootah Mosque

· Completed in 1996

• Cost 450,000 dirhams

• Located in Al-Ra's

The Lootah Mosque was built in 1910.

### Ladies Club in Jumeirah

• Completed in 1996

Cost13 million dirhams

· Located in Jumeirah

The Ladies' Club in Jumeirah was built adjacent to the Jumeirah Beach Park and provides the appropriate privacy, in accordance with local traditions, thus encouraging ladies to take part in sporting activities. It has a fully-equipped gymnasium, a restaurant, cafeteria, sauna, 2 steam rooms, 2 outdoor tennis courts and a swimming pool in addition to private beach access.

## Expansion of the Social Reform and Guidance Association

• Completed in 1996

• Cost 400,000 dirhams

Located inAl-Qusais

This project involved the addition of changing rooms, the provision of showers and bathroom and the laying of outdoor plating fields, to supplement the other facilities at the Association premises in Al-Qusais.

## Renovation of Buildings in Al-Bastakiya

• Completed in 1996

Cost 29 million dirhams.

Located in Al-Bastakiya

The Bastakiya area contains many of the surviving traditional buildings of Dubai. Work on preserving these began in 1993 with a survey of the remaining 57 buildings, followed by the laying down of a schedule of restoration work for the consultant appointed by the Projects Section, part of the General Projects Department.

In 1996-1997, the project was transferred to the Historic Buildings Section, also part of the General Projects Department, this section then commencing work by co-ordinating with the project consultant on work on the first nine buildings, in accordance with an agreed timetable.

By 2002, work on eleven buildings had been completed, with work on twelve more already under way, and was due to finish by the end of 2003.

Between 1996 and 2002, the Section also restored nine buildings using its own resources, for use as a museum, for exhibitions and as administrative offices.

Restoration of all of the buildings is expected to be completed by 2008 and studies are under way on how the whole area can be integrated into tourism planning, to promote this aspect of Dubai's heritage.

# Dubai Photographic and Historic Documents Museum (Sheikh Saeed House)

- Completed in 1996
- · Located in Al-Shandagha

• Cost 2 million dirhams.



The late H.H. Sheikh Maktoum bin Rashid Al-Maktoum during a visit to Sheikh Saeed House

The Sheikh Saeed House had been the subject of an earlier restoration programme, as noted above. In a second phase of work, it was converted, at a cost of two million dirhams, into a Photographic and Historic Documents Museum, This work involved the creation of several separate displays, including one in the wing which was used by Sheikh Saeed, formerly Ruler of Dubai, as his private quarters, as well as the Other displays mentioned earlier in the section on the original renovation of the building.

### Al Tawar Park

• Completed in 1996

- Cost 7 million dirhams.
- Located in Al-Tawar residential district

This 4.3 hectare park, It has children's play areas, a football pitch, a basketball court and other playing fields as well as cafeterias and shaded areas.

### Fishermens' Accommodation

• Completed in 1996

Cost8 million dirhams.

· Located in Al-Quoz

This project, in Al-Quoz, consists of four separate buildings, surrounding a courtyard, built to provide housing for the fishermen working from Jumeirah's fishing harbours. It provides accommodation for a total of 1,440 fishermen.

## Under-Secretary's Residence

Completed in 1996

- Cost 1 million dirhams.
- Located in Big Market in Bur Dubai

The residence of the Under-Secretary is located in the area of the big Market. It was built in 1934, as the first purpose-built administrative building in Dubai, and overlooks the Creek on its northern side and the market to the south.

## Renovation of the Umm Al-Shaif majlis

Completed in 1996

Cost 110,000 dirhams

Located in Umm Sugeim

This majlis (a building for receiving visitors) was built in 1955 by the late HH Sheikh

Rashid bin Saeed Al Maktoum, former Ruler of Dubai, as a summer residence. The building itself has a ground area of 100 sq. metres, in a plot of a total of 3,300 sq. metres.

### The Diving and Heritage Villages

• Completed in 1997

• Cost1.5 million dirhams

· Located in Al-Shandagha

The Diving and Heritage Villages are both located in the Al-Shandagha area, which was the political centre of Dubai in the 1950s. The villages overlook the Creek and have been built as part of a plan to create a compound in which activities representative of Dubai's traditional heritage, recreation and culture can be found, as well as a traditional market.

### Tourism Information Centre

Completed in 1997

- · Cost 2.2 million dirhams
- · Located in the Tourist Information Centre, adjoining Sheikh Zayed Road in the Jebel Ali area

It is a one storey building of traditional design, inside which is a waiting room with customer service counters, administrative offices and the necessary services.

## Applications Hall at Ministry of Labour and Social Affairs

• Completed in 1997

- Cost 1 million dirhams
- Located in Ministry's building in the Hor Al-Anz

In collaboration with the federal Ministry of Labour and Social Affairs, the Municipality created a modern hall for receiving applications from the public on the ground floor of the Ministry's building in the Hor Al-Anz area.

In preparing the design, the number of applicants daily was taken into account as well as the need to install the latest electronic equipment for processing their applications.

## Development of Coastguard Services in Port Rashid

• Completed in 1997

Cost 12 million dirhams

· Located in Port Rashid

Involved the building of a multi-purpose engine maintenance workshop in Port Rashid for the Coastguard, along with maintenance of the marina, to allow the number of Coastguard patrol boats to be increased.

## Sports Halls for Dubai Schools

• Completed in 1997

- Cost 25.8 million dirhams
- · Located in Bur Dubai and Deira, two for boys and one for girls

This project covered three schools in Bur Dubai and Deira, two for boys and one for girls. Sports halls were built with courts for basketball, volleyball, badminton and other sports, with areas for warm-up exercises, changing rooms and administrative offices and with seating for spectators.

### Umm Suqeim Park

• Completed in 1997

- Cost 10 million dirhams
- Located in near the Jumeirah Beach Hotel, Umm Sugeim

The project involved the construction of a women's and children's section of the park, which is near the Jumeirah Beach Hotel. The area has a water feature and a cafeteria and two playgrounds, with inter-connecting paths..

### Development of Al-Saif Street

• Completed in 1997

- Cost 10 million dirhams
- Located in the whole length of Al-Saif Street

The project stretches the whole length of Al-Saif Street, along the Dubai Creek water-front, and included the provision of shaded seating areas, gardens and cafeterias, improving the recreational space and providing areas for displays.

## Development of Wharves along the Creek

Completed in 1997

- Cost 50 million dirhams
- Located on Bur Dubai side, near the Diwan and the big Market

The Creek provides a vibrant artery running through the heart of Dubai which remains of considerable importance for shipping. The project involved the deepening of areas close to its bank on Bur Dubai side, near the Diwan and the big Market, to a depth of 5.5 metres, to facilitate use by dhows, and the building of offices for the Customs Department and the Coastguard at the entrance to the Creek as well as a new abra station, as well as maintenance of the wharves and of the foundations of buildings adjoining the Creek.

### Hatta Market and Abattoir

Completed in 1997

Cost1 million dirhams

· Located in Hatta

This project involved the building of a new market, to replace the older one, and of a new abattoir.

### Sa'eir and Suhaila Mosques, Hatta

· Completed in 1998

• Cost 4 million dirhams

• Located in Hatta

This project was part of a general plan to provide services to residents in rural areas and involved the construction of two mosques, in the low-cost housing areas of Sa'eir and Suhaila, near Hatta, each with a capacity for 150 worshippers as well as a house for the Imam. Public conveniences and three shops were also built adjacent to each mosque.

### Municipality Employees' Club

• Completed in 1998

Cost 13.5 million dirhams

• Located in Al-Jadaf

The Club has three main buildings, with a VIP reception area, a snooker hall and other indoor games facilities, a gymnasium and a library, as well as outdoor playing fields, car parks and a swimming pool. The playing fields are overlooked by the Club buildings, to provide easy viewing of the sports activities.

### Hor Al-Anz Park

Completed in 1998

• Cost 1.2 million dirhams

Located in Al-Jadaf

The Hor Al-Anz Park covers an area of 4,800 sq. metres and has a children's playground, a volleyball court and a paved area.

## Development of Hatta Sports Club

Completed in 1998

Cost 10 million dirhams

• Located in Hatta

This project involved the renovation and expansion of facilities at the Club, with the

provision of a shaded seating with a capacity of 500 spectators for the public along with a VIP entrance, restrooms, service facilities and a changing room for the players. It also included the provision of floodlighting for the football pitch, an improved irrigation system and a large area for car-parking.

### **Dubai Central Laboratory**

Completed in 1998

• Cost 35 million dirhams

· Located in Al-Karama

The Dubai Central Laboratory is in the Al-Karama area. It has three buildings, one of which houses the Administration, a laboratory for valuable items and a laboratory for testing of consumer electrical goods. The second has a laboratory for testing building materials and for quality control while the third has a foodstuffs laboratory and an environment protection laboratory. There is also a subsidiary building for maintenance materials.

## Higher Colleges of Technology for Women

Completed in 1998

- Cost 86 million dirhams
- Located in the Dubai campus of the Higher Colleges of Technology for Women (Dubai Womens' College), in Al-Qusais, and covers an area of 348,000 sq. metres.

Designed with a capacity to house a total of 4,800 students, the campus has buildings with classrooms, laboratories and computer rooms as well as a restaurant and a building



Buildings of the Dubai Womens' College

for the Students' Union. There are also playing fields, a gymnasium and a swimming pools as well as adequate parking for cars. Additional space is available for future expansion of the facilities, when this is required.

### Dubai Chess and Culture Club

• Completed in 1998

- Cost 5.5 million dirhams
- · Located in the Chess and Culture Club building, in Hor Al-Anz East

It has a main hall for tournaments, suitable for competitions of international standard, and associated administrative offices. There is also a special hall in which UAE national teams can train as well as separate facilities for women.

### Renovation of old mosques in Al-Shandagha

• Completed in 1998

• Cost 2.3 million dirhams

· Located in Al-Shandagha

These old mosques, adjacent to small pathways in the heart of the Al-Shandagha area, are important examples of small, simply-constructed local religious buildings. Many are richly ornamented.

A schedule of work was drawn up for their restoration, this being carried out after a detailed architectural and historical study and using traditional materials and methods. Any recent additions were removed. Renovation also allowed for essential services to be connected, in a way that preserved the original style and simplicity.

## The large Market (Bur Dubai – Deira)

Completed in 1998

- Cost 6 million dirhams
- Located in Large Market (Bur Dubai Deira)

This market was originally built in around 1950 and overlooks both sides of the Creek. It was restored following the completion of a detailed architectural, structural and historical study, with traditional building materials being used throughout.

## Second-Hand Car Hypermarket

Completed in 1998

• Cost 53 million dirhams

Located in Ra's Al-Khor

The second-hand car hypermarket was built in three sections. One has 140 showrooms,

each with the capacity for 16 cars, the second is the auction area, complete with buildings for the auctioneers, while the third section has administrative buildings and offices for the registration of cars and for insurance companies.

### Hazardous Waste Treatment Plant, Jebel Ali

• Completed in 1999

• Cost 41 million dirhams

• Located in Jebel Ali

The plant has four parts, with the appropriate ancillary services. There is an Administration building, which also contains a laboratory for the testing of waste and a meeting room. A treatment area includes facilities for chemical treatment, treatment by mixing waste with concrete and a temporary storage area while there is also a waste burial area and a temporary waste storage area.

### Traditional Markets at Nad Al-Sheba

• Completed in 1999

• Cost 4 million dirhams

· Located in Nad Al-Sheba

This project is located adjacent to the Nad Al-Sheba race course, and involved the expansion of the traditional market which sells all the accoutrements for camel-racing. 70 new shops were built, as well as auction areas, car parks and internal roads.

### Border and Coast Guard Centre

Completed in 1999

• Cost 11 million dirhams

Located in Port Rashid

This project was designed to enhance the facilities provided for the UAE Border and Coast Guard. It involved the provision of administrative offices, a workshop for repairs and storage depots as well as the providing of moorings along the sea wall.

## Central Civil Defence Building

• Completed in 1999

Cost 12 million dirhams

• Located in Al-Mehaisina

This office is in the Al-Mehaisina area and covers an area of 4,000 sq. metres. The main office has a public hall and a training hall while there is also a separate building for the administration as well a car-park.

## Main offices for the Customs Department

• Completed in 1999

Cost 55 million dirhams

Located in Al-Refa'a

It includes two main buildings of a ship-like design, complete with large sails, to reflect the function of the complex. Each has four floors, with a hall for receipt of applications and a meeting room while there are also several small buildings for the administration. Ample car-parking was provided while there is also space for future expansion, if required.

### Housing for low income employees

• Completed in 1999

• Cost 56 million dirhams

• Located in Al-Qusais

This project was undertaken in order to supply low-cost housing for employees. It includes 23 buildings, each three storeys in height, with a mixture of two-bedroom, one-bedroom and studio apartments, as well as a central service area.

### **Fmirates Disabled Rehabilitation Centre**

• Completed in 1999

- Cost 9.8 million dirhams
- Located in next to Al-Wafi City

This Centre is next to Al-Wafi City. It is designed to provide all necessary care for the disabled, including treatment facilities for those with impaired vision or movement ability, mental disability and other handicaps. The centre has a research wing, administrative offices, sections for health care, physiotherapy, occupational therapy and social care, as well as a sports hall, gardens and outdoor playing fields. There is also an ample supply of car-parking.

## Renovation of the Heritage Residence

• Completed in 1999

• Cost 3.5 million dirhams

• Located in next to Al-Ra's

This building, in the Al-Ra's area and just north of the Al-Ahmadiyya School, was built in around 1890 and is in the traditional style. It has an area of 942 square metres.

The restoration project involved the rebuilding of parts of the building that had been destroyed and the removing of any recent additions.

The original architectural and decorative features were maintained while the wind-towers that formerly existed were reconstructed. Once the work had been completed, audiovisual display screens and other elements were installed and the building was opened to the public in 1999 as a Heritage House and Museum.

## Folklore Association building in Dubai

• Completed in 2000

• Cost 500,000 dirhams

Located in Al-Beda'a

This project involved a renovation and expansion of the headquarters of the Folklore Association in the Al-Beda'a area, so as to help the organisation carry out its important task of preserving the traditional folklore of Dubai.

### Dubai Club for the Disabled

• Completed in 2000

• Cost 10 million dirhams

• Located in Al-Qusais

This project, includes a football pitch and a running track as well as administrative offices, multi-purpose halls and a cafeteria, with accommodation for employees.

## A study on sources of marine sand

• Completed in 2001

• Cost 1.3 million dirhams

Located in Al-Qusais

This study, carried out as part of detailed and comprehensive studies of Dubai's coast-line involved a detailed examination of the sand on the seabed off Jumeirah, and identified substantial quantities of sand that can be used for future replenishment of eroded beaches.

## Veterinary Quarantine in Al-Hamriyyah Port

Completed in 2001

- Cost 2.5 million dirhams
- · Located in Al-Hamriyyah Port

This project involved the establishment of a quarantine centre for animals in Al-Hamriyyah Port, to check livestock being imported by sea. The centre has ten enclosures, each of 20 metres by 20 metres, along with associated offices and facilities.

### Floodlighting for playing fields in Dubai Clubs

• Completed in 2001

- · Cost 15 million dirhams
- · Located in Al-Ahli, Al-Shabab, Al-Nasr and Al-Wasl

This project involved the upgrading of floodlighting at the Al-Ahli, Al-Shabab, Al-Nasr and Al-Wasl Club to international (FIFA) standards. Back-up supply systems were also installed.

As a result of this work, the football stadiums of these clubs were upgraded to a standard that permitted them to host matches in the 2003 World Youth Soccer tournament. Secondary pitches were also prepared, for use in other games.

### Union House Flag Pole

- Completed in 2001
- Located in Union House

120 metres high, it was locally manufactured of steel that was specially treated to protect it against corrosion, and has aircraft warning lights because of its height. The flag, which is 40 metres by 25 metres in size, is raised and lowered automatically. The flagpole has become a well-known landmark in Dubai, and can be seen from a considerable distance.

## Children's City

- Completed in 2002
- Al-Khor (Creek) Park
- Cost77 million dirhams

The Children's City, full details of which are found on Page 470, is part of the Al-Khor (Creek) Park.

• Cost 7 million dirhams



Union House Flagpole

### Models of Projects

Since 1992, the Section has made or has supervised the making of a number of models used by the Municipality for exhibition purposes. Among subjects of the models have been:

Dubai City in 1950 - The City Centre - Dubai Museum - The popular squares - Dubai in 1822 - An expanded City Centre model - Al-Mamzar area - Al-Wasl area - Al-Khor area - The parks of Jumeirah - Landmarks - A programming of the City Centre Housing - Models of various Municipality projects - The sewage treatment plant - The Al-Shandagha area

## Projects for Recreational Activities and the Protection of the Marine Environment

The Department has been active in designing projects for recreational activities so as to contribute to the transformation of the activities available, while, at the same time seeking to protect the coastal and marine environment. Together, these are intended to help to develop the tourist industry while, at the same time, ensuring that a policy of environmental sustainability is followed.

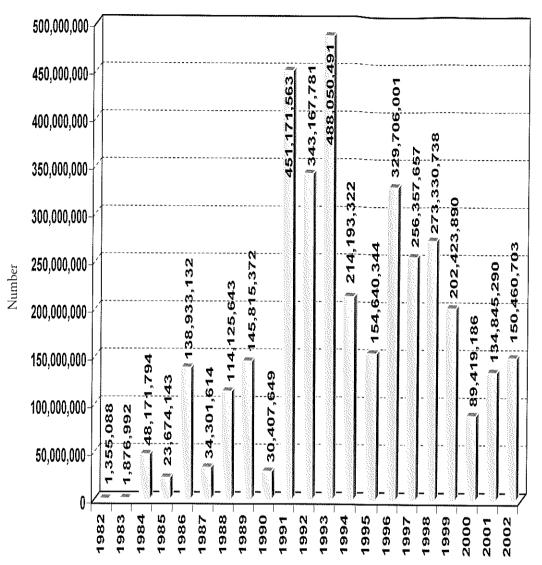


Aerial photograph of Dubai's open beach

Value of projects carried out between 1982 - 2002

Year	Value (in UAE dirhams)
1982	1,355,088
1983	1,876,992
1984	48,171,794
1985	23,674,143
1986	138,933,132
1987	34,301,614
1988	114,125,643
1989	145,815,372
1990	30,407,649
1991	451,171,563
1992	343,167,781
1993	488,050,491
1994	214,193,322
1995	154,640,344
1996	329,706,001
1997	256,357,657
1998	273,330,738
1999	202,423,890
2000	89,419,186
2001	134,845,290
2002	150,460,703
Total	3,626,428,393

## Value of projects carried out between 1982 - 2002





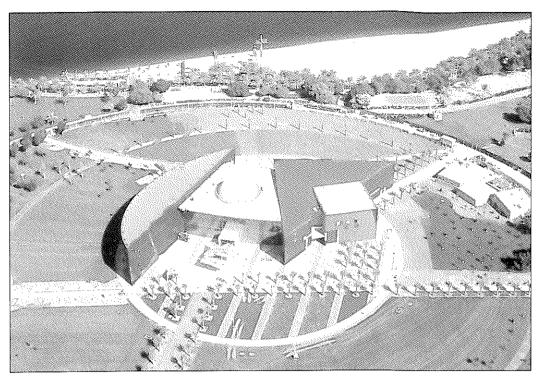
H. H. Sheikh Hamdan bin Rashid Al-Maktoum cutting the ribbon at the opening of the Children's City

The Children's City is one of the major achievements of the Municipality's Projects Department, and is the first facility of its type in the Middle East. Located in the Creekside Park, and costing 77 million dirhams, it was completed on 15th February 2002 and was inaugurated on 5th March 2002 by H.H. Sheikh Hamdan bin Rashid Al-Maktoum, Deputy Ruler of Dubai, UAE Minister of Finance and Industry and Head of the Dubai Municipality.

It offers educational, cultural and recreational activities for children between 2 and 15 years old and for their parents. These are offered through permanent exhibitions, special programmes of events and a range of activities designed to stimulate the children, all in a three-floor building.

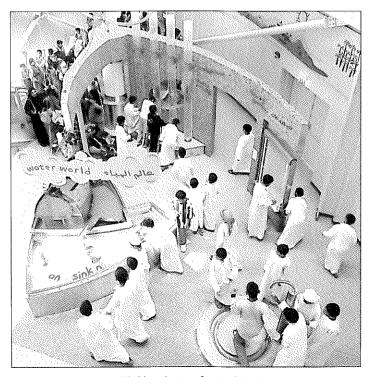
The design of the building was inspired by children's building blocks. The various sections are devoted to topics such as communications, computers, aviation and space as well as educational displays dealing with Dubai's economy and global cultures, as well as a nature centre and a state-of-the-art planetarium. It also includes features designed to educate children about the UAE and the Arab world, such as displays on leading Arab figures from history who have contributed to the culture of today.

The Children's City also includes a theatre with a seating capacity of around 300 people, as well as associated service facilities.



An aerial view of Children's City

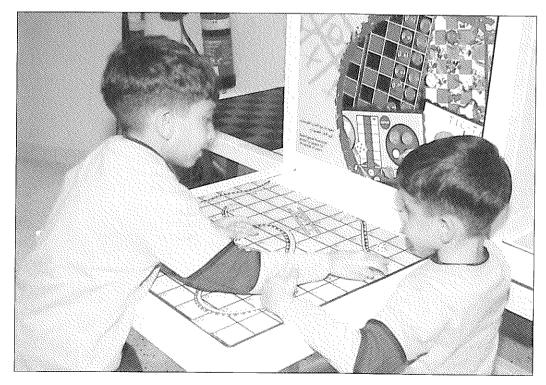
The Children's City is a member of the UNESCO International Council of (UNESCO-Museums The ICOM). Municipality is the first government body in the UAE to have become a member of this organisation. The City is also a member of the American Association of Children's Museums. A number of the publications OB Children's City and its activities have been produced.



Children having fun in their city



The Recreational Activities Section in Children's City



One of the games in the City

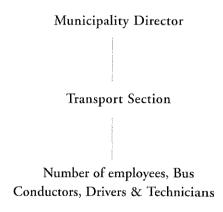
Establishment and Development of the Public Transport Department

The Public Transport sector is a vital component of transport in any city, permitting movement at low cost and alleviating the traffic congestion caused by the use of private vehicles. Dubai's Public Transport system began in the early 1960s, with the introduction of the first bus service.

During the 1970s, the service was expanded, with a fleet of eleven buses, serving ten routes and operating from two main termini, the Al-Sabkha Station in Deira and the Al-Ghabiba Station in Bur Dubai. The routes covered Al Qusais, Al Rashidiya, Deira to Dhbai, Al-Satwa, Al-Safa, Jumeirah, Al-Jafiliya and Mushrif.

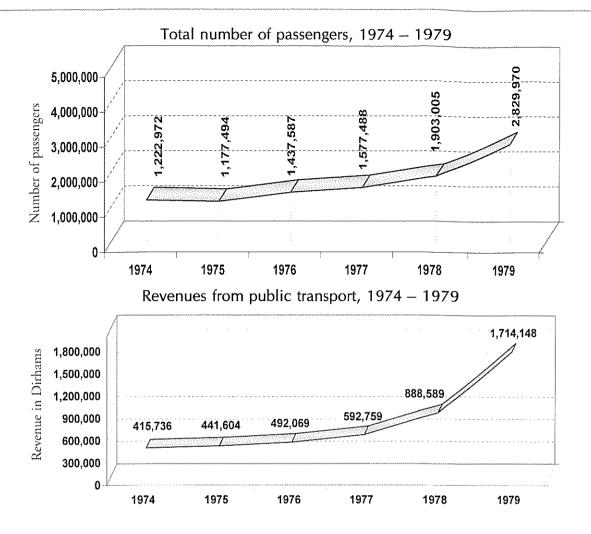
The service was administered and organised by a Section directly affiliated to the office of the Municipality's Director, as shown in Chart No. 1.

Chart No. 1. Organisation Chart for the Transport Section in the 1970s



Revenue and public transport passengers, 1974 - 1979

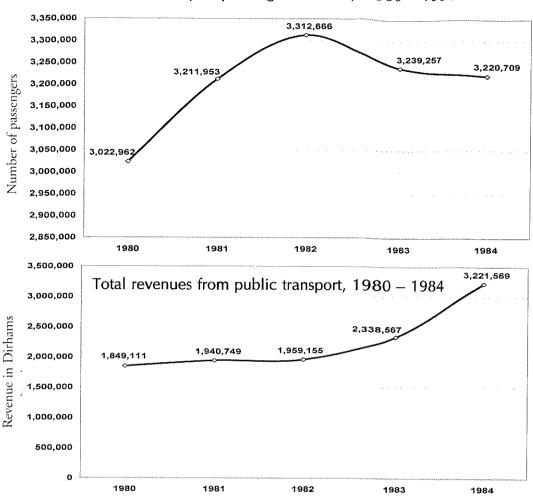
Year	1974	1975	1976	1977	1978	1979
Total number of passengers	1,222,972	1,177,494	1,437,587	1,577,488	1,903,005	2,829,970
Total Revenue in Dirhams	415,736	441,604	492,069	592,759	888,589	1,714,148



At the beginning of the 1980s, the public transport service was expanded to cover new areas. Planning for this was undertaken by recruiting specialist consultants to lay down the requirements for operating a transport fleet to cover as much as possible of Dubai. This focussed on three main aspects – the need to provide services to the public, Particularly to those of low income, to reduce traffic congestion and to reduce pollution, especially in the centre of the city

Number of passengers and total revenue from public transport, 1980 - 1984

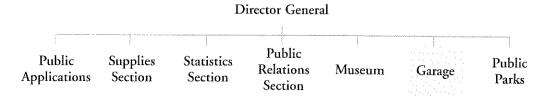
Year	1980	1981	1982	1983	1984
Total number of passengers	3,022,962	3,211,953	3,312,666	3,239,257	3,220,709
Total revenue in Dirhams	1,849,111	1,940,749	1,959,155	2,338,567	3,221,569



Public transport passenger numbers, 1980 - 1984

In the mid-1980s, the structure relating to the running of public transport within the Municipality was amended, with the responsibility for public transport being transferred to the Garage Section, which came under the Municipality Deputy Director, as shown in Chart No. 2.

Chart No. 2. General Organisation Chart for Dubai Municipality in 1986

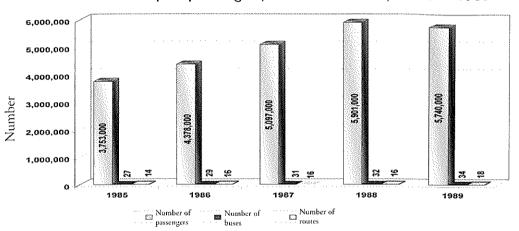


In 1985, consultants were appointed to undertake a detailed study on the planning, construction and operation of a public transport network.

## Public transport passengers, buses and routes, 1985 - 1989

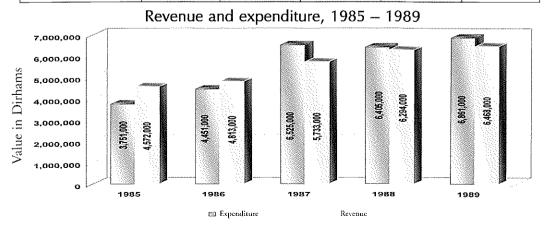
Item	1985	1986	1987	1988	1989
Number of passengers	3,753,000	4,378,000	5,097,000	5,901,000	5,740,000
Number of buses	27	29	31	32	34
Number of routes	14	16	16	16	18

### Public transport passengers, buses and routes, 1985 - 1989



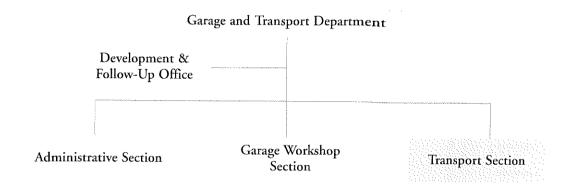
## Revenue and expenditure, 1985 - 1989, in dirhams

Item	1985	1986	1987	1988	1989
Revenue	3,751,000	4,451,000	6,525,000	6,405,000	6,861,000
Expenditure	4,572,000	4,813,000	5,733,000	6,294,000	5,468,000



During the 1990s, the public transport network was rapidly expanded, to meet growing demand. In preparation for this, Administrative Order No. 31 was issued in 1990, changing the Garage Section into the Garage and Transport Department, while a dedicated Transport Section was created, as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Garage and Transport Department in 1990



In 1995, Administrative Decree No. 632 was issued to amend the organisation chart and job description for the Garage and Transport Department, affiliating the Department to the Administrative Affairs and Public Services Sector. Under the terms of this decree, the Transport Section was divided into:

- 1- The Planning and Marketing Services Unit
- 2- The Operations Unit
- 3- The External Transport Unit
- 4- The Accounts and Public Services Unit
- 5- The Abra Service Unit.

In the same year,16 more buses were added to the fleet and a new route, No., 90, was opened to Jebel Ali. The new buses, built to the top international specifications, were purchased from suppliers in Germany, Sweden, Holland and Britain.

Employees specialising in public transport were appointed to posts in planning, operations and training, with an emphasis on the need to appoint specialist personnel to train the bus drivers.

Other objectives were to ensure the comfort of the travelling public through the introduction of air-conditioned buses with electronic screens to give the name of the next stop, as well as ticketing machines that printed out the names and numbers of the routes.

#### Transport Network

In order to ensure that proper planning was carried out, the Public Transport Section worked closely with both the Planning and the Roads Departments in investigating the requirements for public transport. Among various studies undertaken were the R400 study in 1992 and the R700 study in 1997, which determined the need for transport and identified the routes for which there was most demand.

#### Stations

The Municipality built a number of main bus terminals in Dubai, equipping these with basic information such as timetables and route maps. A number of other bus stations were also built, with the result that a total of eight were in operation, the Gold Market Bus terminal and others at Al-Ghabiba, Al-Sabkha, Al-Qusais, Al-Satwa, Hor Al-Anz, Al-Rashidiya and Jebel Ali.

The Section also worked with the Roads Department on the building of bus shelters at the main stops, with the appropriate signs showing the route numbers and bus timetables.

#### Workshop

Maintaining the effective operation of the bus fleet and dealing with occasional breakdowns meant, of course, that a properly-equipped workshop was established, meeting international standards and the appropriate health and safety requirements.

This workshop was given the responsibility for carrying out repairs and routine corrective and preventative maintenance and for keeping stocks of spare parts, as well as that of purchasing new vehicles and scrapping of old ones.

Properly-trained technical staff were recruited to staff the workshop, these being sent overseas, as appropriate, to gain experience.

### Marketing

The Section markets its services to the public through educational programmes in both Arabic and English for television and through printing brochures and booklets, maps showing routes and printed timetables for distribution to the public.

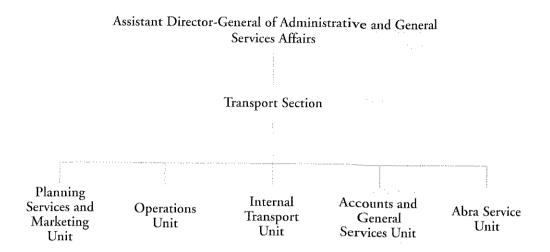
In order to diversify the Section's sources of income, marketing duties also include the sale of space on buses and bus shelters for advertising.

#### Research and studies

Regular studies are carried out, usually every three to five years, to assess public transport. These are undertaken by the Planning and Road Departments and the Census Centre, while the Transport Section itself carried out studies to determine the needs for each area of the city. Questionnaires are also distributed to the travelling public to obtain their views on the quality of the services provided.

In 1998, Organisational Directive No. 9 was issued, transferring the Transport Section from the Garage and Transport Department to become an independent administrative unit, retaining the same name, under the supervision of the Assistant Director-General for Administrative and General Services Affairs as shown in Chart No. 4.

Chart No. 4. Organisation Chart for the Administrative and General Services Department in 1998



In 1999, the process of issuing licences for abras was instituted, while insurance cover was also provided. Courses in fire-fighting and first aid were provided to abra operators.

In 2000, Municipal Ordinance No. 8 was issued to organise the public transport network in the Emirate, with Administrative Directive No. 300 being issued to lay down the regulations for implementation of the terms of the Ordinance. This included:

- 1- This Specifying public transport routes, lanes, bus terminal and bus stops and all regulations
- 2- Technical specifications necessary to ensure safe operation of the network
- 3– Providing for the issuing of tickets of a specific value for each route
- 4- Allocating special searing for women.
- 5– Drivers, inspectors and supervisors were also given the status of law enforcement personnel insofar as this was related to their duties.

## Achievements of the section during 2000

Section took delivery of 30 new buses, all of which went into operation, and started six new routes., while computers were installed in the main terminals.

In the same year, the Internal Transport Unit was moved from the Public Transport Section to the Personnel Department, to allow the Section to concentrate on operating public transport. At this time, the Section had 587 employees, including 15 UAE nationals.

#### Achievements of the section during 2001

17 more new buses went into operation and signs were erected in each of the bus stations providing information on legal regulations, how to board and to alight from buses and similar topics. Electronic programmes to help operation of the network were introduced into the control rooms while a maintenance programme for abras was also started.

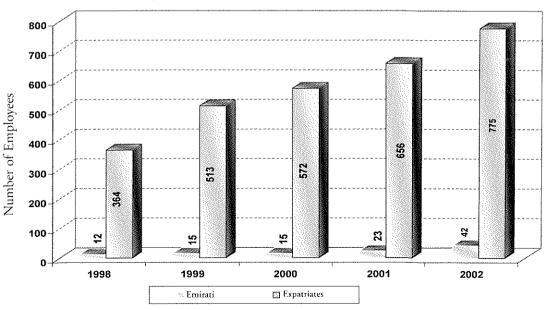
Other developments during 2001 relating to the operation of abras included the introduction of a system for the issuing of licences electronically, getting these licences approved by the Ministry of Labour and the Naturalisation and Residency Department, approving plans for new locations for abra stations and setting a fixed rate for both rowing and motorised abras for tourist voyages in the Creek.

The Section also took part in the activities of the 2001 Dubai Festival.

#### Number of employees in the Transport Section, 1998 – 2002

	Number of Employees						
Year	Emiratis	Expatriates	Total				
1998	12	364	376				
1999	15	513	528				
2000	15	572	587				
2001	23	656	679				
2002	42	775	817				

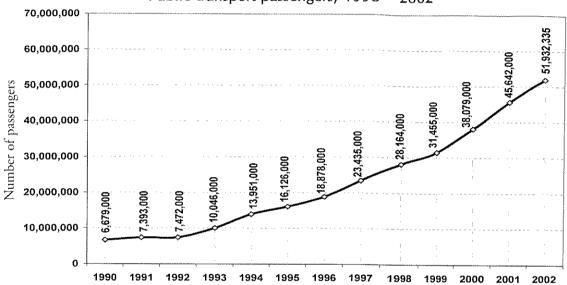
## Employees in the Transport Section, 1998 – 2002



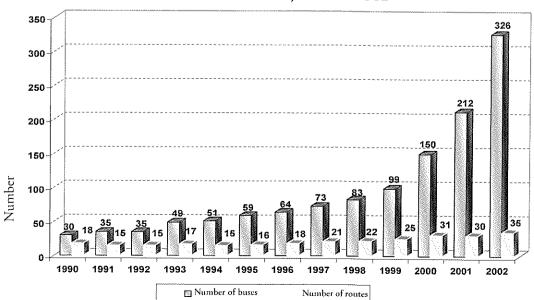
# Number of public transport passengers, buses and routes, 1990 - 2002

ltem	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No. of Passengers	6,679,000	7,393,000	7.472.000	10,046.000	13,951,000	16,126,000	18,878.000	23,435,000	28,164,000	31,455,000	38,079,000	45,612,000	51,932,335
Number of Buses	30	35	35	49	51	59	64	73	83	99	150	212	326
No. of Routes	18	15	15	17	15	16	18	21	22	25	31	30	35

## Public transport passengers, 1990 - 2002



## Buses and routes, 1990 - 2002

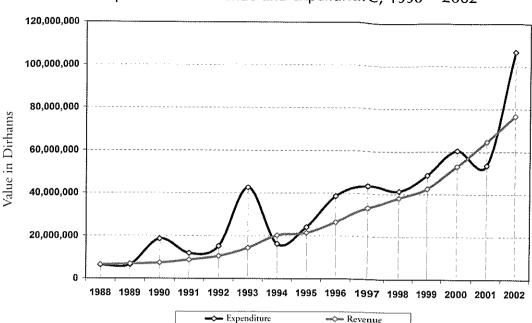




Public Transport Buses

# Expenditure and Revenue of the Transport Section, 1988-2002, in dirhams (Note: the Section became the Public Transport Department in 2001)

Year	Total Expenditure	Total Revenue
1988	6,293,611	6,405,273
1989	6,467,693	6,861,385
1990	18,554,546	7,282,524
1991	11,815,286	8,730,025
1992	15,170,675	10,451,453
1993	42,540,065	14,353,081
1994	16,203,538	20,213,000
1995	24,045,638	21,467,277
1996	38,596,010	26,425,701
1997	43,563,027	33,259,728
1998	41,280,616	38,102,038
1999	48,855,402	42,557,649
2000	60,416,188	53,064,968
2001	53,528,328	64,634,135
2002	106,682,974	76,590,473
Total	438,013,597	430,398,710

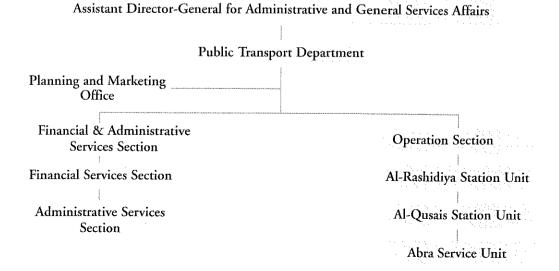


## Transport Section revenue and expenditure, 1998 - 2002

## Establishing the Public Transport Department

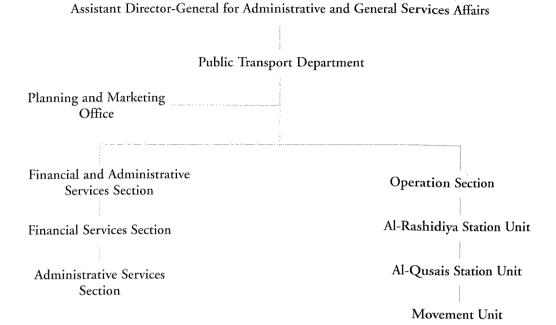
In 2001, Organisational Directive No. 12 was issued to raise the Transport Section to the status of a Department, named the Public Transport Department. Directive No 168 laid down its organisational structure, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for the Public Transport Department in 2001



In 2002 the organisation chart for the Department was amended, as shown in Chart No. 6

#### Chart No. 6. Organisation Chart for the Public Transport Department in 2002



The main duties and responsibilities of the Public Transport Department and affiliated Sections are as follows:

Abra Service Unit

- 1- To implement the instructions approved by the Director-General in respect to policies, legislation, directives and Municipality procedures relating to public transport.
- 2- To prepare and implement plans, budgets and annual departmental work schedules according to the relevant directives.
- 3– To provide efficient and reliable transport for the public through effective administration of bus services, time tables, maintenance requirements and personnel affairs as well as selling of and accounting for tickets.
- 4– To monitor demand for bus and abra routes in order to plan for the expansion of those routes and the opening of new routes, to change the numbers of buses or abras to meet demand and to work to increase the use made of the public transport system.

- 5– To monitor the movement and time-keeping of buses during each shift and to take the necessary measures to limit any interruption of services due to breakdowns, as well as taking prompt action to undertaken repairs to buses, where necessary.
- 6- To check timetables and departure times for buses and abras and to deal with complaints from passengers.
- 7– To ensure that an adequate number of inspectors are on public transport routes to monitor the behaviour of drivers and other staff, taking into account the need for accuracy, reliability and correct accounting for ticker sales as well as the need to ensure the comfort and safety of passengers.
- 8- To co-ordinate with other departments and sections dealing with planning, surveying and road management, as appropriate, when carrying out studies on sheltered bus stops, other bus stops, abra stations and the like, and to liaise with consultants on the placing of bus stops on new parts of the road network.

The Abra Service (Water Taxi)

#### The Abra Service (Water Taxi)

The movement of the Abras, (wooden water-taxis) to and fro across Dubai Creek represents an important part of traditional life in the city, and is seen by residents of and visitors to the City, especially if the location of their work or residence is close to the Creek, the heart of Dubai.

In the past, the abras were the main form of transport across the Creek, and the preservation of this tradition is considered to be an important link with the past. It remains important today, as well, with around 15 million passengers a year still crossing the Creek by abra.

Recognising the important role that abras play in the transport network in Dubai, an Abra Services Division was created within the Municipality's Transport Section in 1995, under the terms of Administrative Directive No. 632 for 1995, and was given responsibility for organising abra services. One early move was the building of new modern landing stages for abras in both Bur Dubai and Bur Deira.

Abras are of two types, those that are rowed and those that are equipped with motors.

#### Rowing Abras

Rowing Abras are probably the earliest forms of transport across the Creek. They formerly operated between Bur Dubai and Deira from a main landing stage in front of Captain's Stores in Bur Dubai and another main landing stage in Al-Ra's, in front of the public library in Deira. There was also another landing stage that was used occasionally at Bandar Talib, also in Deira.

Due to limited space in front of Captain's Stores, the Bur Dubai landing stage was then moved to another location adjacent to the offices of the British Bank of the Middle East (now HSBC). There were also a number of smaller landing stages dispersed along both sides of the Creek.

The first proper study of the abras was carried out in 1993 by the Municipality's Census Centre. This showed that there were then 13 abras in operation, each between 30 and 40 years old. Each abra had the capacity to carry four or five passengers, and the oarsman worked, on average, for twelve hours a day, the fee for the crossing was then two dirhams.

In 1997, the Municipality bought five new rowing abras, and employed five boatmen to operate them at Municipality expense. These abras were based at the:

1- Public library landing stage

#### 2- At Al-Khor Park

The fee remained at two dirhams per person, later reduced to one dirham, with a Dh 30 charge for a one-hour tour.

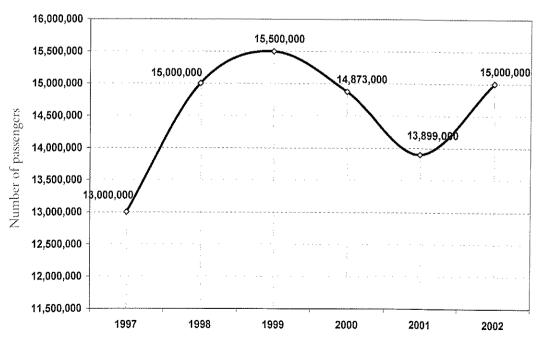
#### Motorised Abras

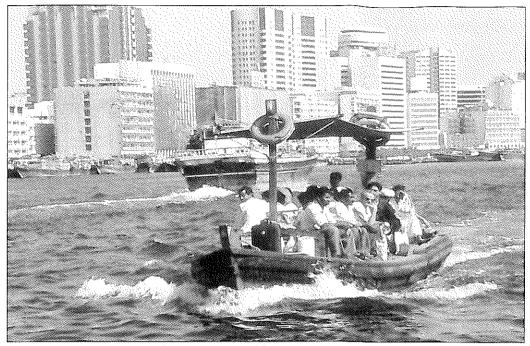
As Dubai developed and there was an increase in the movement of traffic between Bur Dubai and Bur Deira, motorised abras were introduced. These operated from the Old Market landing stage in Bur Dubai and the Garage Landing Stage in Beni Yas Street in Bur Deira. A maximum of 20 passengers per voyage was set, with a cost of 25 fils per passenger, increased to 50 fils in 1995.

Number of Abras in operation and the number of passengers, 1997 - 2002

Year	Number of Registered Abras	Average number of Abras in operation	Number of passengers
1997	140	100	13,000,000
1998	148	100	15,000,000
1999	149	113	15,500,000
2000	149	128	14,873,000
2001	149	135	13,899,000
2002	148	100	15,000,000

Abra passengers, 1997 - 2002





The Abra is one of the main methods of transport between Deira and Bur Dubai

In 1998, Municipal Ordinance No. 6 was issued to regulate the organisation of abra movement on the Creek – the first such ordinance ever issued. It provided the Municipality with the responsibility for supervising the activity, and gave it the power to determine landing stations and the routes to be used across the Creek. It also laid down daily working hours, set the maximum loads and specified that the fee charged should be 50 fils (half a dirham).

In the same year, Administrative Directive No. 299 was issued to lay down the relevant regulations and rules related to Ordinance No. 6. These included specifications of abras and provisions for the testing of them, the issuing of operating permits, specifying the landing stages to be used, working hours, (from 5 am until midnight), and the maximum number of passengers (20), as well as laying down penalties for the breach of any regulation.

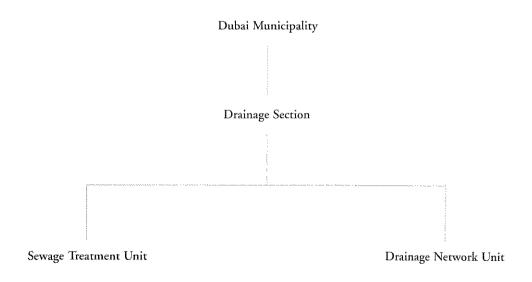
Drainage and Irrigation Department

Until 1965, there was no drainage and sewerage system in Dubai, residents depending, at best, on septic tanks. In that year, however, on the instructions of H.H. the late Sheikh Rashid bin Saeed Al Maktoum, the first plans were drawn up for a drainage system, designed to serve a population of up to 60,000 people. The construction of the network was carried out under the supervision of the Ruler's Office.

In 1971, the first sewage treatment plant was opened, and some of the old residential and commercial areas were linked to the system. The plant had a daily capacity of 3,500 cubic metres, and was located on the shore of the Creek in Bur Dubai, at a considerable distance from all residential areas.

In 1974, HH Sheikh Rashid issued a decree instructing the Dubai Municipality to draw up plans for the overall development of Dubai, these to include plans for the infrastructure of the expanding city. For this to be done, it was necessary for a technical body to be established that could be placed in charge of planning and implementation of the drainage and sewerage aspects of the work, and the Drainage Section was established, as shown in Chart No. 1.

Chart No. 1. Organisation Chart for the Drainage Section in 1974



Over the course of the following decade and a half, the rapid expansion of Dubai meant that there was also a very substantial increase not only in the number of size of drainage and sewerage projects built, and then requiring operating and maintenance, but also in the workforce of the Section, which grew by the end of the 1990s to over 600.

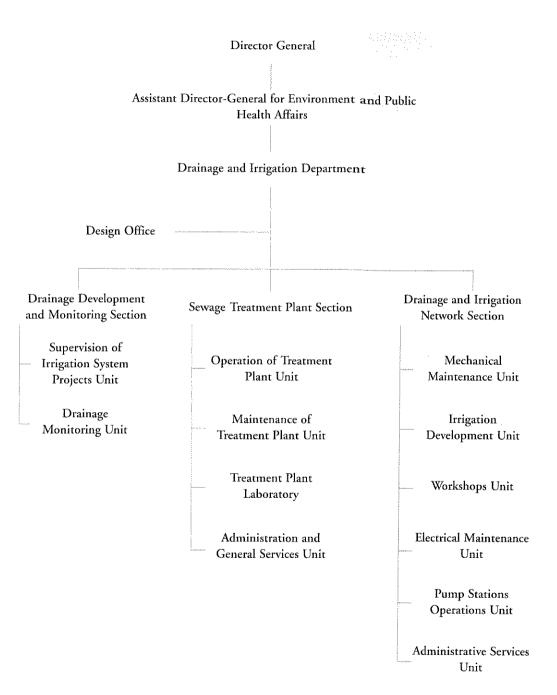
In recognition of this, the Section was raised to the level of a Department, as shown in Chart No. 2.

### Chart No. 2. Organisation Chart for the Drainage Department in 1990



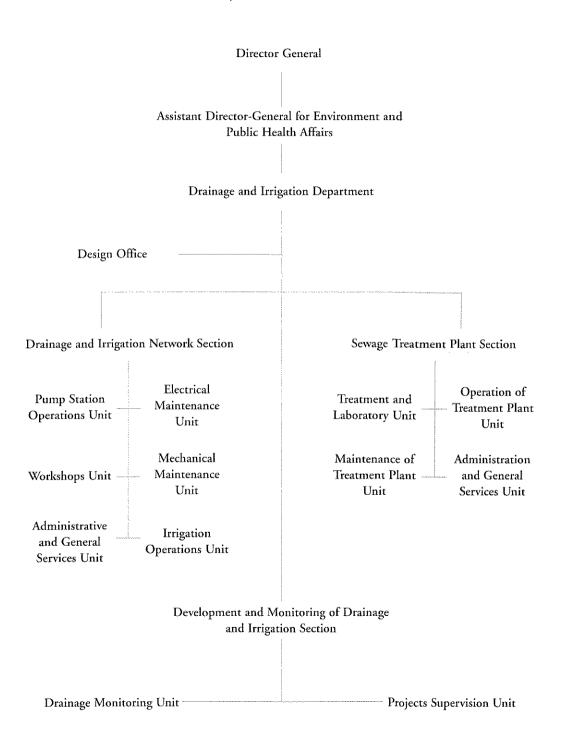
In 1995, the organisation chart was amended and the Department was re-named the Drainage and Irrigation Department, this being placed directly under the Assistant Director General for Environment and Public Health Affairs. At this time, there were three main sections in the Department, as well as a design office, as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Drainage and Irrigation Department in 1995



The continued expansion of the responsibilities of the Department led to a further increase in its employees, who numbered 741 by 2002.

Chart No. 4. Organisation Chart for the Drainage and Irrigation
Department in 2001



## The Main Duties of the Drainage and Irrigation Department

As noted above, the original Drainage Section was formed in 1974, with the Drainage and Irrigation Department being established in 1995. The duties and responsibilities of the original Section and then of the much-enlarged Department were continually updated as the growth of Dubai continued. An outline of these duties follows, by Section.

#### Drainage and Irrigation Development and Control Section

This section take up the responsibility of proposing and implementing policies, rules, directives and procedures of the Municipality related to implementation and control of drainage, irrigation and rain water network projects. This include the monitoring the implementation of these projects as per the conditions and specifications laid out by the Municipality for them such as the design, execution map, quality of the materials used, and the implementation time. In addition to that the section also undertakes the effective monitoring of different kinds of industrial waste disposed off in the drainage networks.

#### Drainage and Irrigation Network Section

This section is responsible for suggesting and implementing the Municipality's policy, laws and procedures relating to the effective operation and maintenance of all drainage, irrigation and rainwater drainage networks, including the supervision of operating and maintenance of all pump stations, the carrying out of preventative and programmed maintenance work, rainwater drainage, the distribution of treated sewage water for irrigation purposes, the maintenance of pumps, the monitoring of various types of industrial waste and other waste disposed of into the drainage network and other tasks.

It is also responsible for monitoring the implementation of projects.

## Sewage Treatment Plant Section

This Section is responsible for suggesting and implementing the Municipality's policy, laws, directives and procedures relating to the operation and maintenance of the sewage treatment plant, for monitoring the quality of water treated in the plant and for ensuring it conforms to quality specifications which allow the treated water to be used for irrigation purposes and other useful requirements, without health or environmental hazards. It also carries out physical, chemical and microbiological tests on drainage water samples entering the plant and on samples of water leaving the plant, to ensure that the treatment process is efficient and that the treated water is not contaminated.

The plant also has a unit for handling the sludge resulting from the treatment process, turning it into organic fertiliser suitable for agricultural use.

### Design Office

This Office is responsible for suggesting and implementing the Municipality's policy, laws, directives and procedures relating to the planning and design of drainage, irrigation and rainwater drainage projects, the preparation of documentation relating to the qualifications required for consultants and the study of designs and cost estimates submitted by consultants. It also puts forward medium and long-term plans for the development of drainage and irrigation.

#### Development of drainage and irrigation projects

The years from 1970 to 1976 saw a major expansion to the existing network, with the Al-Riqqa West, the Musala in Bur Dubai, parts of Al-Maktoum Street, Al-Refa'a and Zabeel East being added.

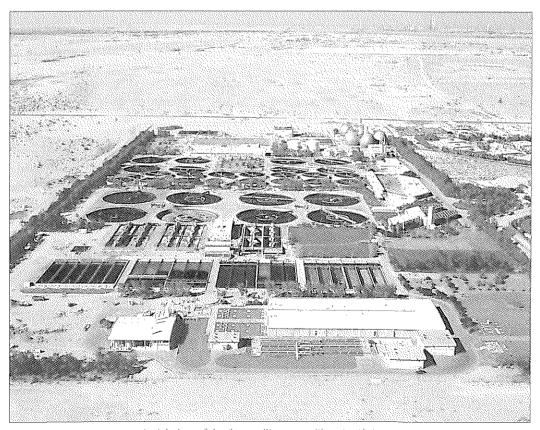
Between 1976 and 1978, the network was expanded to cover Al-Baraha, more of Al-Maktoum Street, Al-Safiya, the Dubai Police headquarters, parts of Al-Qusais, Al-Hadhbiya, the area of the Armed Forces Central Command and the Al-Safa Park villas.

In 2001, another amendment was made to the organisation chart, as shown in Chart No. 4, to take account of the increasing number of projects being handled by the Department. The names and duties of some of the subsidiary organisational units were also amended.

In 1979, work on the expansion of the sewage treatment plant was completed. This involved the construction of aerating tanks to permit the production of treated water suitable for irrigation along roads in Bur Dubai, Al-Safa Park and the cement factory area.

In the same year and in 1980, further additions were made to the drainage network, including Al-Musala, Al-Mateina, Al-Riqqa East, Riqqa Al-Bateen, Al-Muraggabat, the Trade Centre area, Al-Satwa East and Al-Hadhbiya in Bur Dubai.

By the end of 1980, average flow of wastewater to the treatment plant reached 22,000 cubic metres a day, above the design capacity of 21,400 cubic metres. It was, therefore, decided to expand the plant, to bring capacity up to 38,000 cubic metres a day, suitable for a population



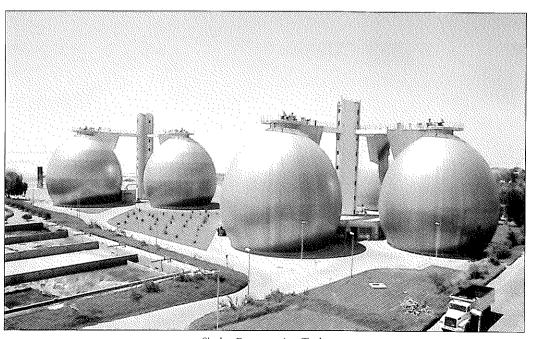
Aerial view of the Sewage Treatment Plant in Al-Aweer

Table No. 1. Employees working in the Drainage and Irrigation Department and its predecessor, the Drainage Section, 1961-2002

Year	1961*	1970*	1975*	1980	1985	1990	1995	2001	2002
Total Number of Expatriate employees	3	4	15	84	147	445	415	547	512
Number of Emiratis	-	-	1	1	3	31	46	48	62
Percentage of Emiratis	0	0	6.7%	1.2%	2.1%	7.0%	11.1%	8.8%	12.1%
Number of Labourers ***	1	5	2	38	74	202	182	228	229
Total number of employees***	3	9	17	122	221	647	597	775	741

<sup>\*</sup> The number of employees between 1961-1975 represents the labourers and tanker drivers working for the Section at the time.

<sup>\*\*\*</sup> Total number of personnel in the Department = Total number of employees + number of labourers.



Sludge Fermentation Tanks

<sup>\*\*</sup> No Emiratis in this sector

of around 190,000. This work was completed in 1983, permitting the further extension of the network, to the remaining parts of Zabeel, Abu Hail, Port Saeed, Al-Khabaisi, part of Al-Mankhool, Umm Hurair, the Guest Palace complex, Jumeirah Mosque, parts of Al-Wasl Street and Al-Safa Street.

By the end of 1984, around 195,000 people, or about 60 per cent of Dubai's inhabitants, were connected to the network, with the amount of wastewater production being treated having risen to 42,000 cubic metres a day.

In 1989, with the population of Dubai continuing to grow rapidly, the Department carried out an extensive survey of the existing network, which showed that much of it, particularly that part laid down in the 1970s, had been affected by a variety of factors. These included the penetration of tree roots, the accumulation of and solidifying of fat and grease from kitchens, the collapse of some piping, the effect of nearby construction work and the rapid deterioration of the asbestos pipes that had been widely used.

It was apparent, therefore, that a major programme of rehabilitation and renewal was required. This task needed careful planning, since many of the older networks were in important commercial districts, such as Al-Sabkha, Al-Bateen, Al-Ra's, the large Market and Al-Fahidi Street, where work on the system could have an adverse effect on the flow of traffic.

A number of specialist companies were approached, and several were then awarded contracts to carry out maintenance. This work took place between 1991 and 1995 and included the relining of collapsed piping, the expansion or reduction of the diameters of pipes laid, depending of the volume of flow, and, wherever possible, the laying of new pipes to replace those which could not be repaired without the need for new excavations, so as to avoid the blocking of roads.

Through the laying of deep, new, large-diameter main pipes, it was also possible to remove some of the need for pumping stations.

### The rainwater and surface water drainage networks

Prior to the recent development of Dubai, any rainwater used to be drained naturally into the Creek, or was absorbed by the highly-porous soil. The development of the city, however, including not only its buildings but also areas that are now roads and car parks, has not only reduced the amount of the surface area where a natural absorbing of rainwater used to take place but has also obstructed the natural flow of surface water towards the Creek.

This has been compounded by the fact that groundwater levels have also risen, as a result of irrigation and through the seepage of water from septic and treatment tanks.

As a result, rainwater began to collect in low-lying areas.

During the 1970s, special drainage pipes were laid to drain stagnant water from such areas to the Creek, while the Municipality also introduced a special groundwater drainage system in areas with relatively few buildings or other construction. As a result, standing water in low-lying areas was removed, reducing potential health hazards.

This was then followed by the construction of a new rainwater drainage system, operating both on the basis of natural flow and on the use of pumps, to collect the water and to discharge it into the sea, the Creek or into artificial "lakes" that were specially constructed for this purpose.

The following table provides details of these temporary "lakes".

A further six artificial lakes are due to be completed in various areas of the city by 2009, while

most of both Deira and Bur Dubai have now been connected to the rainwater drainage network. In order to cope with the rising groundwater levels, methods of automatic control were introduced whereby water rising above a prescribed level was drawn off and discharged into the rainwater drainage networks.

This had the effect of improving the ability of the soil to absorb the remaining water, of ensuring that there was less stagnant water in low-lying areas and of improving the irrigation of trees. It also had the effect of generally protecting the basic infrastructure of the city.

In order to operate the rainwater drainage system, several pumping stations were built throughout the city:

- One in Hor Al-Anz, with a capacity of 2,000 litres per second (1/sec) was completed in 1984.
- One in Al-Garhoud with a capacity of 1,800 l/sec in 1985,
- One near the Port with a capacity of 3,200 l/sec in 1991
- One in Al-Satwa with a capacity of 3,200 l/sec, also in 1991.
- In 1995, stations in Al-Shandagha, with a capacity of 800 l/sec
- In Al-Karamah, with a capacity of 3,000 l/sec.

Rainwater drainage networks were also completed in 1990 in the Bur Dubai area, from Sheikh Zayed Road to the sea, and in Al-Garhoud, Al-Rashidiyah, Al-Quoz and Al-Aweer.

Further networks in residential and commercial areas of Deira, running from Al-Ittihad Street to the sea, were completed in 1993.

Number	Area	Date of Construction	Area, in sq. metres	
1	Al-Qusais	May 1990	82,707	
2	Al-Safa	August 1992	42,000	
3	Al-Quoz	January 2001	27,353	
4	Nad El Sheba	February 2002	20,000	

Number	Area	Date of Construction	Area, in sq. metres
1	Al-Qusais	July 2003	55,000
2	Al-Qusais	June 2003	173,433
3	Nad Al-Sheba	January 2003	26,000
4	Nad Al-Sheba	January 2003	20,000
5	Al-Barsha	December 2003	57,000