

CONSTRUCTION & TRANSFORMATION
PART : 4



DUBAI
from small Village
to Global City

THE YEARS OF CONSTRUCTION & TRANSFORMATION

Qassim Sultan

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DUBAI: From Small Village to Global City

By: Qassim Sultan

PART: 4

CHAPTER: 15 – 17

INDEX

Chapter	Subject	Page
15	The Roads Department	349
16	The Transportation Department	397
17	The Public Projects Department	419

**Roads
Department**

Through its Roads Department, the Municipality is responsible for managing road projects in the Emirate of Dubai, in association with internationally-qualified consultants who directly oversee any work being undertaken by contractors.

Dubai's expanding road network provides the essential infrastructure upon which the Emirate's commercial and economic prosperity is based. Among the key features of this network are the three crossings of Dubai Creek, the Al-Maktoum and Garhoud bridges and the Shindagha underpass, which link Dubai and Deira, as well as the main arterial roads running through and around the city.

The first tarmac road to be constructed was Al-Saif road, adjoining the Creek on the Dubai side, which was built in 1960. This was followed by a number of other projects, including, importantly, the 450 metre-long Al-Maktoum bridge, built in 1964. In 1967, a number of tarmac roads were laid in the Al-Ra's and Burj an-Nahar areas, while street lighting was also introduced for the first time.

In 1975 the 560 metre long Shindagha two-way underpass was constructed under the Creek, while in 1976, the third crossing, the 600 metre long Garhoud Bridge was built.

Key components of the road network on both sides of the Creek include Al-Maktoum Street and Khalid ibn al-Walid street, linked to both Al Maktoum Bridge and the Shindagha underpass, thus providing for easy circulation of traffic, not only in the built-up areas but also connecting to areas where major construction is still in progress, such as Al-Shangha, Al-Ra's, Al-Fahidi, Al-Sabkha, Al-Karama and Al-Riqqa. This, in turn, helped to stimulate development in other areas, such as Port (Bur) Saeed, Hor Al-Anz and Al-Mateina in Deira and Al-Hamriyyah, Al-Jafiliah and Jumeirah in Bur Dubai.

In 1984, thanks to help from the United Nations Human Settlements Programme, the services of Dr. Farouk Khalifa as a Roads Consultant were obtained. He was first appointed as Head of the Roads Section, later becoming Consultant for the Roads Department between 1986 and 1988.

By the end of 2002, Dubai's road network extended to over 7,358 kilometres.

The origins of the Roads Department can be traced back to the establishment of the Engineering Section of the Municipality in 1960. The Roads Section was then created as one of its affiliates, coming under the Municipality's Chief Engineer.

As shown in Chart No. 1, this remained the case until 1987. Chart No. 2 shows the formal creation of the separate Roads Department, which took place in accordance with Administrative Directive No. 315, in 1990.

Between 1994 and 2002, there were several further amendments to the Organisation Chart, as shown in Charts Nos. 3, 4, 5 and 6.

Chart No. 1
Organisation Chart for the Roads Section in 1987

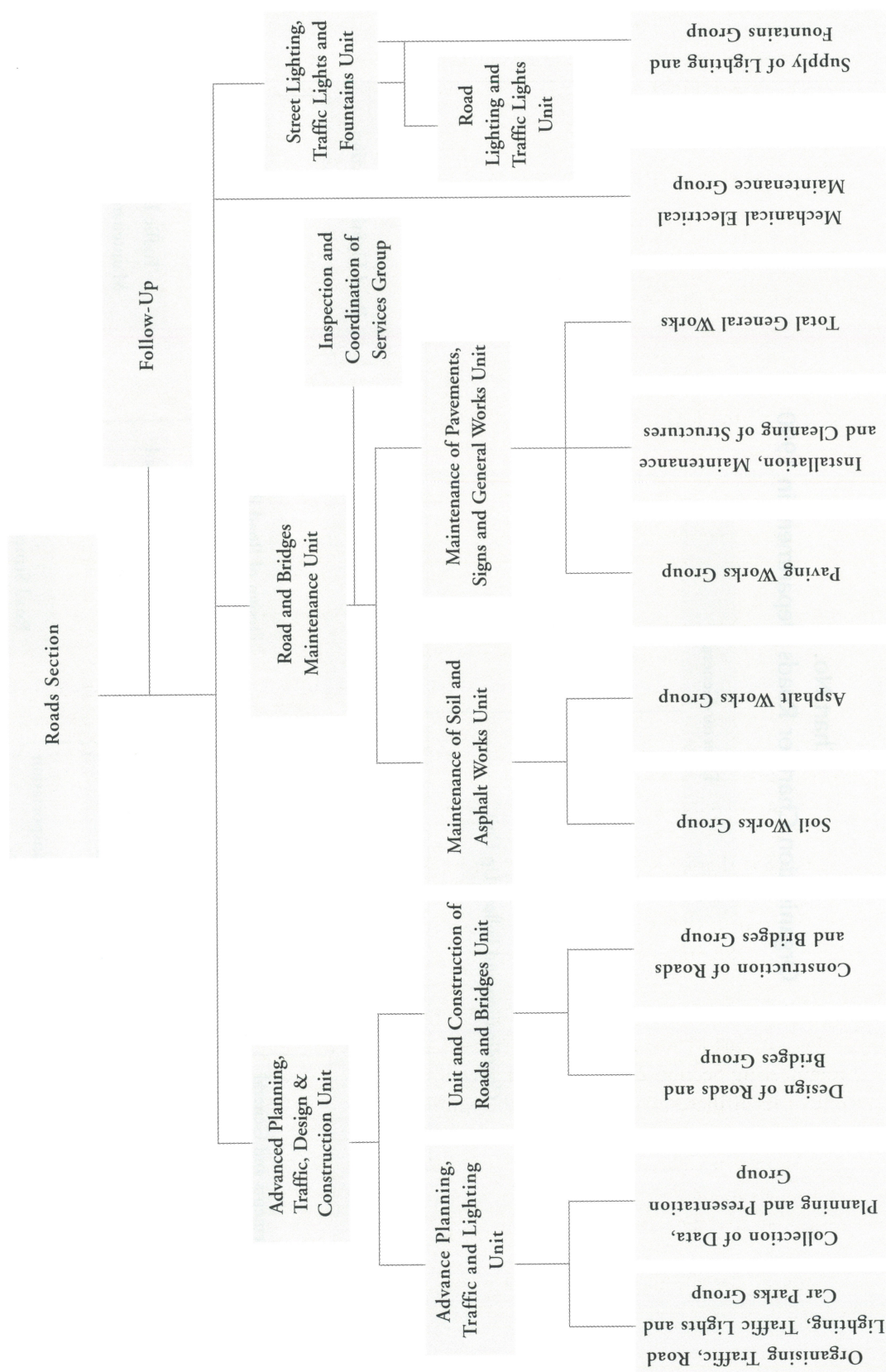


Chart No. 2
Organisation Chart for Roads Department in 1990

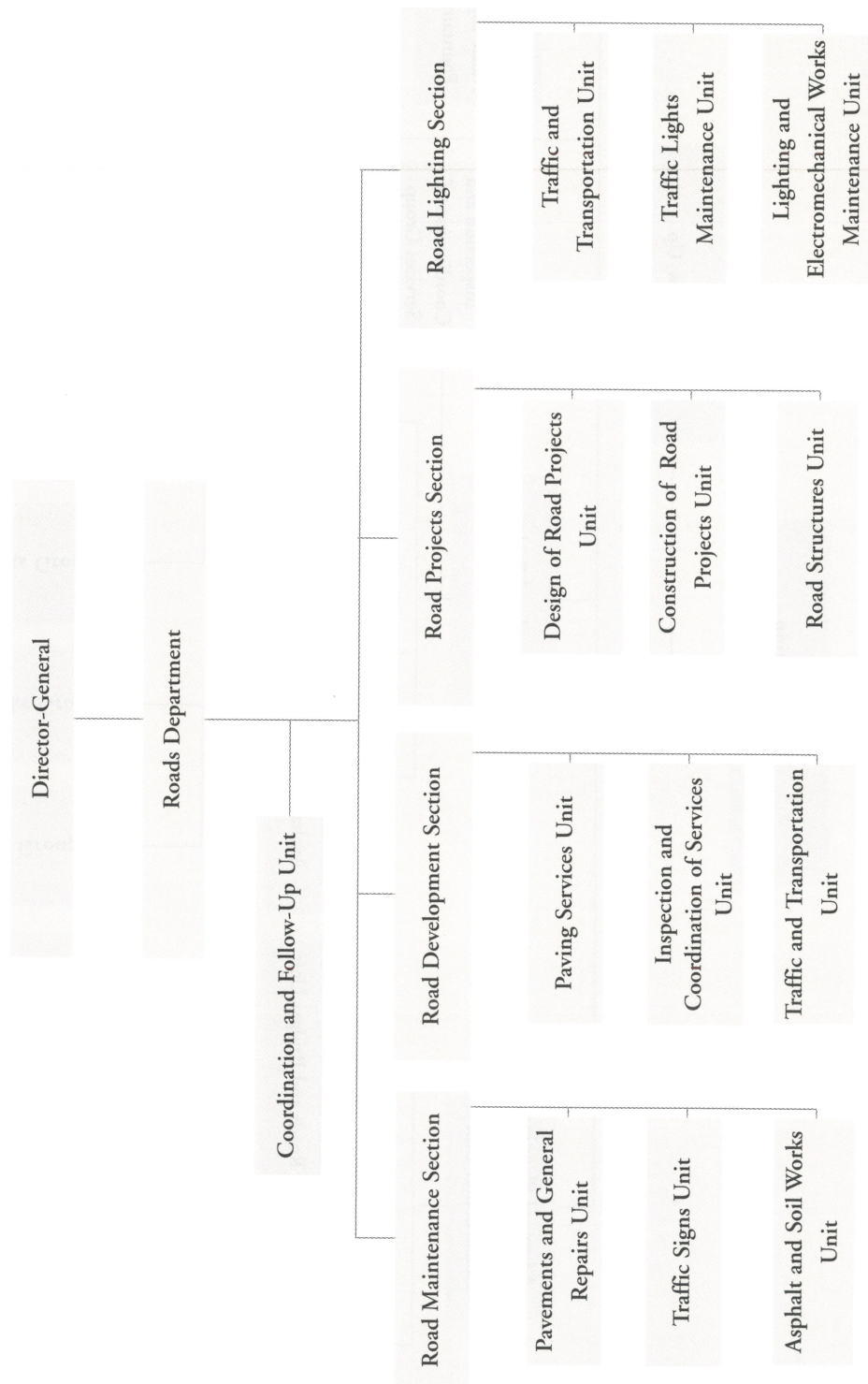


Chart No. 3
Organisation Chart for the Roads Department in 1994

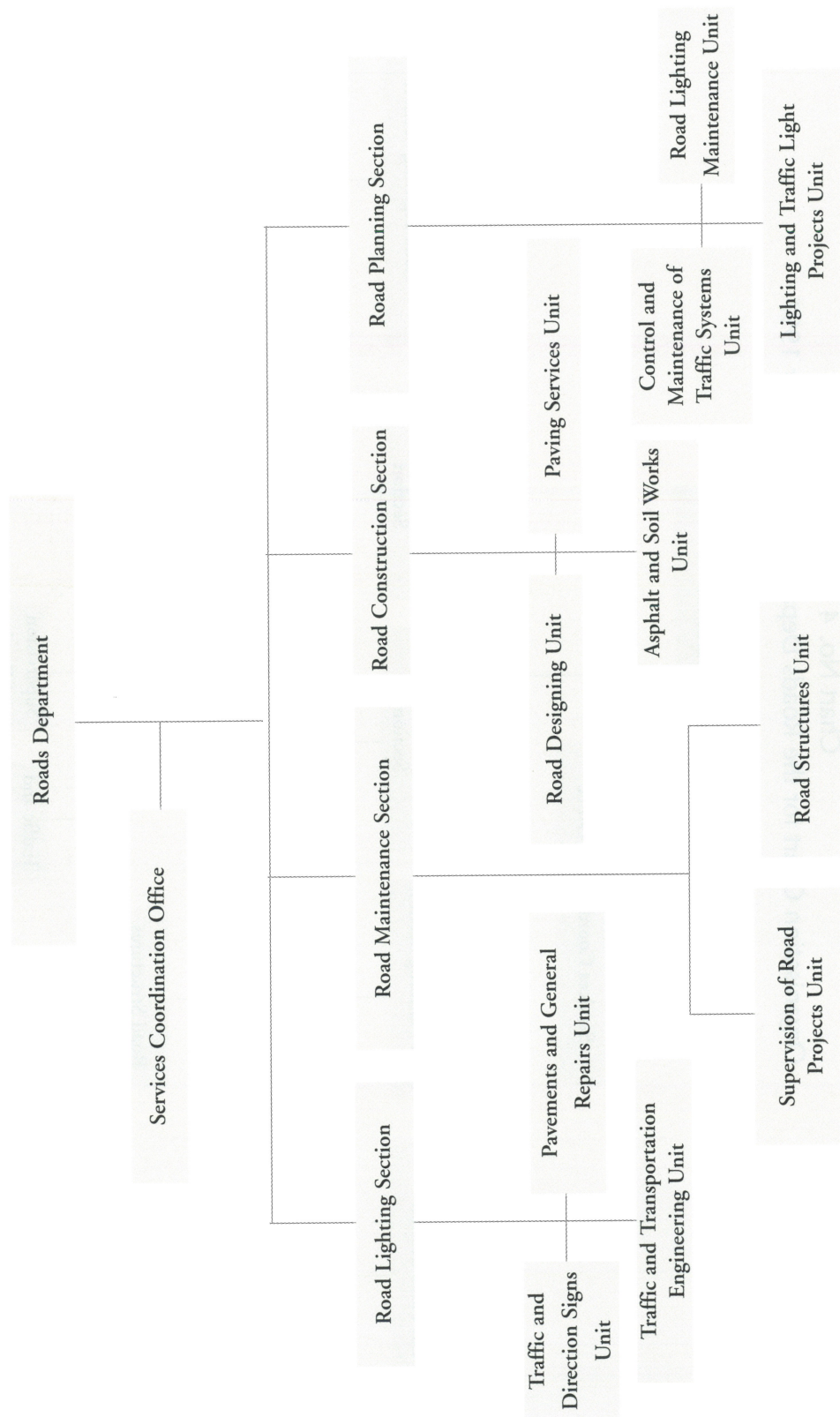


Chart No. 4
Organisation Chart for the Roads Department, December 1997

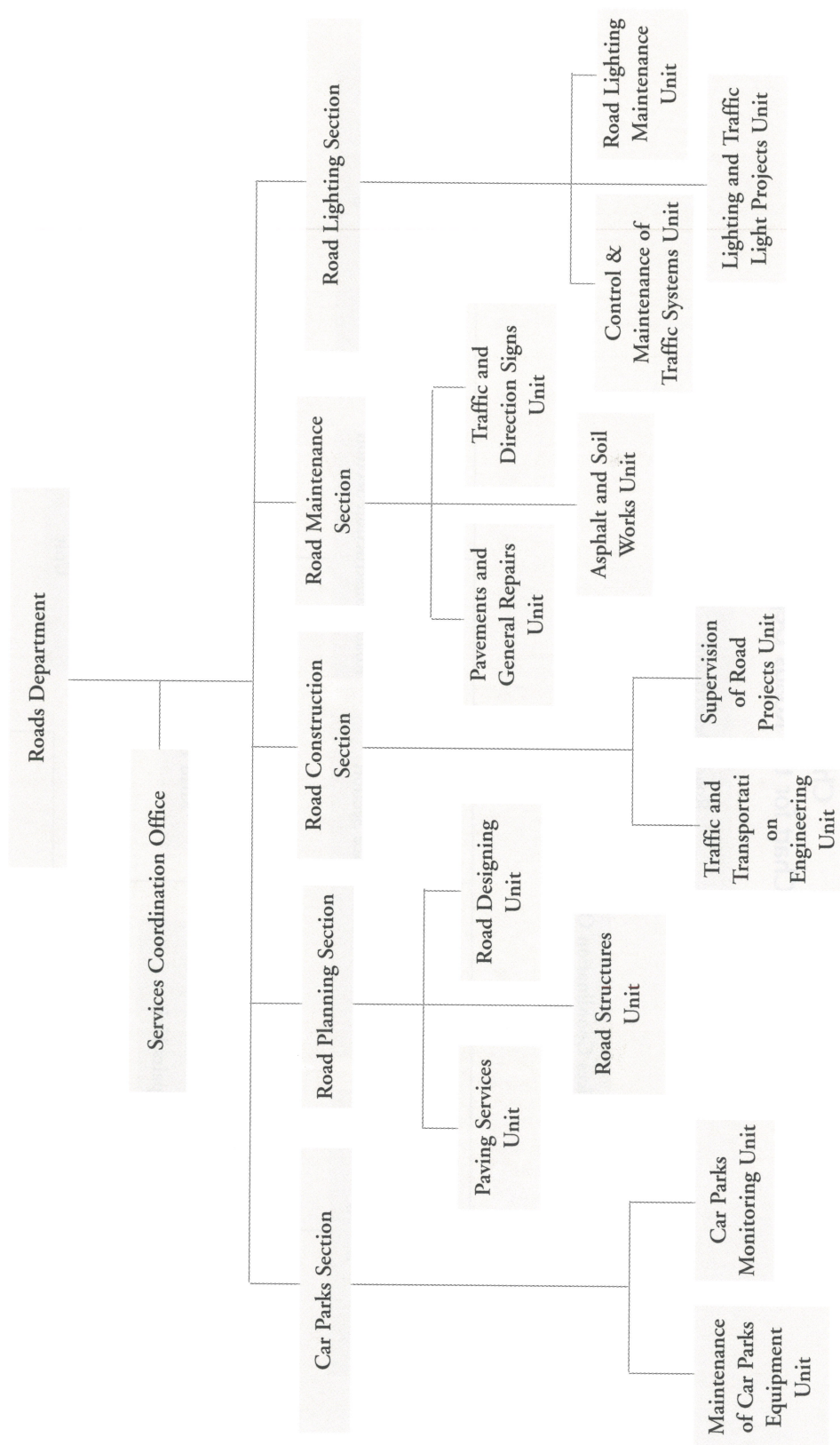


Chart No. 5

Organisation Chart for Roads Department, January 1999

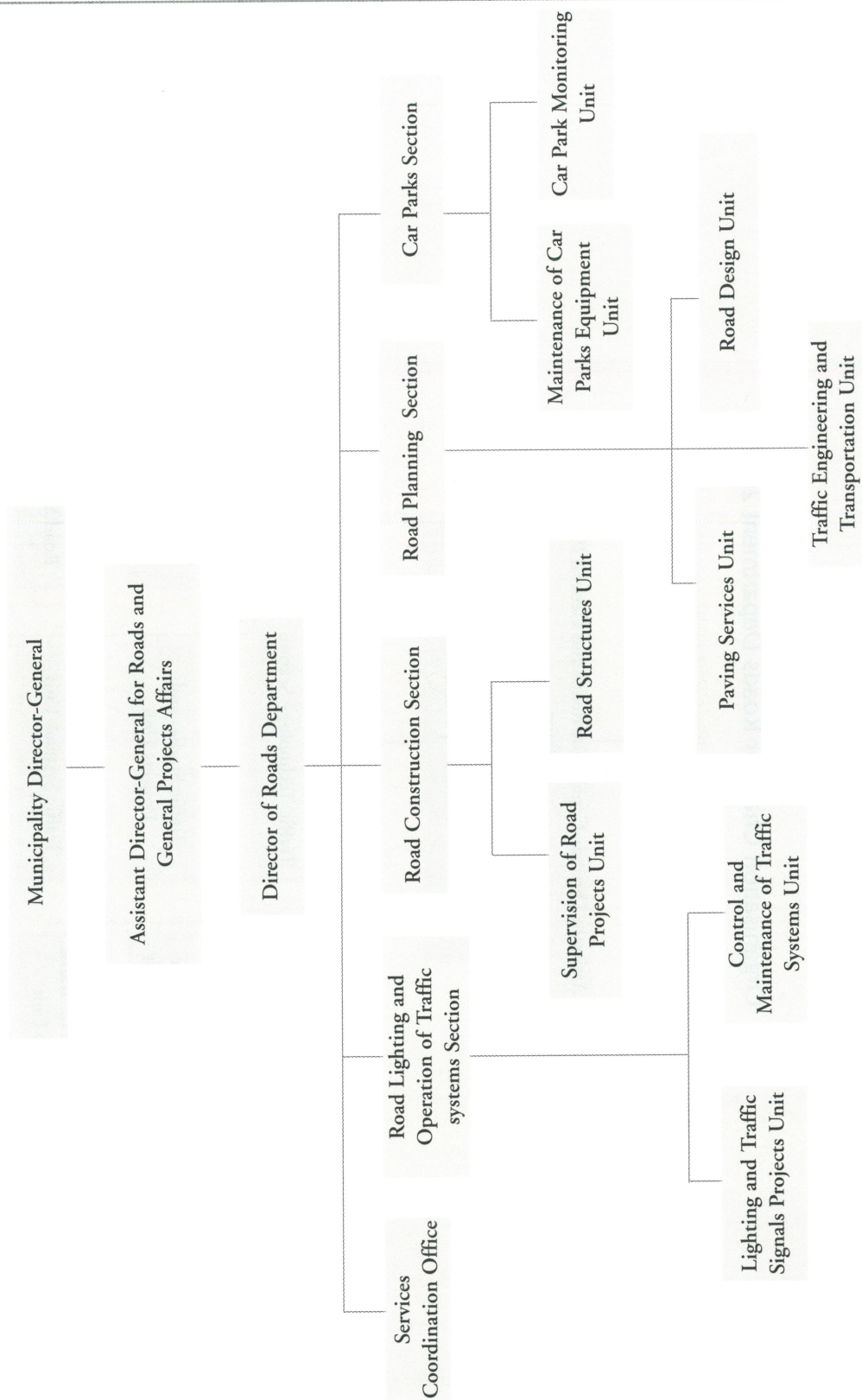
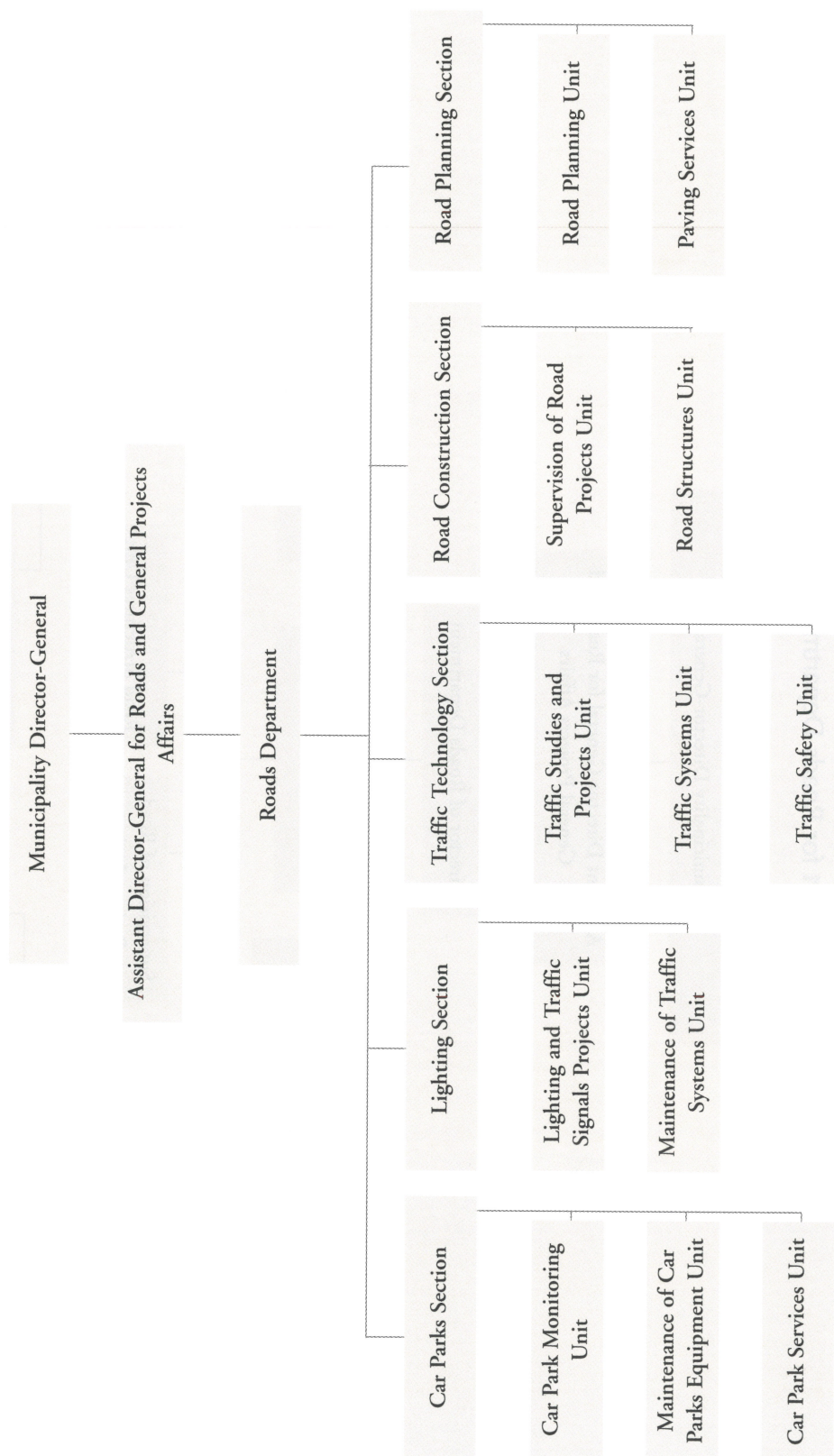


Chart No. 6
Organisation Chart for Roads Department 2002



Main Duties and Responsibilities of the Road Department & its Sections

In general terms, the main duties and responsibilities of the Department cover the proposing of the policy, systems and plans specific to public roads, entrances, both paved and unpaved, bridges, tunnels, public roadside parking, car parks, road lighting, traffic signals and any other subjects relating to the Department's work.

The work is carried out according to instructions issued from time to time in accordance with the Municipality's policy and legislation and in coordination with other concerned departments and sections within the Municipality as well as with the relevant external agencies and establishments concerned, whether local or federal.

Road Planning Section

- 1) This section implements the Municipality's policy, plans and budget in respect of all related studies and researches, roads design and planning works within an approved work schedule and timescale for all highways, bridges, tunnels, road exits, public car parks and pedestrian crossings.
- 2) It also organises and carries out the collection of statistical data on all types of vehicles and on pedestrian traffic, carries out analyses of traffic and any related planning, and



Infrastructure services on roadsides

- also designs roads and traffic signals where these are related to the work of the section.
- 3) Another of its tasks is the obtaining of information on traffic accidents from the Public Traffic Department of Dubai Police to permit the data to be analysed so that the appropriate recommendations can be made with a view to reducing road accidents.

Road Construction Section

This section is in charge of carrying out the Municipality's duties with relation to roads, tunnels and bridges projects, as well as car parks. The work is undertaken in co-ordination with the Road Planning Section. It is also responsible for the operation and maintenance programme for the road network.

Traffic Technology Section

This section administers and operates the traffic control systems throughout the road network, by means of its Control Centre and the various traffic signs and signals.

It is also responsible for the safety of the public on the road network as well as for carrying out research designed to help in preparing a comprehensive strategic plan for traffic movement.



An example of Dubai's traffic control systems

Lighting Section

- 1) The Lighting section is responsible for implementing all aspects of Municipality work relating to lighting and traffic signals by the roadsides, in co-ordination with other sections in the department and elsewhere in the Municipality, in particular with the General Maintenance Department.
- 2) It prepares and implements daily and monthly preventative maintenance programmes.

Car Parks Section

- 1) This section is in charge of matters relating to the control of parking, whether on the roadside and in squares or in other designated locations.
- 2) This work includes regular inspections of areas with metered parking and maintaining the meters as well as preparing.
- 3) Carrying out of daily and weekly programmes of repairs and maintenance and a monthly preventative maintenance programme.

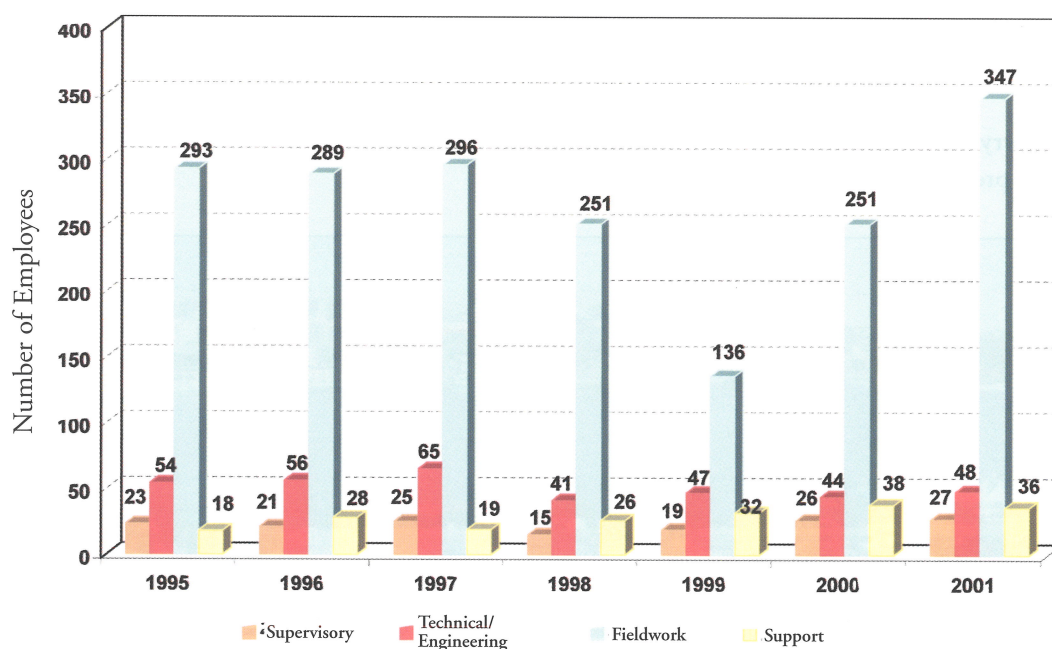


Car Parks in controlled areas in Deira

Posts in the Roads Department, 1995 – 2001

Job Type	1995	1996	1997	1998	1999	2000	2001
Supervisory	23	21	25	15	19	26	27
Technical/ Engineering	54	56	65	41	47	44	48
Fieldwork	293	289	296	251	136	251	347
Support	18	28	19	26	32	38	36

Graph No. 1. Posts in the Roads Department, 1995 – 2001



Number of employees in the Roads Department at the end of 2001

Nationality	Technician/ Engineer	Other Posts	Total
Emiratis	35	222	257
Expatriate	31	170	201
Total	66	392	458
Percentage of Emiratis	53.0 %	56.6 %	-
Percentage of Expatriates	47.0 %	43.4 %	-

Strategic Planning for the Road Network in Dubai

The road requirements for the Emirate of Dubai are determined as part of a comprehensive development strategy, this being drawn up following the carrying out of detailed studies of growth in land use and population and of the distribution and type of projected future traffic movement.

In 1991 and 1997, two detailed studies were carried out which helped in the laying down of plans for improving the transport and traffic system throughout the Emirate.

These studies first examined engineering solutions, such as the expansion of and improvement of present roads and the construction of new roads, and then looked at other elements within the scope of the Traffic Administration, proceeding to carry out a number of technical innovations which alleviated the problem of congestion and improved the efficiency of the existing road network. These included the introduction of the latest systems for the control of traffic signals.

Over the last quarter-century, there has been a huge increase in the volume of traffic in Dubai. In 1976, for example, around 4,500 vehicles an hour were using the three Creek crossings, while by 2002 this had risen to over 29,000 vehicles an hour, making use of nine lanes with a maximum capacity of 30,000 vehicles an hour. Unless capacity was increased, there would have been adverse impacts on the local economy.

To resolve this, a number of steps need to be taken. One key one will be a widening of the Garhoud Bridge to six lanes in each direction and its linking through interchanges to subsidiary roads at either end. It will also need linking, by other bridges and tunnels, to Al Maktoum Bridge on Sheikh Zayed Road, since this is the most used route. Initial plans for the expansion of Garhoud Bridge have been completed, while a number of associated improvements have been made.

As part of the programme to alleviate traffic congestion, the Emirates Road was built around the outskirts of the city, to provide links between various areas of Dubai, to provide an alternative route for traffic moving to and from Abu Dhabi and the northern emirates, and to lessen pressure on Sheikh Zayed Road and Al Ittihad Road.

The Roads in the Emirate of Dubai have been classified as follows:

Semi-circular Roads

As the name indicates, these roads are laid almost as parallel rings. They serve the major areas of Dubai. Examples are :

- Khalid ibn Al Waleed Street, Abu Bakr Al-Siddiq Street.
- Sheikh Rashid Street, this latter being an extension of Al Ittihad Road.

Radial Roads

These radial roads provide the links between the semi-circular roads, radiating out from central points such as the main commercial areas in Deira and Bur Dubai, They include:

- Al Maktoum Street, an extension of Airport Road and Al-Khawaneej Road
- Naif Street, an extension of Al-Rashid Street
- Al Mina Street, an extension of Al Wasl Street.

Functional Classification of Roads

The road network in Dubai is also classified according to size and type.

Freeways

These includes the roads with free and fast-moving traffic, without direct junctions, exit and entry being through interchanges which divide the traffic. Examples include the Dubai – Al-Ain Road, the Dubai – Sharjah Road, and the link between Sheikh Zayed Road and Emirates Road. They account for 16 per cent of the total road network.

Highways

These roads have central reservations and two or more lanes in each direction. Entry and exit is fully or partially controlled through interchanges, which may have associated service roads. Examples of this type include the Dubai – Hatta road and the Dubai – Al-Khawaneej road. They account for 18 per cent of the whole network.

Arterial Roads

On these roads, there may be central reservations, although not in every case, while their engineering design is to a lower standard than that of the freeways and highways. Multi-level junctions are unusual, and traffic movement is controlled primarily by traffic lights. Among this type are the therefore the traffic movement is controlled through traffic lights. Examples of these roads include Al-Maktoum, Salahaddeen and Khaleej (Gulf) Roads. They account for 18.7 per cent of the entire network.

Junction Roads

These roads serve the purpose of permitting vehicles to move between the local roads network and the main roads, and are generally short. Traffic is controlled at the junctions through traffic lights, roundabouts and traffic signs. They have junctions or intersections with other Junction Roads, Main Roads or Local Roads. Examples are Hor Al-Anz Street, Al-Sabkha Street and Al-Musala Street. They account for 18.5 per cent of the entire network.

Local Roads

These roads serve traffic to and from shops, companies, buildings and so on which adjoin them. Traffic is controlled by means of traffic lights and roundabouts. Such roads are, of course, to be found throughout Dubai, and they account for around 28.5 per cent of the total roads network.



Garhoud area intersections

Expenditure on Roads Projects

Graph No. 2 illustrates the expenditure on Roads Projects between 1980 and 2002, during which period a total of around Dh 8.4 billion was spent. The top year was 2002, when Dh 890 million was spent, this being accounted for by major projects such as the Emirates Road as well as roads and parking around Dubai International Airport.

Chart No. 1. Geographical distribution of the road network in the Emirate of Dubai.

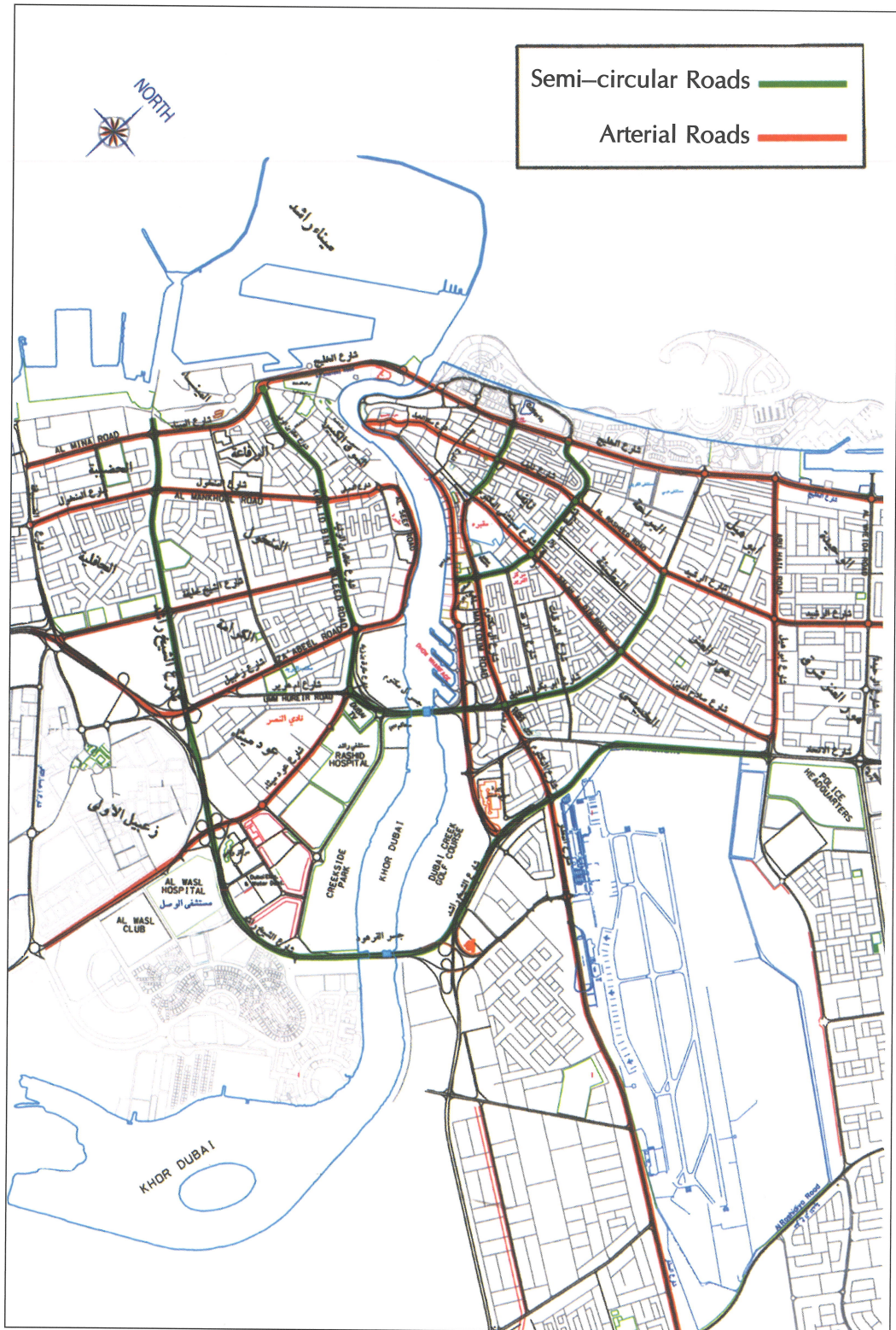


Chart No. 3 illustrates the growth in the road network between 1980 and 2002, by which time the Dubai roads network covered a distance of 7,358 lane/kilometres. The greatest growth in a single year was in 2000, when 949 lane/kilometres were built, as shown in Table No. 1 and Graph No. 4.

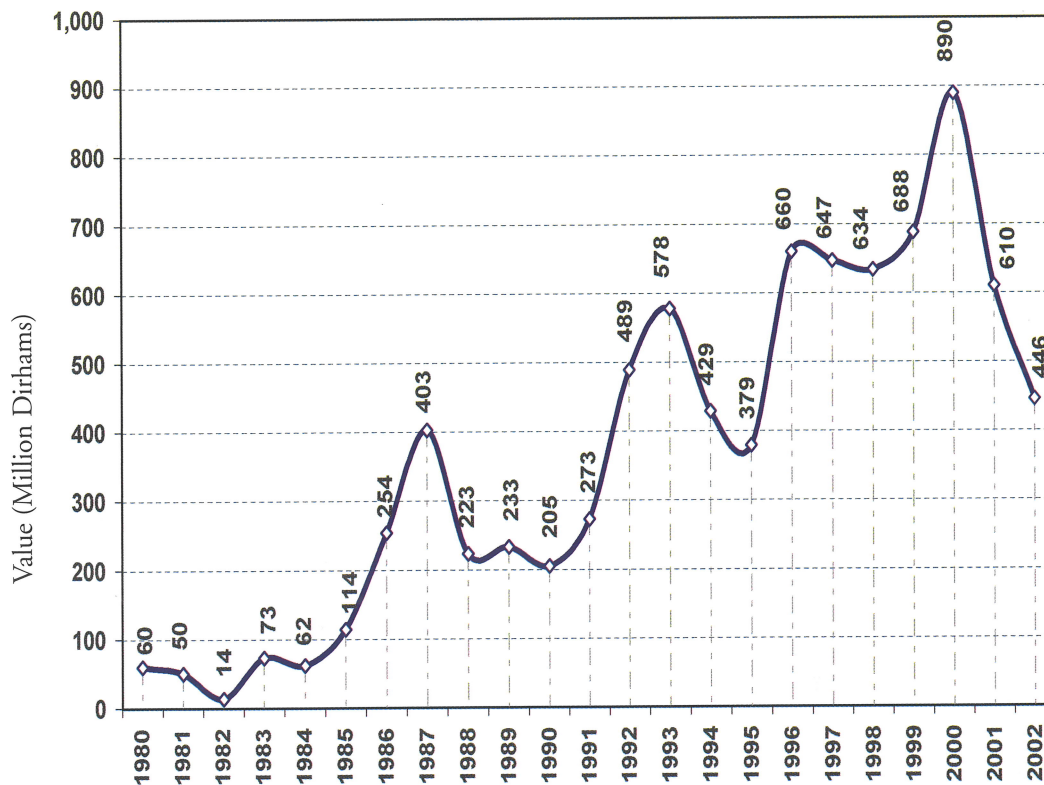
Expenditure on Road Projects, 1980 – 2002

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Value (Million Dirhams)	50	50	14	73	62	114	254	403	223	233	205	273

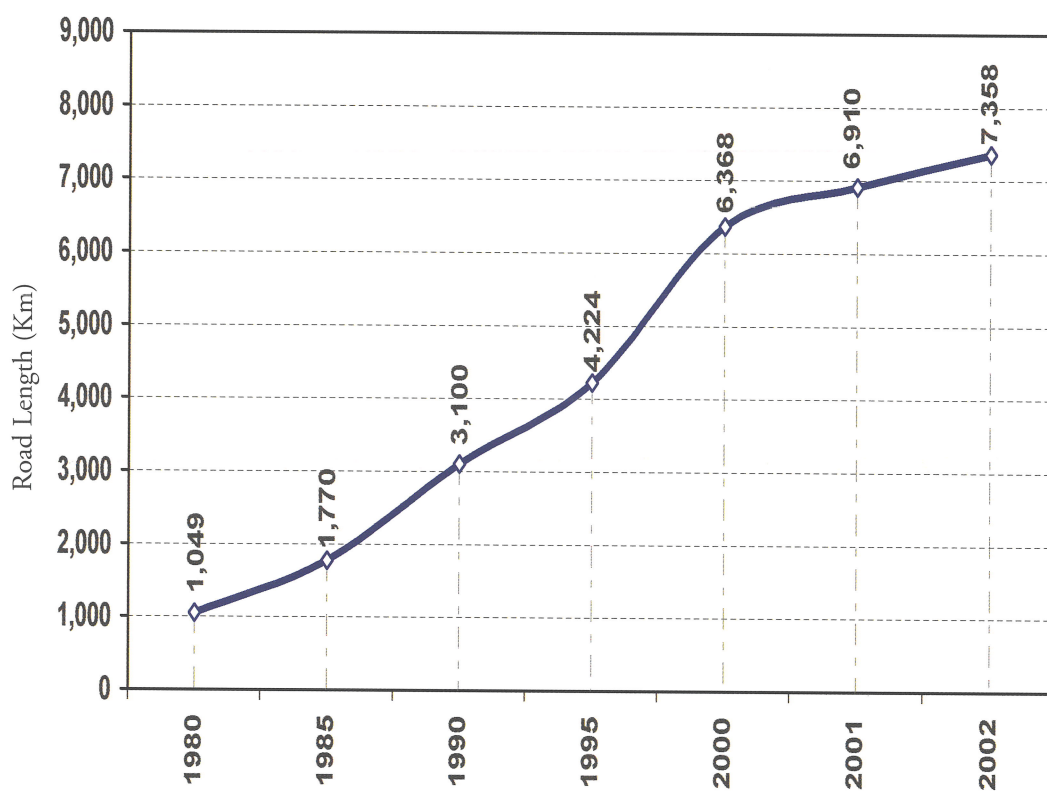
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Value (Million Dirhams)	489	578	429	379	660	647	634	688	890	610	446

The total expenditure on Roads Projects between 1980 – 2002 was 8,414 million dirhams.

Graph No. 2. Expenditure on road projects, 1980 – 2002



Graph No. 3. Development of the Road Network, 1980 – 2002 Lane/Kilometres)



A local road network

Table No. 1. Length of roads (Lane/Kilometre), by type, 1980 – 2002

Type of Road	1980	1985	1990	1995	2000	2001	2002
Freeway	0	0	362.61	597.44	1,014	1,119	1,124.8
Highway	193.29	405.5	538.92	804.25	1,162	1,261	1,375.5
Arterial Roads	154.17	267.2	444.17	601.82	1,195	1,333	1,367.4
Junction Roads	242.02	371.28	516.08	757.52	1,176	1,272	1,334.6
Local Roads	459.84	730.31	1,238.11	1,462.97	1,821	1,925	2,155.5
Total	1,049.33	1,770.31	3,099.91	4,224.01	6,368	6,910	7,357.8

Increase in length of the road network (average – Lane/Km.), 1980 – 2002

Year	1985	1990	1995	2000	2001	2002
Length (Average Lane/ Km.)	698	1160	1476	2193	2434	3057

Graph No. 4. Increase in the Road Network, 1980 – 2002

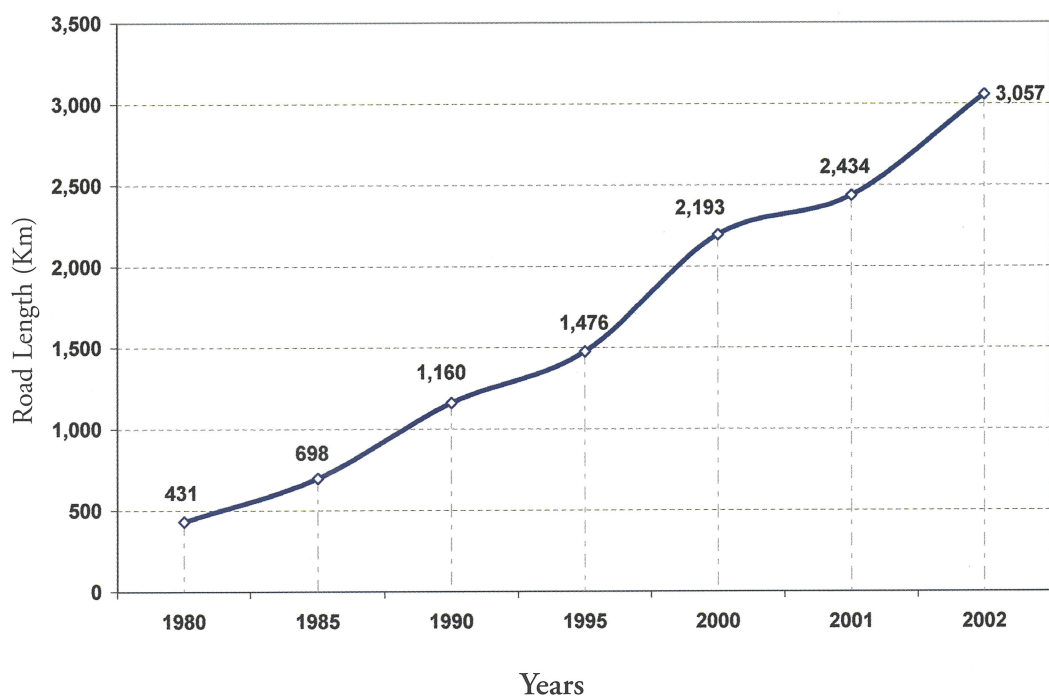


Table No.2. Main road tunnels built prior to 1985

Name	Length in Metres	Width in Metres	Date of Construction	Cost in Million Dhs.	Number of Lanes
Shindagha Tunnel	913	7.32	1975	60.0	2 + 2
Clock Roundabout Tunnel 1	314	9.6	1981	6.0	2
Clock Roundabout Tunnel 2	328	9.6	1981	7.0	2
Airport Road Tunnel	298	7.52	1981	8.0	2 + 2
Al-Qiyadah Tunnel	328	7.52	1981	10.0	2 + 2



Airport Road Tunnel

Projects carried out by the Department, by year

1982	
Psychiatric Hospital Road	Development of Abu Bakr Al-Saddiq Street
Al-Muraggabat – Riqqa Al-Bateen Road	Alterations to Al-Nahda Roundabout
Roads in Bur Dubai	
1983	
Car Parks at Al-Safa Park southern entrance	Connecting Road to Sheikh Maktoum's Palace
Roads in Deira	Roads and car parks in Rashid Hospital
Al-Aweer-Lihbab Road	Al-Mankhool Road
'U' turn on Khalid ibn Al Walid Street	Roads in Rashid Hospital – First Phase
Roads in Al-Khawaneej Village	Al-Rashid and Abu Bakr Al-Saddiq Road
1984	
Study and re-design of intersections on Abu Bakr Al-Saddiq Street	Roads in Deira
Alterations on Al-Dhiyafa Street from Al-Satwa roundabout to Zabeel Palace roundabout	Salahaddeen Road
Underpasses	Service Road on Al Ittihad Street
1985	
Expansion of Sharjah – Dubai Road	Roads in Jebel Ali Port
Service Road on Al-Maktoum Street	Roads in the labourers compound in Qusais
Paving work for the Civil Defence	Roads in the Central Market in Hamriyyah
Al-Quoz Graveyard Road	Road No. 88 in the Central Market in Hamriyyah
Signs bearing street names	
Direction signs in Dubai	Internal Roads in Al-Tawar – First Phase
Roads in Nad El Sheba Residential area	Interchange with Abu Dhabi Road
Advanced works at Al-Nahda interchange	Jebel Ali Port Road

1986	
Backfilling the Trade Centre roundabout	Roads in Al-Mateena area
Soil work and backfilling of second Zabeel Road	Al-Ain – Dubai Road – First Phase
Sabkha (non-asphalt) Road for the Labourers' Complex in Qusais	Intersection of Al-Wasl Al-Manara Road with Airport – Al-Romour Road, Road leading to Jebel Ali Hotel
Study of road planning	Main work done to Al-Nahda interchange
Roads in Al-Satwa – Second Phase	Road works for schools in Deira
Iraqi Consulate Road	Internal Roads in Al-Mankhool
Camel Race Course Road	Roads for Shabiyat Al-Qusais
Protection work for Defence Road	Roads in Al-Ra's
Schools Roads in Bur Dubai	Internal Roads in Al-Tawar
Roads in the Rashid Hospital area	
1987	
Al-Hamriyyah Market	Roads in Hor Al-Anz – Third Phase
Internal Roads in Al-Rashidiya	Roads in Al-Rashidiya
Asphalting works in Al-Maktoum Hospital	Roads in Al-Diwan area
Preservation of Umm Suqeim Beach and Sheikh Hamdan's Villa	Roads in Al-Lisaili
Soil work and backfilling in Al-Quoz	Al-Dhiyafa Street and Al-Wasl Street
Backfilling in Al-Wasl	Roads in Umm Suqeim
Soil works and backfilling in Al-Safa	Garhoud Bridge Road
Paving roads in the port and sabkha (non-asphalt) roads in Al-Mamzar	Fencing the Al-Khawaneej, Al-Rashidiya and Al-Amradi Roads
Roads in Al-Jafliya	Roads in Al-Karama
Dubai-Hatta Road	Temporary 'U'- turn at Al-Saqar Chemicals
Roads in the Exhibitions area in Garhoud	Roads in the Women's Prison & Clock Roundabout
Roads in Al-Satwa	Al-Qusais and Factory area road
Ground levelling in Al-Aweer Industrial area	

1988	
Expansion of Nad Al-Hamar Road	Roads in Hor Al-Anz – First Phase
Large Traffic Signs	Roads in Al-Hadheiba, Al-Asbeej, Al-Rola and Al-Hamriyyah
Paving of Al-Sikik (narrow roads) in Deira	Al-Aweer Roadside Fence
Nad Al-Sheba interchange	Ground levelling in Nad Al-Sheba (1)
Roads in Hor Al-Anz – Second Phase	Marine works on the Deira Corniche
Dubai-Al-Ain Road – Second Phase	Roads in the Hyatt Regency area
Survey of traffic control tools	Omer ibn Al-Khattab Road
Al-Nahda underpass project	Construction of Al-Nahda interchange on Etihad Road
1989	
Maintenance of Shindagha underpass	Road section in Al-Qusais/ Al Sharjah
Development of Garhoud Bridge	Protection for Umm Suqeim Beach
Containers in Jumeirah area	Protection for Jebel Ali Road
Works in Mina Seyahi	Pedestrian walkways
Works on Al-Maktoum and Garhoud Bridges	Service Road to the Trade Centre
Al-Ruwayyah interchange	Roads and car parks for the libraries in Bur Dubai
Al-Mamzar Project	Roads in the north of Al-Karama
Road between Al-Wasl & Jumeirah – Second Phase	Old Airport Road and New Airport Road
Civil engineering works for street lighting- (Al-Ain Road)	Nad El Sheba interchange – Second Phase
Road works in Al-Itihad School	Roads in Deira Corniche – Market
Protection of interchanges on Al-Ain Road	Road works in Al-Hamriyyah Market
Oud Maitha Road	Masfut Bridge works
Fence and Protection on the Dubai – Abu Dhabi Road	Extension to Sharjah Road
Roads and car parks for libraries in Deira	Civil Engineering Works for street lighting and car parks
1990	
Roads in Hor Al-Anz – Fourth Phase	Roads between Al-Wasl and Jumeira Streets
Stations for monitoring heavy lorries	Road connecting Bu-Khadra roundabout and Zabeel roundabout

Emergency water drainage works	Roads in Al-Mamzar – First Phase
Soil works in Al-Mezher	Car parks in Deira and Dubai
Road connecting to Nad Al-Sheba residential area	Service Road on Al-Mankhool Street
Roads in Jumeirah	Extension of Sharjah Road – Second Phase
1991	
Roads and car parks in the Gold Market	Road works between the Al-Madam & Hatta roads
Road connecting to Al-Merqab residential area	Roads in Al-Aweer – First Phase
Road connecting to the freight area in the airport	Roads in Al-Aweer – Second Phase
Roads and car parks in Al-Karama	Pedestrian bridges on Al-Maktoum Street
Roads in Zabeel east	Car parks in Riqqa Al-Bateen
Expansion of Al-Khaleej Road	Development of Al-Saqar roundabout
Roads connecting Al-Wasl, Jumeirah & Al-Quoz	Roads in Al-Tawar – third Phase
Improvement of Al-Saif Street	Protection of verges on Al-Ain Road
Dubai - Hatta Road – Second Phase	Road planning in Al-Mankhool
1992	
Improvement of Naif Street	Rehabilitation of al-Qusais Street
Civil Engineering work for street lighting	Roads surrounding Sheikha Mouza's Palace
Backfilling and levelling works in Al-Wasl and Al-Quoz.	Car parks for the New World Building
Survey of backfill areas	Car parks and roads connecting to the Courts
Backfilling in Umm Al-Qaiwain	Roads in Al-Quoz Industrial area
Painting pavements in Dubai and Deira	Roads surrounding Sheikh Mana's Palace
Backfilling of residential areas in Dubai	Roads in Al-Sufouh
Backfilling & levelling works in Shabiyat Meshrif	Improvement of Al-Dhiyafa roundabout
Development of Al-Aweer Industrial area	Improvement of Al-Saif Street
Sidewalks on Al-Muragabat Street	
1993	
Car parks in Al-Riqqa	Sheikh Zayed Road – Third Phase
Car parks	Completion of fence on Hatta Road

Backfilling and levelling in Jumeirah and Umm Suqeim Improvement of roundabout in Nad El-Sheba Road connecting to Al-Khawaneej Soil works in Al-Qusais Industrial area Service Road in Jumeirah Improvement of Al-Hamriyyah Vegetable Market Development of Al-Wasl roundabout and Garden Roundabout Road in Al-Mezher – Second Phase Sheikh Zayed Road – Second Phase	Trade Centre car parks Roads in Nad El-Sheba – Second Phase Improvement of Al-Riqqa Street Civil Engineering works for street lighting Various car parks in Dubai Pedestrian bridge on Oud Maitha Street Docks Roads surrounding Sheikh Ahmed's Palace Clock Roundabout underpass.
1994	
Service Road on Abu Bakr Al-Saddiq Street Expansion of Al-Maktoum Bridge and the interchanges with Rashid Hospital and Idhaifa (Broadcasting) Roundabout Roads in Al-Mezher Extension of Beni Yas Street Works on the port and customs Car parks for the schools – First Phase Shekh Zayed Road – First Phase Backfilling in Al-Safa Backfilling in Al-Manara Backfilling in Al-Wasl Backfillinf in Umm Suqeim Backfilling in Al-Rashidiya Backfilling in Nad Al- Hamar	Backfilling for colleges Advanced works on the Trade Centre interchange Lighting on Sheikh Zayed Street Roads in Al-Rashidiya Roads in Zabeel East Mirdif interchange Backfilling in Al-Quoz – First Phase Backfilling in Al-Quoz – Second Phase Backfilling in Al-Quoz – Third Phase Backfilling in Al-Quoz – Fourth Phase Various car parks in Dubai Temporary services for Ports and Customs Roads in Abu Hail area
1995	
The Road from CMC interchange to Bu-Khadra roundabout Service Road on Khalid Bin Al-Waleed Street Improvement of Road 206.	Roads in Al-Satwa, West of Sheikh Zayed Street Lihbab – Al Ain Road Road Improvement of Al-Baraha Street

Roads in al-Rashidiya – Second Phase	Levelling land in Al-Qusais Area 2
Roads in Al-Ra's	Roads south of Al-Safa Park
Improvement of Jumeirah Road	Road connecting to the Diwan
Controlling car parks in Deira Centre	Road connecting to Al-Zabeel Palace
Road Planning in Dubai	Road to Hatta
Levelling land in Al-Mizher – First Phase	Passageway for Al-Mamzar Corniche
Levelling land in Al-Mizher – Second Phase	Car parks for the Mosque in Nad El-Sheba
1996	
Roads in Umm Hurair	Roads in al-Karama
Commercial Centre Interchange	Al-Mamzar Corniche
Car parks for schools	Roads in Al-Aweer Industrial area
Al-Qata'iat interchange – Zabeel	Pavements in Al-Baraha
Roads in Al-Quoz Industrial area	Roads south of Al-Amal Hospital
Various car parks in Dubai	Road connecting to the Government Garage
Improvement of Al-Wasl Street	Central Control of Traffic Signals Project
Roads in Al-Mankhool	Civil Engineering works for road lighting
Improvements to interchanges in Dubai	Paving in Al-Bastakiya
1997	
Roads in Rashid Port	Roads connecting to Jebel Ali
Expansion of Al-Rashidiya Road	Fence in Al-Aweer
Land levelling works in Al-Qusais	Fence near Lihbab roundabout
Garhoud and Al-Romoul interchange	Al-Qusais- Sharjah Road
Service Road in Al-Aweer	Roads in Ra's Al-Khor Industrial area
Improvements to Al-Riqqa Street	Improvement of Al-Romoul Road
Roads in Al-Mizher	Al-Jadaf Road
Improvements in Shindagha	Entrance to Chicago Beach Hotel
Improvements to Al-Saif Street	Oud Maitha interchange with Sheikh Rashid Street

1998	
Improvements in Al-Khawaneej Road	Car parks for Al-Hamriyyah Market
Roads in Nad El-Hamar	Twin Towers interchange
Roads for Al-Mamzar Park	Civil Engineering Works for road lighting
Improvements to Sheikh Zayed Street	Street planning project
Improvements to Al-Dhiyafa Street	Multi-story car park in Naif
Improvements to Al-Rashid Street	Pedestrian Crossings
Development of interchanges in Deira	Roads in Al-Qusais
Paving the sikik (narrow roads) in Al-Ra's,	Various work relating to Dubai Airport
Second Phase	Backfilling in Hatta residential area
Roads in Nad Shebeeb	Aesthetic work in Al-Khor
Roads in Al-Hamriyyah	& improvements to Saif Street
Improvements to Al-Muraggabat Street	Various car parks in Dubai
Roads to Biocelene Centre	Beni Yas Street interchange with Garhoud Street
Global Village for the Festival	Roads in Hor Al-Anz
Roads in Al-Mizher	Construction of Sheikh Zayed Road from the Trade Centre interchange to Seih Sheib
1999	
Road across Dubai – First Phase	Road 204 & 211
Road connecting to the Majlis in Nad El-Sheba	Levelling land in Al-Warqa – First Phase
Internal Roads in Oud Maitha	Levelling land in Al-Warqa – Second Phase
Rehabilitation of Margham Road	Al-Wasl interchange with Al-Hadhayba
Various car parks in Dubai	Civil Engineering Work for street lighting
Nad El-Hamar Road – Al-Rashidiya	Numbering Streets and Sections
Improvements to Al-Saqar roundabout	Controlling car parks – Second Phase
Al-Mateina Street improvements	Roads in Al-Hamriyyah
Expansion of Al-Qusais Road – Al-Rashidiya	Roads in Al-Qusais
2000	
Improvements to Al-Tawar Street	Al-Ghabiba multi-story car park
Roads in Umm Suqeim	Pavements in Al-Mamzar

Roads in Jebel Ali Industrial area	Improvements to Al-Ittihad Street
Paving the sikik (narrow roads) in Bur Dubai	Circular Road / First Phase – Contract 1
Paving the sikik (narrow roads) in Al-Ra's	Circular Road / First Phase – Contract 2
Roads in Al-Barsha	Circular Road / First Phase – Contract 3
Connections to Sheikh Zayed Street	Circular Road / Second Phase
Expansion of Nad El-Hamar Road	Roads in Al-Warqa
Various car parks in Dubai	Roads and car parks in Dubai Int. Airport
Parking for small trucks	Al- Hadhayba interchange
2001	
Roads in Al-Zabeel area	Levelling works in Al-Warsan
Roads in Al-Rola area	Service Road on Al-Qusais – Sharjah Road
Expansion of Airport Road	Development of Al-Mamzar Corniche
Roads in Al-Qusais area	Entrances to Jebel Ali Free Zone, (JAFZA Bridge)
Dubai Circular Road – Phase 1	Entrances to the Fruit and Vegetable Market
Roads in Al-Quoz Industrial area	Various car parks in Dubai
Railways and passageways in Al-Ra's area	Roads and levelling land in Al-Khawaneej
Roads in Al-Warqa area	Dubai Circular Road – third Phase
Roads in Bur Saeed area	Al-Mamzar interchange
Passageways in Al-Satwa	
2002	
Roads in Al-Satwa area	Roads from Al-Safa to Umm Suqeim
Improvements in various locations in Dubai	Bu-Khadra interchanges
Improvement of Al-Safa interchange	Rehabilitation of Hatta road
Levelling works in Al-Warsan area	Ra's Al-Khor interchange
Roads in Hatta	Roads in Al-Mizher
Improvement of Al-Sufouh Street	Pavements in Al-Tawar area
Pavements in Al Hadhayba area	



H.H. Sheikh Mohammed bin Rashid Al-Maktoum reviewing one of the road projects

The most important projects completed between 1986 and 2002 were the following:

■ Construction of Al-Nahda interchange with Al-Ittihad Road and Al-Nahda underpass:

Completed 1986

Cost Dh 46 million

This interchange is the northern gateway to Dubai. Work began in 1985 and entailed the construction of a two way, three lane underpass to provide free flowing access for traffic movement between Sharjah and Dubai. A three lane roundabout was built on top of this underpass to provide a link to the surrounding road network.

■ Dubai – Al Ain Road:

Completed 1986

Cost Dh 231 million

Work began on this project in 1986. It begins at the Bu-Khadra roundabout on Al Wasl Road, and extends to the border of the Emirate, in the direction of Al Ain. Extending over a distance of 60 km., it is two way, with three lanes on either side of a central reservation, and with hard shoulders on each side. Bridges and side roads were built at the main junctions. Well-lit by street

lighting, these are between 17 and 25 metres in length. There are also eight underpasses for the use of camels and three for cars and pedestrians.

■ **Creekside Project:**

Completed 1988

Cost Dh 59 million

This is adjacent to Beni Yas Street, stretching from the Municipality building and the Intercontinental Hotel to Al-Ra's and is a 1.4 km, two way / two lane road with pedestrian side-walks and around 1450 car-parking places. A 1.3 km. protective wall was also built along the edge of the Creek.

■ **Pedestrian Walkways across Al-Maktoum Street:**

Completed 1991

Cost Dh 8 million

These two walkways were designed for pedestrians wishing to cross the street.

■ **Expansion of Al-Khaleej Street:**

Completed 1991

Cost Dh 41 million

This project involved the expansion of Al-Khaleej Street and provision for a 4.4 km, two-way, four lane 4.4 road between the Hyatt Regency interchange and Al-Waheeda Street roundabout, improvement and expansion of lanes on the existing roundabouts on this road and the construction of services roads on either side, so as to remove secondary traffic from the main flow. Additional car parks and lighting were also provided throughout the length of this road.

■ **Clock Roundabout Underpass No. 3:**

Completed 1993

Cost Dh 17 million

The Clock Roundabout Underpass No. 3, 305 metres long and 9.6 metres wide, has two lanes, running one way from Al-Maktoum Street to Al-Maktoum Bridge.

■ **Wharfage on Beni Yas Street:**

Completed 1993, Cost Dh 198 million

In 1991, it was decided that wharfage was needed along the Creek to accommodate the increasing number of traditional dhows requiring space, which could reach as many as 250 vessels. The project involved back-filling along a distance of around 7 km using around one million cubic metres of rock and sand, and the building of four docks for cargo handling, as well as



The Creek wharfage

Customs buildings, the necessary infrastructure for fuel and water supply and various decorative features.

■ **Extension of Beni Yas Street (First Phase):**

Completed 1994

Cost Dh 110 million

Work on this project began in 1992, prompted by the increase in pedestrian and vehicle traffic on Al-Maktoum Street. It involved the building of a new two-way, three lane road connecting Beni Yas Street from the Omar ibn Al-Khattab roundabout to Garhoud Street. It provided access to the Creek wharfage, and was divided from Tariq ibn Ziyad Street by an underpass leading towards Garhoud Street.

■ **Extension of Al-Maktoum Bridge and both interchanges at Rashid Hospital and Idha'a (Broadcasting) Roundabout Project:**

Completed 1994

Cost Dh 180 million

This involved the construction and improvement of roads and bridges near Al-Maktoum Bridge in addition to the expansion of the bridge itself, providing it with four lanes in each direction. Associated works included the construction of a 1.5 km., two-way, four lane road, two raised interchanges and a 9-metre high 1.9 km. long supporting wall, as well as other facilities and landscaping.

■ **Improvements to Jumeirah Road:**

Completed 1995

Cost Dh 24 million

This involved the laying of new asphalt from on this road from Al-Dhiyafa Roundabout to the Chicago Beach Hotel, a distance of 11.4 km., as well as the construction of six junctions with traffic lights and nine pedestrian crossings.

■ **First Phase of the car-parking control project:**

Completed 1995

Cost Dh 9 million

Designed to deal with the problems caused by a lack of sufficient parking in central Deira, this involved the installation of pay and display parking meters on roads and car park barriers on Beni Yas Street facing the Creek.

■ **Trade Centre and Sheikh Zayed Road Interchanges:**

Completed 1996

Cost Dh 178 million

This project, on which work began in 1994, was designed to ease the flow of traffic between Sheikh Zayed, Sheikh Rashid and Al-Dhiyafa Roads. It involved the construction of three underpasses and four bridges.

■ **Zabeel Street interchange with Sheikh Rashid Street:**

Completed 1996

Cost Dh 158 million

This project, on which work began in 1994, segregated traffic flow at this interchange by constructing under-passes linking Sheikh Zayed Street and the Al-Maktoum and Garhoud bridges. Landscaping work was also involved.

■ **Central Control of Traffic Signals:**

Completed 1996

Cost Dh 26 million

This involved a replacing of all existing signals, including 97 sets of traffic lights and 27 sets controlling pedestrian crossings. These were replaced by an automatically-controlled network designed to reduce congestion and to smooth the flow of traffic.

■ **Oud Maitha Road interchange with Sheikh Rashid Road:**

Completed 1997

Cost Dh 75 million

The project involved the construction of a raised interchange to permit free movement between Sheikh Zayed Street and Garhoud Bridge, as well as associated landscaping.

■ **Al-Romoul Interchanges:**

Completed 1997

Cost Dh 116.5 million

This involved the construction of six bridges to link Garhoud Bridge to all major roads in the Garhoud, Al-Romoul and Al-Bustan areas, as well as associated landscaping.

■ **Sheikh Zayed Road:**

Completed 1998

Cost Dh 684 million

Sheikh Zayed Road was designed to be the first road of Highway standard, stretching from Dubai towards Abu Dhabi. It was carried out in three phases, and took into account the need for the highest possible level of safety for users. Street lighting, a central reservation, service roads and landscaping were part of the package. Details of the three phases follow.

■ **Phase One: Trade Centre Roundabout to Defence Intersection:**

Completed 1994

Cost Dh 62.5 million

Work began in 1993, with the widening of the existing road to four lanes in each direction



Sheikh Zayed Road

and the construction of an underpass to link the Trade Centre area to Sheikh Zayed Road. Two service roads, each 1.5 km. in length were built on either side, along with street lighting and rainwater drainage, as well as the laying of the necessary utilities infrastructure for water, electricity and telecommunications.

■ Phase Two: Defence Roundabout to Jebel Ali:

Completed 1994

Cost Dh 424 million

In this phase, Sheikh Zayed Road was widened to four lanes in each direction. The six main junctions, Defence Roundabout, the Al-Safa and Al-Manara interchanges and the roads to the Chicago Beach Hotel area (now the site of the Jumeirah Beach Hotel and Burj al-Arab), to Jebel Ali and to the Emirates Golf Course at Jebel Ali, were provided with bridges and access roads, to facilitate the smooth flow of traffic on the highway, as well as easy access to and departure from adjacent areas.

Three separate contracts were awarded for this work, one covering the 8 km. from the Jebel Ali roundabout to the Emirates Golf Course, for a value of Dh 136 million, the second the 12 km. from the Golf Club to Al-Manara, costing Dh 118 million, and the third from Al-Manara to Defence Roundabout, costing Dh 170 million.

■ Phase Three: Jebel Ali roundabout to Seih Sheib:

Completed 1998

Cost Dh 198 million

This phase, extending from the Jebel Ali roundabout to the border with the Emirate of Abu Dhabi, involved the widening of the highway to four lanes in each direction and the construction of bridges and access roads at junctions 7 and 8, to ensure the smooth flow of traffic.

■ Beni Yas Street Extension interchange with Garhoud Street (Phase 2):

Completed 1998

Cost Dh 82 million

This involved the construction of an underpass and two bridges to link Garhoud Street and Beni Yas Street, with associated landscaping work.

■ Aesthetic Projects in Al-Riqqa, Al-Dhiyafa, Al-Muraggabat, Al-Mateina:

This group of projects included Al-Riqqa Street (Completed 1997, Cost Dh 10.8 million), Al-Muraggabat Street (Completed 1998, Cost Dh 13.6 million), Al-Dhiyafa Street (Completed 1998, Cost Dh 18.2 million) and Al-Mateina Street (Completed 1999, Cost Dh 21.8 million).

The projects involved widening of the roads and the pavements, as well as the provision of



Al-Riqqa Street

open spaces in either side for recreational use. The much-wider pavements are used by adjacent restaurants and food outlets, and have proved popular during the annual Dubai Shopping Festivals.

■ **Improvement of Al-Saif Street:**

Completed 1998

Cost Dh 4.3 million

This involved the creation of pedestrian walkways along the side of the Creek, complete with seating and lighting, as well as safety barriers.

■ **Rooftop and Multi-Storey Car Parks:**

Completed 2000

Cost Dh 135 million

These projects were carried out to increase the amount of car-parking available in central areas.

■ Roads and Car Parks at Dubai International Airport:

Completed 2000

Cost Dh 142 million

This project involved the building of connecting roads and car-parking, with a capacity for 1,100 cars, as well as an underpass and bridge at the Al-Bustan interchange, seven other bridges, and two covered and air-conditioned raised pedestrian crossings with moving walk-ways.

■ Emirates Road Project (Dubai Ring Road):

Completed 2001

Cost Dh 813 million

The purpose of this project was to provide a link between Dubai and the rest of the Emirates and to reduce congestion on the main roads in the city. Work, which began in 1998, was divided into three phases.

The first two phases were completed on 6th January 2001, covering a distance of 50km., and including thirteen underpasses, to permit future development related to electricity, water and drainage, as well as five crossings for camels.

Phase One

This involved three sections, covering 22 km., and stretching from the junction with the Dubai – Al Ain road to the border with the Emirate of Sharjah. It included the building of 19 other stretches of ancillary and joining roads and eight interchanges, seven of which were raised and the other at ground level, as well as 34 bridges:

Section One, completed in 2000 at a cost of Dh 158 million, stretched from the border with Sharjah to the Al-Nahda interchange in the Al-Qusais area. Six km. long, has had two interchanges, with three bridges and a ground-level link.

The second section, 5 km. long and running from the Al-Khawanjeej road to Al-Romoul Street and also completed in 2000, had two raised interchanges with a total of eleven bridges.

The third section, completed in 2001, runs 11 km. from the road to Al-Aweer to the junction with the Dubai – Al Ain road, and has three raised interchanges with 20 bridges.

Phase Two

Completed in 2000, and costing Dh 214 million, this 28-km. section ran from the Dubai – Al Ain road to the junction with the Jebel Ali to Lihbab road and has four intervening junctions, providing links to the Jebel Ali Free Zone, Al-Barsha, the Al-Quoz Industrial Area and Dubai Investments City.

Phase Three

The third phase, also completed in 2001 and costing Dh 68 million, involved the building of a link to the 16 km. Jebel Ali – Lihbab road.

■ Entrances to the Fruit and Vegetable Market

Completed 2001

Cost Dh 47 million

This involved an expansion of and improvements to the road network in the Ra's al-Khor area, including entrances to and exits from the Central Fruit and Vegetable Market and the second-hand car market, as well as expansion of the facilities of the Dubai Ports Authority. Among the work undertaken was six kilometres of roads enlarged from single-lane to double-lane, a widening of the Al-Aweer road within the Ra's al-Khor area to three lanes in each direction, 2 kilometres of road widened from two to three lanes, the building of an interchange on the Al-Aweer road, linking of the Central Market with the adjacent city road network at the junction of the Nad al-Hamar road with Road 67 and the laying of main rainwater and drainage lines.

■ Al-Mamzar Interchange

Completed 2001

Cost Dh 40 million

This involved the construction of an interchange with four bridges and associated services for utilities half-way between the Al-Nahda roundabout in Dubai and the Al-Nahdha interchange in Sharjah. It was built to facilitate the movement of traffic between Al-Mamzar, Al-Qusais and Al-Ittihad Street.

Improvement work to main roads

Through the Roads Construction Section, the Department has engaged in a continuous programme of work designed to improve the main road network in Dubai. This work has involved an expenditure of around Dh 1.5 billion.

Building of local roads

Many local roads in residential, commercial and industrial areas have also been built, with the costs of these amounting to around Dh 650 million by 2001. Among such roads have been those at the City Centres in Bur Dubai and Deira and other roads in Umm Suqeim, Al-Barsha, Al-Mamzar, Al-Baraha, Al-Qusais, Al-Hamriyyah, Nad al-Hamar, Nad al-Sheba, Al-Mankhool, Al-Mizher, Hor al-Anz, Umm Hurair, Al-Karama, Al-Rashidiya, Satwa, Port Rashid and the industrial areas in Ra's al-Khor, Al-Quoz, Al-Aweer and Jebel Ali.

■ Development of Al-Safa Interchange

Completed 2002

Cost Dh 68 million

This involved the building of an interchange with three bridges, two circular ramps and associated links to and from Sheikh Zayed Road, as well as re-planning of car-parking facilities, land-

scaping, lighting and the relocation of and protection of the utilities infrastructure.

■ **Bu-Khadra Interchange**

Completed 2002

Cost Dh 112 million

This project linked the Bu-Khadra and Wimpey interchanges with Road 313 and the Dubai to Al Ain road, and also involved the construction of a new interchange linking the road from the Defence Interchange and Al-Khail Road, which runs parallel to Sheikh Zayed Road, to the Emirates Highway.

■ **Ra's al-Khor Interchange**

Completed 2002

Cost Dh 42 million

This involved the building of an interchange linking Nad al-Hamar Street with the Al-Aweer road, the widening of the Ra's al-Khor road from three to four lanes over a distance of four km., and building of a four-km. long link road from the main Al-Aweer road.

■ **Dubai Cross Road Project (First Phase)**

Completed 2002

Cost Dh 15 million

This involved the widening of Al-Amardi Street from a single lane to a two-lane, two-way road from the Al-Khawanej road to Al-Aweer and the building of a 4.8 km. long double-lane dual carriageway to the Dubai-Hatta road, as well as an interchange and two camel-crossings.

■ **Dubai Cross Road Project (Second Phase)**

Completed 2003

Cost Dh 48 million

This second phase, covering a distance of 135 km., runs from the new roundabout on the Dubai to Al-Aweer road to the Ruwayyah bridge on the Dubai to Al Ain road. Dual carriageway, with two lanes, 7.5 metres wide, on each side, and with a 15 metre central reservation, the road has lighting, two camel-crossings and associated works.

■ **Street lighting and operation of traffic systems**

Street lighting and traffic signals are key elements of the road network, and have the objective of providing for road-users a safe network that can be used at the lowest possible cost, permitting travel as quickly as possible within the necessary constraints imposed by safety needs. The Municipality's policy of the provision of street lighting can be defined as follows:

Control of Traffic Systems

One of the main problems faced by cities worldwide is the control of traffic flow resulting from urban expansion. In Dubai, this problem has been exacerbated by the rapid growth of tourism and commerce. The solution adopted by the Dubai Municipality, following a detailed study, was the installation of a modern automated central traffic control system, capable of responding swiftly to changes in traffic flow and delays at traffic lights.

Table illustrates the Municipality's policy for the provision of lighting facilities.

Classification of Road	Lighting Policy
External Freeways	– Complete lighting of the roads if the traffic flow reaches 60% of the road's capacity or if there is a higher possibility of accidents occurring due to a lack of lighting.
External Highways	– Complete lighting of the roads if the traffic flow reaches 60% of the road's capacity or if there is a higher possibility of accidents occurring due to a lack of lighting.
Urban Highways	– Complete lighting of the roads
Arterial Roads	– Complete lighting of the roads
Roads in residential areas	– Complete lighting of double-lane roads. – Lighting of single lane roads in an area developed to 40% of its capacity. – Lighting of roads near public utilities such as mosques, schools, parks and commercial shops provided that the construction of the drainage network has been completed
Local streets in residential areas Streets in industrial areas	– Complete lighting of double-lane roads. – Lighting of roads in fully-developed areas – Lighting of double-lane roads if there are no obstructions.
Local streets in central commercial areas	– Complete lighting of the roads.

Lengths of streets provided with lighting, 1985 – 2002 (in kilometres)

Year	1985	1990	1995	2000	2001	2002
Total length of streets with lighting	138	484	681	1,196	1,290	1,655

Lengths of streets provided with lighting, by road classification, at the end of 2002 (in kilometres)

Road Classification	Total length of roads with lighting (km.)	Total length of roads (km.)	Percentage of roads with lighting
Freeways	149.6	149.6	100%
Highways	167.7	254.7	66%
Urban Highways	101	101	100%
Arterial Streets	498	498	100%
Collective Streets	466	946	49%
Local Streets	273	1,109	25%
Total	1,655	3,058	54%

Lengths of streets provided with lighting, by road lane classification, at the end of 2002

Item	Total length of roads with lighting (km.)	Total number of lamp-posts	Total number of lighting units	Total energy/ megawatts	Total cost of annual electric consumption in million Dirhams
Lanes E	418	6,523	13,361	8.4	7.36
Lanes D	498	10,310	22,845	10.17	9.06
Areas	739	20,555	26,110	7.5	6.56
Total	1,655	37,388	62,316	26.07	22.98

The Traffic Control Centre was opened in September 1996, staffed by five well-trained Emirati engineers.

The project cost a total of Dh 26 million, which covered both the necessary changeover of the traffic lights and pedestrian crossings themselves as well as the installation and programming of the control centre.

It began by covering 97 traffic lights and 27 pedestrian crossings, although by the time this report was compiled, there were a total of 166 traffic lights and 52 pedestrian crossings in operation.

In the six years since the system was first installed, the number of traffic lights and pedestrian crossings it controlled rose from 125 to 218, an increase of 75 per cent. The number of vehicles registered rose from 213,305 at the end of 1996 to 387,305 by the end of 2002, an increase of 81 per cent.

The graph below illustrates the increase in traffic movement during this period.

Number of Traffic Signals and Pedestrian crossings, 1985 – 2002

Item	1985	1990	1995	2000	2001	2002
Number of traffic light interchanges	50	60	101	147	156	166
Number of pedestrian crossing signals	-	16	26	41	53	52

Maintenance of Traffic Signals

Preventative Maintenance

Maintenance work	Implementation Policy	Maintenance work	Implementation Policy
Replacement of Traffic Signals	Once every 15 years	Cleaning Traffic Signal Units	Once a month
Cleaning & checking traffic signals	Annually	-	-
Replacement of bulbs in traffic signals:		Replacement of bulbs for pedestrian crossing signals:	
Red	Annually	Green	Once every 6 months
Yellow	Annually	Red	Once every 6 months
Green	Annually	-	-

Corrective Maintenance

Maintenance Work	Implementation Policy
Repairing damage to traffic signal cables	Within 1 hour
Repairing damage to control equipment	Within 1 hour
Malfunctions resulting from accidents	Within 1 hour
Replacements of traffic signal parts damaged by accidents	Within 8 hours
Replacement of damaged light bulbs	50 per cent within 1 hour 25 per cent within 8 hours 25 per cent within 24 hours
Malfunction of sensory devices	25 per cent within 2 day 50 per cent within one week 25 per cent within one month

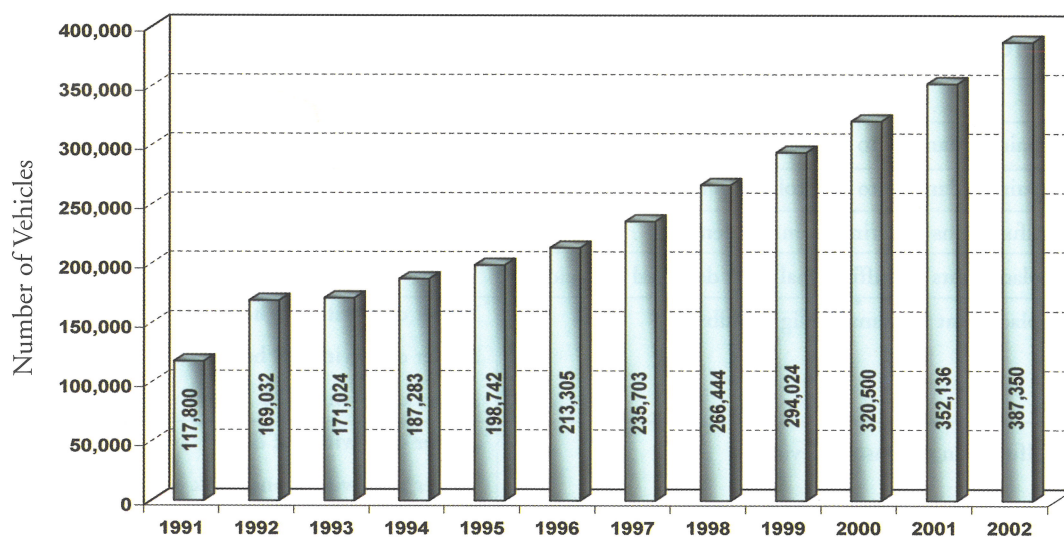


Traffic Signal System Control Room

Increase in vehicle movement, 1991 – 2002

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No.	117,800	169,032	171,024	187,283	198,742	213,305	235,703	266,444	294,024	320,500	352,136	387,350

Increase in vehicle movement, 1991 – 2002



The Roads Department continues to carry out a variety of projects designed to develop and improve the roads network in Dubai. These include the improvement of road surfaces, carried out by the Road Paving Department, which has developed a manual and a computerised database on various types of surfacing, and research into an asphalt mix which is suitable for local weather conditions and for the level of traffic loads.

Roads are continually repaired, where this is required, while a review of the road signs in use has been carried out. A system for the numbering of small roads, streets, lanes and sections within Dubai has also been developed.

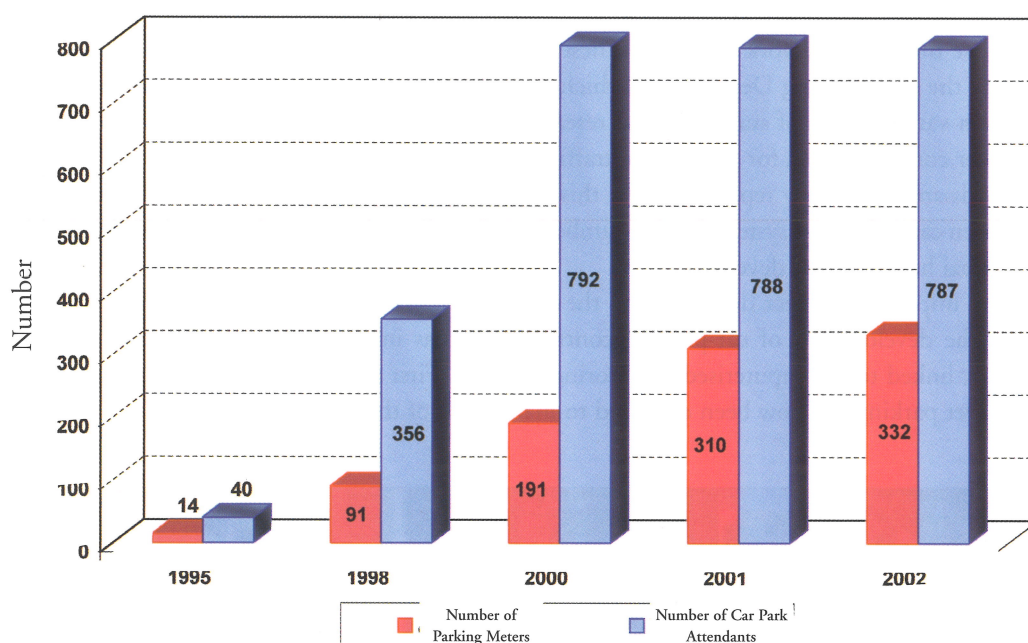
One important project developed by the Roads Department, as well as its other work, has been the development of car-parking controls. This has involved the installation of parking meters, linked to a computerised monitoring network. First tested in 1995, this system of paid on-street parking has now been extended to many areas of the city.



Car parking meters

Increase in number of car Park attendants and parking meters, 1995 - 2002

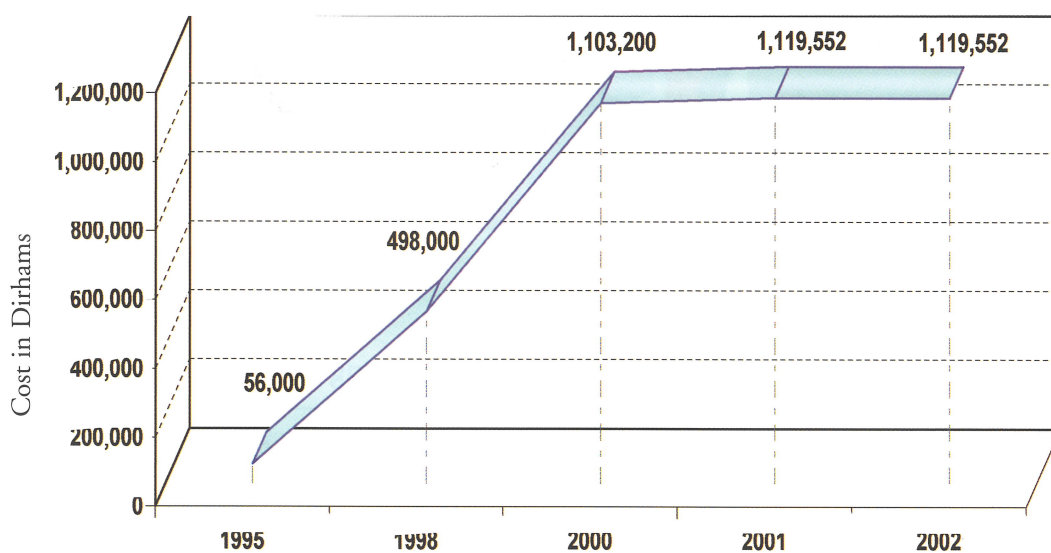
Year	1995	1998	2000	2001	2002
Number of Parking Attendants	14	91	191	310	332
Number of Parking Meters	40	356	792	788	787



Cost of maintaining parking meters (in Dirhams), 1995 – 2002

Year	1995	1998	2000	2001	2002
Cost	56,000	498,000	1,103,200	1,119,552	1,119,552

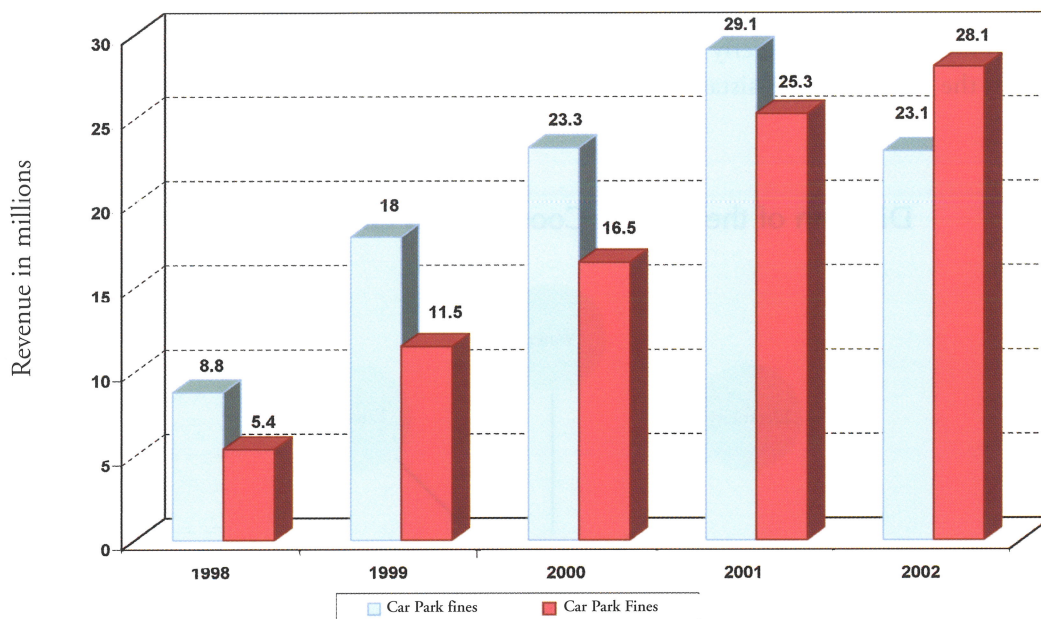
Cost of maintaining parking meters (in Dirhams), 1995 – 2002



Annual income for the Car Parks Section, 1998 – 2002 (in millions of dirhams)

Year	1998	1999	2000	2001	2002
Car Park Fees	8.8	18	23.3	29.1	23.1
Car Parking Fines	5.4	11.5	16.5	25.3	28.1

Annual income for Car Parks Section (in millions of Dhs.), 1998 – 2002



On 26th November 2002, the late H.H. Sheikh Maktoum bin Rashid al-Maktoum issued Law No. 7 regarding the organisation of the roads network in the Emirate of Dubai, laying down the role of the Municipality and the Roads Department in equipping and operating roads, car parks, the traffic control system and traffic signals.

Service Co-ordination Office

In April 1997, a Service Co-ordination Office was established in the Municipality to co-ordinate between utility providers such as the Dubai Water and Electricity Authority, DEWA, and Etisalat and the Municipality Drainage & Irrigation and Building Departments. The task of the Office is to simplify the procedures for the necessary cables and lines that these authorities lay under the roads. The Office also specifies the criteria and conditions relating to the No Objection Certificates issued to Consultants Offices and Contracting Companies and safety regulations related to excavations on the road network. It issues, electronically, No Objection Certificates (NOC) and Completion Certificates for

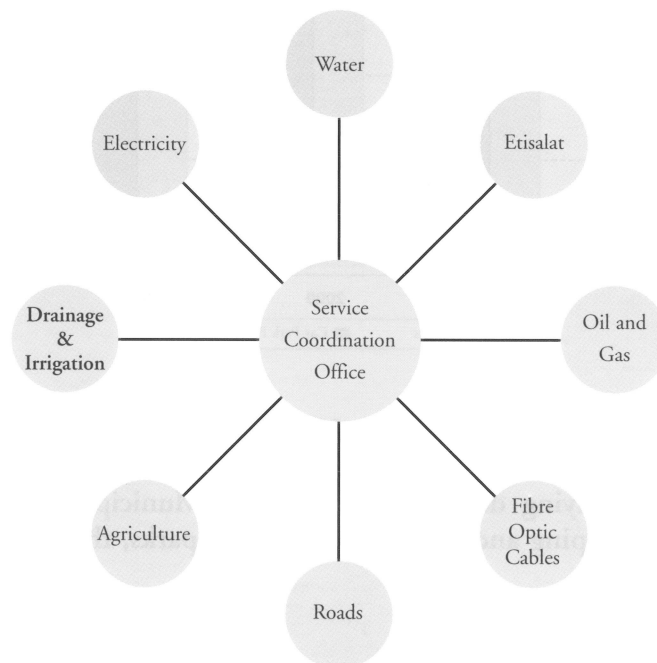
works and service projects related to Dubai's infrastructure that are carried out on the roads, these being provided to service authorities, contractors and consultants.

The Office also serves as a point of contact between contractors and consultants and the relevant parts of the Municipality, as well as other, related authorities for all matters related to the co-ordination of services and to the simplification of the procedures for issuing NOCs.

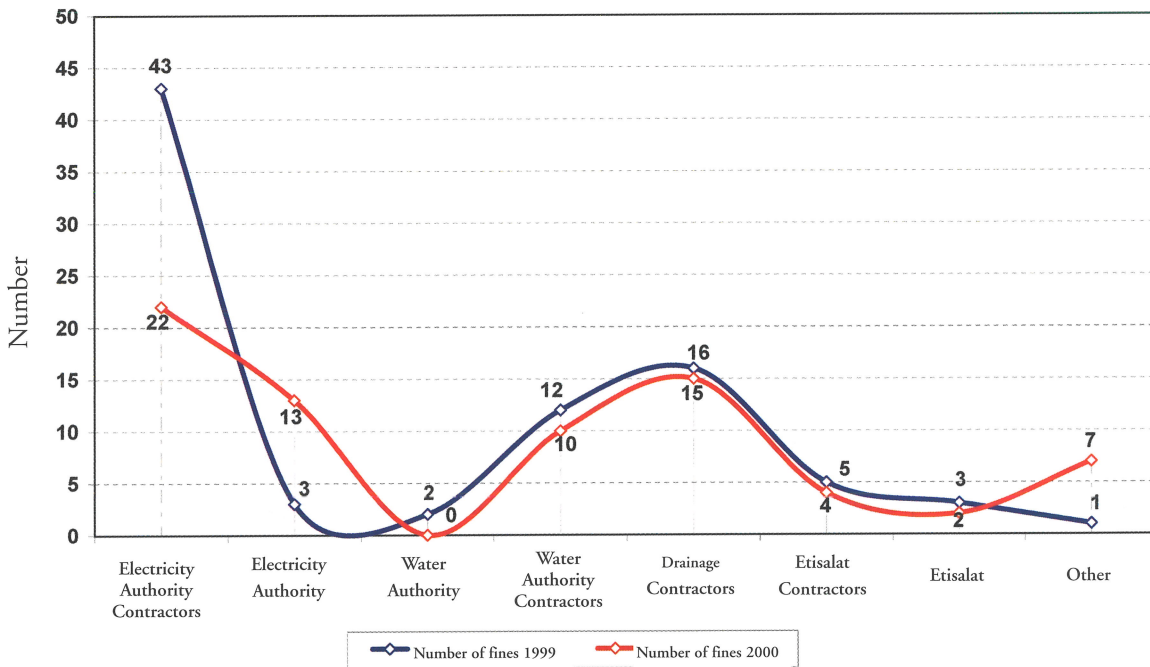
Another task is to co-ordinate with DEWA, Etisalat, Dubai Internet City and other Government and private bodies on matters relating to the laying of services under or adjacent to roads.

In accordance with Administrative Decree No. 5, issued on 13 January 2002, the Service Co-ordination Office, formerly a part of the Roads Department, was made directly responsible to the office of the Assistant Director General of Roads and General Projects Affairs.

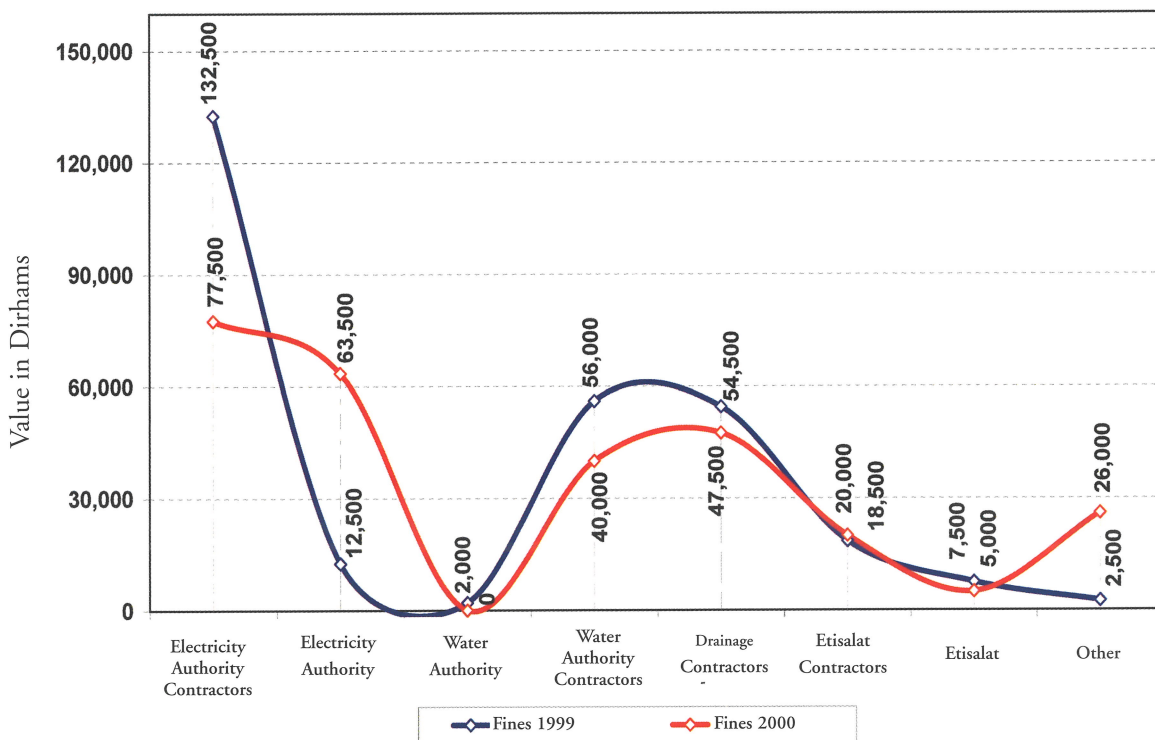
Diagram of the Service Coordination Office in 1997



Number of violation orders issued by the Service Coordination Office, 1999 – 2000



Value of fines related to violation orders issued by the Service Coordination Office, 1999 – 2000



Municipal Ordinances

Year	Number	Title
1961	1	To organise the parking of cars and other vehicles and places to tie riding animals
1961	3	Cleanliness and organising the use of public roads, bridges, streets, public squares and open spaces.
1967	18	Various Municipal Ordinances
1986	29	Laying service lines on public roads.
1991	60	Amendment of vehicle licence fees or their renewal, in accordance with the table attached to the Road Traffic Law issued in 1967.
1993	84	Amendment of articles in Municipal Ordinance No. 21/1981 regarding the laying of service lines on public roads in the Emirate of Dubai.
1995	92	Organising the use of public car parks within the Emirate of Dubai.
1997	109	Amendment of some articles pertaining to Municipal Ordinance No. 87/1991 regarding the specification of costs owed for repaving roads and repairs resulting from accidents.
1997	112	Works related to paving of roads, building exteriors and commercial shops within the Emirate of Dubai.
2000	7	Organising the rules for membership and reservation of public car parking spaces owned by Dubai Municipality.
2001	4	Amendment of some articles pertaining to Municipal Ordinance No. 9/2000 prohibiting the display of cars in public car parks within the Emirate of Dubai for the purposes of sale or rent.

Administrative Directives

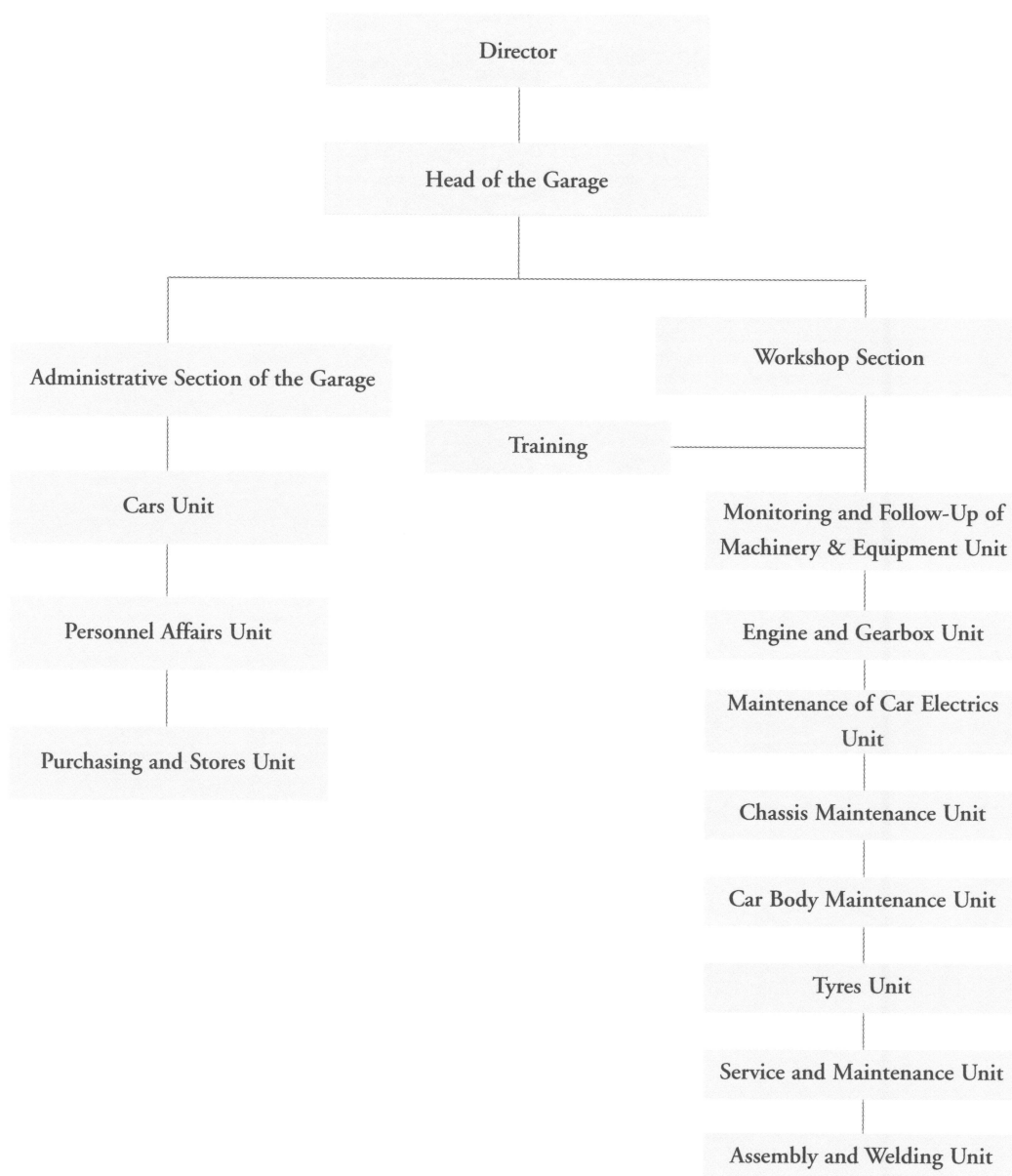
Year	Number	Title
1997	527	Formation of the Service Coordination Committee in the Emirate of Dubai
1997	1174	Rules organising works related to paving of roads, building exteriors and commercial shops within the Emirate of Dubai.
1998	298	Rules organising the placement of directional signs for some establishments within the Emirate of Dubai.
1997	118	Organisation chart and description of duties for the Road Department.
2000	36	Organisation of procedures relating to calculation, receipt and payment of all costs pertaining to works for improvement, development and transfer of service network lines.
2000	67	Amendment of fees for the use of some public car parks in the Emirate of Dubai.
2001	290	Amendment to the affiliation of the Service Coordination Office
2002	58	Creation of the Traffic Technical Section and amendment of the organisation chart for the Roads Department.
2002	162	Formation of the Technical Committee for the Dubai Train Project
2002	293	Formation of a committee to follow up the recommendations of the Transport Committee arising from the United Nations Economic and Social Commission for Western Asia ESCWA

**Transport
Department**

Background

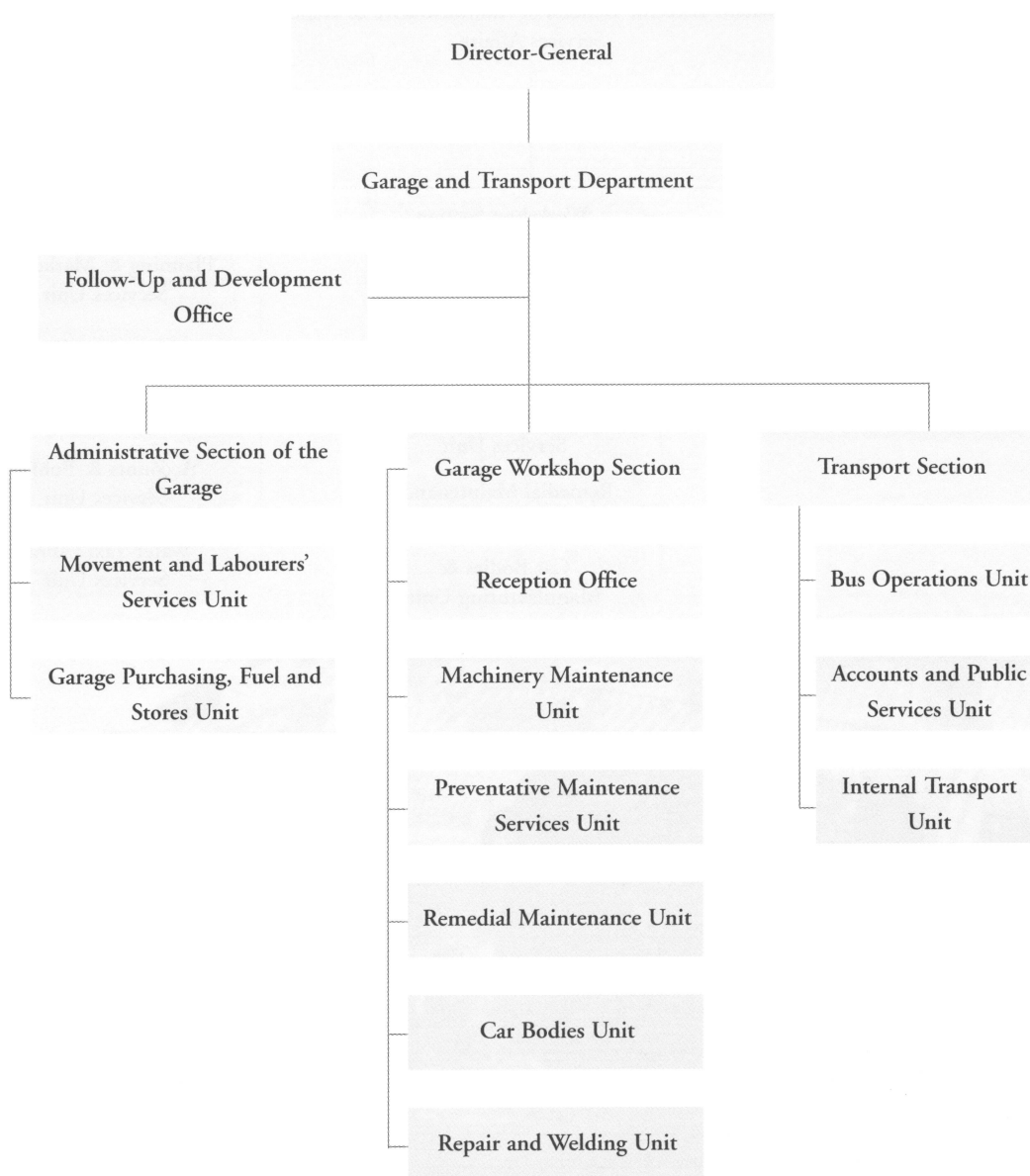
The origins of the Transport Department of today date back to the setting up of the Municipality Garage, in 1961. Then located in Al Maktoum Street, it was moved in 1980 to the Umm al-Ramool area, and was included in the Organisation Chart as the Garage Section, see Chart No. 1.

Chart No. 1. Organisation Chart for the Garage Section in 1980



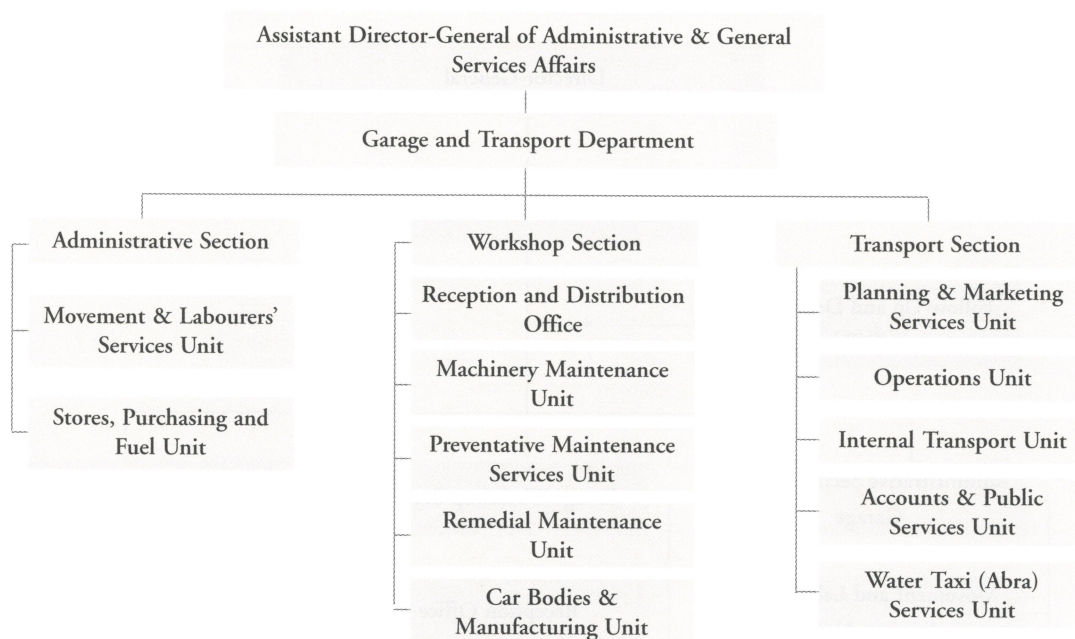
The Transport Section was established in 1968, when a number of buses were purchased by the Municipality, to permit it to introduce a public transport service. This was merged with the Garage Section to create the Garage and Transport Department in 1990 in accordance with the terms of Administrative Directive No. 311 for that year, issued on 10th February. Chart No.2 illustrates the revised structure.

Chart No. 2. Organisation Chart for the Garage and Transport Department in 1990



In 1995, to take account of the expansion of the Department's duties, new buildings were constructed, at a cost of 28 million dirhams. These included new administrative offices, a petrol and fuel station, a carpark with a capacity for 600 vehicles, stores for up to 20,000 types of spare parts and a workshop able to deal with 150 vehicles and other machines on a daily basis. At an administrative level, an Assistant Director-General post was created, also in 1995, with the amendment to the Organisation Chart shown in Chart No. 3.

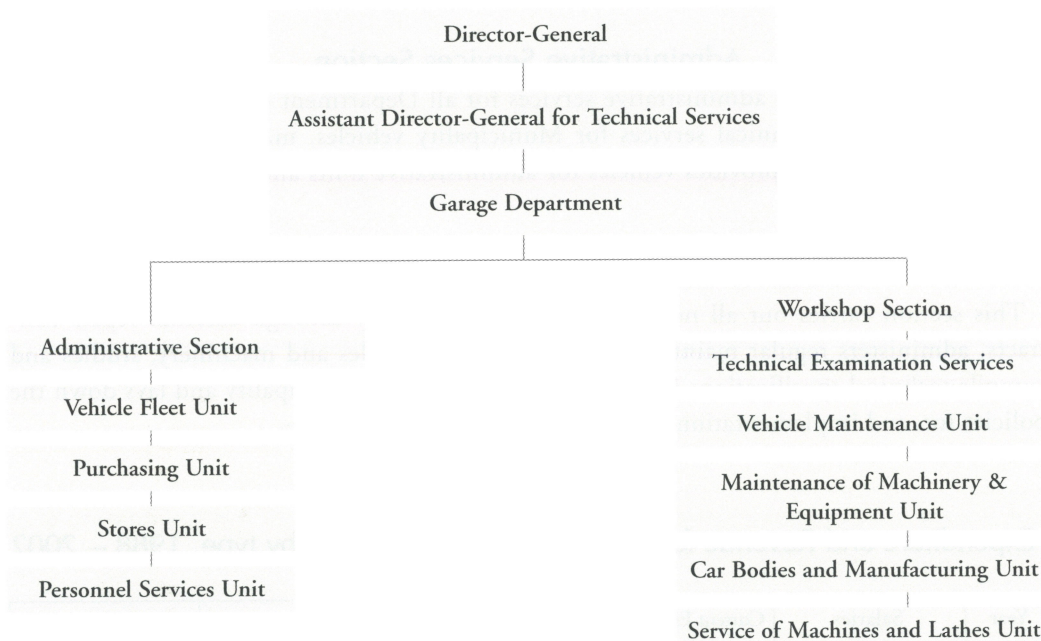
Chart No. 3. Organisation Chart for the Garage and Transport Department in 1995



Al Shindagha Bus Station

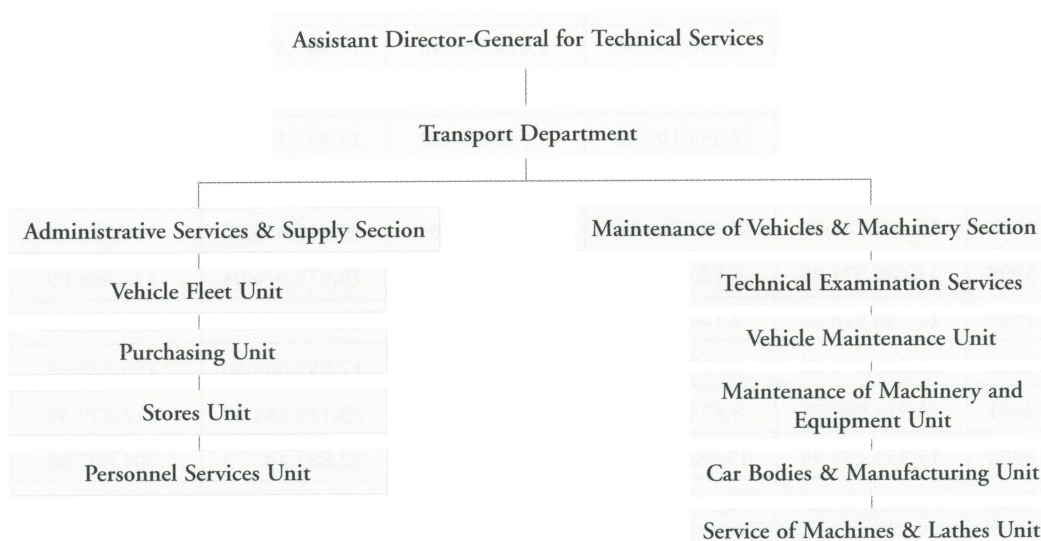
In 1998, the Transport Section* was separated from the Department, which was renamed the Garage Department, as shown in Chart No. 4.

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



*The Transport Department See Separate chapter on Page 473

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	-
1990	7,204,422.00	2,105,316.00	692,470.00	10,002,208.00	-
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	-
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

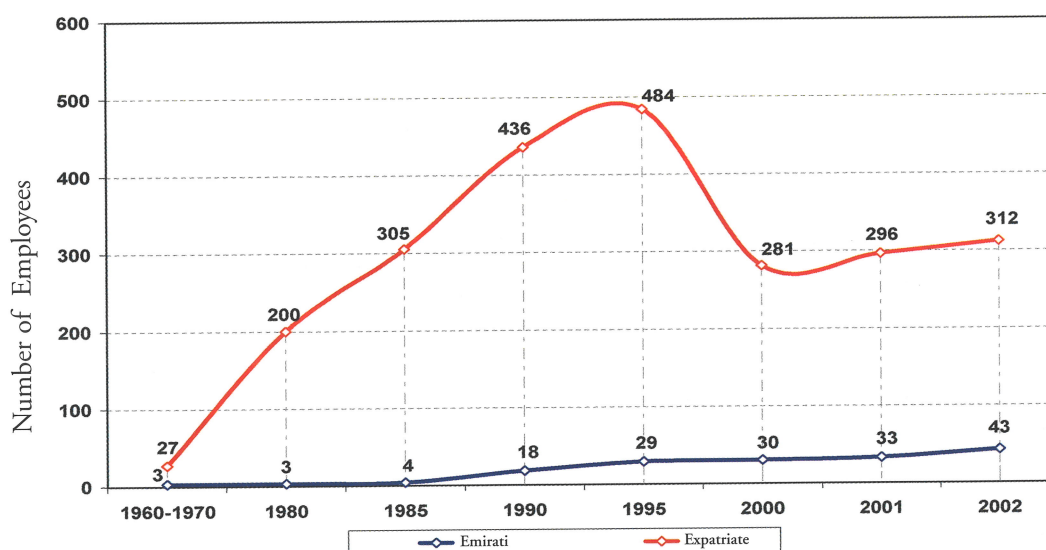
Development of the Department

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

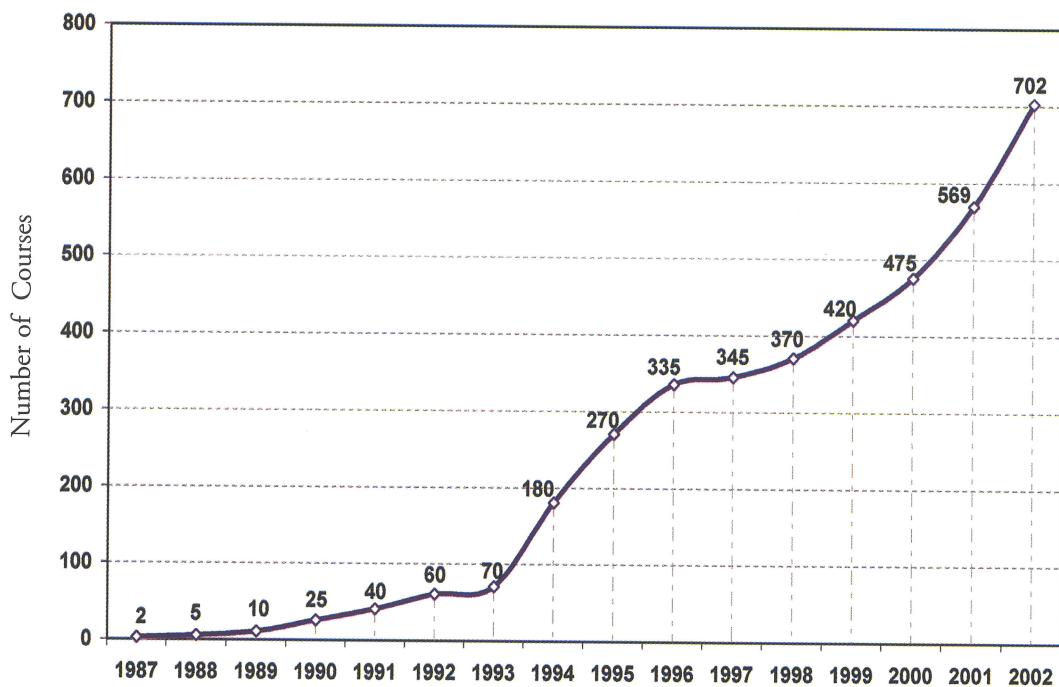
Year	Emirati	Expatriate
1960-1970	3	27
1980	3	200
1985	4	305
1990	18	436
1995	29	484
2000	30	281
2001	33	296
2002	43	312

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



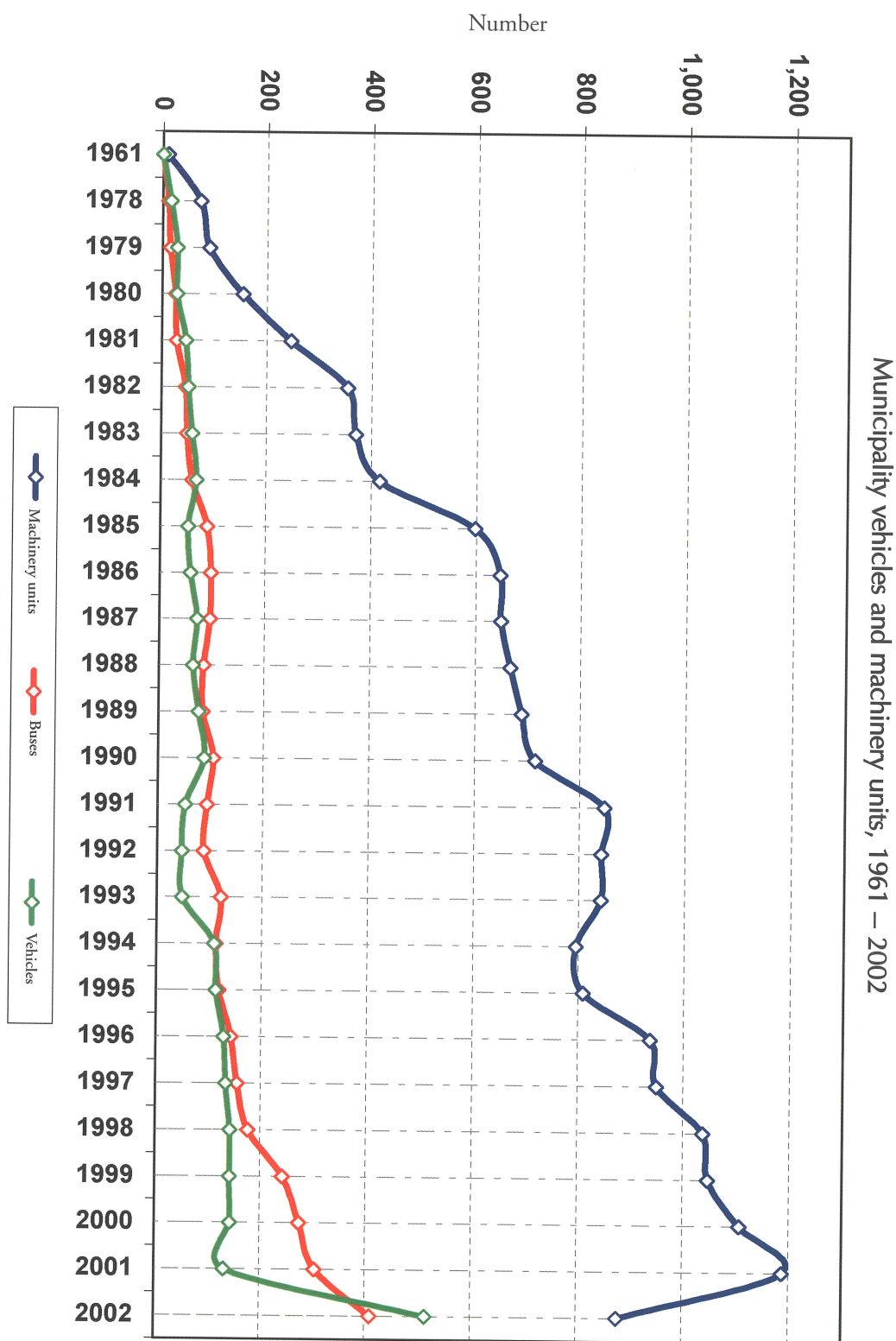
A drivers' training course

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.

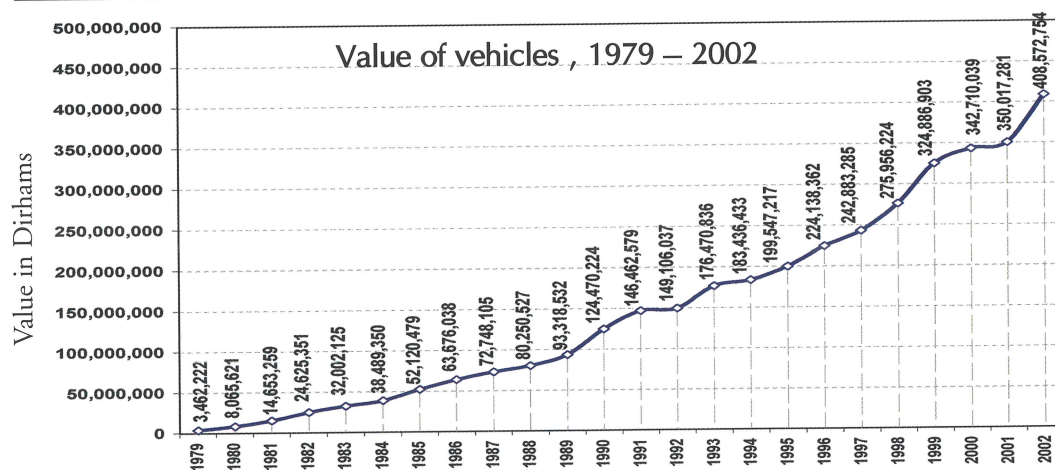
Number of Municipality vehicles & machinery units, by type, 1961 – 2002

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

Type	Number
Four Wheel Drive vehicle	409
Ambulance	5
Bus	409
Boat	6
Saloon Car	156
Beach Cleaning unit	2
Waste Collection Truck	77
Crane for Street Lighting	4
Dumper	18
Bulldozer	13
Digger	4
Forklift	9
Tractor	19
Heavy Duty Crane (30 Tons)	3
Motorcycle	46
Light Transport Vehicle	311
Skip Truck	19
Train for parks	3
Earthmover (large/ small)	47
Road-sweeper	21
Trailer	3
Tanker	77
Truck	114

Services

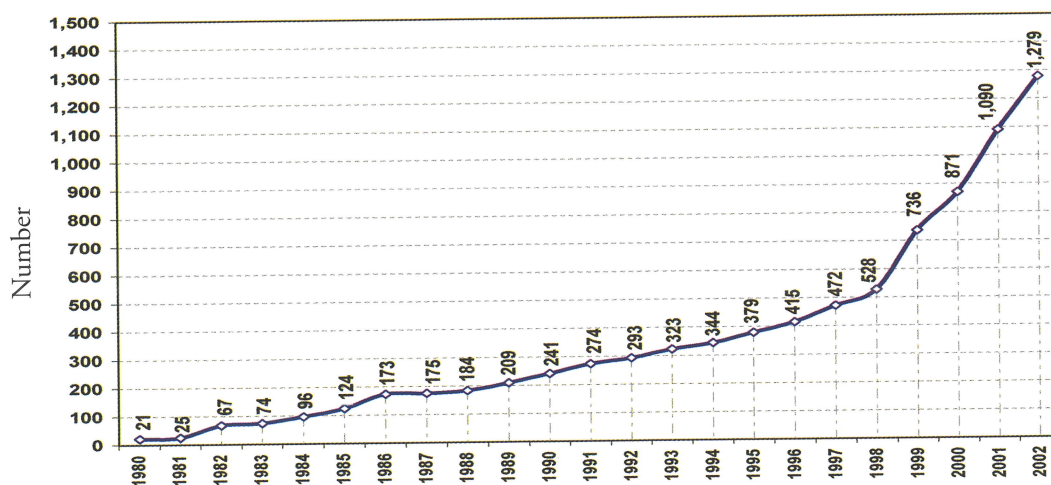
Administrative Services

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		

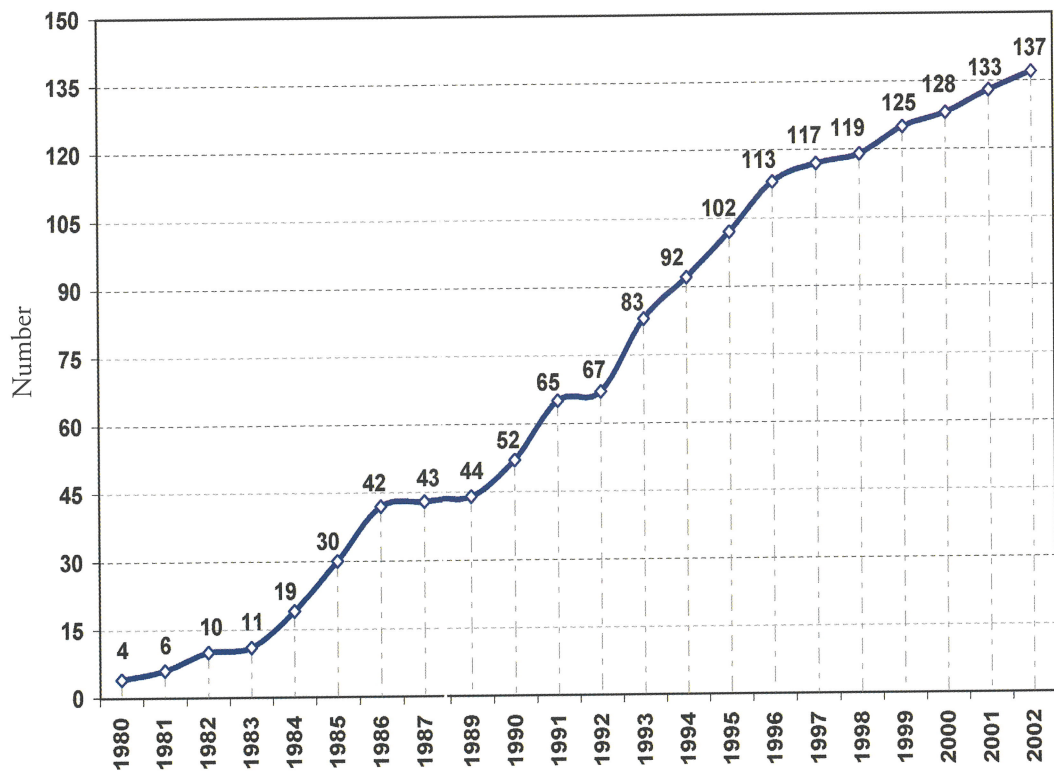
Municipality drivers, 1980 – 2002



Drivers appointed to the Transport Department, 1980 – 2002

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

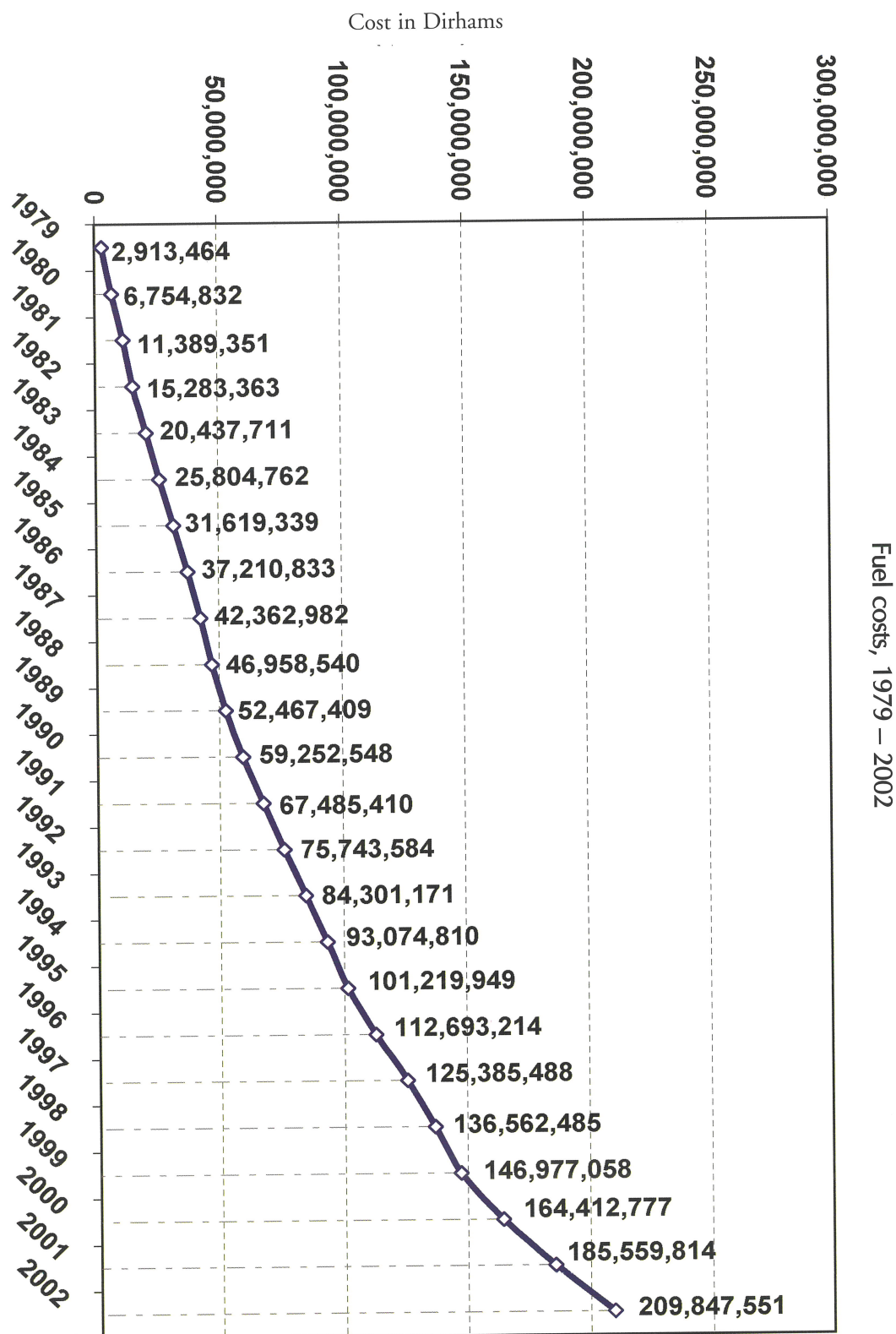


Buses during regular maintenance

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

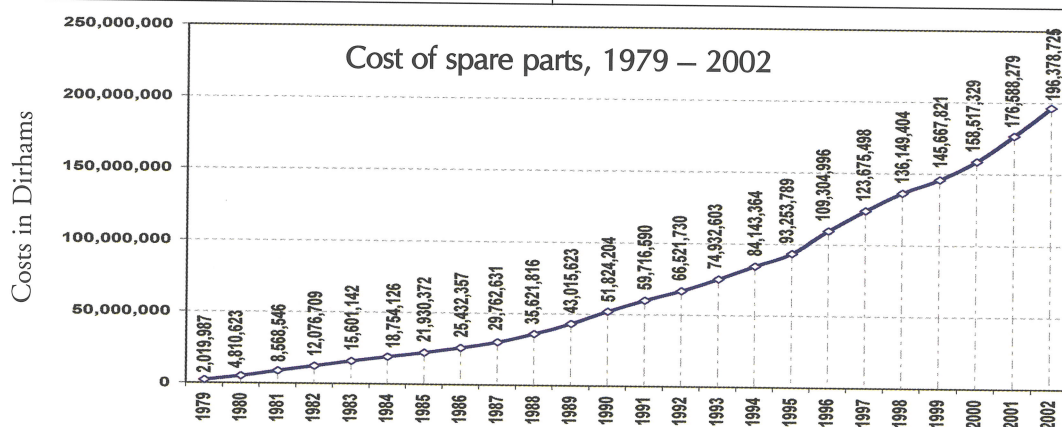
Year	Total Cost of Fuel (Dh)
1979	2,913,464
1980	6,754,832
1981	11,389,351
1982	15,283,363
1983	20,437,711
1984	25,804,762
1985	31,619,339
1986	37,210,833
1987	42,362,982
1988	46,958,540
1989	52,467,409
1990	59,252,548
1991	67,485,410
1992	75,743,584
1993	84,301,171
1994	93,074,810
1995	101,219,949
1996	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

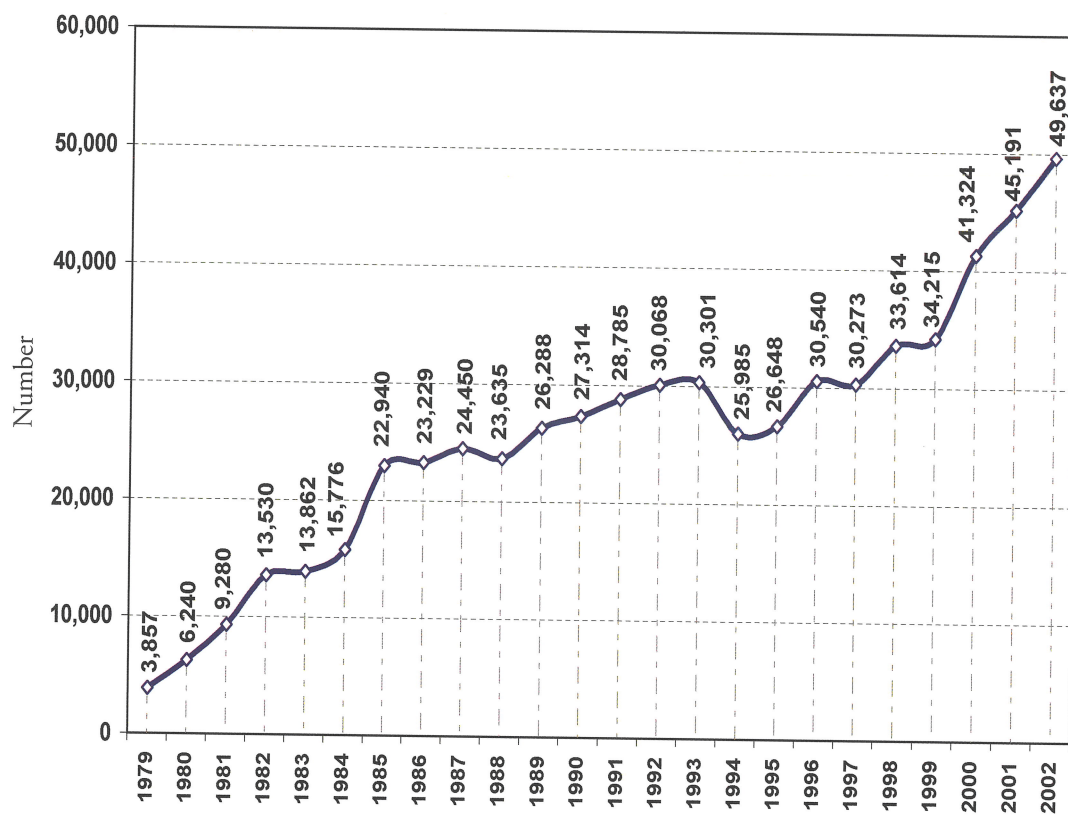
The maintenance of the Municipality's vehicles is a key part of the process required to keep them operational, and in 1987, a Technical Reception Office was established to handle all maintenance and repair.

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

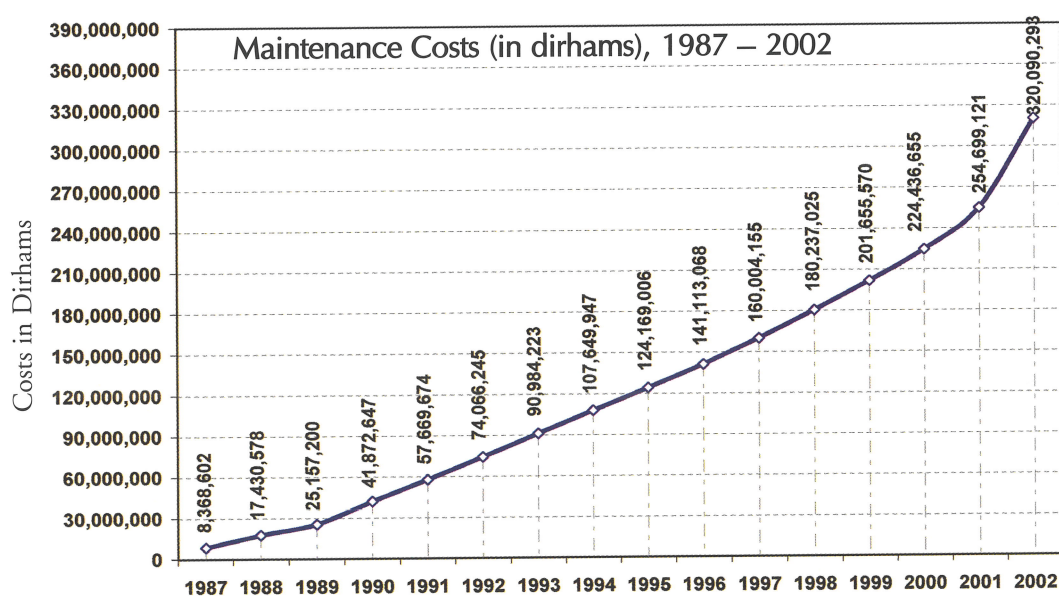
Maintenance work (by number of Job Cards), 1979 – 2002



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 broad-ranging 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.

Chart No. 1

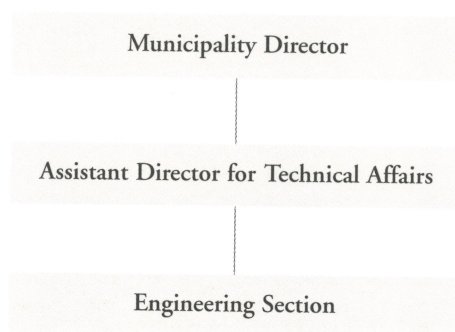
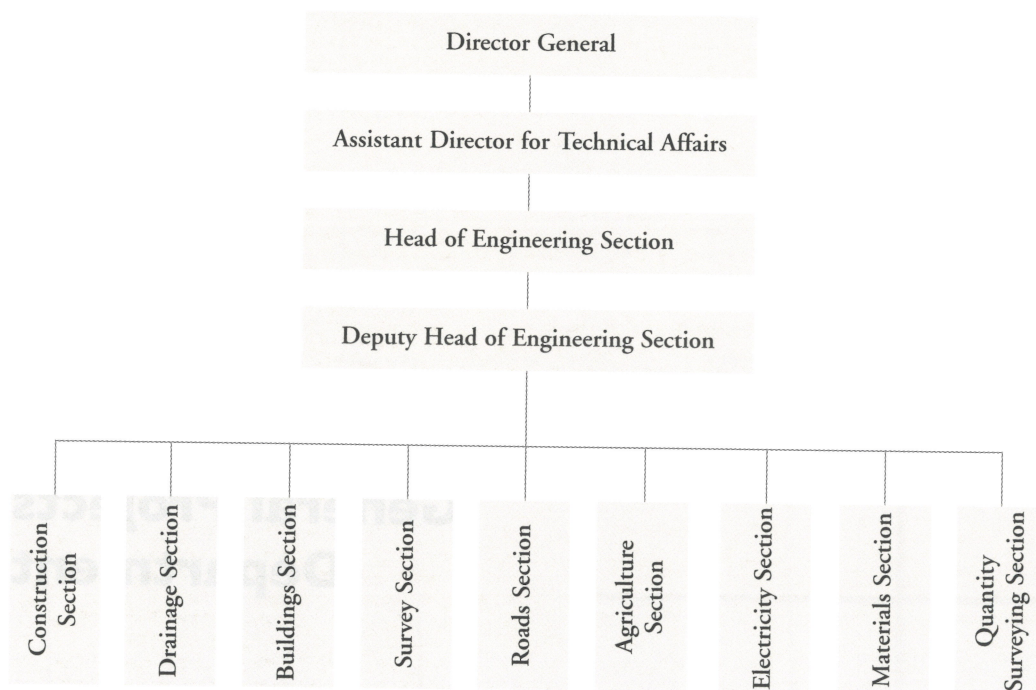


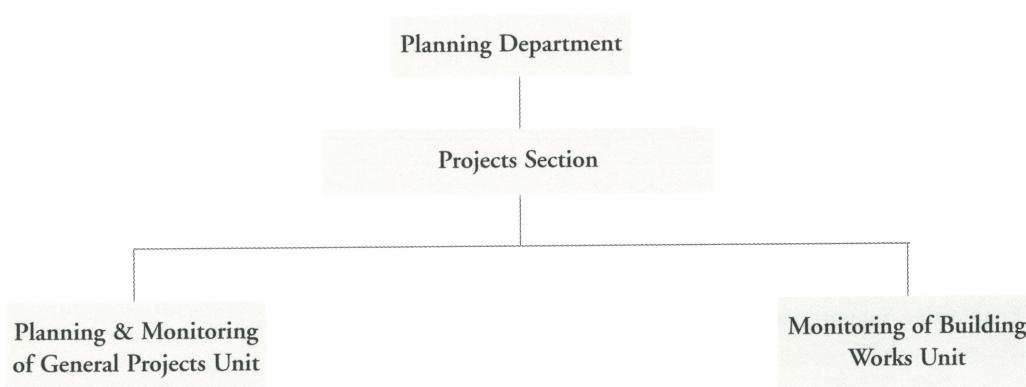
Chart No. 2



Development of the organisation chart, 1988 – 2001

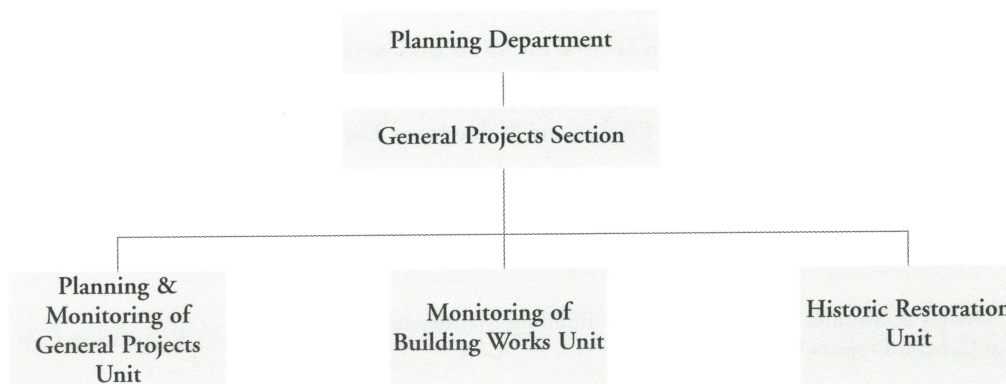
The Projects Section was founded in 1988 established as part of the Planning Department by Administrative Directive No. 326/1988, and with the Road and Drainage Units being excluded from the scope of the new Section. It was given responsibility for planning and supervision, in liaison with various other 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.

Chart No. 3



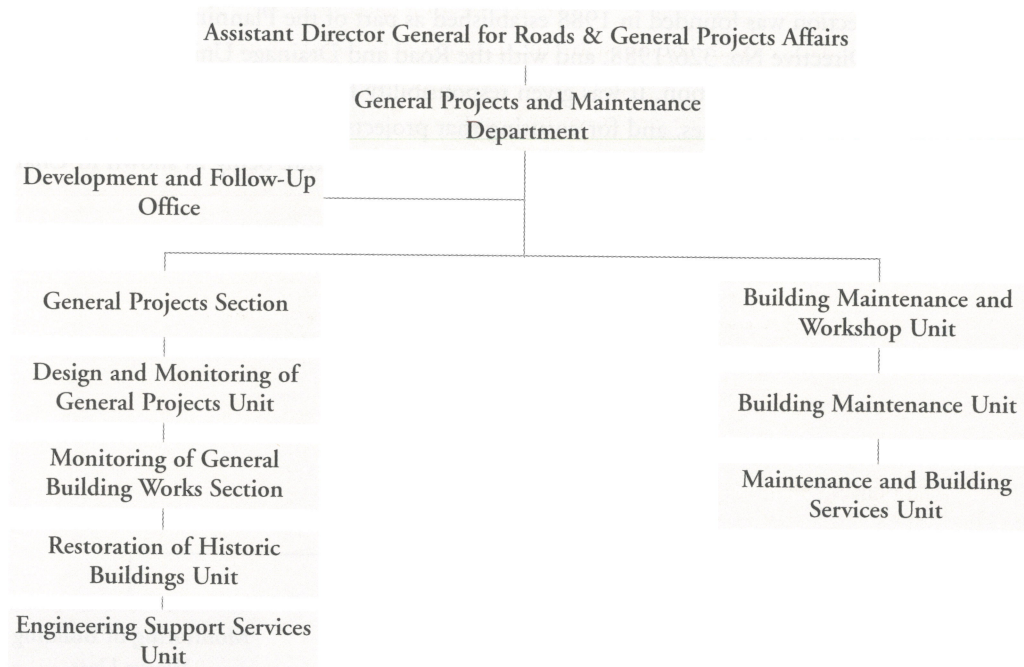
In 1991, a new unit was created in the Section to be responsible for the restoration of historic buildings, under the terms of Administrative Order No. 267/1991, with the consequent changes to the organisation chart being shown in Chart No. 4.

Chart No. 4



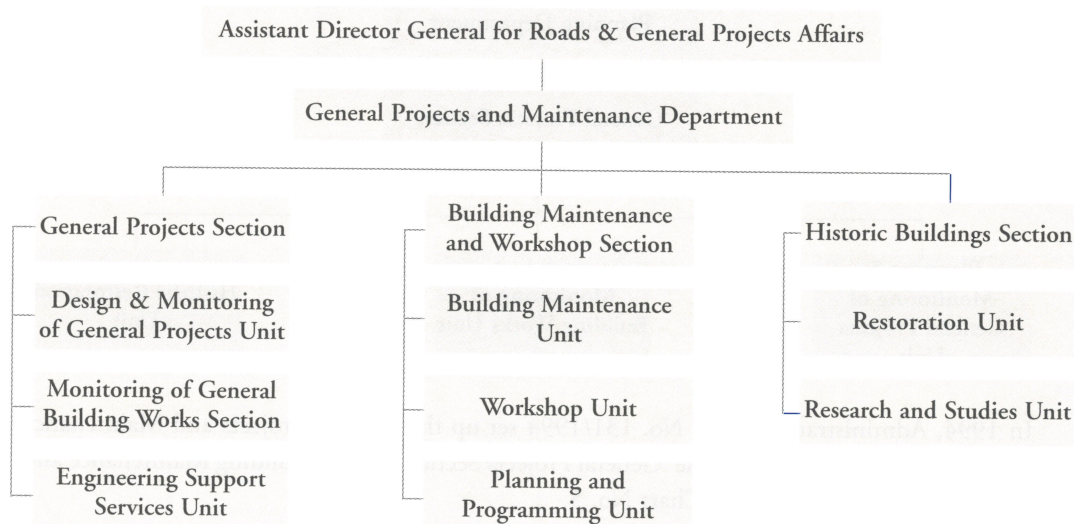
In 1994, Administrative Order No. 131/1994 set up the General Projects and Maintenance Department, with two sections, the General Projects Section and the Building Maintenance and Workshop Section, as shown in Chart No. 5.

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



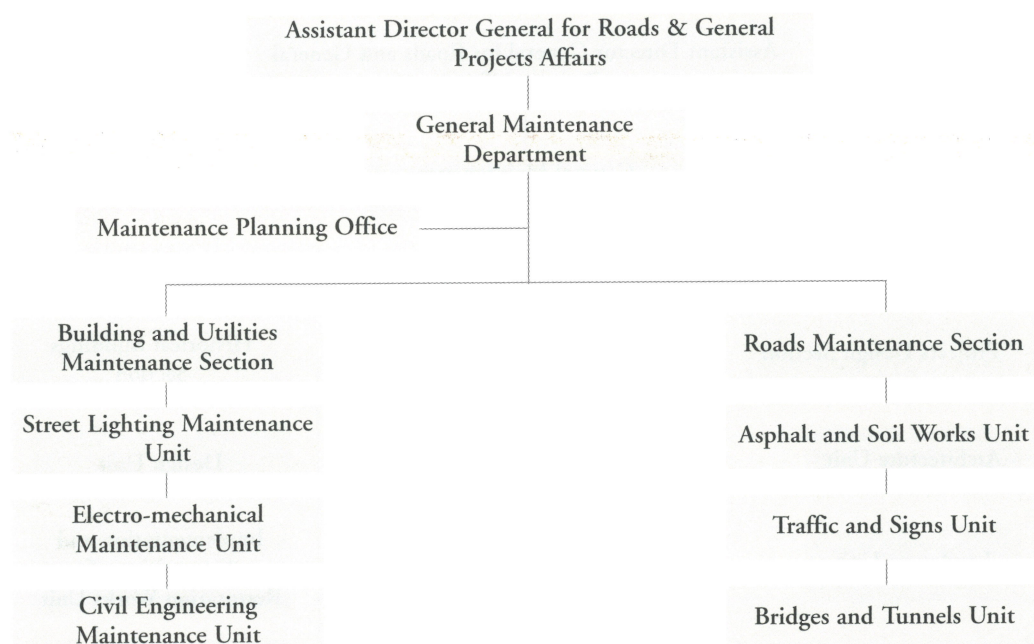
In 1995, the organisation chart was again amended, under the terms of Administrative Directive No. 591/1995, which set up three separate sections, as shown in Chart No. 6, the General Projects Section, the Building Maintenance and Workshop Section and the Historic Buildings Section.

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

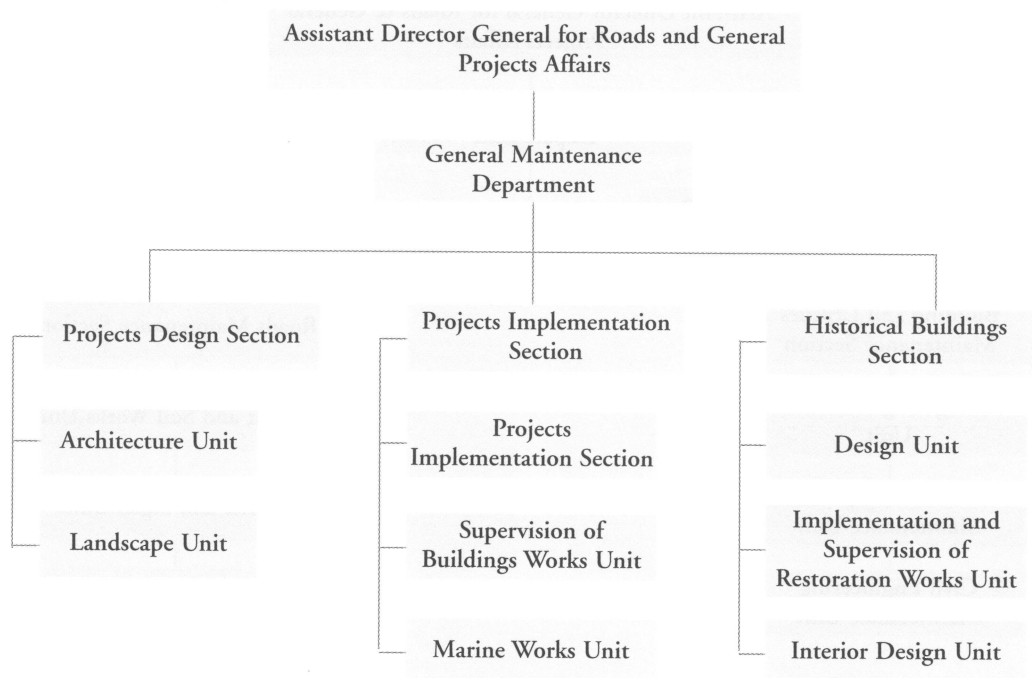


Al Shandagha Underpass

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.

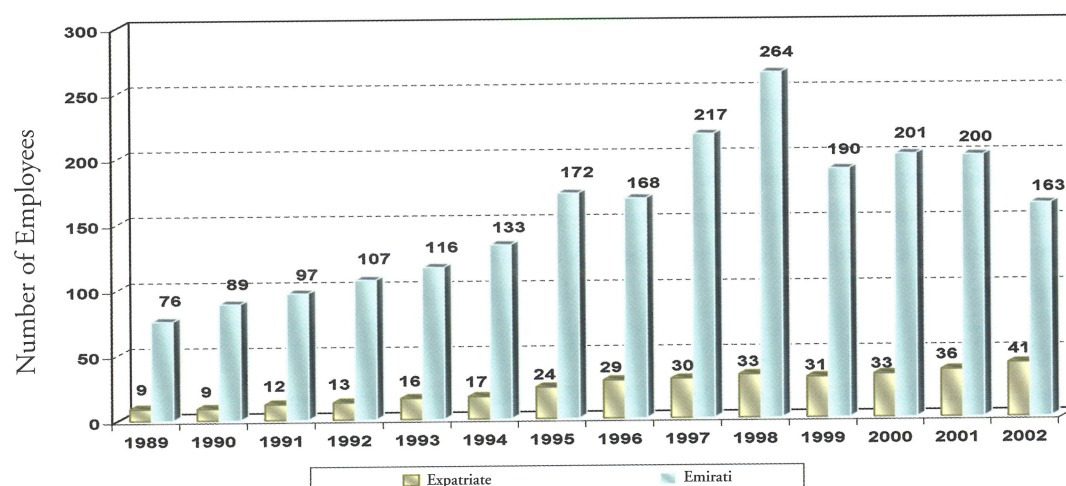
The following table illustrates the growth in the number of Emiratis in the Department between 1989 and 2002.

Year	Administrative	Technical	Technical Assistant	Total
1989	1	6	2	9
1990	1	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 grass in Dubai's clubs – Phase 1	Renovation work in the Municipality's clinic
Extensions to the Materials Laboratory building, Phase 1	Renovations in Al-Hamriyyah Central Market
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 Laboratory	Al-Quoz Graveyard
Fencing of the hazardous waste facility in Jebel Ali	Lavatories and renovation of the Health Clinic
Fencing of Hatta's waste facility	Additions to the Materials Laboratory building
Fencing of archaeological sites in Jumeirah	Construction of the Microbiology Laboratory – Biology
School in Al-Khawaneej	Fence and car park for Al-Qusais Graveyard
Maintenance of Marine Docks	Assembly of playground equipment and games in Safa Park
Landscaping of the Commercial Centre Roundabout	Construction of waste recycling stations
Service buildings for Al-Refa'a Graveyard	Cultivating the main playing fields with natural grass in Dubai's clubs – Phase 2
Additions to the Health Offices in Al-Rashidiya	Maintenance of Municipality Lifts
Commemorative monument for the Chess Olympics	Al-Rashidiya Market
1987	
Mosque for Labourers Housing complex in Al-Qusais	Maintenance of Zabeel Mosque

<p>Fence for Al-Qusais Graveyard</p> <p>Renovations to the Municipality's VIP Lifts</p> <p>Veterinary Clinic and Labourers Housing in Al-Quoz</p> <p>Fence for Al-Refa'a Graveyard</p> <p>Fence for Al-Rula Graveyard</p> <p>Fence for Al-Hamriyyah Graveyard</p> <p>Fence for Al-Riqqa Graveyard West</p> <p>Maintenance for Hatta Municipality</p> <p>Fence for Al-Tawar Graveyard</p> <p>Eid Prayer area in Al-Rashidiya</p> <p>Fencing of Jumeirah and Umm Suqeim Graveyards</p> <p>Renovation of Municipality Laboratory</p> <p>Scrap Compound Services</p> <p>Municipality branch offices (Umm Suqeim and Al-Karama)</p>	<p>General Exhibition of Municipality Projects</p> <p>Survey and study on fire protection facilities</p> <p>Addition to the Roads Section offices in Al-Rashidiya</p> <p>Design and fitting of signs for Municipality offices</p> <p>Irrigation network for Veterinary Clinic</p> <p>Residential gardens in Al-Hamriyyah</p> <p>Public squares in Al-Tawar</p> <p>Car auction services in Al-Qusais</p> <p>Shaded bus stops in the city</p> <p>Fencing of Municipality labour housing in Al-Qusais</p> <p>Six stations for the collection and recycling of waste</p> <p>Construction of Health Centres in Umm Suqeim and Al-Karama</p>
1988	
<p>Public squares in Al-Satwa and Mankhool</p> <p>Gardens in Al-Rashidiya</p> <p>Renovation of Al-Ittihad Building gate</p> <p>Renovation of the Health Office in Hor Al-Anz</p> <p>Expansion of Municipality offices in Al-Ittihad Square</p> <p>Maintenance of Al-Ahli Club</p> <p>Public squares in Nad Rashid</p> <p>Maintenance of Municipality building</p> <p>Maintenance of Public Health Offices in Al-Aweer</p> <p>Maintenance of Jumeirah Zoo</p> <p>Public Squares, Al-Hamriyyah</p> <p>Maintenance of men's swimming pool in Mushrif Park</p> <p>Nayif Market</p> <p>Fish and Vegetable Market in Al-Ra's</p> <p>Addition of two check-out counters to the Women's Association Headquarters</p> <p>Jumeirah Beach Park – Phase 1</p> <p>Landscaping of Al-Nasr Club</p> <p>Furnishing of Sheikh Saeed Al-Maktoum House in Al-Shandagha</p>	<p>Municipality visitors' lifts</p> <p>Fence for the Post Office in Al-Rashidiya</p> <p>Landscaping of Al-Wasl and Al-Shabab Clubs</p> <p>Protection of indoor arenas against birds</p> <p>Lavatories in wholesale market</p> <p>Refrigeration equipment for Municipality Abattoir</p> <p>Equipment for extraction of waste in Municipality Abattoir</p> <p>Treatment equipment for Municipality Abattoir</p> <p>Municipality Abattoir</p> <p>Greenhouse in Al-Garhood Nursery</p> <p>Commemorative monument for Dubai Secondary School</p> <p>Expansion of the Public Library in Dubai</p> <p>Al-Dhiyafa roundabout fountains</p> <p>Landscaping of Al-Ahli Club</p> <p>Public Squares</p> <p>Paving of Dubai Museum courtyard</p> <p>Maintenance of the fire sprinkler system in the Municipality building</p> <p>Fence for Municipality Housing in Al-Qusais</p> <p>Furnishing of meeting room in Al-Bidya building</p>

1989	
Al-Khazan Park	Temporary veterinary quarantine centre
Equipment for the kitchen and washing area in the Municipality Abattoir	Maintenance of Dubai schools – Group A
Maintenance of Municipality Building equipment	Maintenance of Dubai schools – Group B
Model Library Branches	Maintenance of Dubai schools – Group C
Additions to Materials Laboratory	Maintenance of Dubai schools – Group D
Development of Mushrif Park - Phase 2	Maintenance of Dubai schools – Group E
Landscaping of Deira Corniche and entrance to the Creek	Maintenance of Dubai schools – Group F
Fencing of Dubai Zoo	Food Market in Al-Mafraq, Deira
Dubai Central Abattoir	Maintenance of Al-Zabeel Mosque
Model for renovation of Hatta Heritage Village	Maintenance and additions to Civil Defence Centre in Al-Karama
District Libraries (Umm Suqeim, Al-Safa, Hor Al-Anz, Al-Rashidiya)	
1990	
Development of Mushrif Park	Jumeirah Beach Park – Phase 2
1991	
Fence for Jumeirah School – Girls	Maintenance of wooden floor – Al-Ahli Club
Addition to Mosque in workers' housing in Al-Qusais	Transformation of laboratory room in Dubai Abattoir into a store
Location for collection of waste in Al-Aweer	Public squares: Al-Muraqqabat, Al-Mezher, Al-Khawaneej
Maintenance of the stadiums in Al-Ahli and Al-Wasl Clubs	Extension to Al-Garhood Nursery – Phase 1
Addition to the Zoo in Jumeirah – Phase 1	Public squares: Umm Suqeim, Al-Bed'aa
Bus and Taxi Station in Bur Dubai	Maintenance of Dubai 1991 schools –Group A
Fencing of children's play area in Mushrif Park	Maintenance of Dubai 1991 schools –Group B
Construction of offices for Employee Housing Maintenance Section, Al-Qusais	Maintenance of Dubai 1991 schools –Group C
Livestock Market in Al-Qusais – Phase 1	Maintenance of Dubai 1991 schools –Group D
Additions to the Civil Defence Centre in Al-Karama	Maintenance of Dubai 1991 schools –Group E
Helipad in Jumeirah Beach Park	Protecting 4 indoor arenas against birds
Maintenance of public fountains project	Landscaping of Al-Nahda roundabout
Additions to Jumeirah Zoo – Phase 2	Maintenance of the fire sprinkler system in Municipality Building – Phase 2
Additions to Municipality Laboratory building	Fence for Umm Suqeim Park
Multi-story car park in Beni Yas Street	

1992

Installation of fire fighting equipment	Maintenance of Dubai 1992 schools –Group C
Central file stores for Dubai Municipality	Maintenance of Dubai 1992 schools –Group D
Maintenance of stadiums in Al-Shabab and Al-Nasr Clubs	Maintenance of Dubai 1992 schools –Group E
Construction of public lavatories in Deira – Phase 1	Maintenance of Dubai 1992 schools –Group F
Urgent maintenance work for Zabeel Palace and mosque	Renovation and maintenance of Hatta Sports Club
Fencing of Mushrif Park	Public lavatories in Dubai – Phase 2
Protection of Sheikh Saeed's House against bird droppings	Construction of public lavatories in Dubai – Phase 3
Development of Al-Safa Park – Phase 2	Public lavatories in Dubai – Phase 2 - A
Maintenance and renewal of public utilities in Al-Wasl Club	Renovation of the Clock Tower
Renovation and additions to Al-Fahidi Fort – Phase 1	Fire fighting and safety systems for the Municipality building
Vegetable and Food Market in Al-Shandagha	Renovation of Burj Nahar
Maintenance of Municipality Main Building	Additions to the Municipality Centre in Al-Karama
Coverage of traditional markets	Waste Recycling Station in Beni Yas Street
Fencing of the Chess Commemorative Monument	Maintenance and renovation of Al-Saeediya School in Al-Karama
Bur Dubai Abattoir	Veterinary Centre in Hatta
Maintenance of Dubai 1992 schools –Group A	Expansion of the Municipality Public Relations Office
Maintenance of Dubai 1992 schools –Group B	

1993

Landscaping of Al-Maktoum Street	Protection of Al-Shandagha Market from birds
Shaded areas and workshops for Civil Defence	Fencing stores for the Renovation of Historical Buildings Unit
Model of Sheikh Saeed Al-Maktoum House	Lighting of football pitch in Hatta Club
Fence for Jumeirah Beach Park – Phase 2	Adjustments to Al-Shandagha Food Market
Additions to Dubai Abattoir (Deira)	Renewal and construction of stores in Al-Garhood and Nad Al-Sheba
Fencing of farms in Margham	Maintenance of Dubai Schools 1993 – Group E
Changes to the entrance to Al-Rashidiya Central Market	Maintenance of Dubai Schools 1993 – Group F
Fence for the Health Office in Al-Satwa	Public Health Services Centre
Shaded areas for bus stops	Al-Khor Park (Creek Park)
Khor Al-Mamzar Park	Survey of Nayif Fort Project
Construction of offices for the central archiving stores	Landscaping of Al-Ra's roundabout
Mosque in Zabeel	Survey of historical buildings in Al-Shandagha
Shades for Al-Khansa School	Waste facility services in Nad Al-Hamar

<p>Construction of artist halls in the Municipality</p> <p>Deepening of Khor Al-Mamzar</p> <p>Extension to Municipality Main Building</p> <p>Maintenance of Dubai 1993 schools –Group A</p> <p>Maintenance of Dubai 1993 schools –Group B</p> <p>Maintenance of Dubai 1993 schools –Group C</p> <p>Maintenance of Dubai 1993 schools –Group D</p>	<p>Display of Municipality Projects by computer</p> <p>Construction of public lavatories in Deira, Dubai</p> <p>Restoration of historic towers (Burj Nahar, Al-Shandagha, Al-Wa'el, Al-Baraha)</p> <p>Maintenance of fountains</p> <p>Renovation of Al-Fahidi Fort</p> <p>Additions to Al-Khor Park (Creek Park)</p> <p>Competition for the Conference and Cultural Centre</p>
1994	
<p>Hatta Graveyard services</p> <p>Maintenance of Municipality Employees' Housing: Building 4</p> <p>Landscaping of Al-Qusais and Al-Muraqqabat Streets</p> <p>Fence for Umm Suqeim and Al-Satwa graveyards</p> <p>Development and protection of Jumeirah Beaches</p> <p>Replacement of the central air conditioning system in Jumeirah Mosque</p> <p>Coverage of swimming pools in employee residences in Al-Muraqqabat</p> <p>Expansion of Veterinary Clinic in Al-Rashidiya</p> <p>Dubai Museum</p> <p>Shading for waste recycling car park in Al-Qusais</p> <p>Fence for Hatta graveyards</p> <p>Landscaping around Nayif Park</p> <p>Protection of Municipality Building against birds</p> <p>Shades and services for Jebel Ali Beach</p> <p>Cattle Market in Al-Qusais</p> <p>Replacement of air conditioning system in Al-Safa Park</p> <p>Replacement of air conditioning systems in Dubai clubs</p> <p>Model of old Dubai (1950)</p>	<p>Development of Fishing Harbours in Jumeirah</p> <p>Maintenance of Dubai 1994 schools –Group A</p> <p>Maintenance of Dubai 1994 schools –Group B</p> <p>Maintenance of Dubai 1994 schools –Group C</p> <p>Maintenance of Dubai 1994 schools –Group D</p> <p>Construction of additional classes for Dubai schools</p> <p>Pest Control Centre</p> <p>Renovation of Hatta Heritage Village</p> <p>Barrier to prevent pollution in Khor Dubai nature reserve</p> <p>Landscaping of Al-Satwa roundabout</p> <p>Additions to the Food Control Centre</p> <p>Renovations of an old Majlis in Umm Al-Shaif</p> <p>General maintenance of Zabeel, Jumeirah and Al-Rashidiya mosques</p> <p>Fitting-out and lighting of Sheikh Saeed's House</p> <p>Renovation of buildings in the Large Market in Deira</p> <p>Khor Al-Mamzar Park</p> <p>Renovation of archaeological sites</p> <p>Model of modern Dubai.</p>
1995	
<p>Additional furnishing for Dubai Museum</p> <p>Dubai Projects Exhibition</p> <p>Rebuilding of Lootah Mosque in Al-Ra's</p> <p>Renovation of Heritage Residence</p>	<p>Maintenance of the fire sprinklers system in the Municipality building</p> <p>Maintenance of Dubai schools 1995 - Group B</p> <p>Umm Suqeim Park</p>

<p>Renovation of Al-Ahmadiyyah School</p> <p>Landscaping of Nayif Street</p> <p>Model of Dubai 1833</p> <p>Changes to Al-Quoz Graveyard – Phase 2</p> <p>Development of Municipality Town Hall</p> <p>Marine protection for a private palace</p> <p>Model of Al-Wasl Park</p> <p>Furnishing of Sheikh Saeed Al-Maktoum House in Al-Shandagha</p> <p>Study to improve Dubai Creek</p> <p>Change and expansion of the Municipality Garage in Al-Rumool</p> <p>Mosque for the Fish Market in Deira</p> <p>Construction of a gate for Al-Safa Park</p> <p>Fencing of the waste facility in Al-Qusais</p> <p>Construction of a waste centre behind Al-Manal Centre</p> <p>Additions and maintenance of the Fish Market in Deira</p> <p>Model of Al-Khor Park (Creek Park)</p> <p>Coverage of internal courtyards in the Public Library</p> <p>Municipality Clinic</p> <p>General maintenance of labour accommodation in Lisaili</p> <p>Improvement of lifts in main Municipality building</p> <p>Dubai Government Garage</p> <p>Construction of central stores for the Municipality</p> <p>Coverage of the old market in Deira</p>	<p>Showers and shades for Jebel Ali beach</p> <p>Maintenance of Al-Hamriyyah Central Market</p> <p>Renovation of Al-Bastakiya buildings</p> <p>Dubai International Marine sports club</p> <p>Protection system of Al-Mamzar and Jumeirah beaches</p> <p>Maintenance of roofs in Al-Rashidiya Central Market</p> <p>Maintenance of Dubai schools 1995 -Group C</p> <p>Maintenance of Dubai schools 1995 -Group D</p> <p>Installation of pumps and installations for wells in Hatta</p> <p>Fencing of Al-Hamriyyah Port</p> <p>Maintenance of Building Nos. 1, 2 & 3 in Al-Qusais</p> <p>Maintenance of Municipality villas in Al-Muraqqabat</p> <p>Installation of kitchens, wash rooms and water heaters in labour residence – Al-Qusais</p> <p>Construction of fences and graveyards</p> <p>General maintenance and construction of area for ablution in Jumeirah Mosque</p> <p>Maintenance of Al-Rashidiya Mosque</p> <p>Design of animal and bird zoo in Mushrif</p> <p>Public squares – Phase 3</p> <p>Survey of old buildings in Dubai</p> <p>Maintenance of Dubai schools 1995 – Group A</p>
1996	
<p>Model of Al-Shandagha area in 1950</p> <p>Fence for Dubai Museum</p> <p>Preparation of Dubai Historical Encyclopaedia</p> <p>Adjustments to model of city centre</p> <p>Furnishing of Al-Ahmadiyya School</p> <p>Maintenance of Municipality employee residences</p> <p>Renovation of Hatta's historical forts – Phase 2</p> <p>Construction of Majlis Al-Ghurayfa Park</p>	<p>Public Square in Al-Tawar</p> <p>Landscaping of Al-Dhiyafa Street</p> <p>Maintenance of Dubai 1996 schools –Group A</p> <p>Maintenance of Dubai 1996 schools –Group B</p> <p>Maintenance of Dubai 1996 schools –Group C</p> <p>Maintenance of Dubai 1996 schools –Group D</p> <p>Expansion of Hor Al-Anz Library</p> <p>Additions to the Main Municipality building</p> <p>Expansions to the Reform and Social Guidance Association</p>

<p>Renovation of large Market building in Bur Dubai</p> <p>Public lavatories in Beni Yas</p> <p>Museum of photos and Dubai's historical documents (Sheikh Saeed House)</p> <p>Renovation of Under-Secretary's Residence</p> <p>Mushrif Park – Phase 3</p> <p>Construction of Al-Hamili Residence in Al-Ra's</p> <p>Model of Dubai City in Mushrif Park</p> <p>Colleges of Higher Education for girls</p> <p>Maintenance of air conditioners in Zabeel Mosque</p> <p>Models of government housing buildings</p> <p>Fodder stores for the cattle market</p> <p>Additional shades in cattle market</p> <p>New bus station in Bur Dubai</p> <p>Sunshades in Al-Mamzar Park</p> <p>Coverage of old markets in Bur Dubai – phase 3</p> <p>Depots for Pavement Unit in Al-Rumool</p> <p>Ladies Club in Jumeirah</p> <p>Shades for bus stops</p> <p>Coverage of Bur Dubai Market</p> <p>Construction of 15 shops in Al-Hamriyyah Market</p>	<p>Development of fire fighting system for the Municipality building</p> <p>Survey of Dubai City 1950</p> <p>Al-Tawar Park</p> <p>Renovation of old mosques in Al-Shandagha</p> <p>Fishermen's residences in Al-Quoz</p> <p>Maintenance of Hatta Heritage Village</p> <p>Manual of Traditional Architecture in Dubai</p> <p>Jumeirah Beach Park – Phase 2</p> <p>Renovation of Al-Fahidi Fort, northern tower</p> <p>Manual of traditional ornamentation in Dubai</p> <p>Fitting of traditional seating in public areas</p> <p>Documentation of renovation works</p> <p>Renovation of Creek wharfage in Bur Dubai</p> <p>Wholesale Food Market</p> <p>Public squares – phase 4</p> <p>Renovation of Al-Barajeel Residence</p> <p>Renovation of room in Umm Al-Shaif Majlis room</p> <p>Renovation of buildings in Al-Bastakiya</p> <p>Expansion of Ittihad Association premises in Al-Hamriyyah</p>
1997	
<p>Additions to Al-Rashidiya Laboratory</p> <p>Landscaping of Beni Yas public square</p> <p>Improvement of swimming pools and canteens in Mushrif Park</p> <p>Coordination works for Dubai Marine Club</p> <p>Services of Al-Mamzar Park beaches</p> <p>Maintenance of the Municipality main building</p> <p>Coverage of play equipment in public squares – Phase 2</p> <p>Furnishing of Bin Jam'an Residence</p> <p>Air conditioning for Ladies Club</p> <p>The Diving and Heritage Villages</p> <p>Waste collection point in Hatta</p> <p>General maintenance of Zabeel Mosque – Phase 1</p> <p>Study of veterinary quarantine stations</p> <p>Tourist Information Centre</p> <p>Hatta Market and Abattoir</p>	<p>Landscaping of Dubai Central Laboratory</p> <p>Development of Ittihad Square Park</p> <p>Labourers Residence in Al-Qusais</p> <p>Play equipment in Al-Tawar Park</p> <p>Abattoir in Hatta</p> <p>Three-dimensional figure in Jumeirah Beach Park</p> <p>Protection and development of Jumeirah Beach – Phase 2</p> <p>Development of Coastguard services in Port Rashid</p> <p>Services for Health Department's drivers</p> <p>Umm Suqeim Park</p> <p>Landscaping of Al-Diwan entrance and Al-Saif Street</p> <p>Dubai Central Laboratory</p> <p>Renovation of the facades of the large Market – Phase 2</p> <p>Rehabilitation Centre for the Disabled in Dubai</p>

<p>Development of Dubai Creek</p> <p>Furnishing of Under-Secretary's Residence</p> <p>Lighting of outdoor theatre in Al-Mamzar Park</p> <p>Construction of applications hall in Ministry of Labour and Social Affairs</p> <p>Maintenance of various buildings in Hatta</p> <p>Maintenance of schools 1997 – Group A</p> <p>Maintenance of schools 1997 – Group D</p> <p>Development of Al-Saif Street</p> <p>Development of Dubai Creek docks</p> <p>Development of lifts in Al-Riqqa car park</p>	<p>Oud Maitha and Ittihad Square Parks</p> <p>Maintenance and renovation of Dubai's abattoirs</p> <p>Maintenance of schools 1997 – Group B</p> <p>Maintenance of schools 1997 – Group C</p> <p>Decoration for the Gold Market</p> <p>Improvement of Burj Nahar Park</p> <p>Abra jetties in Al-Khor Park (Creek Park)</p> <p>Maintenance of Al-Mamzar Park swimming pool</p> <p>Shades and showers in Jebel Ali – Phase 2</p> <p>Sports halls for Dubai's schools</p>
1998	
<p>Expansion of theatre in Al-Khor Park (Creek Park)</p> <p>Renovation of facades of large Market, in Dubai</p> <p>Two mosques in Sa'eir and Suhaila</p> <p>General maintenance of Al-Safa Park</p> <p>Municipality offices in Hatta</p> <p>Torch monument in Al-Ittihad Street Park</p> <p>Housing for low income employees from the Ministry of Justice, Islamic Affairs and Awqaf</p> <p>Dubai Chess and Culture Club</p> <p>Renovation of buildings in Al-Bastakiya</p> <p>Housing for the veterinary clinic in Lisaili</p> <p>Hor Al-Anz Park</p> <p>Development of Hatta Sports Club</p> <p>Furnishing of Hatta Heritage Village</p> <p>Services in Ladies Club</p> <p>Drivers waiting building in Port Rashid</p> <p>Abattoir in Zabeel</p> <p>Second-hand car complex</p> <p>Renovation of old mosques in Al-Shandagha</p>	<p>Furnishing of Heritage Residence</p> <p>Higher Colleges of Technology for Girls – Phase 2</p> <p>Health Department's offices building in Al-Quoz</p> <p>Bus Stations in Al-Satwa and Jebel Ali</p> <p>Construction of a building for the Central Customs Department</p> <p>Services for fishing harbours in Umm Suqeim</p> <p>Municipality Employees' Club</p> <p>Mosque and shades for the marina</p> <p>Landscaping at the Disabled Centre</p> <p>Improvement of the Fish Roundabout</p> <p>Girls' Chess Club</p> <p>Landscaping of Municipality Employees' Club</p> <p>Maintenance of workers' accommodation in Hatta</p> <p>Temporary cattle market in Hatta</p> <p>Dubai Central Laboratory</p> <p>Renovation of buildings in the large Market (Bur Dubai and Deira)</p> <p>Maintenance of 14 public squares</p>
1999	
<p>Health quarantine laboratory at Al-Hamriyyah Port</p> <p>Coverage of swimming pools in Al-Mamzar Park</p> <p>Hazardous Waste Treatment Facility in Jebel Ali</p> <p>Maintenance and renovation of the Building</p> <p>Research building</p>	<p>Maintenance of swimming pools in Mushrif Park</p> <p>Open-air theatres in Al-Mamzar and Al-Khor (Creek) Parks</p> <p>Maintenance of Dubai 1999 schools – Group A</p> <p>Maintenance of Dubai 1999 schools – Group B</p> <p>Maintenance of Dubai 1999 schools – Group C</p>

<p>Bus Station in Hor Al-Anz and Al-Rashidiyah</p> <p>Additions to the Grand Mosque in Hatta</p> <p>Construction of public lavatories in Al-Saif street</p> <p>Office for the Abra Section in Bur Dubai</p> <p>Furnishing of the Municipality Club</p> <p>Shades for the train in Al-Mamzar Park</p> <p>Traditional Markets in Nad El Sheba</p> <p>Model of Hatta Heritage Village</p> <p>Public utilities for truck park in Al-Hamriyyah</p> <p>Renovation of Al-Barajeel Residence</p> <p>Mechanical model of drainage station</p> <p>Boarder guard and Coastguard Base</p> <p>Maintenance of Rashid Scout Camp in Al-Aweer</p> <p>Maintenance of swimming pool in Jumeirah Beach Park</p> <p>Maintenance of Jumeirah Grand Mosque</p> <p>Design of Al-Khair Residence in Al-Qusais</p> <p>Service station and garage for buses in Al-Qusais</p> <p>4 sports halls for Dubai schools</p>	<p>Maintenance of Dubai 1999 schools – Group D</p> <p>Maintenance of Dubai 1999 schools – Group E</p> <p>Central Civil Defence building</p> <p>Development of Al-Shandagha Market</p> <p>Temporary protection of Jumeirah Beach</p> <p>Mushrif Park – Phase 3</p> <p>Construction of workshop in Al-Saada School in Hor Al-Anz</p> <p>Development of lighting system in sports clubs fields</p> <p>Renovation of buildings in Al-Bastakiya area</p> <p>Renovation of guesthouses in Al-Bastakiya</p> <p>Expansion of a mosque in workers accommodation in Al-Qusais</p> <p>Housing for low income employees</p> <p>Renovation of Heritage Residence</p> <p>Dubai Centre for Rehabilitation of the Disabled</p> <p>Construction of a central building for the Customs Department</p> <p>Design of park in Al-Sufouh area</p>
2000	
<p>Development of main parks in Dubai</p> <p>Showers and shades for Jumeirah Beach</p> <p>Expansion and maintenance of branch libraries in Al-Safa and Al-Rashidiyah</p> <p>Maintenance of sports halls in Dubai clubs</p> <p>Mosque in Hatta</p> <p>Expansion of Al-Qusais mosque</p> <p>Dubai Club for the Handicapped</p> <p>Building for the Folklore Association in Dubai</p> <p>Fencing of the Vegetable and Fruit Market</p> <p>Construction of container rooms in Al-Qusais</p> <p>Abattoir</p>	<p>Maintenance of Dubai 2000 schools – Group A</p> <p>Maintenance of Dubai 2000 schools – Group B</p> <p>Maintenance of Dubai 2000 schools – Group C</p> <p>Maintenance of Dubai 2000 schools – Group D</p> <p>Expansion of Municipality store in Al-Karama</p> <p>Additions to the Municipality Garage</p> <p>Furnishing of the Meetings Room within the Municipality building</p> <p>Marine protection for the length of Jumeirah Beach</p> <p>Lavatories on Bur Dubai Corniche</p>
2001	
<p>Veterinary quarantine at Al-Hamriyyah Port</p> <p>Additions to Ladies Club in Jumeirah</p> <p>Study of sources of marine sand</p> <p>Expansion of Higher Colleges of Technology for Girls in Abu Hail</p>	<p>Design of Nad Shema Park</p> <p>Adjustments to Al Ra's Library</p> <p>Annual maintenance of Dubai's coastline</p> <p>Veterinary Clinic and the Environment Department's Offices</p>

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
- Located in Al-Sabka
- Cost 14 million dirhams

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
- This project provided playing fields for the
Al-Ahli, Al-Shabab, Al-Nasr & Al-Wasl
Clubs
- Cost 5.5 million dirhams

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
- Located in Al-Khawaneej
- Cost 4 million dirhams

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
- Cost 2.2 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
- Cost 1.7 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 1896.

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
- Cost 23 million dirhams
- Located in Al-Qusais

Facilities include slaughtering areas, refrigeration units, a veterinary clinic, to check the health of animals and carcasses, 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
- Cost 2.5 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-Khawanej 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
- Cost 10 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 Emirate 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
- Located 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 Sadiq 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
- Cost 172 million dirhams
- Located in Al-Maktoum Bridge and Al-Garhoud Bridge, along the shore 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
- Cost 135,000 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
- Cost 1.5 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
- Cost 26 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
- Cost 1.3 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
- Located in Al-Ra's
- Cost 450,000 dirhams

The Lootah Mosque was built in 1910.

Ladies Club in Jumeirah

- Completed in 1996
- Located in Jumeirah
- Cost 13 million dirhams

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
- Located in Al-Qusais
- Cost 400,000 dirhams

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

Renovation of Buildings in Al-Bastakiya

- Completed in 1996
- Located in Al-Bastakiya
- Cost 29 million dirhams.

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
- Cost 2 million dirhams.
- Located in Al-Shandagha



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
- Cost 8 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 Suqeim

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
- Cost 1.5 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 Suqeim

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 waterfront, 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
- Located in Hatta
- Cost 1 million dirhams

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
- Located in Hatta
- Cost 4 million dirhams

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
- Located in Al-Jadaf
- Cost 13.5 million dirhams

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
- Located in Al-Jadaf
- Cost 1.2 million dirhams

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
- Located in Hatta
- Cost 10 million dirhams

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 as a car-park.

Main offices for the Customs Department

- Completed in 1999
- Located in Al-Refa'a
- Cost 55 million dirhams

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
- Located in Al-Qusais
- Cost 56 million dirhams

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.

Emirates Disabled Rehabilitation Centre

- Completed in 1999
- Located in next to Al-Wafi City
- Cost 9.8 million dirhams

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
- Located in next to Al-Ra's
- Cost 3.5 million dirhams

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, audio-visual 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 coastline 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
- Cost 7 million dirhams
- 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
- Cost 77 million dirhams

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



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.

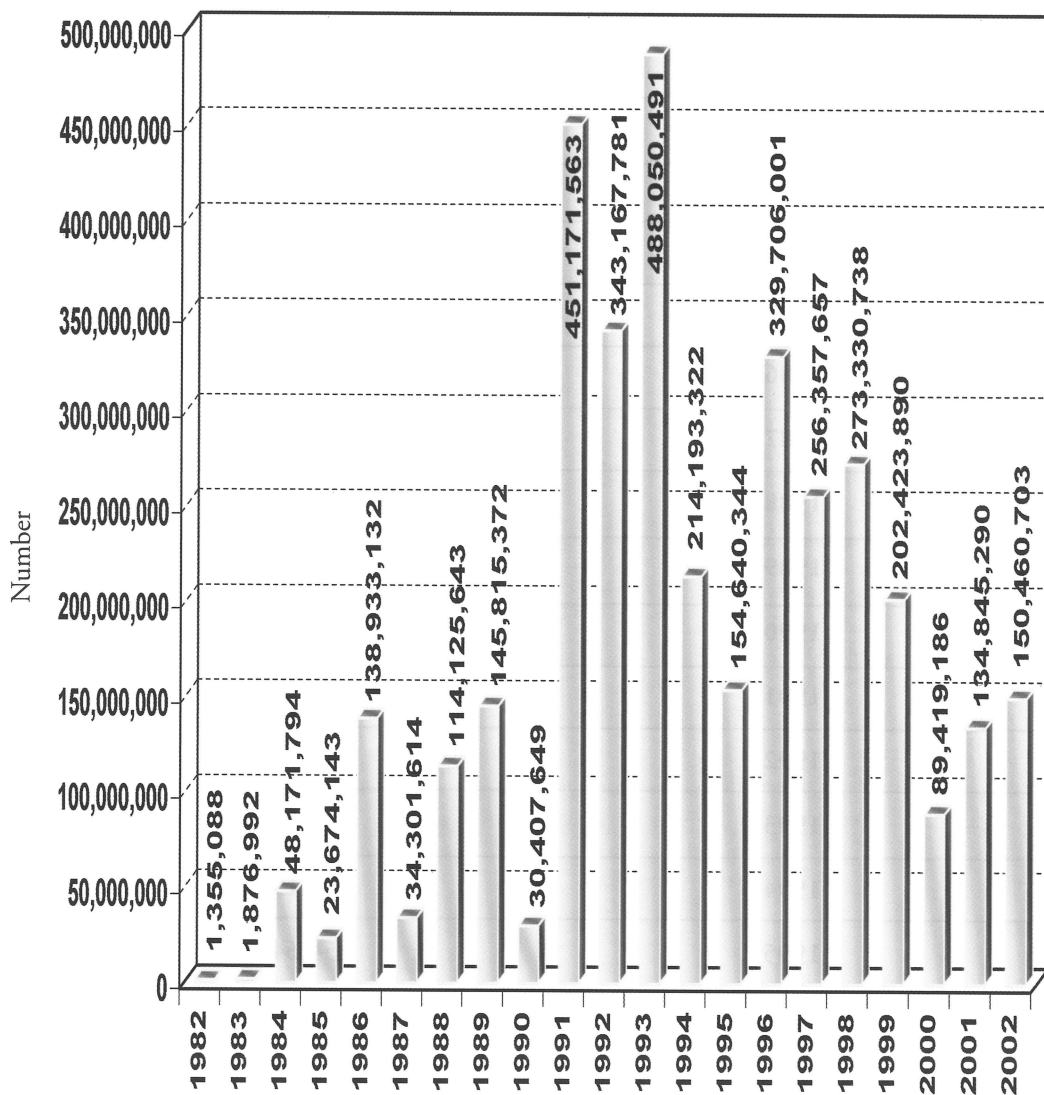


Aerial photograph of Dubai's open beach

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



Children's City



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 Museums (UNESCO-ICOM). The 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 publications on the 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

