



**BURSA
METROPOLITAN
MUNICIPALITY**

City health profile for Bursa, Turkey

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Foreword

Bursa serves as a bridge between Asia and Europe and between eastern and western cultures. Bursa is a commercial city because it is located between important passages, an agricultural city because of its fertile land and a city of art thanks to its cultural advantages. Bursa has always been a point of attraction during all historical eras and has urbanized and developed very rapidly thanks to all of its characteristics.

This is the reason why the people who are serving our city today have to develop Bursa even further and give this city that is highly respected internationally and nationally a future that it deserves and suits its history. Our greatest aim is to give life to the projects on education, transport and health and on every other field that will prepare us optimally for the future.

In this context, the WHO Healthy Cities project, which enabled the Healthy Cities movement by uniting many cities around the world, has been an important example for us and has guided us in providing higher living standards for everyone in the framework of sustainable development principles to ensure livable and healthy cities.

The Metropolitan Municipality of Bursa has joined with the Healthy Cities movement and has devoted itself to improving the living conditions of the citizens. In this path, the city health profile is our guide that will show us the way and help us with its valuable information.

The Bursa Health Profile, which gives accurate, up-to-date and objective information about Bursa, is a road map during the fourth phase of the WHO European Healthy Cities Network. One of the most important tools in the works for developing health is reliable and up-to-date information. In this context, the Health Profile is a vital source of knowledge.

The Health Profile outlines the current conditions related to socioeconomic structure, physical environment and health and describes indicators to set priorities for all the decision-makers in the city.

This profile is a basic source of information on health and for maintaining and determining priorities. It holds important information about the health of the residents of Bursa and living conditions in the city that may be used to develop health at the local level.

The Metropolitan Municipality of Bursa is conscious of its responsibilities. Based on this objective and up-to-date information, we are determined to produce sustainable projects and implement such projects with all our efforts for creating content citizens in Bursa with every social and physical opportunity in a livable Bursa.

Hikmet Şahin
Lord Mayor of the Metropolitan City of Bursa
Chair, Healthy Cities Association

Preface

City health profiles represent indispensable tools for assessing the health needs of the population, planning health development and setting priorities and for promoting advocacy and accountability for health. The breadth and the scope of a city health profile can clearly indicate a city's understanding and approach to health.

The Bursa Health Profile is an outstanding example of such a document. It provides quantitative and qualitative information on the health of the population as a whole, the health experiences of various social and age groups as well as information on lifestyles such as smoking and physical activity, living and environmental conditions, transport and urban planning issues and public health policies and targets.

The Bursa Health Profile reflects well Bursa's appreciation of the importance of the determinants of health and draws on the contribution of several city departments and agencies. It is well written and presented in an attractive and accessible format.

I am sure that this high-quality document can inspire and stimulate considerable public and mass-media interest as well as debate and action for health and quality of life in Bursa.

With my best wishes for a healthier Bursa for all.

Agis D. Tsouros
Head, WHO Centre for Urban Health
Regional Adviser, WHO Healthy Cities and Urban Governance
WHO Regional Office for Europe

Introduction

The works on the "Health Profile" which have started in the scope of the WHO European Healthy Cities Phase IV (2003-2007) have been carried out by taking statistics as the basis that reflects objective, up-to-date and correct information.

At the start of our works the document "City Health Profiles: How to report on health in your city" that has been prepared by WHO, Health Indicators and examples from European cities have been examined.

The city of Bursa that was the first city from Turkey to become a designated city to Phase IV of the WHO European Healthy Cities Network was also the first city to prepare its Health Profile. Taking into consideration the database standards prepared and requested by WHO it is obvious that Bursa Health Profile did not reach the expected standards. This fact also revealed that in Turkey, data collection and database preparations had been carried out unsystematically.

Bursa Health Profile and Indicators of Health have been prepared in approximately 1 year during 2003-2004 using the most up-to-date information taken from relevant institutions. Due to the changes in the City of Bursa and developments, the necessity to update the information given in the Health Profile and Indicators of Health is inevitable. We hope that this source will be a valuable reference which will prove the changes and developments occurred in the fields of health, education, physical and social environment in the future.

In addition we believe that the Bursa City Health Profile will be an important guide, a valuable source and a reference for all the cities, which have adopted or will adopt the Movement of Health in Turkey.

I would like express my thanks to the following institutions for their support; all the departments of the Bursa Metropolitan Municipality which are a part of the Healthy Cities Project; to the Governorship of Bursa and the Provincial Planning Directorate of the Governorship which assisted us in finding the necessary data; to the Provincial Health Directorate which welcomed us and shared their information on health statistics; to the Directorship of National Education, Provincial Security Directorate, Bag-Kur Directorate, Social Security Directorate, Retirement Fund Directorate, Provincial Special Administration Directorate, Youth and Sports Directorate; to Municipalities of Osmangazi, Yildirim and Nilufer; to the Public Health Department of the University of Uludag and distinguished teachers of Uludag University for their scientific assistance during the preparations and interpretations of the Health Profile.

With my wishes for a healthy city and health for all...

A. Nalan Fidan
Healthy Cities Coordinator, Metropolitan Municipality of Bursa
General Secretary, Turkish Healthy Cities Association

Introduction

Bursa is the oldest natural and historic city of north-western Anatolia. It is bordered by the cities of Yalova and İzmit on the north, Bilecik on the east and Kütahya and Balıkesir on the south. Bursa and its surroundings have been the meeting place of important cultures for centuries; Hittite, Lydia, Phrygia, Rome, Byzantium, Seljuk and Ottoman cultures have all affected its development. Bursa is located between Europe and Asia and has therefore been influenced by Asian and European cultures. Likewise, the archeological digs in Ilipinar tumulus near the Orhangazi District prove that these residential areas were a passage between Asia, the Balkans and Europe.

Bursa is the only city in Turkey that is remembered for being “green”. Its fertile plain ensured a wealthy life for all its citizens for centuries. Its peaches and chestnuts had a worldwide reputation. Today, the green in Bursa and the chestnut and peaches in this green region have declined, and Bursa has become an important industrial city. Bursa has been known as a world silk centre for centuries and was the first industrial city in Turkey.

The land on which the Ottoman Empire was founded has made Bursa an important historic town. Bursa has preserved its historical heritage with the utmost care and still is a historic city with hundreds of historical sites. The Green Mosque and Mausoleum (Yeşil Türbe) and the Great Mosque (Ulucami) are among the unique historical places. No other city in the world has more plentiful thermal spring resources; Bursa, which has used these springs as a cure for centuries, still preserves its Turkish baths. Karagöz and Hacivat (traditional shadow puppetry based on the characters Karagöz and Hacivat), which is the foundation of the Turkish traditional theater, Kılıç-Kalkan (a folkloric dance performed with swords and shields) and the folkloric dances of the mountain region are important contributions of Bursa to the culture of Turkey. Uludağ Mountain, which can be seen anywhere from the city, is the most important ski resort in Turkey.

Bursa has produced nationally and internationally well known brands. Iskender kebab, Mihaliç cheese, Kemalpaşa dessert, Uludağ soda, Özdilek towels, Merinos cloth, İpekiş silk, Tofaş (Fiat) and Renault are brands that have been integrated into Bursa during recent years. Bursa is the only city where the real table olive is produced.

It is a city of immigrants. Bursa first welcomed immigrants from Rumelia and the Caucasus in the 1880s and immigrants from the Balkans soon after. At the end of the war of independence in 1923, Greek and Armenian immigrants left Turkey and Turkish immigrants from Greece settled in Bursa; in 1951, 1968 and 1989, Bursa which hosted tens of thousands of immigrants from Bulgaria and Yugoslavia, was also one of the cities that was the object of intensive migration from eastern Turkey in 1970s.

In the 19th century, Julie Pardoe described Bursa as follows.

I have never visited such a beautiful city. The valley that seems to reach the eternity was laying at the skirts of trees. Beautiful flowers, herbs with odours that cannot be described with words and trees with flowers on them have aligned in our path. Lilac-coloured rockroses with golden spots in their middles, henna trees with snow white seeds, wild marshmallows, mallows with pastel pink and white leaves, turquoise blue flowers with a size of a daisy and beehive followers which stick out between the rocks at the sides of the roads and seem like good, fighting evil and look twice as beautiful in this contrast and passion flowers which preserve their beauties as usual, and other flowers which we haven't seen before have all filled the path and the land.

During the same era, Helmuth Von Moltke said:

It is very hard to decide which capital of the Ottoman Empire is more beautiful, the predecessor or the successor? Bursa or Istanbul? The sea in Istanbul and the land in Bursa fascinate you. In one of them the scene is painted in blue and the other is painted in green.

Baptistin Poujoulat has said, “Bursa is like a surreal city coming out from *Tales of 1001 Nights*”, but Robert Walsh’s description is more interesting: “The nature created Bursa as if just for Turks”. Bursa, a magic city from ancient times, has been preserving its importance as a city of nature and history, even if it does not preserve its previous beauties.

At the international level, Bursa received the Council of Europe Flag of Honour in 1988. During the same year, the city received an Europa Nostra Award from the European Commission and Council of Europe for a broad scheme of environmental improvement. Bursa has also received the Europe Prize from the Council of Europe for its work regarding integration with Europe.

Bursa is a member of many international organizations such as the Organization of Islamic Capitals and Cities (1989), Association of Towns Awarded the Europe Prize (1991), International Union of Local Authorities (1992), International Council for Local Environmental Initiatives (1995), Association of Cities for Recycling (1997), European Association of Zoos and Aquaria (1999), WHO European Healthy Cities Network (2000), European Association of Historic Towns and Regions (2000), BALCINET – Balkan Cities Network (2001), Association of Towns from South-East Europe (2001) and United Cities and Local Governments (2004).

Bursa has had partnerships with 20 cities from four continents (Africa, Asia, Europe and North America) since 1971. Exchange programmes for young people have been carried out for 20 years with various cities.

The first Local Agenda 21 process in Turkey started in Bursa in 1996. City volunteer's houses, a city advisory and solidarity council and many volunteer groups in the framework of Local Agenda 21 are branches that aim to encourage the participation of citizens in managing the city.

Thus, Bursa has a young population, energy and potential. The community has recently improved awareness concerning people's own health care and rights. The community is taking part in many events and is able to take an active role in administration. Training and educational programmes of Local Agenda 21 are increasing the level of participation of the citizens. The initiation of the Bursa Healthy City Project is a correct decision and will inspire other cities in Turkey.

Approach to the Bursa Health Profile

The Bursa Health Profile is a road map for Bursa's participation in the fourth phase of the WHO European Healthy Cities Network. Available data on social and economic status, physical environment and health services have been used to identify the characteristics of Bursa's health problems to allow the authorities to assess the main health concerns.

There are two difficulties in using this profile as a road map. The first is the insufficient collection of health data in Bursa, which is the fourth biggest province of Turkey, even though the road map has been designed by assessing these data.

The second is the reduction in the quality of the health care provided in Bursa as the share of the national budget allocated to public-sector health care has declined in the past two decades in Turkey (in 2003, the share allocated for the Ministry of Health was only 2.6% of the total budget). Bursa's primary health care has been tremendously affected by the lack of funding. The budget assigned for primary health care, which is the major factor highly affecting public health, has been reduced gradually. However, the share for treatment increased. As a result of this approach to funding, priority is given to organizations providing specialized treatment, whereas insufficient support is given to smaller local health centres that provide primary health care.

In the fourth phase of the WHO European Healthy Cities Network, positive developments are expected from Bursa's health indicators. The rate of internal and external migration has been reduced during the past 15 years, and the irregular urbanization of the city has been prevented during the past five years. This combined with work carried out in partnership with the departments concerned in the scope of the WHO European Healthy Cities Network provides great opportunities and tools for Bursa to advance its health status.

1. Health status

1.1. Population

1.1.1. Distribution of population by age and sex

According to the 2000 census, the population of Bursa included in the Bursa Healthy City Project was 1 194 316. Table 1 shows the distribution of the population according to age and sex.

Table 1. Distribution of Bursa's population by age and sex

Age (years)	Male		Female		Total
	<i>n</i>	%	<i>n</i>	%	
0	9 866	0.8	9 043	0.8	18 909
1-4	40 728	3.4	38 565	3.2	79 293
5-9	52 859	4.4	50 079	4.2	102 938
10-14	54 484	4.6	50 398	4.2	104 882
15-19	62 117	5.2	57 330	4.8	119 447
20-24	53 410	4.5	62 105	5.2	115 515
25-29	58 851	4.9	57 952	4.9	116 803
30-34	52 325	4.4	50 315	4.2	102 640
35-39	48 508	4.1	47 575	4.0	96 083
40-44	42 330	3.5	41 405	3.5	83 735
45-49	35 493	3.0	33 908	2.8	69 401
50-54	26 954	2.3	26 021	2.2	52 975
55-59	18 793	1.6	18 730	1.6	37 523
60-64	14 357	1.2	16 314	1.4	30 671
65-69	12 118	1.0	14 284	1.2	26 402
70-74	7 725	0.6	11 218	0.9	18 943
75-79	4 391	0.4	6 140	0.5	10 531
80-84	1 690	0.1	2 635	0.2	4 325
85+	1 150	0.1	2 150	0.2	3 300
Total	598 149	50.1	596 167	49.9	1 194 316

Of the total population, 25.6% is younger than 15 years, 66.6% is 15-59 years and 7.8% is 60 years or older. Thus, Bursa has a mature population. Nevertheless, compared with other countries, the lower population of elderly people provides a great advantage for Bursa in reducing demand for health care, including diagnosis, treatment and medicine costs.

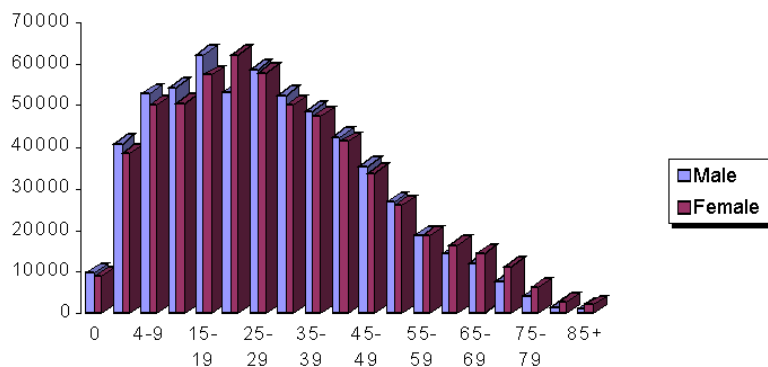
The dependency ratio is 44.8% in Bursa and 47.3% in Greater Bursa. The decrease in the dependency ratio is important; it was 62.5% in 1980. The gradual decline in the dependency ratio has especially resulted from the decrease in the population younger than 15 years. During the past two decades, success in family planning has gradually led to a reduction in the dependent population, even though it is not yet at the expected level.

1.1.2 Population pyramid

Fig. 1 shows the population pyramid of the city.

Horizontal axis: Years

Vertical axis: Number



1.1.3. Projection of population

The State Institute of Statistics projects population. For each new population projection, the population share ratio for Bursa is estimated from the population of Turkey, and the cohort survival method is used. This method also aims to project the target population size and the distribution of age and population structure for each year.

The population of Bursa in 2020 is projected to be 1 925 000 based on the cohort survival method and the trends in the population of Turkey. Bursa comprised 2.8% of Turkey's population in 1990, and the State Institute of Statistics projects that this will increase to 4.2% in 2020. The population 60 years and older is expected to exceed 10% in 2020 and 15% in 2050. This trend places responsibility on the authorities to establish health units dealing with elderly people and on the central governing bodies, especially to strengthen the social security organizations, starting today. Public health organizations need to introduce healthy ageing to the public and to assist changes in lifestyles (smoking cessation, regular physical activity and a healthy diet) on a large scale.

1.1.4. Population and migration

Bursa has been receiving inward migration for many years. According to the general census in 2000, those born in Bursa comprise 57.5% of the population, and immigrants from other countries, mainly Bulgaria and Greece, 8.7%. Most of the domestic migration to Bursa is from eastern Anatolia. These migrants from southern and eastern Anatolia live in unhealthy buildings in the suburbs. This situation should be monitored both for urbanization dynamics and to provide basic health care.

1.2. Childbirth

1.2.1. Fertility

Long-term trends in the birth rate in Bursa have been monitored according to the ratio of children to women (the number of children aged 0–4 years per 1000 fertile women 15–49 years old). The birth rate increased until 1960 and then has declined continuously. The average number of children per 1000 women declined from 551 in the 1960s to 290 in 2000, about 47%.

Another indicator of reproduction is the number of children per woman aged 45–49 years (at the end of the fertility period). This also shows the decrease in reproduction. The average number of children born to women aged 45-49 years declined from 4.5 in 1970 to 3.2 in 2000.

The fertility rate is similar in residential districts: 1.9 in the city centre, 2.1 in district centres and 2.2 in villages. The rate declined slightly from 2.03 in 1990 to 1.98 in 2000, and the average age of a woman giving birth was 26.2 and 26.8 years, respectively.

1.2.2. Distribution of births by place and personnel present

In 2002 there were 26 145 births in Bursa. Table 2 shows the distribution of the births by place and personnel present. Of the total births, 96.0% took place in a hospital and 1.3% without health care assistance.

In the coming years, the main objective will be reducing the 1.3% of births that occurred without health care assistance. For this purpose, providing free health care to pregnant women who have no social health insurance coverage may be an important step.

Table 2. Distribution of childbirth by place and personnel present, 2002

Place and personnel present	<i>n</i>	%
In hospitals	25 092	96.0
Outside hospitals		
Physician assistance	30	0.1
Midwife assistance	593	2.3
Other health care personnel	77	0.3
Without assistance of health care personnel	353	1.3
Total	26 145	100.0

Source: Bursa Provincial Health Directorate (2005a).

1.3. Mortality

1.3.1. Mortality by age and sex

A total of 9097 people died in Bursa in 2001. The crude mortality rate is 7.6 per 1000 population. Table 3 shows the distribution of mortality by age and sex.

Table 3. Distribution of deaths in Bursa in 2001 by age group and sex

Age (years)	Sex		Total	
	Male	Female	<i>n</i>	%
0	235	204	439	4.8
1–4	39	35	74	0.8
5–14	57	50	107	1.2
15–24	130	55	185	2.0
25–34	157	80	237	2.6
35–44	313	148	461	5.1
45–54	624	255	879	9.7
55–64	1 000	467	1 467	16.1
65–74	1 474	1 054	2 528	27.8
75+	1 205	1 515	2 720	29.9
Total	5 234	3 863	9 097	100.0

Source: State Institute of Statistics (2003a).

1.3.2 Infant mortality

Infant mortality rates indicate the general development level of a country. In Bursa, the infant mortality rate is 39 per 1000 live births according to the State Institute of Statistics. Bursa's infant mortality comprises 4.8% of total mortality, which is very high compared with affluent industrialized countries.

Publications of the State Institute of Statistics estimate the infant mortality rates demographically using the number of live births a woman has during her entire life and the number of her surviving children. Infant mortality rates have decreased from 158 per 1000 live births since 1967, similar to the general status in Turkey.

Infant mortality differs according to the sex of the infant. The infant mortality rate in the city centre and districts is 42 per 1000 live births for boys and 36 per 1000 for girls versus 43 per 1000 for boys and 39 per 1000 for girls in villages.

In the fourth phase of the WHO European Healthy Cities Network, the most important concern for city administrations is focusing on intervening to reduce infant mortality rates. Important initiatives therefore include monitoring infants regularly in the regions where health centres are located and providing nutritional support and free health care for infants who have no social health insurance coverage.

1.3.3. Causes of mortality

Table 4 shows the distribution of the 9097 deaths in 2001. The main causes of death were cardiovascular diseases and cancer. Public health interventions should especially concentrate on preventing cardiovascular diseases. Unfortunately, the main infectious diseases have not yet been eradicated in Bursa. In 2001, polio caused only one death, but this was the last case in Bursa.

Table 4. Causes of death in Greater Bursa, 2001

Cause	Number of deaths		Total	
	Male	Female	<i>n</i>	%
Typhoid	1	0	1	0.01
Diarrhoea and gastroenteritis of presumed infectious origin	14	10	24	0.26
Respiratory tuberculosis	34	14	48	0.53
Other tuberculosis types and their late effects	1	1	2	0.02
Meningococcal infection	49	44	93	1.02
Acute poliomyelitis	0	1	1	0.01
Other infectious and parasitic diseases	28	26	54	0.59
Malignant neoplasms, including lymphoid, haemopoietic and related tissue	1 091	505	1 596	17.54
Diabetes mellitus	112	182	294	3.23
Nutritional deficiencies	6	8	14	0.15
Anaemia	6	9	15	0.16
Meningitis	4	4	8	0.09
Chronic rheumatic heart disease	5	3	8	0.09
Hypertensive diseases	136	183	319	3.51
Ischaemic heart diseases	422	155	577	6.34
Other types of heart diseases	1 018	867	1 885	20.72
Cerebrovascular diseases	528	517	1 045	11.49
Pneumonia	47	26	73	0.80
Bronchitis, emphysema and asthma	17	13	30	0.33
Ventricular ulcers	32	7	39	0.43
Appendicitis	2	2	4	0.04
Intestinal obstructions and hernia	7	13	20	0.22
Cirrhosis of liver	53	31	84	0.92
Nephritis and nephrosis	3	–	3	0.03
Fetal abnormalities	55	54	109	1.20
Birth trauma, difficult births and other hypoxic situations	26	19	45	0.49
Prenatal and other causes	86	74	160	1.76
Unidentified symptoms and cases	486	459	945	10.39
All other diseases	658	516	1 174	12.91
Transport accidents	106	37	143	1.57
All other accidents	118	56	174	1.91
Suicide and self-harm	66	19	85	0.93
All other external causes	17	8	25	0.27
Total	5 234	3 863	9 097	100.00

Source: State Institute of Statistics (2003a).

Diseases

A comprehensive database is not available for diseases. Table 5 shows the reported prevalence of some diseases for Greater Bursa (the figures for the city centre only could not be obtained). However, the numbers of cases recorded are less than expected. Insufficient collection of data about diseases from the private sector, although it is compulsory, and insufficient attention given to diagnosis and reporting of diseases by public health organizations makes the assessment difficult.

Table 5. Prevalence of selected diseases recorded in Greater Bursa (2001)

Disease	<i>n</i>	Prevalence per 100 000 population
<i>Mandatory reportable diseases</i>		
Meningococcal meningitis	6	0.5
Scarlet fever	304	14.4
Streptococcal infection	4 396	208.7
Brucella	22	1.0
Typhoid	9	0.4
Paratyphoid	7	0.3
Dysentery associated with bacilli (<i>Shigella</i>)	22	1.0
Amoebic dysentery	230	10.9
Hepatitis A	260	12.3
HIV disease	5	0.2
<i>Diseases not required to be reported</i>		
Acute upper respiratory tract infections	203 661	9 965
Acute pharyngitis	19 816	940
Acute bronchitis	38 922	1 847
Pneumonia	1 828	86.8
Diarrhoea	24 608	1 168
Ascariasis	453	116.4

Source: Bursa Sağlık Müdürlüğü (2002).

1.4. Disability

Table 6 and 7 show disability in Bursa according to type of disability, age and district.

Table 6. Number of people in Bursa with various types of disability according to age

Age (years)	Visual	Hearing	Speech	Physical	Mental	Other	More than one type	Unknown	Total
0–4	75	38	46	276	90	134	64	129	852
5–9	121	140	194	431	275	135	202	164	1 662
10–14	200	207	131	524	477	145	178	185	2 047
15–19	231	164	147	672	557	191	213	123	2 398
20–24	258	164	154	856	530	200	194	202	2 558
25–29	261	156	148	1 103	469	223	202	224	2 786
30–34	226	142	100	1 056	432	228	176	214	2 604
35–39	279	123	102	1 429	313	262	158	234	2 605
40–44	252	110	93	987	285	266	138	212	2 343
45–49	233	107	84	917	207	252	99	212	2 111
50–54	216	118	61	862	170	261	117	132	1 937
55–59	279	117	63	812	139	267	103	101	1 881
60–64	312	169	58	930	120	302	111	83	2 085
65–69	324	254	76	1 110	104	330	126	82	2 406
70–74	252	288	52	986	96	290	133	65	2 162
75–79	218	227	39	667	72	185	104	37	1 549
80–84	115	125	12	282	30	89	53	10	716
85+	109	104	5	255	39	61	82	12	667
Unknown	–	–	–	2	2	3	2	2	11
Total	3 961	2 753	1 565	13 862	4 407	3 824	2 455	2 553	35 380

Source: State Institute of Statistics (2002).

Table 7. Percentage of people with disability in various districts, 2002

District	Population	n	%
Osmangazi	691 335	2 459	0.4
Nilüfer	182 497	581	0.3
Yıldırım	464 754	1 382	0.3
Büyükorhan	15 296	179	1.2
Gemlik	84 556	482	0.6
Gürsu	49 964	90	0.2
Harmancık	8 053	60	0.7
İnegöl	169 544	1 953	1.2
İznik	44 349	147	0.3
Karacabey	76 671	414	0.5
Keles	16 456	213	1.3
Kestel	41 333	269	0.7
Mudanya	43 973	157	0.4
Mustafakemalpaşa	102 710	1 930	1.9
Orhaneli	26 025	235	0.9
Orhangazi	80 827	317	0.4
Yenişehir	52 546	690	1.3
Total	2 150 889	11 558	0.5

Source: Bursa Provincial Health Directorate (2005b).

1.4.1. Initiatives on the use of city services by people with disability

Coordination

In 2003, monthly coordination meetings coordinated by the Directorate of Environmental Protection were held with department directorates and municipalities to discuss services for people with disability. In addition, four meetings were held with organizations representing disabled people to redesign the route of the buses for disabled people.

Public transport

- On the İzmir Road Railway System Route, walkways for disabled people and signs indicating these roads were constructed.
- Sound signal systems have been constructed in intercity junctions to facilitate crosswalks for blind people.
- The Atatürk subway descent and ascent platform, which will facilitate crossing Atatürk Main Road, has been put out to tender. Further, in order to provide accessibility at the entrance and exit of the subway, ramp arrangements and ground markings have been completed.
- After the meetings with associations working for disabled people, bus routes were redesigned to consider disabled people, and signs have been added to bus stop timetables.
- During the planning of the new routes, the address lists obtained from the organizations of disabled people were included on the maps.
- Disabled people were allocated 3956 passes to be used in the public transport systems free of charge in 2003.
- Road tracks for blind people, entrance–exit bars and ramps for disabled people have been constructed in the Bursa Light Railway System, and construction of elevators in six stations has started.

Architectural arrangements

- Ramps have been constructed at the entrances of Zafer Neighbourhood City Volunteers' House and the French Church.
- A contract has been awarded for an elevator disabled people can use in the Health Department Building.
- Entrance arrangements have been carried out at the Bursa Education Development Foundation (BEGEV) located in the Küçüksanayi Industrial Zone.
- Toilets for disabled people have been constructed in the Bus Administration.

Initiatives in progress

- Meetings were held with the Directorate-General of the Water and Sewerage System Administration of Bursa (BUSKI). Projects prepared to improve the access of disabled people to the Acemler A and B Blocks were submitted to the Directorate-General.

- Entrance arrangements and construction of an elevator system in the City Museum are in progress.
- Ramps and running tracks in Mihraplı Park are being constructed.

Employment

- A total of 194 disabled people have been employed in 2003.
- Disabled personnel are employed in the Metropolitan Municipality of Bursa via Turkish Labour Organization directives in accordance with the law.
- The Disabled Citizen Service Desk collects complaints, proposals and contributions and submits them to the concerned units. The Disabled Citizen Service Desk assessed 65 complaints, proposals and contributions during 2003.

2. Health care services

2.1. Provision of health care services

In Bursa, health care services are provided primarily by health centres, maternal and child health centres, tuberculosis clinics and state hospitals affiliated with the Ministry of Health and clinics and care centres affiliated with the Social Security Institution. According to law, although the public health centres should have been established in areas in accordance with the population, for various reasons the principle of population-based organization has not been followed. In the city, health care is provided in polyclinics of the municipality and in private-sector inpatient or outpatient health centres. Table 8 shows the organizations providing health care in Bursa.

Table 8. Organizations providing health care in Bursa

<i>Organizations attached to the Ministry of Health</i>	<i>Number</i>
State hospital	1
Branch hospitals	6
Inpatient health centres	3
District polyclinic	1
Regional public health laboratory	1
Tuberculosis clinics	3
Maternal and child health centres	4
Health centres	46
<i>Other public organizations</i>	
Municipal clinics	14
Social Security Institution hospitals	2
Social Security Institution children's hospital	1
University hospital	1
Military hospital	1
<i>Private-sector organizations</i>	
Private hospitals	3
Private medical centres	9
Private surgery centres	2

2.2. Health care workforce

Table 9 shows the number of personnel in health care and the population per health care employee.

Table 9. Health care workforce in Bursa

	Number	Population per employee
Physicians	2 028	589
Specialists	1 126	1 061
General practitioners	902	1 324
Dentists	352	3 393
Nurses	1 849	646
Health officials	936	1 276
Midwives	845	1 413

Source: Bursa Provincial Health Directorate (2005c).

Table 9 shows important evidence on health care trends in Turkey. More than half the physicians are specialists. This indicates that the current health system is unable to focus on primary health services. Having focused on therapeutic applications, the current health system relies on conventional specialized medicine and treating the patient by means of short appointments in hospitals by a specialist. The ratio of population per health care provider is conventional for most types of personnel, although the ratio of population to the number of dentists is very high.

2.3. Health care utilization

In 2002, there were 5 783 262 contacts with health care organizations in Greater Bursa. Table 10 shows the distribution of the contacts according to primary, secondary and tertiary care. The average number of contacts per person per year is 2.7, although not all the contacts originate from people living in the Bursa region. The number of contacts with physicians cannot be calculated because the private health organizations (private clinics, polyclinics and medical centres) providing primary health care are not included in the statistics. However, the number of contacts with a physician per person per year is estimated to be 4. This number appears to be small relative to affluent industrial countries, but one third of the population has no social health insurance coverage and the proportion of the population that is older is lower in Turkey.

Table 10. Number of contacts with health organizations in Greater Bursa according to level of care, 2001

Level of care	Public	Private	Total
Primary health care	1 861 172	No data	1 861 172
Secondary health care	3 621 975	15 249	3 637 224
Tertiary health care	284 866	--	284 866

Source: Provincial Directorate of Health, unpublished data.

2.4. Social health insurance

No database shows the social insurance status of the citizens residing in the city centre. Nevertheless, data were obtained from a project conducted jointly by Uludağ University and the Municipality of Nilüfer on primary health care services. The population included in the project resides in the region located by the west side of the city centre where the economic and social indicators such as employment, unemployment and education are estimated to be better than the eastern part of the city. The city as a whole therefore probably has a higher proportion of people with no social health insurance coverage. Table 11 shows the social health insurance status of the population in the Nilüfer Pilot Project; 29.6% had no social health insurance. The data are in accordance with the unpublished results of a study regarding the average number of households conducted by the Ministry of Health. Thus, about one third of the people living in Bursa have no social insurance.

Table 11. Social health insurance providers for people living in Nilüfer

Social health insurance provider	n	%
Social Security Institution	11 548	51.3
Social security for self-employed workers	1 917	8.5
Public budget	1 273	5.7
Retirement fund	674	3.0
Green card	400	1.7
Special insurance	39	0.2
None	6 669	29.6
Total	22 520	100.0

2.5. Lifestyles

2.5.1. Smoking

According to the limited studies carried out in various periods, the smoking prevalence among adults is about 60% among men and 30% among women. A comprehensive survey should be conducted on the prevalence of smoking and the factors that affect smoking. A survey was conducted in 2004 to determine the smoking prevalence in grades 5–8 (11–16 years old) in schools. Seventeen schools within the Metropolitan Municipality of Bursa were randomly selected to be included; 9408 of 12 171 students (77.3%) were interviewed. The average age of the students included was 12.9 ± 1.2 years (boys 13.0 ± 1.2 and girls 12.8 ± 1.2).

Of the students surveyed, 7798 (83%) had never smoked, 1259 (13%) had tried smoking and 351 (4%) had smoked or were smoking at the time of the survey. The average age for starting smoking was 11.7 ± 1.6 years (range 7–16): 11.7 ± 1.7 for boys and 12.0 ± 1.4 for girls. The percentage smoking increases as age increases for both sexes. The smoking prevalence was 0.9% at 11 years but increased to 33.3% at 16 years (Table 12).

To ensure the success of the campaign against smoking, public health interventions to protect adolescents and women, who are the target groups of cigarette manufacturers, should be increasingly applied in the fourth phase of the WHO European Healthy Cities Network.

Table 12. Smoking prevalence among adolescents 11–16 years old in Bursa

Age (years)	Smoking prevalence (%)
11	0.9
12	1.3
13	2.2
14	4.7
15	12.7
16	33.3

2.5.2. Alcohol

Assessing the status of alcohol consumption is difficult since data are not available. A study on alcohol consumption should therefore be planned for the next few years. Further, the quantity and type of alcohol consumption per person should be determined by designing a database for alcohol consumption.

Observations show that the people know little about the health problems alcohol consumption may cause. Information regarding the adverse effects of alcohol should therefore be introduced to the general public during public activities.

2.5.3. Addictive drugs and drug consumption

The regulations on the supervision and surveillance of addictive drugs specify that only people with red and green prescriptions, which are under the control of the provincial health directorates, can receive such drugs. In 2002, 33 798 green and 4151 red prescriptions were issued for addictive drugs.

The number of people using illicit narcotics in Bursa is unknown. Although narcotic usage among adolescents has been reported to be increasing in recent years, no data have been published. The Security

Directorate of the city is effectively fighting narcotic usage with public support. In 2003, 248 narcotic cases were recorded.

2.5.4. Physical activity

Regular physical activity is well known to be an effective way of avoiding chronic diseases and ageing in good health. Nevertheless, most people living in Bursa do not take regular exercise as an ordinary activity. Activities in Bursa to encourage people to engage in regular physical activity are limited. However, in the past five years, new parks have been opened and running tracks constructed to provide people opportunities to exercise more. One of the important aims for these developments should be educating the public about the positive effects of regular physical activity. Similar to other public health education subjects, local radio and television can be used to communicate these subjects to people. The importance of regular physical activity should be taught beginning in childhood. City authorities have taken many steps to improve this situation. Bursa has 167 public and 171 private sport facilities.

2.5.5. Diet

The effect of diet in promoting a long and healthy life is well known. A comprehensive study should be conducted to determine the dietary status of the population of Bursa and the factors that influence diet. It is well known that migrants from the countryside to the city centre tend to continue their previous dietary habits. Healthy diets based on scientific developments should be taught to people, and interventions should provide food aid to those who cannot afford enough food. During 2003–2007, city administrators should primarily aid those who need food.

2.6. Living conditions

2.6.1. Homelessness

Bursa has very few homeless people. Although people are known to be living in partly ruined buildings, they are not considered homeless. Some shelters were assigned to homeless people in the winter season, and it has been recommended that these shelters be arranged on an ongoing basis.

2.6.2. Features of the buildings

Tables 13 and 14 summarize the household size and other characteristics of dwellings in Bursa.

Table 13. Dwellings in the Bursa city centre according to number of people in the household and number of rooms, 2000

People in the household	Number of households	Number of rooms in the dwelling								
		1	2	3	4	5	6	7	8+	Unknown
1	16 852	650	2 631	8 014	5 054	380	58	13	27	25
2	50 336	406	4 126	23 234	20 649	1 598	195	46	59	23
3	71 862	265	4 014	31 313	33 183	2 626	298	55	81	27
4	94 139	267	4 807	38 392	46 041	3 837	519	105	127	44
5	44 811	166	2 203	18 044	21 447	2 339	371	101	116	24
6	20 024	65	854	7 498	9 854	1 282	314	75	69	13
7	8 553	29	341	3 090	4 221	606	153	30	76	7
8	3 870	10	149	1 284	2 044	263	71	10	38	1
9	2 049	7	72	706	1 008	153	52	14	34	3
10+	2 769	5	59	788	1 458	226	95	22	114	2
Total	315 265	1 870	19 256	13 2363	14 4959	13 310	2 126	471	741	169

The dwellings have generally suitable water and waste systems.

Table 14. Features of the dwellings in Bursa city centre, 2000

Feature	Number of households	%
<i>Network water</i>		
Inside the residence	309 614	98.2
Outside the residence	2 129	0.7
None	3 468	1.1
Unknown	54	0.02
<i>Bath</i>		
	310 792	98.6
Inside the residence	2 269	0.7
Outside the residence	2 163	0.7
None	41	0.01
Total	315 265	100.0

Source: State Institute of Statistics (2002).

2.6.3. Population density

Bursa's population density is 1444 people per km². Bursa has an average of 3.78 people per dwelling and 1.08 per room. The number of people per residence usually exceeds 4 in Turkey.

2.7. Socioeconomic status

2.7.1. Education

In Bursa, 11.4% of the population 15 years or older is illiterate. Efforts are being made to reduce illiteracy through public education centres, which have been opened to educate illiterate people. However, many of the illiterate people are elderly women. Illiteracy is therefore difficult to reduce because most elderly women are reluctant to attend these courses. The target population should be the women who have migrated from eastern Turkey. Midwives should identify illiterate women when they visit to determine who needs education activities. Table 15 shows the educational level of the population.

Table 15. Educational level of the adult population of Bursa in 2000 according to sex

	Total	%	Female	%	Male	%
Total	952 824		479 102		473 722	
Illiterate	62 597	7	51 832	11	10 765	2
Literate	890 205	93	427 252	89	462 953	98
Not completed any school	86 570	9	47 771	10	38 799	8
Completed any school	803 508	84	379 361	79	424 147	90
Primary school	408 761	43	217 231	45	191 530	40
Grade school	34 934	4	14 997	3	19 937	4
Junior high school	106 792	11	42 868	9	63 924	13
High school	182 218	19	76 555	16	105 663	22
Higher education	70 803	7	27 710	6	43 093	9
Unknown (whether graduated or not)	127	0	120	0	7	0
Unknown (whether literate or not)	22	0	18	0	4	0

Source: State Institute of Statistics (2002).

2.7.2. Employment

Bursa is an important industrial centre in Turkey. Textiles and automobiles are major industries in Bursa. Tables 16 and 17 show the distribution of employees according to their employment status and the social security organization of which they are a member. The labour force is 23.2% women.

Table 16. Employed people in Bursa according to type of employment, 2001

Type of employment	<i>n</i>	%
Paid, salaried or daily wage	261 356	75.8
Employer	31 785	9.2
Self-employed	39 396	11.4
Family member assisting in a business	12 177	3.5
Total	344 714	100.0

Source: State Institute of Statistics (2003b).

The main finding about labour force dynamics is the percentage employed without any type of social security coverage: 27.2% (Table 17). This high proportion of unregistered workers makes resolving the problems faced in every social security field (health care, occupational accidents and diseases, maternity, retirement and death) difficult.

Table 17. Social security organizations for employees, 2001

Social security organization	<i>n</i>	%
Social Security Institution (SSK)	181 489	52.6
Public pension fund	30 532	8.9
Pension Fund for Independent Employers (Bağ-Kur)	37 337	10.8
Not registered	93 923	27.2
Other (such as private social security institutions and insurance agencies)	1 433	0.4
Total	344 714	100.0

Source: State Institute of Statistics (2003b).

2.7.3. Unemployment

Bursa's unemployment rate is 11.6%: 10.4% for men and 15.4% for women. The unemployment rate is higher in the city centre than in the districts. The number of unemployed people within the city centre is 61 348. In the city and district centres, women's unemployment rate is higher than that of men, whereas the unemployment rate for men is higher in the villages. Most of the unemployed people are young: 58% younger than 30 years. Table 18 shows Bursa's workforce, employment and unemployment status according to age and sex.

Table 18. Workforce, employment and unemployment in Bursa, 2000

	Male		Female		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Total workforce	320 892	67.7	106 816	22.3	427 708	44.9
<i>Employed</i>	281 109	87.6	85 251	79.8	366 360	85.7
<i>Unemployed</i>	39 783	12.4	21 565	20.2	61 348	14.3
Outside the workforce	152 816	32.3	372 267	77.7	525 083	55.1
Total population 13–64 years old in Bursa	473 708	49.7	479 083	50.3	952 791	100.0

Source: State Institute of Statistics (2002).

2.7.4. Income and distribution of income

Income is not equally distributed in Bursa. The most recent data on income distribution are from 1994. Two important economic crises in Turkey since the late 1990s are estimated to have made the income distribution in Bursa more unequal. The unequal income distribution in Turkey is also present in Bursa.

Table 19 shows the distribution of household income in Bursa according to quintiles of total households.

Table 19. Distribution of household income in Bursa according to quintiles of total households, 1994

Quintile	Number of households	Share of total household income (%)
1	48 048	6.5
2	48 048	10.5
3	48 048	14.0
4	48 048	19.6
5	48 048	49.5
Total	240 240	100.0

Source: State Institute of Statistics (1995).

2.7.5. Crime and violence

Table 20 shows the police statistics on crime and violence cases recorded in Bursa. Given that the population exceeds 1 million, Bursa has little crime compared with many cities throughout the world. However, violence is increasing, especially in residential areas with low income due to persistent poverty and deepening inequality, and crimes of theft and robbery in wealthy neighborhoods are increasing. Undoubtedly, these problems cannot be reduced only with legal means and security forces; reducing crime and violence depends greatly on strengthening the social welfare system and reducing inequality in the distribution of income and education.

Table 20. Serious crimes reported in Bursa according to type, 2003

Type of crime		<i>n</i>
Crimes against people	Premeditated murder	32
	Attempted murder	558
	Aggravated assault	594
	Violence by an intimate partner	190
	Suicide	40
	Attempted suicide	345
Total		1 759
Crimes against property	Household burglary	1 203
	Theft from workplaces	1 264
	Theft from legal organizations	59
	Theft from automobiles	1 551
	Automobile theft	371
	Pickpocketing	894
	Animal theft	2
	Robbery	70
	Total	

Source: Provincial Directorate of Security, unpublished data.

2.7.6. Cultural features

Opportunities for cultural activities have increased during the past decade. Table 21 summarizes data on cinemas, theatres and concert halls. Especially the increasing interest in cultural activities among young people, including developing and creating new cultural means, provides an opportunity for improving the sensitivity of citizens.

Table 21. Bursa's cinema, theatre and concert venues, 2002

Cultural facility or organization	Total	Number of visitors
Cultural centres	19	14 820
Culture and art associations and foundations	36	–
Local and regional society facilities	28	–
Libraries	10	75 966
Theaters	5	75 260
Museums	8	46 872
Cinemas	10	–
Art galleries	14	–
Art education centres	12	–
Symphony orchestra	10	18 000
Institutes and organizations dealing with cultural activities	21	–
Travelling theatres	18	–
Mass-media centres	8	–
Radio stations	30	–

Source: Provincial Directorate of Culture, unpublished data.

2.8. Physical environment

2.8.1. Air quality

The Metropolitan Municipality and the Directorate of Health regularly measure the concentration of air pollutants in Bursa (Table 22). The percentages of households using coal, wood and natural gas for space heating are 51%, 23% and 25%, respectively. Increasing the number of buildings using natural gas for space heating has been important in preventing air pollution. The AIRNET system has been used to measure air pollution since 2001, and the results are regularly displayed on an electronic bulletin board in the city centre.

Regular control schedules have been prepared for plants that have been given emission licences and technical certificates. Emission maps for the organized industry zone have been designed. Inspections have been carried out on fuels at the fixed fuel control stations, and samples are taken from the fuels that seem to be doubtful and those without a licence. Flue-gas emissions from chimneys of the plants that seem to carry a risk of air pollution are measured regularly. If the concentrations of pollutants exceed the specified limits, fuel samples are analysed. Emissions are measured in the boiler rooms of some buildings in the city centre, and fuel samples are analysed if emissions exceed the standards. Air pollution is evaluated by periodically comparing the results obtained from the AIRNET system and the Directorate of Health.

Table 22. Concentrations of air pollutants ($\mu\text{g}/\text{m}^3$) in Bursa, 2003

Month	Heykel Station					Duaçınar Station			
	SO ₂	PM	NO ₂	CO	ozone	SO ₂	PM	NO ₂	CO
January	42	76	43	1 385	27	48	110	43	1 289
February	NA	48	44	847	38	32	63	42	745
March	NA	99	57	1 419	33	48	106	55	1 009
April	NA	67	NA	1 039	30	39	112	58	878
May	NA	NA	NA	622	31	30	112	68	262
June	NA	NA	NA	559	NA	39	72	51	115
July	NA	NA	NA	251	NA	64	78	47	103
August	154	59	5	245	52	62	53	41	82
September	75	50	4	348	47	18	NA	55	498
October	NA	85	NA	650	41	20	NA	28	430
November	27	143	47	2 770	38	61	295	94	3 421
December	44	NA	50	1 955	41	58	151	38	1 739
Average	68	69	36	1 008	38	43	115	52	881

SO₂: sulfur dioxide; PM: total particulate matter; NO₂: nitrogen dioxide; CO: carbon monoxide.

NA: not available.

Source: Environment Protection Department, Metropolitan Municipality of Bursa, unpublished data.

2.8.2. Water quality

Drinking-water is supplied by BUSKI, which is affiliated with the Metropolitan Municipality. BUSKI supplies water and analyses the quality of water daily, monthly and yearly (Table 23). The Directorate of Health also controls the water supplied by BUSKI (Table 24).

Table 23. Reference limit values for drinking-water quality in Bursa

Parameter	Reference limit value
Daily analysis	
Turbidity (nephelometric turbidity units)	0.09–0.40
pH	7.29–8.03
Free chlorine (ppm)	0.40–0.60
Temperature (°C)	5.5–19.0
Al ⁺³ (ppm)	0.01–0.05
Solid substances in an emulsion state (ppm)	0
Total manganese (ppm)	0.002–0.028
Bacteria (total coliform) (100 ml)	0
Monthly analysis	
Chlorine (platinum-cobalt scale)	0
Total dissolved substances (ppm)	198.40–238.72
Total hardness (CaCO ₃) (ppm)	150–190
Total alkalinity (ppm)	117–161
Hardness due to calcium (CaCO ₃) (ppm)	84–116
Hardness due to magnesium (CaCO ₃) (ppm)	58–88
Total iron (ppm)	0.00–0.03
Chloride (ppm)	2.0–7.2
Sulfate (ppm)	22–48
Nitrate (ppm)	0.0–4.0
Nitrite (ppm)	0.000
Ammonia (ppm)	0.00
Dissolved oxygen (ppm)	7.8–13.4
Orthophosphate (ppm)	0.04–0.16
Conductivity (µS/cm)	310–373
Organic substance (ppm)	0.95–3.16
Arsenic (ppm)	0.000
Cyanide (ppm)	0.000
Sodium (ppm)	2.72–5.73
Potassium (ppm)	0.790–2.74
Biologically available oxygen (ppm)	0.1–1.7
Yearly analysis	
Zinc (ppm)	0.00–0.03
Cadmium (ppm)	0.001 – 0.002
Copper (ppm)	0.00–0.01
Nickel (ppm)	0.000
Boron (ppm)	0.01–0.2
Selenium (ppm)	0.00
Fluorine (ppm)	0.00
Chrome (ppm)	0.00
Lead (ppm)	0.002–0.010

Source: Water and Sewerage System Administration of Bursa (BUSKI), unpublished data.

All these parameters are under the limit values specified by WHO.

The results of drinking-water supply tests exceeding the limit values show that contamination originates from old water systems. The discharge from wastewater-treatment plants complies with the health standards. In the coming years, initiatives to renew the old and unhealthy systems in some districts should therefore be accelerated. In addition, the number of samples taken by the Directorate of Health should be increased. Table 24 shows the results of analysis of drinking-water.

Table 24. Results of the analysis of drinking-water, 2001

Result	Type of analysis		
	Bacteriological	Chemical	Physical
Healthy	358	74	–
Unhealthy	180	25	2
Total	538	99	2

Source: Directorate of Basic Health Provisions, unpublished data.

2.8.3. Water and sewerage provision

The proportion of houses using water from the public drinking-water system is 97%, and 96% of houses are connected to the sewerage system.

2.8.4. Noise pollution

A map showing noise levels has been prepared using the results obtained from the measurements in parks and residential areas and especially in areas with dense motor-vehicle traffic and industry. The map is updated every year. Table 25 summarizes the noise measurement statistics obtained from some areas of Bursa.

With rapid urbanization, noise from the main roads of the city appears to be a great problem for the public. The noise levels have decreased on the routes where the railway system for intracity transport has been taken into use. However, due to the serious effects of noise, including deafness, interventions need to target the areas suffering from noise problems as soon as possible.

Table 25. Noise measurement results in Bursa, 2003

Measurement centre	Measurement result (dB(A))		Limit value (dB(A))
	Average	Peak	
Areas with intense motor-vehicle traffic			
Ankara Road	74	88	70
East Belt Highway	77	88	70
Yalova Road	77	83	70
Atatürk Road	71	76	65
Namazgah Road	72	81	65
Muradiye Road	73	80	65
Industrial areas			
Duaçınarı Industrial Area	72	–	70
Pilot Industrial Area	69	–	70
Parks			
Tophane Park	58	–	55
Kültürpark	55	–	55
Temenyeri Park	46	–	55

2.8.5. Radiation

Data on the ionizing and nonionizing radiation level to which the public is exposed are not available. However, in recent years public sensitivity about ionizing and nonionizing radiation has increased after the issues of high-voltage transmission lines and base stations for mobile telephones were brought onto the public agenda. It has been recommended that administrators study levels of electromagnetic activity.

2.8.6. Places open to the public

The amount of green space in Bursa is 4.5 m² per person. For three nearby municipalities, the figure for the oldest and the most central residential area, Osmangazi, is 0.4 m² per person, for the municipality east of the city, Yıldırım, 0.7 m² per person and for Nilüfer, the municipality west of the city, 10.3 m² per person.

2.8.7. Vector control

Campaigns against vectors are coordinated with control strategies based on economic, ecological and social requirements that aim at protecting public and environment health and also increasing the living standards of citizens.

To fight against vectors, areas such as swamps, small lakes, brooks and the like in which pesticides cannot be applied from land are sprayed with helicopters from air by the Environment Protection Department. The total area of these fields, which are defined as pest areas, is 275 ha.

In addition to the fight against vectors from the air, other district municipalities spray pesticides from land in coordination with the Metropolitan Municipality of Bursa. Spraying by helicopter allows pesticides to be applied to broader and more inaccessible areas in a shorter time.

The steps of the integrated control programme for fighting vectors are:

- detecting possible reproduction sites;
- adding the data obtained to the maps of the areas;
- identifying possible pesticides;
- determining functions, preparation and control of the land team;
- conducting joint initiatives with the district municipalities;
- controlling the process: reproduction habitats, statistical information and laboratory studies; and
- conducting education.

The success of this work relies on determining the habitats and indicating them on the map. An effective programme carries out field observations, and data from these observations facilitate the application of the programme.

In order to determine the best pesticide and dosage, mosquito species present in the region are being studied, and Hacettepe University carries out several biological tests according to the season.

Although the life cycle of the mosquito depends on species and seasons, mosquitoes appear during March or April and live until September or October.

The aim of the work is to reduce the chemicals used to a minimum and to change the method to biological vector control. Bacterial larvacides known to have no adverse and toxic effects on other non-target species and humans are used to fight larvae. The pesticides used are authorized by the Ministry of Health and are used in accordance with the doses specified by WHO.

For education, the other aspect of an integrated campaign programme, brochures have been prepared and the subject has been introduced in schools to prevent new reproduction sites. The contribution of these strategies in constructing a modern and developed society is invaluable.

2.8.8. Food safety

In Bursa, the Provincial Directorate of Health, municipalities and the Provincial Directorate of Agriculture and Rural Affairs regulate food safety. Deficiencies in regulations about food safety and some problems (insufficiently trained personnel) in practice pose difficulty in improving food safety.

The Food Safety Laboratory of the Metropolitan Municipality has conducted 17 683 analyses: 6140 chemical, 4774 bacteriological and 6769 organoleptic; 10 127 (57.3%) of the samples met and 7556 (42.7%) of the samples did not meet the requirements of the Turkish Food Codex.

Although there are no general data, the inspection results obtained by the Municipality of Nilüfer showed that the main problem during the controls was insufficient respect for hygiene among personnel. According to the records of the Municipality of Nilüfer during inspections conducted during 2003, the problems detected were personnel hygiene (43.3%), conditions relating to food safety (19.2%), workplace hygiene (17.0%) and equipment hygiene (14.1%). Educating personnel employed in the workplaces dealing with foodstuffs and preparing plans for the activities aimed for food safety and other related problems are therefore important.

2.8.9. Solid waste deposition

Wastes in the Solid Waste Deposition Area are stored in accordance with the usual deposition requirements. Safe industrial and household waste is accepted in the Deposition Area, whereas dangerous industrial waste is not. A control laboratory is present in the Deposition Area to analyse filtrates and, if required, solid waste.

Two vehicles with special cold storage designated by the Metropolitan Municipality of Bursa collect medical waste from 15 hospitals and 180 health centres and polyclinics. Once collected, medical waste is pooled in large holes opened in the Solid Waste Deposition Area and buried after being treated with lime.

Recycled waste has been collected separately at the source according to type since 1995. It is planned to enlarge the scope of this project, which is currently being carried out as part of a pilot project. Education strategies on this topic are being carried out in schools and included in the project.

Recycled waste is distributed in the Distribution Facility and sold to related sectors. The Metropolitan Municipality regulates the Distribution Facility, and vehicles from the district municipalities collect and transport the waste.

2.9. Inequality

Data about social inequality in Bursa are limited. A study being conducted by Uludağ University that will be published in the coming years will help in understanding the situation. Table 26 shows the vulnerable groups in Bursa.

Table 26. Vulnerable groups in Bursa

	Estimated number
Lower socioeconomic classes	–
People with chronic physical disability	13 862
People with mental disorders	4 407
People with learning difficulty	–
Elderly people	94 172
Homosexuals	62 ^a
Alcohol and drug addicts	407 ^b

^aBursa Directorate of Security, unpublished data, 2003.

^bNumber of those arrested for drugs in 2003 by the Directorate of Security.

3. Physical and social status

3.1. Transport

The population and road traffic density in Bursa are increasing rapidly. Traffic jams are about to reach a critical point. Road traffic in the city centre is increasing by about 11% per year. At this rate, the doubling time is six years. An effective transport system should therefore be constructed for the city. Car ownership is increasing rapidly; in 2003, there were 93 cars per 1000 people, meaning that 40% of families owned a car.

Demand for transport in the city centre is increasing rapidly because Bursa has a single centre. The city is developing in a west-east direction since development is limited to the north and south because of protection of green spaces in Uludağ and in the southern regions. This results in longer transport distances between two destinations but also increases the demand for secondary urban centres and will consequently reduce the demand for transport. The aim is to provide high-quality transport services that link each urban centre.

With its population exceeding 1 million, cultural identity formed by the historical heritage and developed industry, Bursa is one of the most important cities in Turkey. The urban structure according to the city plans lies on a west-east axis and develops to the west. The historic city centre has protected its commercial activities and constitutes the modern city centre. However, single-centre urbanization of the city centre based on the structure of the old city centre has resulted in transport problems.

The principle of the strategy developed for urban transport is to create a transport system not only based on transport by private cars but also high-quality public transport. Through this strategy, the Bursa Light Railway System (BLRS) is being used to solve transport problems.

The first phase of the BLRS, which is 16.5 km long and connects the western areas of the city, was completed by the BursaRay Project Coordination Department of Bursa and started service on 23 April 2002. The BLRS carries an average of 140 000 passengers daily. The average speed (including stops and departures plus waiting time in stations) is 30 km/h.

The Metropolitan Municipality carried out planning studies under the Mass Transport Integration Project, which has been implemented with the BLRS. This project has included interviews and public surveys. The

studies showed that Bursa has no effective public transport system. The Mass Transport Integration Project is therefore aimed at orienting people to use mass transport instead of cars. This project has thoroughly changed the public transport system of the western areas that the BLRS began to serve. Bus service parallel to the BLRS has been structured and radial bus lines vertical to the BLRS system have been introduced. The more rapid and safer BLRS system has improved service over the old system with buses only and has become part of city life. Table 27 shows data on the mass transport system and the number of passengers.

Table 27. Number of public transport vehicles and passengers, 2003

Type	Number of vehicles	Number of passengers (daily average)
BursaRay (Light Rail System)	48	140 000
Municipal buses	236	49 214
Private buses	355	119 500
Medium-sized buses	610	82 500
Total	1 249	391 214

Source: Transport Department, Metropolitan Municipality of Bursa, unpublished data.

3.2. Communication

In 2001, 456 973 telephone subscribers (297 681 households and 169 292 workplaces) were present within the city boundaries. The number of mobile telephone subscribers was not included in these figures. Currently, 95% of dwellings in the Metropolitan Municipality have non-mobile telephone service.

3.3. City planning

3.3.1. Regional plans

<i>Founding of Bursa municipal organization</i>	: 1867
<i>Achieved metropolitan status</i>	: 1987
<i>Population</i>	: 1990 – 838 323 2000 – 1 198 422
<i>Population growth rate</i>	: 4.0% (yearly) : 27.7% (census period)
<i>Metropolitan Municipality</i>	
<i>Number of districts</i>	: 7 (Osmangazi, Yıldırım, Nilüfer, Gemlik, Mudanya, Gürsu, Kestel)
<i>Number of first-level municipalities</i>	: 18
<i>Ratio of general budget expenditure to income</i>	: Third in Turkey (after Istanbul and Kocaeli)
<i>Distribution of sectors according to economic value</i>	: Industry 51% Services 45% Agriculture 4%
<i>Key industrial sectors</i>	: Textiles Automotive and allied industry Machinery Food

2020 Bursa strategy plan

Regional (large-scale) plans summarize the tactical decisions based on policies and strategy aimed at directing development processes and solving problems.

In order to prepare these plans, an overriding public policy should be formed and, in relation to this, policy decisions (plans) should be designed. In addition to these plans, programmes should also be prepared. Public and private entities should check and revise their programmes according to these policy decisions. These programmes would facilitate activities and plans in relation to the time and budget priorities of the relevant organization or body. In this context, each programme becomes meaningful according to the related project series. Subsequently, each project is followed by further programmes. Funding is the other important dimension of the projects. The policy, plan, programme, project and payment concerns described above are the five main principles of the strategy plan. The primary principle is not only to make strategic decisions about plans for the 2020s but also to guide next year's plans.

The main approaches for the preparation of plans are determining the principles, main decisions and development strategies, preparing an intervention strategy to solve problems, receiving input from related organizations, discussing each matter during the planning project, identifying problems correctly and determining realistic intervention strategies to solve problems in the city according to sector data.

This approach provides alternatives to find new solutions for local problems, using data from allied and vertical organizations in the country and region. Policy and strategic data and decisions from each region of the country are linked to local units by organizations and coordination bodies vertically established between local and general regulation units, to enable horizontal organizations and coordination bodies to discuss problems for developing strategies and making decisions on them according to these general data. Each phase of the 2020 plan has various vertical and horizontal connections. Finally, decisions regarding the plan are taken with the contribution of both horizontal and vertical organizations.

Objectives of the plan

The objectives of the 2020 Bursa Strategy Plan are creating a sustainable and livable environment until 2020, protecting the historic features of Bursa and, in connection with the targets and planning principles, assisting the development goals of sectors and growth of the Province of Bursa.

Main principles of the plan

Bursa has powerful development and growth potential for various reasons. In addition, Bursa has an important agricultural production potential within the agriculture sector of Turkey. The main principle is to prevent Bursa from becoming solely an industrial or an agricultural city. Planning principles are therefore classified into those related to protection and those related to decisions on development plans.

Principles of the plan regarding protection

- All Bursa's agricultural areas, which have a great share in Turkey's total agricultural production, should be protected. In accordance with this decision, Yenisehir, Inegol, M. Kemalpaşa, Karacabey and Bursa's other agricultural plains should also be preserved.
- Agricultural fields that are currently irrigated by non-state organizations should be preserved regardless of soil type.
- Lands that are under an investment programme of such organizations should be protected.
- Important and special crop areas (olives, chestnuts, figs and similar crops) should be protected.
- Using today's advanced technology, any type of building can be constructed on inclined areas. However, after the inclination exceeds a limit, the costs to build a building rise. Areas exceeding a 20% grade should therefore not be opened to urbanization if not required.
- Forest areas for which cadastral surveys have been completed that are not yet included in the province's cadastral records should also be protected.
- Drinking-water dams that are and will be used for agricultural irrigation should be protected together with water sources and lakes and water basins and the protection areas surrounding them.
- Important urban and natural and archeological sites in Bursa should be protected.

Decisions on development plans

- Development areas should be developed by paying attention to prevent destruction of agricultural areas.
- A balanced distribution of population should be ensured considering the projected population of the province for 2020 (total province population 4 240 000 and urban population 3 690 000) and the growing potential of the target population in the subregions of the province.
- Crowded urban areas should be decentralized, and effective decisions supporting the development of secondary urban centres should be implemented.
- To support the protection decisions of the main principles of the plan, industrial regions should be developed as organized industrial zones where agricultural soil quality is very poor.
- In order to control polluting industry, special areas should be designated and precautions and control mechanisms should be developed in detail.
- In order to reduce environmental pollution in current organized industrial areas, decisions should be taken to construct clean industrial plants.
- The types of plants to be prohibited from being constructed on the chosen organized industrial zones should be determined. Small and medium-sized industrial zones should be constructed to support organized industrial zoning in plans for industrial areas.
- In parallel with the developing status of Bursa in Turkey, various service sectors should be developed.
- Decisions concerning the usage of industries and dwellings in districts that risk spoiling the aimed population balance in 2020 should not be taken.
- Programmes regarding the infrastructure proposals of the state should take into consideration the current plans and projects as a whole.

- Decisions should be taken and strategies should be developed for developing the tourism sector in Bursa.
- Decisions should be taken that will increase the population in historic areas to protect the historic features of these areas.

About the plan

Transparency and participation

The general approach of the plan is to include all sectors. The owner of the plan is not only the organization that has prepared the plan. Since the decisions aim to provide a healthy life in a modern and developed city, the owner of the plan is all the authorities and also the public within the boundaries of Bursa. Vertical structure is therefore provided with the contribution of the central authorities and horizontal structure with the contribution of local and voluntary organizations. The contribution of horizontal organizations to every stage of the plan provides transparency, and the plan is owned because decisions are made by every contributor.

Current lack of coordination

The 2020 Bursa strategy plan requires various professionals and institutions to coordinate their work. Thus, for the initiatives of the plan, central and local authorities have been contacted to gather information in one place, which in return provided assistance in determining why some initiatives were unproductive. The most important outcome of gathering these data has been ensuring coordination between various professionals and institutions after the plan was completed and informing these professionals about the plan during various meetings.

The 1978 Bursa Plain Preservation Protocol has been revised with the participation of all the concerned institutions. All the difficulties arising out of the Protocol have been addressed, the duties of all institutions and conditions for cooperation have been re-established and the responsibilities of each institution and the institutions that are to cooperate in each area have been designated to ensure that the same difficulties will not be experienced during the attempts for successful cooperation.

The primary difficulties encountered during the preparation of the plan were lack of coordination among central and local authorities and lack of regular and healthy data flow between authorities and related bodies. Each unit has therefore made decisions on its own without taking other bodies into consideration, and organizations were consequently disconnected in practical decisions.

Since national governing bodies have not designed plans that include policies, strategies and effective decisions for national development, each local unit has decided on its own, and these decisions therefore did not coincide with the national decisions. Thus, some activities that should not have been started in local zones have been started although they worsen the natural balance and have led to inappropriate decisions being made at the national level.

The general approach of the plan is to provide cooperation among sectors. The plan has been prepared taking each sector into consideration, and thus the problems and demands of each sector for the future projects concerning planning have been designated.

During all these processes, opinions from all organizations with a horizontal structure have been gathered and the plan has been formed in respect to these opinions. The aim was to make a plan not only on paper but also to put this into practice.

3.3.2. Urban renovation and transformation projects

Urban transformation project in Kükürtlü

The surroundings of project areas, including mainly tanneries, places for the production of wood products and dwellings, are surrounded by more heavily populated residential areas that have been the focus of improvement initiatives.

Kültürpark, which is located on a 100-hectare area at the south of the project field, provides recreational activities to the public and is actively used.

About 16.7 hectares of land in the north of the Kültürpark has been designated as a tourism centre. Uludağ University's Rehabilitation Centre and some buildings that have been certified for their historic and cultural features are currently located in these areas.

The northern part of the project area mainly has dwellings for low- and middle-income people, and improvement initiatives are being taken in the region.

The project area is 35 hectares as specified by the Metropolitan Municipality of Bursa.

Tanneries will be transferred to another area, which is 140 hectares (40 hectares of this area is a lake). This area will have places for 130 factories. The project area that will be vacated after the transfer of tanneries is being evaluated under the urban renovation project, and studies are being conducted to utilize these areas for the city.

Market analysis

Similar and alternative projects have been studied in detail, meetings have been held with respect to the proposals and market uses are also being investigated for functional proposals that can be developed in this project field under the market research indicating the investment potential of Bursa. Thus, price proposals are made and the profit margin of the projects are globally analysed.

This analysis demonstrated that, in the involved region, the creation of areas supported by residential areas and commercial units on a regional and local scale and designed with open spaces will provide many advantages to the city due to the proximity of the area to the city and transport facilities.

Planning conditions

Creating new secondary centres is the main principle of the 2020 Bursa strategy plan, and hence functions providing an increase in population growth should be promoted in the city centre where the project area is located. Since the thermal spring water preservation area is located in the project area and the aim of the project is to transfer the tanneries out of the area, the area has been referred to as a special planning area.

Various meetings were therefore held to allow the tanneries and other property owners in the region to actively contribute. Giving information to the interested parties, getting their opinions and determining the stages of implementation were the main objectives. It was aimed at the beginning to have the project transformed by one investor, and opportunities of this area have been presented to various investors to inform them about the project.

3.3.3. Urban rehabilitation projects

Pilot project for Mimarsinan Street

Scope of the project. An area has been identified as having unhealthy and unsound building construction, including 54 buildings in Mimarsinan Street in Yıldırım.

Objective of the study. This project represents an active planning model and municipalities should adopt it and make it widespread.

During the past three decades, illegally built, unplanned, unhealthy and poor-quality residential areas have been developed on lots intended for less intense building density; one reason is the high migration rates to Bursa. These areas are unhealthy and have a low quality of living standards. The Metropolitan Municipality of Bursa has taken initiatives to provide a modern vision and to improve living standards in these areas.

The Metropolitan Municipality of Bursa, the Municipality of Yıldırım and Bursa Local Agenda 21 are collaborating on this project. One of the most important targets of this project is to reduce the effects of earthquakes; property owners have been informed about the seismic risk of the area in accordance with data from the Directorate-General of Disaster Affairs.

Current phase of the project

In this context, this project, which was conducted by mutual contribution of the Metropolitan Municipality and district municipalities, Bursa Local Agenda 21 and individuals, has been successful in achieving part of the objective, which was creating a district that could serve as an example for other projects developed for increasing the quality of life in unhealthy developed urban areas.

3.3.4. Optimization of social service areas

In an initiative started under this project intended to optimize municipal services, the Metropolitan Municipality of Bursa has been divided into 17 service regions based on population, transport, land use and administrative boundaries. The 35 parameters selected in the city health development plan are intended to be optimized for all service areas within these 17 service regions.

3.4. Industry

Bursa is one of the highly industrialized cities of the country and region. Bursa Province holds an important share of the industrial investment in Turkey, especially within the city centre and the city boundaries. Industrial plants established have shown a balanced distribution within the city.

Bursa has been an important industrial city in Turkey for many years. The traditional industry of Bursa, textiles, is still strong. With its current status, high-technological and high-capacity plants, it is still one of the most important forces driving the national and regional economies. Bursa's industrial structure was gradually transformed in the 1950s and 1960s. In the 1950s, structural transformation accelerated through the development of the workforce and the main traditional and allied industrial sectors. These developments under the leadership of the private sector increased dramatically in 1960 as state infrastructure investment increased. Companies financed by foreign capital made most industrial investment in this period.

Textiles, food, automobiles, machines, chemicals and metalworking are the dominant industrial sectors in Bursa.

Bursa has shown developments in both large- and small-scale industry. Small-scale industry is dispersed throughout the city centre. Small manufacturers have had increasing difficulty in getting firmly established within a rapid urbanization process. These manufacturers therefore generally gather in places where the rents are lower. Despite the high customer demand, poor organization and some economic difficulties have led to the closing of various traditional manufacturers in the city centre. Many traditional manufacturing sectors have disappeared in Bursa, but some auto repair and auto part manufacturing has continued.

Automotive-based small manufacturers have increased in number after a main automotive district was designated within Bursa. This area is located around the Auto Gar, Istanbul and Ankara Main Roads. The textile sector is concentrated in the area within the Duaçınarı Industrial Zone. This area has mixed use of dwellings and industry. The managers and other employees live nearby.

Bursa has the fourth largest industrial sector in Turkey after Istanbul, Kocaeli and İzmir. Bursa has the third largest workforce, after Istanbul and İzmir. The ratio between value added value and employees, which measures productivity, is 64.2. This is higher than the average for Turkey (52.0). In addition, investment efficiency is also higher than the average for Turkey.

Besides textiles, which is the traditional industry, other manufacturing, food and the automotive sectors are developing within the current structure of production. Bursa's industry continues to comprise an important place within the national industry with the establishment of industrial companies equipped with high technology. Bursa has always had a higher proportion of employees than the national average in every period, twice the national average by 1985.

Leading cities in percentage of total industrial employees in Turkey

Istanbul: 30.0 %
İzmir : 7.6 %
Bursa : 5.9 %
Ankara : 5.1 %
Adana : 3.5 %

One reason Bursa has a prominent role in the national economy is export capacity. Bursa has a great proportion of regional industrial exports. Nevertheless, similar to value added, the export ratio is actually higher. But exports are shipped from other cities in some cases, so that even though the real exporter is Bursa, some of the exports do not show in the figures because they are carried out in another city.

In 1993, Bursa accounted for 3.14% of Turkey's total export and 3.12% of Turkey's industrial export.

Bursa has the second highest number of employees and workplaces in the region and the fourth highest value added.

One reason is that industrial companies that have an important share in value added are located outside Bursa. Another reason is that Bursa's industrial structure primarily comprises the manufacture of consumable goods followed by intermediate goods production and investment goods. İzmir and Kocaeli mostly produce investment goods and intermediate goods. The share of value added held by the companies

based on the intermediate and investment goods industry is greater than that of others. Cities in the same region are assessed according to the number of employees. Each city has specialized in various industrial fields:

- Balıkesir: food and chemicals;
- Bilecik: industry based on based on mining, electric appliances and transport vehicles;
- Bursa: textile, electric appliances and transport vehicles;
- Istanbul: textile, electric appliances and transport vehicles; and
- Kocaeli: transport vehicles and chemicals.

Among companies classified as small-scale and large-scale according to the number of employees, small-scale industry holds an important place in the industrial sector. Subcontracting, which is widely used traditionally in weaving, machinery, forest products and metal goods production, is mainly carried out by small-scale workplaces. Small-scale industry providing service to the automotive industry continues to be important in Bursa.

Approach to the industrial sector

1. Providing organized industrial areas and constructing required protection zones surrounding these industrial areas will reduce the environmental pollution risk and problems that may affect public health. These will be created as soon as possible.
2. One of the main problems of organized industrial areas is the lack of coordination between the various authorities governing these areas. Legal regulations will be revised.
3. Workplaces located at the north of the İzmir-Ankara Highway that are not installed in organized industrial areas will be examined to determine their land use (commercial or industrial) functions and how much land they use. These data will be used to research organization (organizing them in the same area), transfer (transferring them to the same place) and methods of applying these goals. The functions and size of these areas should be discussed using the project management approach, and a feasible model should be created.
4. Statistical and regional analyses concerning small-scale industries located in the city centre have to be carried out, and organizational methods and alternative areas in which to transfer these industries need to be researched. The precondition for transferring these industries is organizing them at the beginning.

4. Public health provisions and policies

The results of a pilot project conducted jointly by the University of Uludağ and the Municipality of Nilüfer on primary health care in Bursa showed the appropriateness of providing primary health care to supply the health needs of the public. Pregnant women, women recovering from childbirth, babies, children, married women 15–49 years old and people 65 years old and older are regularly visited and followed at home by midwives and nurses. Vulnerable groups are more frequently monitored, and if any health problems are detected they are directed to public health centres. The initial results of the project have shown the great interest of the public in embracing this type of service model. One of the main issues faced is that one third of the people diagnosed with health problems have difficulty in obtaining health care because they do not have social health insurance. The other important problem among people without social health insurance is difficulty in obtaining medicines. These problems cannot be resolved solely by this pilot project and can only be resolved by administering public-oriented health policies focused on equality.

Bursa's participation in the WHO European Healthy Cities Network has provided some opportunities for the city in providing equality-oriented public health care. As indicated in the Bursa City Health Development Plan (2003–2007), important targets have been determined for public health. The progress made towards this end is very important for introducing health care to especially vulnerable groups, such as people with special needs, people with low income and immigrants.

4.1. Health targets of Bursa (2003–2007)

4.1.1. Providing sufficient qualified local health centers

The present project targets at least half the 42 local health centres providing health care in the city centre to be equipped with the facilities and labour force required to provide comprehensive primary health care by 2007.

Development of primary diagnosis and treatment facilities

Laboratories will be established in the other half of the health centres that will not be fully equipped for comprehensive primary health care to provide the required basic health examination at the first step. The reason for this is the lack of functioning laboratories in most of the health centres in the city centre in 2003.

4.1.2. Mother-child health project

The present project aims in the city centre to detect pregnancies by 12 weeks of gestation, to monitor pregnant women by nurse-midwives in their homes at least four times during pregnancy and to follow infants at least six times and children thereafter at least twice in each local health centre catchment area. Another aim is to increase the infant immunization and maternal tetanus immunization rates to 95% and 80%, respectively.

4.1.3. Family planning projects

The most frequent method of family planning in the cities is coitus interruptus. To expand the use of modern methods, this project aims to provide a qualified consultation service to the spouses and, if desired, also to subsequently procure the family planning method chosen by the families free of charge.

4.1.4. Health education project

Health education is one of the most important services included in basic health care. Various organizations conduct health education. Although various organizations in Bursa put on many educational health programmes and events, the Healthy City Project offers an important opportunity to coordinate these activities and allows wide cooperation among related organizations. Detailed information on these activities is given below.

Project period: 2003–2007

Collaborators of the project. The public-oriented health education in the framework of the City Health Development Plan being conducted coordinately by the Metropolitan Municipality and the Governorship of Bursa are continuing to be carried out by the Health Education Commission established in cooperation with the Healthy City Project Office and Health Directorate of the Metropolitan Municipality; Provincial Directorate of National Education; Provincial Directorate of Health; health directorates of the district municipalities; Departments of Thoracic Diseases, Children's Mental Health and Family & Public Health of Uludağ University; and Bursa Local Agenda 21.

Strategy of the project. The health education project was introduced and the education is ongoing to create a healthy society in accordance with the principles of a healthy city by reducing all intake of harmful substances and providing the conditions to prevent disease.

Targets

- To educate people about the harmful effects of smoking and alcohol, to contribute to the development of public consciousness on health to avoid harmful substances and to educate young people about birth control and sexually transmitted infections in accordance with the health education aims of the City Health Development Plan.
- To establish a Health Education Commission for this project to conduct health education.
- To collect statistical data on smoking, alcohol and family planning issues among elementary and high school students.
- To raise public consciousness by educating young people.
- To present the harmful effects of smoking to the target group in an effective and scientific way.
- To reduce smoking and alcohol intake gradually.
- To assist people who smoke in quitting by giving them therapeutic care.
- To standardize the education subjects, methods and materials.
- To keep records of the outcome of health education initiatives.
- To increase the variety of education centres.
- To provide education on a campaign against smoking in all the schools located within the Metropolitan Municipality of Bursa and at city volunteers' houses and on family planning and sexually transmitted infections, alcohol and drug addiction at all high schools in Bursa between 2003 and 2007.

Health education issues

- Campaign against smoking
- Alcohol and drug addiction
- Family planning
- Sexually transmitted infections
- Psychosocial development of children
- Dental care

- Food hygiene and control

Facts about the project

- The age of initiating smoking is gradually decreasing in Bursa. The average age for starting smoking was 11.7 ± 1.6 years (range 7–16): 11.7 ± 1.7 for boys and 12.0 ± 1.4 for girls. This age can sometimes be as low as 7 years.
- Rapidly increasing smoking rates: according to the same survey, about one third of the oldest high school students are smoking.
- One of every 5 boys and one of every 10 girls has tried smoking.
- Seventy per cent of families have at least one smoker.
- The rate of alcohol drinking among young people who smoke has also been increasing.
- Students have high alcohol intake rates: 38% of students drink sometimes.

Smoking is the main preventable cause of disease. Smoking kills about 8000 people every day in Turkey. Studies conducted all over Turkey have shown that the smoking risk is highest among secondary school students, primarily due to their interest and desire for imitating others. The studies to be continued until 2007 are proceeding into the second phase, and a new education model has been prepared.

4.1.6. Environmental education

4.1.6.1. Environmental education project in schools

Objective: The objective of the project is to provide public consciousness on the environment in the framework of an education programme designed to educate about protecting the environment, preventing pollution, acquiring positive consumption habits and collecting and sorting recyclables for pre-elementary and elementary schools; to prepare and distribute documents on environmental issues, which can be introduced to children by elementary school teachers (grades 1–5) in every lesson; and to follow up to determine whether these documents have been distributed.

Partners of the project

Bursa Local Agenda 21; Provincial Directorate of Environment; Provincial Directorate of National Education; Environment Protection Directorate, Metropolitan Municipality of Bursa; Department of Elementary Education, Faculty of Education, Uludağ University; Environmental Protection Foundation (ÇEVKO); Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).

Current status

The education subjects and documents that can be introduced to schools are determined with an environment adviser from Germany on behalf of GTZ; and together with the project partners, it was decided to introduce one of these subjects every month. The documents on the subjects nature, air and climate, which included various activity proposals for each grade from 1 to 5, were prepared and submitted to schools for the first month. Elementary school teachers will carry out these activities in their classes and will then submit their application documents and related reports to the people responsible for the project. This pilot project is being conducted in 26 elementary schools.

4.1.6.2. Environmental Protection Foundation (ÇEVKO) project

In addition to health education introduced in schools in cooperation with Metropolitan Municipality of Bursa, district municipalities and ÇEVKO, the initiatives for collecting and sorting recyclable wastes in neighbourhoods are being accelerated. In this context, collection bags, introductory brochures and posters will be distributed, information seminars will be held and collection units will be placed in the neighbourhoods to allow citizens to dispose of packaging waste. Once the project ends, the types of waste collected in each neighbourhood will be evaluated as well as whether the collection bags are used for their purpose or not. Further, a database will be provided for new programmes.

4.1.7. Food safety projects

This project aims to control employees in all food-related workplaces at least once a year by 2007. This requires the mutual cooperation of municipalities, the Provincial Directorate of Health and the Provincial Directorate of Agriculture and Rural Affairs.

4.1.8. Health of the elderly project

Few public health services target elderly people in Bursa. One of the health services for elderly people is the pilot project in Nilüfer in which elderly people are visited in their homes and their blood pressure and fasting

blood glucose are checked. In this project, the limit values for normal blood pressure are 140/90 mmHg and for fasting blood glucose 120 mg/dl.

Elderly people exceeding these limit values are examined and treated by a physician in charge in that area; if required, they are referred to a specialist. Table 28 shows data on the elderly people living in Nilüfer.

The initial results of the project show that the main problem is the high prevalence of subacute hypertension and diabetes and, in both cases, the presence of inadequately treated cases.

Table 28. Health data for people 65 years and older living in Nilüfer, 2003

Number of people 65+ years at the end of 2003	1 100
Total health checks of people 65+ years	1 208
Health checks per person 65+ years	1.1
Hypertension	521
Acute hypertension	377
Inadequately treated acute hypertension	262
Regulated acute hypertension	115
Subacute hypertension	144
Diabetes mellitus	113
Acute diabetes mellitus	89
Inadequately treated acute diabetes mellitus	68
Regulated acute diabetes mellitus	21
Subacute diabetes mellitus	24
People with both hypertension and diabetes mellitus	57

This health project for elderly people targets diagnosing chronic diseases (especially hypertension and diabetes) early and introducing educational activities on healthy ageing. Generalizing the project in the Nilüfer area to Bursa may contribute to this. Including elderly people in the screening programmes of local health centres will also definitely be useful.

4.2. Legal regulations

One of the important issues in public health is legal regulations. This profile does not discuss the current regulations in Turkey. However, as a positive example, Act 4207 extensively contributes to the campaign against smoking. This code forbids all advertising of cigarettes and also restricts smoking to reduce the effects on passive smokers. The past campaign of the cigarette lobby against Act 4207 was not successful. However, resisting the strength of this cigarette lobby and preventing children from smoking requires large-scale public support.

Act 4207 on the Prevention of Harm from Tobacco and Tobacco Products

Act 4207 of 7 November 1999 on the Prevention of Harm from Tobacco and Tobacco Products and the policy of smoking in public spaces has entered into effect. At the national scale, this Act is taken as reference for implementation.

Article 1. The objective of the Act is to design and take measures for preventing people from the harmful effects of tobacco and tobacco products and from campaigns that advertise, promote or encourage people to smoke.

Article 2. Smoking is prohibited in places where public services such as health, education and culture are provided, in closed sport facilities, in public transport vehicles and in their waiting rooms and in closed workplaces of public institutions where at least five people are employed.

In such places, separate units shall be designated for smokers. Ventilation and isolation precautions shall be taken to prevent the flow of smoke to other places where smoking is prohibited.

Article 3. It is prohibited by all means to advertise and introduce smoking and to run incentive campaigns by using any name, brand or symbols of tobacco and tobacco products. Selling of cigarettes to persons under 18 years of age is prohibited.

Article 4. In places where smoking of tobacco and tobacco products is prohibited, the notices that indicate the legal warning and the penalty shall be written by using 10-centimetre type size at a minimum and shall be hung in a place where they can easily be seen by everybody. The chief administrators or the authorities of these places are responsible for announcing this legal warning.

The legible notice of "Legal precaution: harmful to health" shall be placed clearly on the packages of tobacco and tobacco products. The tobacco and tobacco products that do not include this precaution shall not be imported and enter the market.

Tobacco and tobacco products marketed in shops located out of customs line or entering the country with travellers shall not be subjected to the provisions of Article 2.

The Turkish Radio and Television Authority and private television institutions shall broadcast programmes, at least 90 minutes per month, informing and warning people about the harmful effects of tobacco and tobacco products.

Article 5. People who smoke tobacco and tobacco products in places where smoking is prohibited and where related warnings are indicated clearly shall be warned by the concerned authorities by informing them about the legal notice, and if they continue to smoke they will then be requested to leave the area. Municipal police shall institute legal procedures against people who continue to smoke tobacco and tobacco products after they have been warned.

4.3. Social services

Social activities conducted in Bursa include:

- open-air concerts
- film festivals
- cinemas
- district theatres
- drawing and cartoon exhibitions
- panels and symposiums
- interview and book exhibitions
- folkloric performances
- municipal band
- open-air concerts of the City Orchestra
- municipal theatre
- guest theatres
- poetry programmes
- festival and competitions
- International Bursa Festival
- International Golden Karagöz Folk Dancing Competition
- International Sami Güler Photography Competition
- International Karagöz Shadow and Puppet Show Festival
- Bursa Film Festival
- Cumalıkızık Festival
- Ürünlü Youth and Scout Park.

Activities planned to prevent crime and drug use in the city are given below (100% support of the concerned departments was targeted by 2004):

1. Smoking Cessation Week activities
2. Discussion panels
3. Competitions
4. Conferences
5. Essay competitions
6. Preparation of posters and brochures
7. Surveys

Table 29. Education and health screening in the Metropolitan Municipality, 2003

Name of city volunteers' house	Date	Subject of the education or type of health screening	Place	Number of participants
Çukurca	7 January 2003	Goiter	Çukurca City Volunteers' House	28
Zafer	10 January 2003	Consumer rights	Şehit Üsteğmen Mesut Beyazıtlı Primary School	28

Alacahırka	14 January 2003	Glaucoma (partial blindness caused by diabetes)	Alacahırka City Volunteers' House	50
Alacahırka	16 January 2003	Goiter	Alacahırka City Volunteers' House	50
Vatan	20 January 2003	Consumer rights	Vatan City Volunteers' House	30
Piremir	21 January 2003	Goiter	Nuri Erbak High School	52
Çekirge	28 January 2003	Glaucoma (partial blindness caused by diabetes)	Çekirge City Volunteers' House	70
İhsaniye	30 January 2003	Goiter	Nedim Öztan Primary School	71
Zafer	31 January 2003	Goiter	Şehit Üsteğmen Mesut Beyazıtlı Primary School	19
Hocataşkın	18 February 2003	Glaucoma	Hocataşkın City Volunteers' House	32
Zafer	20 February 2003	Glaucoma	Zafer City Volunteers' House	56
Piremir	12 March 2003	Child psychology	Nuri Erbak Primary School	111
Zafer	13 March 2003	Child psychology	Şehit Üsteğmen Mesut Beyazıtlı Primary School	40
Çukurca	17 March 2003	Hepatitis B	Çukurca City Volunteers' House	11
İhsaniye	19 March 2003	Child psychology	Nedim Öztan Primary School	80
Piremir	20 March 2003	Hepatitis B	Nuri Erbak High School	65
Hocataşkın	24 March 2003	Hepatitis B	Hocataşkın City Volunteers' House	24
Çukurca	25 March 2003	Breast cancer and early diagnosis in cancer cases	Çukurca City Volunteers' House	16
Vatan	26 March 2003	Child psychology	Vatan City Volunteers' House	45
Çekirge	27 March 2003	Child psychology	I. Murat Primary School	27
Piremir	31 March 2003	General information about cancer	Nuri Erbak High School	24
Çekirge	3 April 2003	Hepatitis B	Çekirge City Volunteers' House	35
Çekirge	9 April 2003	Breast cancer and early diagnosis in cancer cases	Çekirge City Volunteers' House	18
İhsaniye	10 April 2003	Hepatitis B	Nedim Öztan Primary School	37
Alacahırka	16 April 2003	Child psychology	Alacahırka City Volunteers' House	28
Vatan	2 April 2003	Hepatitis B	Vatan City Volunteers' House	25
Alacahırka	6 May 2003	Goiter	Alacahırka City Volunteers' House	50
Vatan	7 May 2003	Anaemia research and information meetings	Şehit Piyade Er Nezir Akgül Primary School	400
Hocataşkın	7 May 2003	Child psychology	Hocataşkın City Volunteers' House	44
Çukurca	15 May 2003	Child psychology	Çukurca City Volunteers' House	40
Vatan	08 October 2003	Dental care education	Vatan City Volunteers' House	24
Vatan	08 October 2003	Dental care education	Vatan City Volunteers' House	24

Siteler	15 October 2003	Dental care education	Vatan City Volunteers' House	24
Çekirge	18 October 2003	Labour rights	Çekirge City Volunteers' House	7
Alacahırka	22 October 2003	Dental care education	Alacahırka City Volunteers' House	65
İhsaniye	24 October 2003	Health education	Nedim Öztan Primary School	110
Zafer	25 October 2003	Family Protection Code	Sabri Katırcı Primary School	20
Hocataşkın	28 October 2003	Dental care education	Hocataşkın City Volunteers' House	14
Çukurca	28 October 2003	General information about cancer	Çukurca City Volunteers' House	7
Alacahırka	30 October 2003	Child psychology	Çekirge City Volunteers' House	55
İhsaniye	1 November 2003	Labour rights	Nedim Öztan Primary School	7
Piremir	4 November 2003	Dental care education	Nuri Erbak Primary School	52
Vatan	8 November 2003	Family Protection Law	Vatan-Millet-Anadolu-Kazım Karabekir Community Service Centre	21
Çekirge	11 November 2003	Dental care education	1. Murat Primary School	79
İhsaniye	13 November 2003	General Information about cancer	Nedim Öztan Primary School	25
Siteler	15 November 2003	Labour rights	Siteler City Volunteers' House	16
İhsaniye	17 November 2003	Dental care education	Nedim Öztan Primary School	93
Çekirge	18 November 2003	General information about cancer	1. Murat Primary School	41
Zafer	20 November 2003	Child psychology	Sabri Katırcı Primary School	160
Alacahırka	21 November 2003	Health education	Alacahırka City Volunteers' House	23
Çukurca	4 December 2003	Dental care education	Çukurca City Volunteers' House	25
Vatan	5 December 2003	General information about cancer	Vatan City Volunteers' House	33
Çukurca	6 December 2003	Family Protection Law	Çukurca City Volunteers' House	25
Zafer	9 December 2003	Dental care education	Zafer City Volunteers' House	65
Siteler	12 December 2003	Health education	Siteler City Volunteers' House	17
Hocataşkın	16 December 2003	General Information about cancer	Hocataşkın City Volunteers' House	4
Vatan	18 December 2003	Child psychology	Vatan City Volunteers' House	21
Çekirge	20 December 2003	Family protection law	Çekirge City Volunteers' House	13
Piremir	26 December 2003	Health education	Nuri Erbak High School	130
Alacahırka	27 December 2003	Labour rights	Alacahırka City Volunteers' House	15

Projects increasing public participation (100% increase by 2004 was targeted)

1. Local Agenda 21 City Council
2. Local Agenda 21 Women's Council
3. Local Agenda 21 Youth Council
4. Local Agenda 21 Children's Council
5. Local Agenda 21 Platform for Disabled People
6. City volunteers' houses (Çukurca, Alacahırka, Çekirge, Vatan, Siteler, Zafer, İhsaniye, Hocataşkın and Piremir)

Local Agenda 21 working groups

- Social Solidarity Working Group
 - Food – clothing– household goods – fuel for heating
 - Health group
 - Education group
 - Vocational training group
 - R&D group
 - Food Bank Work Commission
- Retired People Working Group
- Working Group on Health
- Artists' Working Group
- West Music Conservatory Project Group
- Land Use and Water Resources Working Group
 - Fight against Erosion and Rural Development Working Group
- Historical Heritage Working Group
 - Judas Tree Working Group
- Working Group on Environment
- Uludağ Working Group
- Nature Activities Group
- Muradiye Complex Project Group
- Working Group on Tourism
- Working Group on Education
- Working Group on Philosophy
- Working Group for the Promotion of Chestnut Production in Bursa
- Group for the Rehabilitation of Street Animals

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