

A.5 Planning Framework for District Planning⁷

A.5.1 Method for Establishing Framework

(1) Government Area

The gross unit floor area including meeting spaces of Government Area is established at 30m²/person, 57% above the gross unit floor area (16.7m²/person) established for the normal offices for Astana, as mentioned in Section 3.4, because this Area is composed of governmental offices that administrate the important republican issues, and at the same time symbolize the country. This unit floor area, however, does not apply for buildings of special functions such as the Presidential Palace, Parliament, and the Supreme Court.

(2) Business Area

The gross unit floor area including meeting spaces of Business Area of District 13 is established at 20m²/person and District 14 is 16 m²/person in order for the average unit floor area of Government Area and Business Area to be 16.7m²/person as described in Section 3.4. For the commercial facilities located in this Area, the gross unit floor area will be established at 16.7m²/person, while that for the selling area will be 0.95m²/person as indicated in Section 3.4.

(3) Diplomatic Area

The gross unit floor area including meeting spaces and the area for one local staff on average of the Diplomatic Area is established at 30m²/person. For the residential area, the gross unit floor area is established at 60m²/person, assuming that there will be on average 1 (one) accompanying family member.

A.5.2 Floor Area Framework

Floor area framework is derived by multiplying the gross unit floor area mentioned above and the working population calculated in the Economic Framework. The planned floor area of the Presidential Palace indicated by the Presidential Office, and the floor areas estimated by some of the departments are separately referred.

⁷ This chapter, A.5, presents numerical frame work for district planning presented in Section 3.7 of Main Report.

(1) Government Area

	Building Name	Working Population	Unit Area / P (m ²)	Total Floor Area (m ²)
1	Residence for President	100		20,000
2	President's Administration	1,700	30	50,100
3	Parliament	1,927		57,800
4	National Security Committee	865	30	25,950
5	Supreme Court	1,333		40,000
6	Cabinet of Ministers	1,038	30	51,900
7	Ministry of interior Affairs	933	30	28,000
8	Ministry of State Revenue	865	30	25,950
9	Ministry of External Affairs	1,767	30	53,000
10	Ministry of Culture, Information and Public Accord	897	30	26,900
11	Ministry of Science and High Education	897	30	26,900
12	Ministry of Health Care, Education and Sport	897	30	26,900
13	Ministry of Energy, Industry, Trade and Environmental Protection, R.K	903	30	27,100
14	Ministry of Labor and Social Security, Ministry of Agriculture, Agency of R.K	850	30	25,500
15	Ministry of Defense	1,910	30	57,300
16	Ministry of Justice	600	30	18,000
17	General Prosecutor Office	600	30	18,000
18	SME (Small and Medium Entrepreneur ship)	5,248	25	131,200
19	Ministry of Transport, Communication and Tourism	833	30	25,000
20	Universal Hall (5,000seats)	Visitor	5,000	60,000
		Office	300	6,000
21	Culture facility (Memorial Centers)	Worker	30	7,000
22	Service facility (Commercial Building and Apartment)	User	Local user 13,000	1.5
		Office	970	20
		Housing	800	25
	Government total (1~19)	24,163	---	735,500
	Numbers 20,21,22 total	Exclude local user 7,100	---	131,465
	Grand total	31,263	---	866,965

(2) Business Area (Including Commercial Area)

	Building Name	Working Population	Unit Area / P (m ²)	Total Floor Area (m ²)
1	Business District 13	45,478	20	887,825
2	Business District 14	72,957	16	1,182,840
	Total	118,435	17	2,070,665

(3) Diplomatic Missions

Number of Stationed Diplomatic Corps and other International Institutions in 2030 are given below.

1	Afghanistan	11	Egypt	21	Japan	31	Palestine	41	Ukraine
2	Armenia	12	France	22	Korea	32	Poland	42	U.K
3	Austria	13	Georgia	23	Kyrgyzstan	33	Rumania	43	Uzbekistan
4	Belarus	14	Germany	24	Lebanon	34	Russia	44	Vatican
5	Belgium	15	Greek	25	Libya	35	Saudi Arabia	45	European Commission
6	Bulgaria	16	Hungary	26	Lithuania	36	Spain	46	UNESCO
7	Canada	17	India	27	Malaysia	37	Swiss	47	UNISEF
8	Check	18	Iran	28	Mongolia	38	Tajikistan		Other 12
9	China	19	Israel	29	Netherlands	39	Turkmenistan		
10	Cuba	20	Italy	30	Pakistan	40	Turkey		

Required number of Embassy and other International Institutions, as informed by MOFA at the time of the international competition in 1988, and adopted in this Master Plan, are given below.

		2000	2010	2020	2030
1	Number of Embassy	45	60	70	80
	Site area for Embassy (ha)	83.46	111.28	130	148
	Site area for Residence (ha)	10.13	13.50	16	18
	Total	93.59	124.78	146	166
2	Number of International Institutions	15	17	20	20
	Required floor area for the above (m ²)	15,000	17,000	20,000	20,000
3	Population of Diplomatic Corps	910	1,078	1,260	1,400
	Residential total floor		32,340	37,800	42,000

* source MOFA "Project of Diplomatic Enclave in Astana City" Appendix 2

Other required facilities for diplomatic missions from the same source as above are given below.

		2000*		2010		2020		2030	
		Site area(ha)	Floor area(m ²)	Site area(ha)	Floor area(m ²)	Site area(ha)	Floor area(m ²)	Site area(ha)	Floor area(m ²)
1	Kindergarten	0.80	1,000	1	1,200	1.12	1,400	1.28	1,600
2	School site	2.80	2,000	3	2,400	3.92	2,800	4.48	3,200
3	Clinic, Service house site	0.26	1,920	0	2,304	0.36	2,688	0.42	3,072
4	General shops	0.10	800	0	960	0.14	1,120	0.16	1,280
5	Supermarket	0.15	1,270	0	1,524	0.21	1,778	0.24	2,032
6	Post, Bank	0.26	1,920	0	2,304	0.36	2,688	0.42	3,072
7	Car maintenance, Service	0.14	3,350	0	4,020	0.20	4,690	0.22	5,360
8	Fire station	0.05	3,350	0	4,020	0.07	4,690	0.08	5,360
9	Gym hall	0.24	3,350	0	4,020	0.34	402	0.38	5,360
10	Sports ground	1.50	3,350	2	4,020	2.10	4,690	2.40	5,360
11	Hotel	1.00	5,000	1	6,000	1.40	7,000	1.60	8,000
12	Multi functional complex / business center, Cinema, Conference, etc.	9.50	100,000	11	120,000	13.30	140,000	15.20	160,000
		16.80	127,310	20	152,772	23.52	173,946	26.88	203,696

* source MOFA "Project of Diplomatic Enclave in Astana City" Appendix 2

In consideration of the number of diplomatic missions estimated at 1,400 by the Ministry of Foreign Affairs, the number excluding the accompanying family member, will be 700. By multiplying this and the unit floor area of $90\text{m}^2/\text{person}$, the total floor area floor necessary becomes $63,000\text{ m}^2$ in 2030, out of which $21,000\text{ m}^2$ is office area and $42,000\text{ m}^2$ is residential area. On the other hand, the total floor area of the service facilities is calculated to be $203,696\text{m}^2$ (plot area 26.88 ha) based on the population forecast conducted by the Ministry of Foreign Affairs. The floor area will be $145.5\text{ m}^2/\text{person}$, which is in accordance with the level of the developed nations.

A.6 Preservation of Historic Architecture and Cultural Properties⁸

A.6.1 Current Situation

In Astana there are a total of 17 historic and culturally significant properties: 2 qualifying as National Cultural Properties, 15 qualifying as Regional Cultural Properties, and 42 pending registration.

Although there are many cultural properties well maintained, as provisioned by the national law regarding protection of historic and culturally significant properties, there is an abundance of cultural properties neglected resulting from the lack of devotion necessary expenses for administration and maintenance of these cultural properties. Another possible reason is that both the national government and the private sector do not have the financial flexibility to provide funds to support the maintenance and administration of these cultural properties.

The historical and culturally significant buildings, along with the streetscape, of the existing urban area, are often lost in the waves of development and certainly shadowed by the dissonant large-scale architecture.

A.6.2 Purpose

The purpose of preservation of historic architecture and cultural properties is as follows;

- Preservation of the urban area will provide a physical expression of Astana's history for future generations.
- The historical cultural properties are not isolated, but are incorporated with other similarly designed properties to create a harmonious streetscape. Through this strategy, the buildings will be preserved and utilized.
- The proposed streetscape including proposed properties will combine harmoniously with the green corridor that runs through the existing city axis, providing lush green surroundings.

A.6.3 Plan for Preservation

The streetscape will be preserved by incorporating the trees along the streets and the foliage into the preservation of the historical and culturally significant properties.

⁸ This chapter, A.6, supplements Sub-section 3.8.6 of Main Report.

To encourage and lead a balanced development of the streetscape, guidelines for the designated special area in accordance with local government will be created.

The local government will make efforts to enlighten not only the owners of the cultural properties but also private businesses and the community so as to gain their understanding. The local government also will provide expenditure assistance and/or tax exemptions for those property owners to facilitate the preservation and utilization of the properties.

In addition to purchasing property for public use, the local government and/or the private sector will install and maintain the foliage, lighting, sidewalks, street furniture and so forth to facilitate the pedestrian in the cosmopolitan, around-the-clock city.

A.6.4 Preservation Objectives

(1) Criteria for Potential Historic Architecture and Cultural Property Status

For those objects not yet registered or pending registration according to national law and being a lasting structure displaying historical value, should any one of the following criteria be applicable, that structure or object would be able to qualify for cultural property status.

- 1) A building, street, tree, etc. capable of narrating "Astana".
- 2) A building, street, tree, etc. deep in the minds of the residents of Astana.
- 3) A building, street, tree, etc. where reproduction is either impossible or extremely difficult.
- 4) A building, street, tree, etc. with academic value.
- 5) A building, street, tree, etc. that plays an important role in the green corridor on the city's axis in the existing urban area.

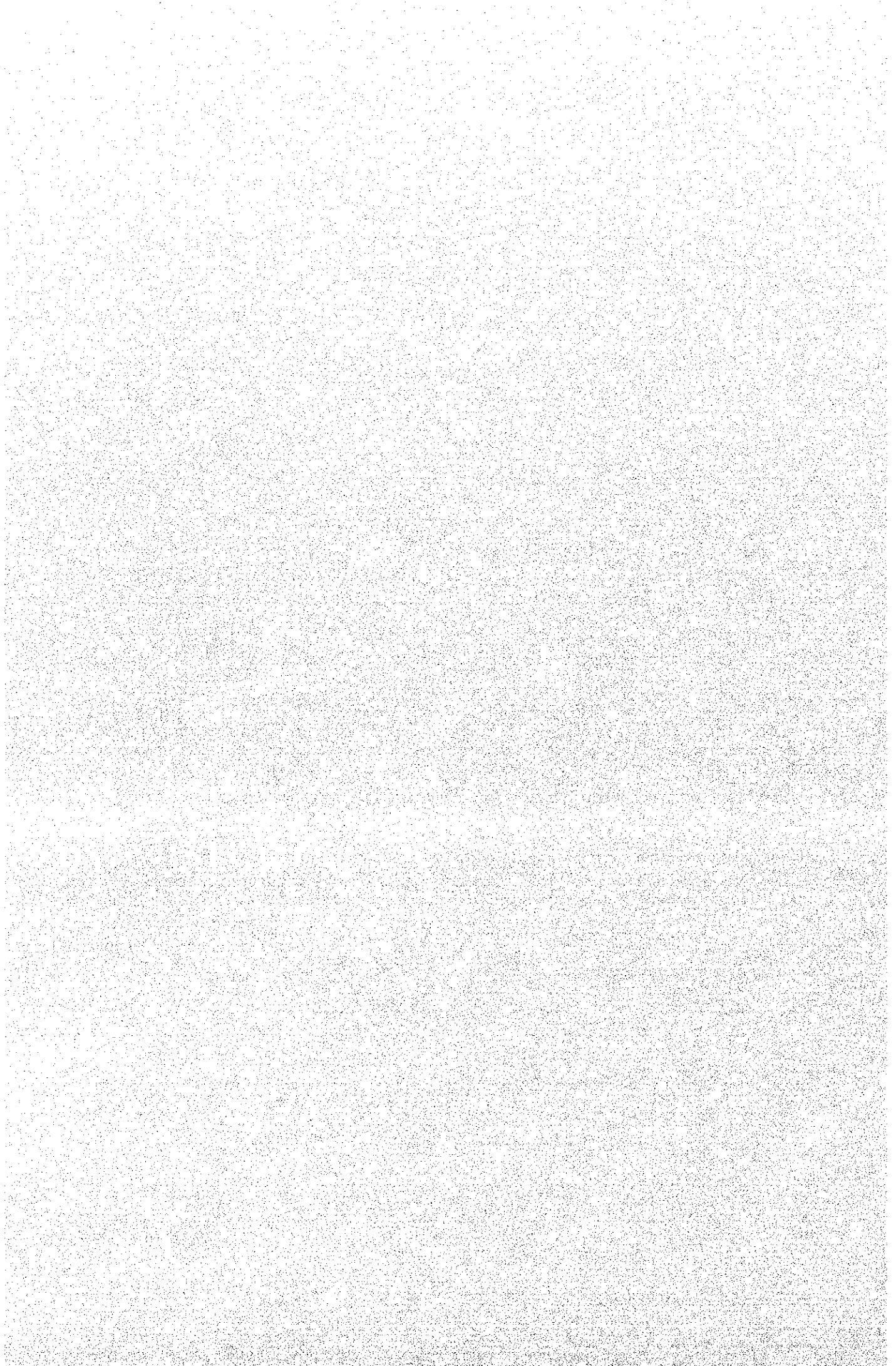
(2) Potential Historic Architecture and Cultural Property for Preservation

Based on the results of the study conducted concerning the above (6.4.1) criteria, 95 objects in total will be chosen. At present, the Station Precinct (photos S-1 to 42) and Beibitshilik Street Precinct (photos B-1 to 22), which run along the north-south axis green corridor of the existing urban area (Main Report 3-8), and the Kenesary Street Precinct (photos K-1 to 22) in addition to other structures on the east-west axis will be the primary streetscapes for preservation. Other objects and structures including trees, bridges, streets, etc. are included as well (photos O-1 to 10). Proposed

objects are listed in Table A.6.1 with location shown in Figures A.6.1. Figure A.6.2 depicts the images of the objects.

- 1) The group of buildings along Akzaiyk Street (photos S-1 to 19) of the Station Precinct were built in the 1940-1950 decade. The two- and three-story buildings are in well-preserved condition and will be preserved as a historical streetscape.
- 2) The housing built for railway workers in the 1940-1950 era on Libkneht Street and neighboring streets (photos S-20-38) and the school building for the workers' children on Pervomaisaya Street (photo S-40) will be preserved to narrate the memory of the golden era of the railroads to the ensuing generations.
- 3) The five-story pre-fabricated housing of Beibitshilik Street Precinct (photos B-2 to 9; 13 to 14), built in the Tselinograd era, is in a well-preserved condition and will be preserved as an example of architecture from the Soviet period.
- 4) The housing of the railway officials still remains in the Kenesary Street Precinct on Pobeda Street. Designed by the Moscow architect Mayrson, when compared to the housing complex built near to the station for the railway employees, these two-story structures have an air of the upper class (photos K-16-22). Other buildings along Kenesary Street built in the 1950's still carry the feeling of serenity of the Stalin style (photos K-5 to 15). These houses also will be preserved as an example of architecture expressing the Soviet era.
- 5) Additionally, the bridge (photo O-1), tree (photo O-4), historical street (photos 2 and 3) and other items dear to the community will also be objects for preservation.

TABLE



TableA.1.1 Estimated District-wise Area--Residential Area--Population--Density in 2000

Planning Region	Sub-Zoning	Low Density			Medium Density			High Density			Total						
		Net Residential Area (ha)	Population	Gross Housing Stock (m2)	Net Residential Area (ha)	Population	Gross Housing Stock (m2)	Net Residential Area (ha)	Population	Gross Housing Stock (m2)	Total Area (ha)	Total Net Residential Area (ha)	Subtotal Population Existing (and development of existing urban fabric)	Subtotal Population New Developed Areas	Total Population	Gross Housing Stock (m2)	Average Net Population Density (p/ha)
1. Central Planning Region	Residential District 3	95	4,317	65,618	204	41,983	638,142	0	0	0	385	300	46,300	0	46,300	703,760	154
	Residential District 4	97	6,133	93,222	202	42,891	651,943	26	7,776	118,195	563	325	56,800	0	56,800	863,360	175
	Residential District 5	142	9,008	136,922	126	25,292	384,438	0	0	0	357	268	34,300	0	34,300	521,360	128
	Residential District 6	94	5,272	80,134	175	32,828	498,986	0	0	0	384	269	38,100	0	38,100	579,120	142
	Sub-total	429	24,730	375,896	707	142,994	2,173,509	26	7,776	118,195	1,689	1,162	175,500	0	175,500	2,667,600	151
2. Northern Planning Region	Northern Industrial District	285	11,558	175,682	0	0	0	0	0	0	2,146	285	11,558	0	11,558	175,682	41
	Central Industrial District	30	1,342	20,398	0	0	0	0	0	0	2,313	30	1,342	0	1,342	20,398	44
	Settlement Zheleznodoezhny	118	3,410	51,832	0	0	0	0	0	0	176	118	3,410	0	3,410	51,832	29
	Sub-total	434	16,310	247,912	0	0	0	0	0	0	4,635	434	16,310	0	16,310	247,912	38
3. Southeastern Planning Region	Residential District 7	106	4,431	67,351	212	47,169	716,969	0	0	0	594	318	51,600	0	51,600	784,320	162
	Residential District 8	0	0	0	149	30,200	459,040	0	0	0	395	149	30,200	0	30,200	459,040	202
	Residential District 9	46	2,700	41,040	0	0	0	0	0	0	676	46	2,700	0	2,700	41,040	59
	Residential District 10	133	1,329	20,201	0	0	0	0	0	0	213	133	1,329	0	1,329	20,201	10
	Industrial District - Station 40	0	0	0	0	0	0	0	0	0	616	0	0	0	0	0	0
	Settlement Promyshlennyy	60	2,512	38,182	0	0	0	0	0	0	114	60	2,512	0	2,512	38,182	42
	Settlement Internatsionalnoye	130	2,470	37,544	0	0	0	0	0	0	130	130	2,470	0	2,470	37,544	19
	Settlement Michurino	56	1,107	16,826	0	0	0	0	0	0	56	56	1,107	0	1,107	16,826	20
	Settlement Kuygenzhar	54	318	4,834	0	0	0	0	0	0	54	54	318	0	318	4,834	6
	Sub-total	585	14,867	225,978	362	77,369	1,176,009	0	0	0	2,848	946	92,236	0	92,236	1,401,987	97
4. Southern Planning Region	Residential District 11	28	1,600	24,320	0	0	0	0	0	0	1,100	28	1,600	0	1,600	24,320	57
	Residential District 12 (incl. Airport zone)	147	12,700	193,040	0	0	0	0	0	0	5,237	147	12,700	0	12,700	193,040	86
	Settlement Prigorodnoye	97	1,286	19,547	0	0	0	0	0	0	118	97	1,286	0	1,286	19,547	13
	Settlement Telman	49	426	6,475	0	0	0	0	0	0	49	49	426	0	426	6,475	9
	Sub-total	321	16,012	243,382	0	0	0	0	0	0	6,504	321	16,012	0	16,012	243,382	50
5. Northwestern Planning Region	Residential District 1	98	3,960	60,192	3	540	8,208	0	0	0	332	100	4,500	0	4,500	68,400	45
	Residential District 2	239	13,529	205,641	42	8,971	136,359	0	0	0	441	281	22,500	0	22,500	342,000	80
	Settlement Kirovo	105	3,620	55,024	0	0	0	0	0	0	231	105	3,620	0	3,620	55,024	34
	West Industrial District	6	70	1,064	0	0	0	0	0	0	561	6	70	0	70	1,064	12
	Sub-total	448	21,179	321,921	45	9,511	144,567	0	0	0	1,565	493	30,690	0	30,690	466,488	62
Grand Total		2,216	93,098	1,415,090	1,114	229,874	3,494,085	26	7,776	118,195	17,241	3,355	330,748	0	330,748	5,027,370	99

Note the planning regions follow Ak Orda original boundaries - but are expanded to extend to new city boundaries, as well as the sub-zoning divisions are a continuation of the original Ak Orda sub-divisions - but are amended to

Table A.1.2 Estimated District-wise Area-Office Floor Area-Working Population in 2000

Planning District	Sub-Zoning	1	2	3	4	5	6	7	8	9	10	11	12	13	Working Population	Office (only) Gross Floor Area in m2
Central	Residential District 3	243	1,078	1,900	1,971	0	486	1,842	3,146	2,331	2,128	1,556	3,748	4,440	24,869	380,436
	Residential District 4	243	1,824	1,800	1,870	419	514	345	6,006	2,032	1,165	1,088	3,889	4,607	25,802	383,884
	Residential District 5	3,679	1,824	0	379	523	200	0	929	747	134	251	1,947	2,307	12,920	116,914
	Residential District 6	1,459	2,073	1,400	910	0	200	1,267	2,270	2,002	314	184	2,714	3,215	18,008	225,746
	Sub-Total	5,624	6,799	5,100	5,130	942	1,400	3,454	12,351	7,112	3,741	3,079	12,298	14,569	81,599	1,106,980
Northern Planning Region	Northern Industrial Zone	2,463	1,327	1,500	2,653	0	0	0	733	448	426	251	2,202	2,609	14,612	153,758
	Central Industrial Zone	4,013	2,902	2,000	1,390	105	0	2,303	331	359	179	678	3,204	3,793	21,257	223,832
	Settlement Zheleznodoezhny															
	Sub-Total	6,476	4,229	3,500	4,043	105	0	2,303	1,064	807	605	929	5,406	6,402	35,869	377,590
South- Eastern Planning Region	Residential District 7	486	249	0	758	105	0	806	268	418	739	100	883	1,046	5,859	82,942
	Residential District 8	0	0	0	0	174	0	0	143	986	1,210	0	565	669	3,747	59,057
	Residential District 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Residential District 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Industrial Zone Station 40							134	0	0	0	25	36	45	240	4,500
	Settlement Promyshlenny															
	Settlement Internationalnoye															
	Settlement Michurino															
	Settlement Kuygenzhar															
	Sub-Total	486	249	0	758	279	0	806	545	1,404	1,949	125	1,484	1,760	9,846	146,500
Southern Planning Region	Residential District 11	1,338	-	-	-	174	-	-	-	-	-	50	351	416	2,330	15,384
	Residential District 12	1,186	124	0	1,617	0	0	0	357	179	0	117	805	953	5,339	56,533
	Settlement Prigorodnoye															
	Settlement Telman															
	Sub-Total	2,524	124	0	1,617	174	0	0	357	179	0	167	1,156	1,369	7,669	71,918
North- Western Planning Region	Residential District 1	0	0	0	0	0	0	0	0	90	314	0	91	107	601	10,434
	Residential District 2	395	1,700	0	2,552	0	0	1,036	393	508	291	0	1,545	1,830	10,252	120,816
	Settlement Kirovo															
	Western Industrial Zone	243	290	0	0	0	0	0	0	0	0	0	120	142	795	4,310
Unknown		152	207	-	-	-	-	-	89	-	-	-	101	119	669	
	Sub-Total	790	2,198	-	2,552	-	-	1,036	483	598	605	-	1,856	2,199	12,317	135,560
Grand Total		15,901	13,599	8,600	14,100	1,500	1,400	7,599	14,800	10,100	6,900	4,301	22,200	26,300	147,300	1,838,548

(note this table lists office floor areas only -not industrial or other small business-, but gives total of working population-including industrial and other small business)

Legend : 1 = Industry, 2 = Construction, 3 = Trade & Repair, 4 = Transport & Communication, 5 = Hotel & Restaurant, 6 = Financial Activities, 7 = Real Estate, 8 = State Management, 9 = Education, 10 = Health Care & Social Services, 11 = Other Public & Communal Services, 12 = Self-Employed, 13 = Others

Table A.1.3 Estimated District-Commercial Area-in 2000

Planning Region	Sub-Zoning	Neighborhood Shopping Total Gross Floor Area in m2	District Shopping Gross Floor Areas in m2	City Centre Shopping Gross Floor Area in m2	Total Retail Floor Area in m2
1. Central Planning Region	Residential District 3	8,103	8,103	0	16,205
	Residential District 4A	9,940	9,940	51,266	71,146
	Residential District 5	6,003	6,003	0	12,005
	Residential District 6	6,668	6,668	0	13,335
	<i>Sub-Total</i>	30,713	30,713	51,266	112,691
2. Northern Planning Region	Northern Industrial District	4,045	0	0	4,045
	Central Industrial District	470	0	0	470
	Settlement Zheleznodoezhny	1,194	0	0	1,194
	<i>Sub-Total</i>	5,709	0	0	5,709
3. Southeastern Planning Region	Residential District 7	9,030	9,030	0	18,060
	Residential District 8	5,285	5,401	0	10,686
	Residential District 9	945	0	0	945
	Residential District 10	465	0	0	465
	Industrial District - Station 40	0	0	0	0
	Settlement Promyshlenny	879	0	0	879
	Settlement Internatsionalnoye	865	0	0	865
	Settlement Michurino	387	0	0	387
	Settlement Kuygenzhar	111	0	0	111
	<i>Sub-Total</i>	17,968	14,431	0	32,399
4. Southern Planning Region	Residential District 11	560	0	0	560
	Residential District 12	4,445	0	0	4,445
	Settlement Prigorodnoye	450	0	0	450
	Settlement Telman	149	0	0	149
	<i>Sub-Total</i>	5,604	0	0	5,604
5. Northwestern Planning Region	Residential District 1	1,575	0	0	1,575
	Residential District 2	3,938	3,938	0	7,875
	Settlement Kirovo	1,267	0	0	1,267
	West Industrial District	25	0	0	25
	<i>Sub-Total</i>	6,804	3,938	0	10,742
<i>Grand Total</i>		66,797	49,081	51,266	167,144

Note : the Number of Shop Staff is included in the Working Population Table

Table A.1.4 Major Streets in Astana (Width more than 10 m)

No	Street Name	Length (m)	Width (m)	Pavement (m ²)	Other area (m ²)	Total Area (m ²)	Average width (m)
1	Sary-Arka	2,500	26	6,080	19,160	90,240	36.1
2	Astrakhanskaya Highway	2,100	25	1,560	804	54,864	26.1
3	Bogenbai	2,400	25	7,200	200,000	267,200	111.3
4	Manasa	1,942	25	7,686	63,000	119,236	61.4
5	Respublika	2,330	24	11,374	54,490	121,784	52.3
6	Vavilova	682	24	475	6,698	23,541	34.5
7	Beibetshilik	3,400	23	47,400	81,000	206,600	60.8
8	Birzhan Sai	400	23	3,500	2,335	15,035	37.6
9	Auezova	3,600	22	56,000	20,000	155,200	43.1
10	Kravtsova	1,000	22	6,000	61,100	89,100	89.1
11	Mirzoiana	700	20	2,400	74,850	91,250	130.4
12	Panfilova	870	19		7,420	23,950	27.5
13	Abylai-khana	2,000	18	12,000	28,000	76,000	38.0
14	Pobeda	3,320	18	19,932	12,943	92,635	27.9
15	Pushkina	2,200	17	10,200	34,750	82,350	37.4
16	Akzhaiyk	1,400	16	10,900	962	34,262	24.5
17	Baraeva	1,203	16	5,272	10,780	35,300	29.3
18	Valikhanova	2,100	16	12,800	25,600	72,000	34.3
19	Abai	5,500	15	27,841	39,594	149,935	27.3
20	Omarova	3,400	15	17,276	21,377	89,653	26.4
21	Begeldinov	320	14	1,848	1,452	7,780	24.3
22	Dzhangildina	3,800	12	21,950	23,725	91,275	24.0
23	Gumilyova	3,000	12	3,704	24,000	63,704	21.2
24	Moskovskaya	2,400	12	8,904	23,000	60,704	25.3
25	Mukana	1,800	12	8,725	95,975	126,300	70.2
26	Petrova	934	12	5,484	7,790	24,482	26.2
27	Road between microdistricts #4 and #5	700	12		34,010	42,410	60.6
28	Seifullina	3,700	12	22,200	37,000	103,600	28.0
29	Tsiolkovskii	3,996	12	10,500	16,800	75,252	18.8
30	Imanova	1,300	11	4,400	11,000	29,700	22.8
31	Kenesary	5,200	11	32,161	32,547	121,908	23.4
32	Baitursynova	2,000	10	8,000	12,000	40,000	20.0
33	Bukeikhana	1,060	10	7,185	2,520	20,305	19.2
34	Bypass road	1,584	10	2,184	76,547	94,571	59.7
35	Lesozavodskaya	2,500	10	5,000	15,000	45,000	18.0
36	Likhachyova	2,100	10	4,400	46,000	71,400	34.0
37	9th of May	1,900	10	9,742	6,600	35,342	18.6
38	Mozhaiskii	1,070	10		10,800	21,500	20.1
39	Potanina	950	10	2,590	21,875	33,965	35.8
40	Road between microdistrict #9 and Alpharabi	3,000	10		0	30,000	10.0
41	Sembinova	1,670	10	3,328	29,968	49,996	29.9
42	Zatayevicha	1,500	10	6,000	15,000	36,000	24.0
43	Zhumabayeva	910	10		53,690	62,790	69.0

Table A.1.5 Townscape Characteristics of Major Streets (More than Width 10 m)

No	Street Name	Total Length (m)	Lane Width (m)	Per 1 m of Length			No. Trees (Nos.)
				Pave-ment (m ²)	Tree Area (m ²)	Lawn /flower area (m ²)	
1	Sary-Arka	2,500	26	2.4	7.7	3.1	369
2	Astrakhanskaya Highway	2,100	25	0.7	0.4	0.0	2,890
3	Bogenbai	2,400	25	3.0	0.0	0.0	623
4	Manasa	1,942	25	4.0	32.4	37.1	1,316
5	Respublika	2,330	24	4.9	0.0	0.0	1,947
6	Vavilova	682	24	0.7	9.8	0.0	
7	Beibetshilik	3,400	23	13.9	23.8	8.8	1,403
8	Birzhan Sal	400	23	8.8	5.8	13.0	244
9	Auezova	3,600	22	15.6	5.6	7.7	2,183
10	Kravtsova	1,000	22	6.0	61.1	26.7	1,625
11	Mirzoiana	700	20	3.4	106.9	14.0	343
12	Panfilova	870	19	0.0	7.3	4.7	94
13	Abylai-khana	2,000	18	6.0	14.0	40.8	2,431
14	Pobeda	3,320	18	6.0	3.9	12.7	2,076
15	Pushkina	2,200	17	4.6	15.8	5.1	800
16	Akzhaiyk	1,400	16	7.8	0.7	8.9	451
17	Baraeva	1,203	16	4.4	9.0	11.3	554
18	Valikhanova	2,100	16	6.1	12.2	6.0	842
19	Abai	5,500	15	5.1	7.2	2.4	1,862
20	Omarova	3,400	15	5.1	6.3	4.0	324
21	Begeldinov	320	14	5.8	4.5	9.1	81
22	Dzhangildina	3,800	12	5.8	6.2	1.9	267
23	Gumilyova	3,000	12	1.2	8.0	28.3	2,209
24	Moskovskaya	2,400	12	3.7	9.6	5.0	489
25	Mukana	1,800	12	4.8	53.3	30.0	2,571
26	Petrova	934	12	5.9	8.3	0.0	
27	Road between microdistricts #4 and #5	700	12	0.0	48.6	0.0	
28	Seifullina	3,700	12	6.0	10.0	23.3	1,434
29	Tsiolkovskii	3,996	12	2.6	4.2	1.6	572
30	Imanova	1,300	11	3.4	8.5	13.3	267
31	Kenesary	5,200	11	6.2	6.3	6.6	1,524
32	Baitursynova	2,000	10	4.0	6.0	0.0	
33	Bukeikhana	1,060	10	6.8	2.4	34.6	451
34	Bypass road	1,584	10	1.4	48.3	0.0	
35	Lesozavodskaya	2,500	10	2.0	6.0	0.0	315
36	Likhachyova	2,100	10	2.1	21.9	0.0	
37	9th of May	1,900	10	5.1	3.5	6.3	450
38	Mozhaiskii	1,070	10	0.0	10.1	0.0	3,391
39	Potanina	950	10	2.7	22.5	7.3	307
40	Road between microdistrict #9 and Alfarabi	3,000	10	0.0	0.0	0.0	
41	Sembinova	1,670	10	2.0	17.9	3.8	869
42	Zatayevicha	1,500	10	4.0	10.0	0.0	
43	Zhumabayeva	910	10	0.0	59.0	18.5	362

Table A.2.1 List of Kindergartens

# of kindergarten	Address	Total area (m2)	Number of staff	Number of children
Saryarka Region				
2	Karasai-Batyr, 31/1	2,688	33	299
5	Republic, 15/1	3,114	37	403
10	Lesozavodskaya, 20	1,191	12	130
20	Auesova, 113a	1,121	15	169
22	Zheltoksan, 47	1,865	32	270
29	Dzhangildina, 17	879	18	197
41	Beybitsilik, 75a	778	15	164
42	Abay, 41	1,982	12	134
43	Gercen, 84	786	12	100
46	Moscovskaya, 396	2,066	27	324
50	Dzhangildina, 24	2,481	37	340
54	Lineynaya, 16a	945	18	208
61	Dzhambula, 69/1	2,698	32	329
64	Druzhba, 56	2,103	30	334
66	Pobeda, 69a	1,054	18	216
Almaty Region				
1	M-r "Molodezhny"	2,550	28	351
8	M-r 3, 8	2,091	22	220
12	Lomonosova, 52	1,359	12	150
18	"Prigorodnyi" settlement	878	9	70
28	Lihachev, 7a	893	19	104
47	"Komsomolski" settlement	627	9	62
49	Mozhaysky, 5	1,517	15	222
51	Minsky Alley, 216	514	9	101
55	M-r 1	1,825	27	276
58	Internatsionalnaya, 37	1,945	30	223
59	M-r 2	1,700	24	285
63	Koshkarbaeva, 33	2,009	24	295
67	Abylay-han, 6	2,698	33	351
69	Abylay-han, 23/1	2,698	30	369
70	Abylay-han, 33	3,000	30	416
73	M-r 5, 30	2,640	30	244
75	M-r "Molodezhny", 40/1	2,726	24	247
9	M-r 4	1,164	12	181
4	Birzhau-sala, 3a	997		148
3	Timiryazev, 20a	1,020		170
39	Karassai batyr, 3	1,116.1		194

Source; Department of Education, Astana Municipality

Table A.2.2 List of Secondary Schools

No	School name	Address & Telephone	No. pupils	No. teachers
1	Mathematical-economic lyceum #1	13, Zheltoksan Street	581	36
2	Kazakh-Turkish Lyceum of Astana City	191, Seifullina Street	193	22
3	Secondary School #2 (Russian and Kazakh)	47, Seifullina Street	1,285	80
4	Mixed-type multi-profile school-gymnasium #3	67, Omarova Street	1,478	93
5	Kazakh school-gymnasium #4	30, Kazakhskaya Street	1,226	83
6	Secondary school #5	"Tselinnyi" micro-district	1,579	110
7	Secondary school # 6 (with Kazakh gymnasium classes)	62, Bogenbai Avenue	1,737	113
8	School-gymnasium # 7	103, Auezova Street	1,188	82
9	Secondary school # 8 (Russian, Kazakh)	56, Gastello Street	1,258	78
10	Humanitarian-economic lyceum #9	12, Sary-Arka Street	1,052	77
11	Secondary school # 10 with Kazakh gymnasium classes	10, Korkyta Street	1,608	118
12	Chemical-biological lyceum #11	65, Moskovskaya Street	1,390	72
13	School-complex #12	17, Kirpichnaya Street	315	34
14	Secondary school # 13 (Russian and Kazakh)	Silikatnyi settlement	507	51
15	Secondary school # 14 (Russian and Kazakh)	33, Moskovskaya Street	1,334	86
16	Secondary school #15 (Russian and Kazakh)	1, Frunze Street	1,438	95
17	Secondary school #16 (Russian and Kazakh)	253, Kenesary Street	2,617	134
18	Secondary school #18 (Russian and Kazakh)	41, Bogenbai Avenue	1,131	72
19	Secondary school #19 (Russian and Kazakh)	170, Dulatova Street	833	58
20	Secondary school #20	62, Kartalinskaya Street	640	42
21	Secondary school #21	14, Lesozavodskaya Street	1,358	86
22	Secondary school #22 (Russian and Kazakh)	Micro-district #5	2,690	135
23	Secondary school #23 (Russian and Kazakh)	16, Kurskaya Street	994	75
24	Secondary school #24 (Russian and Kazakh)	Prigorodnyi Settlement	354	38
25	Secondary school #25	17, Timiryazeva Street	1,878	93
26	Kazakh secondary school #26	44, Konstitutsia Street	1,086	60
27	Secondary school #27	Molodyozhnyi micro-district	2,058	121
28	Secondary school #28 (Russian and Kazakh)	Micro-district #1	1,850	93
29	Secondary school #29 (Russian and Kazakh)	Sorokovaya Station	689	48
30	Secondary school #30 (Russian and Kazakh)	Micro-district #2	1,547	84
31	Secondary profile school #31	131, Kenesary Street	1,546	93
32	Secondary school #32 with gymnasium classes	21/1, Abylaikhan Street	2,089	123
33	School-complex #33	2, Liteinaya Street	626	35
34	Secondary school #35 (Russian and Kazakh)	5/1, Abai Street	1,455	93
35	Secondary school #36	Pervomaiskaya Street	1,661	89
36	Secondary school #37 (Russian and Kazakh)	Al-Farabi micro-district	1,791	119
37	Kazakh Lyceum #38	Micro-district #9	1,202	78
38	German educational complex		435	41
39	Ukrainian educational complex	49, Seifullina Street	100	11
40	Professional-training center of general education		376	30
Total			49,175	3,081

Source; Department of Education, Astana Municipality

Table A.2.3 List of colleges and professional schools

1	Name of educational facility	Number of students	Number of teachers	Notes
1	Professional school #1	582	57	State
2	Professional school #2	383	35	State
3	Professional school #3	442	44	State
4	Professional school #4	151	6	State
5	Professional school #5	86	8	State
6	Polytechnic College	1,169	78	State
7	Transport and Communication College	798	52	State
8	Humanitarian College	320	10	State
9	Agrarian-Technical College	418	20	State
10	Medical College	314	18	State
11	Financial-Economic College	560	73	State
12	Trade and Economy College	333	29	Private
13	College of the Management Institute	132	12	Private
14	Social-Humanitarian College	246	10	Private
15	Economical-Juridical College	251	11	Private
16	Branch of Aktau College	23	4	Private
17	College "Lingua"	32	1	Private
18	Branch of the Dentist College by Rusutdinov	7	2	Private
19	Medical College "Akdina"	54	6	Private
20	College "Danalyk"	150	8	Private
21	Kazakh Juridical College "Akniet"	214	11	Private
22	Capital's Branch of High Law School "Adilet"	128	17	Private
23	Capital's Branch of Medical Center "Emily"	133	5	Private
24	Eurasian Juridical College	170	2	Private
25	Academy Astana "Kazakh Professional College"	90	10	Private
	Total	7,186	529	

Source; Department of Education, Astana Municipality

Table A.2.4 List of Institutions of Higher Education

#	Name of the institution, Form of property	Address, telephone	No. students	No. Doctors of Science	No. Professors	No. Docent s
1	Agrarian University by S.Seyfullyn	Pobeda, 116	6,341	21	24	111
2	The L. N. Gumilyov Eurasian University	Tsiolkovsky, 6	7,550	24	41	205
3	Medical Academy	Sary-Arka, 95	1,833	41	26	53
4	Kazakh National Music Academy	Pobeda, 65	202			
5	Eurasian Humanitarian Institute (Formerly "AKKU")	Zhumabaeva, 3	863	5	5	32
6	Management Institute	Beybetshilik, 73	360	2	3	5
7	Institute of Arabic Language and East Culture	Kazakhsкая, 30b	108	-	1	3
8	Education-consulting unit of "Kaynar" University	Tsiolkovsky, 51	321	5	-	-
9	Branch of "Turan" University	Pushkina, 166	682			
10	Branch of Humanitarian University by Kunaev	Stroitel'naya, 16	400			
11	Branch of Moscow Socio-Humanitarian Institute	Beybitshilik, 41	100			
12	Branch of Higher Law School "Adilet"	Chubary, Zorge, 3	358	2	3	16
13	Branch of Almaty Processing Institute	Pushkina, 66	230	1	-	10
14	Branch of Central-Asia University	Zheltoksan, 41	450			
15	Russian-Kazakh Modern Humanitarian University Branch	Pushkina, 166	800	6	6	22
16	Branch of Almaty Institute of Managers-Economists "Daulet"	Beybetshilik, 39	50	-	1	5
17	Akmola Branch of Almaty Labor and Social Relations Academy	Pervomayskaya, 1 77-25-41	443	2	2	4
18	Branch of Kazakh State Management Academy	Lihacheva, 7	135	2	2	3
19	Branch of Kazakh State Juridical University	Akzhayik, 31	400	3	-	1

Table A.2.5 List of Hospitals and Clinics

#	Name of the facility	Address	No. doctors	Nurses	Junior medical staff	Beds
1	Ambulance hospital	Bogembaya, 15				
2	City polyclinic #1	Seyfullina, 42	53	60	20	
3	City polyclinic #2	Pushkina, 164	56	97	26	
4	City polyclinic #3	Pushkina, 132,134	45	51	5	
5	Consulting-diagnostic polyclinic #6	Abaylan, 22/1	42	61	13	
6	City hospital # 1	Beybitsilik, 47a	70	139	83	225
7	State Public Utility Enterprise "City hospital #2"	Abaylan, 13	96	198	158	310
8	City hospital #3	Bokey-han, 40	27	51	30	60
9	City Ambulance Station	Druzhba, 18	72	87	57	
10	City isolation hospital	Kulturnaya, 51	29	83	70	180
11	City child isolation hospital	Stroitel'naya, 2/1	32	82	54	120
12	City child hospital #2	Manasa, 10	73	163	106	215
13	City mental dispenser	Uchilishuaya, 7	57	139	187	500
14	City tuberculosis dispenser	Stroiteley, 9	51	141	88	300
15	Veneral dispenser	Pushkina, 164/1	33	57	29	100
16	Narcological dispenser	Chehova, 14a	20	36	38	155
17	Onco-dispenser	Vishnevskoe Highway, 11	28	46	22	100
18	Perinatal center	Manasa, 8	49	98	65	125
19	Maternity hospital #1	9 May, 70	44	109	80	110
20	Blood transfusion center	Moskovskaya, 82	16	36	26	
21	Center "AIDS"	Naberezhnaya, 37	12	18	4	
22	SVA "Orbita"	M-r 1	8	10	2	
23	SVA "Lesozavodskaya"	Lesozavod	10	12	1	
24	SVA "Shipager"	Komsomolsky village	5	7	2	
25	SVA "Promyshlenny"	30 years Tseliny, 2	6	6	0	
26	Dorozhnaya hospital including:		125	319	115	
	Child polyclinic # 1	Byrzhan sala, 10	155	274	82	
	Child specialized polyclinic # 5	Pushkina, 110				
	City child hospital	Zhel'toksan, 42				
	Child polyclinic # 2	Auezov, 90				
	Child polyclinic # 4	9 May, 69				
	Child polyclinic # 6	Abaylan, 1				
Total			1,214	2,380	1,363	2,500

Source; Department of Health Care, Astana Municipality

Table A.2.6 List of Police Offices and Fire Departments

No	Name	Address
Police Stations		
1	Head Office	19 Beibitshilik
2	Department of Almaty District	2, Leihacheva
3	Department of Sary-Arka District	6, R. Luckemsburg
4	Industrial District Sub-Division of Sary-Arka District	41, Samarkandskaya
Fire Department		
1	Fire Department #1	47, Tsiolkovskii Street
2	Specialized FD #2 (head office)	91, Omarova Street
3	Fire Department #4	"Promyshlennyi" Settlement
4	Fire Department #6	Industrial zone, reinforced concrete plant "Artem"
5	Fire Department #8	3, Betonnyaya Street
6	Fire Department #10	"Textilshik" micro-district (micro-district #3)

Table A.2.7 List of Cultural Facilities, Theaters and Museums

1	Names	Address
Theaters and Auditoriums		
1	Russian Drama Theatre	72, Bigeldinov Street
2	Kazakh Music and Drama Theatre	47a, Omarov Street
3	Culture and Leisure Activity Center	40, Respublika Avenue
4	Congress-Hall	2, Beibitshilik Street
5	Railroad Work's Palace	(now under reconstruction; shall be re-opened as a Kazakh music and dance theater)
Museums		
1	Museum of Modern Art	Respublika Av., 3
2	Museum of History and Culture of Astana	Kenesary, 107
3	The S.Seyfullyn Museum	Auezova, 78
Cultural Facilities		
1	State Philharmonic Society	72, Respublic Avenue
2	Child and Juvenile Art Palace	1, Boykeyhana Avenue
3	"Zhastar" Palace	72, Respublic Street
4	Ceremonial Palace	40, Respublic Avenue
5	Management of Movie and Video Lease	2a, Abylaikhan Street
Libraries		
1	Central Library*	Bogenbaya, 26
2	Republic Public Library	Seyfullina, 72
3	Scientific-technical Library	Pobeda, 87
4	Branch of Central City Library	Abylay-han, 2
5	Branch of Central Children' Library by Gaydar	Bogenbaya, 26
6	Specialized Library for Blind and Poor Eyesight People	M-r Molodezuy, Poleyaya, 2/1

*: Central Library has 8 branch libraries for children and 10 branch libraries for adults in various parts of the city.

Table A.6.1 (1) List of proposed cultural property for preservation

Station Precinct (S)

no.	location	name	stories	date	remarks
S-1	1, Akzaiyk st	housing	2	40-50	mass development of the street with similar facades
S-2	2, Akzaiyk st.	housing	2		
S-3	3, Akzaiyk st.	shop/housing	2		
S-4	4, Akzaiyk st.	office	2		
S-5	5, Akzaiyk st.	office/housing	3		
S-6	6, Akzaiyk st.	housing	3		
S-7	7, Akzaiyk st.	office	3		
S-8	8, Akzaiyk st.	shop/housing	3		
S-9	12, Akzaiyk st.	shop/housing	3	40-50	mass development of the street with similar facades
S-10	13, Akzaiyk st.	shop/housing			
S-11	14, Akzaiyk st.	housing			
S-12	15, Akzaiyk st.	housing			
S-13	16, Akzaiyk st.	housing			
S-14	17, Akzaiyk st.	shop/housing			
S-15	18, Akzaiyk st.	housing			
S-16	19, Akzaiyk st.	housing			
S-17	21, Akzaiyk st.	housing			
S-18	23, Akzaiyk st.	housing			
S-19	25, Akzaiyk st.	housing			
S-20	East-1	Libkneht st. housing	2	40-50	#228 Type, by Moscow arch. Mayrson for railway workers housings. In this period they are very rich and strong, as the railway was very important from the view point of the country's economic growth
S-21	East-2				
S-22	West-1				
S-23	West-2				
S-24	West-3				
S-25	West-4				
S-26	West-5				
S-27	South-1	Lineinaya st. housings	2	40-50	ditto
S-28	South-2				
S-29	South-3				
S-30	South-4				
S-31	South-5				
S-32	12, Gyote st.	Gyote st, housings	2	40-50	ditto
S-33	14, ditto				
S-34	16, ditto				
S-35	18, ditto				
S-36	20, ditto				
S-37	14, Timir. St.	Timiryazev st. housings	2	40-50	ditto
S-38	16, ditto				
S-39	station yard	Water tower	-	30s	supplied water to locomotives too
S-40	11, Pervomaiskaya st	No.37 Secondary school	2	50s	typical school style during the great time of railway workers
S-41	19, Pervomaiskaya st	Kindergarten	2	50s	

Table A.6.1 (2) List of proposed cultural property for preservation

Biebitshilik Street Precinct (B)

no.	location	name	stories	date	remarks
B-1	25, Beibitshilik St.	Printing Company	4	60s	Soviet Industrial-Functional Style, 70'add wall paintings
B-2	24, Beibitshilik st.	housing	5	62-64	Moscow PC panel, wall is thicker (35-40cm)
B-3	26, Beibitshilik st.	housing	5		
B-4	28, Beibitshilik st.	housing	5		
B-5	30, Beibitshilik st.	housing	5		
B-6	29, Beibitshilik st.	housing	5	62-64	Leningrad PC panel, wall is thinner with insulation. Steel joints are welded (rust problems)
B-7	31, Beibitshilik st.	housing	5		
B-8	33, Beibitshilik st.	housing	5		
B-9	35, Beibitshilik st.	housing	5		
B-10	37, Beibitshilik st.	Ministry of Energy	5	60s	Khrushchev Style
B-11	39, Beibitshilik st.	Polytech College	4	60-61	Stalin Style
B-12	40, Beibitshilik st.	housing	5	62-64	Lenongrad PC panel with ceramic tiled surface and insulation inside
B-13	42, Beibitshilik st.	housing	5		
B-14	44, Beibitshilik st.	housing	5		
B-15	49, Beibitshilik st.	Medical Academy	5	63-64	Typical school design from Moscow (there are many in USSR)
B-16	51, Beibitshilik st.	Medical Academy	5		
B-17	53, Beibitshilik st.	Medical Academy	5		
B-18	59, Beibitshilik st.	Automobile tech school	4	60-61	Capitol ornament by gypsum, which Khrushchev prohibited by decree
B-19	73, Beibitshilik st.	Agricultural University	3	50s	Stalin Façade has ornament
B-20	64, Beibitshilik st.	"MOSKVA" shop	2	1963	"Constructive Functional" style
B-21	114, Poveda	Hospital for railway worke	3	50s	Stalin Style
B-22	Agricultural Univ.	Student Club	2	1949	Façade ornament, w/pink wall

Kenesary Street Precinct (K)

no.	location	name	stories	date	remarks
K-1	1, Beibitshilik	housing/shop	4	50s	
K-2	5, Beibitshilik	housing/shop	3	50s	
K-3	151, Kenesary	Wooden house	1	19C	merchant house, logs came from Siberia
K-4	31, ditto	Wooden house	1	19C	
K-5	68, ditto	housing/shop	3	50s	
K-6	70, ditto	Water tower	(5+)	30s	supplied water for locomotives too
K-7	72, ditto	shop/house	3	50s	
K-8	74, ditto	shop/house	4	50s	
K-9	76, ditto	Gov. office	2	50s	
K-10	78, ditto	housing	3	50s	
K-11	80, ditto	housing	3	50s	
K-12	30, Pobeda st.	shop/house	2	50s	
K-13	93, ditto	Gov. office	3	50s	
K-14	95, ditto	housing	3	50s	
K-15	97, ditto	Gov. office	3	50s	
K-16	99, ditto	Gov. office	2	50s	
K-17	20, Pobeda st.	Housing	2	50s	for railway high ranked workers housing, #230 type designed by Moscow arch.Mayrson
K-18	22, Pobeda st.				
K-19	24, Pobeda st.				
K-20	26, Pobeda st.				
K-21	32, Pobeda st.				
K-22	27, Pobeda st.				

Table A.6.1 (3) List of proposed cultural property for preservation

OTHERS (O)

no.	location	name	stories	date	remarks
O-1	over ISHIM	Bridge to the Central Park	-	60s	Wooden bridge was collapsed due to heavy passenger traffic and was newly build by reinforced concrete
O-2	Central Park	Central Alley	-	late 19C	about 300m length 10m wide
O-3	Old Fortress area	Uzkaya street	-	1830s	about 150m length 7m wide
O-4	Central Park	Old Poplar Tree	-	early 20C	about 100 years old, near Boat house,
O-5	behind Telekom	Kirov's house	1	20s	Kirov, no.2 after Stalin stayed in 30s
O-6	49, Abai st.	Min. of Transport	3	30s	former Karaganda Railway Dep.
O-7	83, Abai st.	Wall Fence	-	20s	Tatar's "Green Mosk"'s Wall Fence. The mosk was burned down in20s
O-8	84, Abai st.	Housing	3	1954	Built by Japanese prosoners of the war. Works and details are valued as high-grade
O-9	86, Abai st.				
O-10	19, Pushkin st.	"Tselinselmash" Plant	2	50s	Stalin style

FIGURE

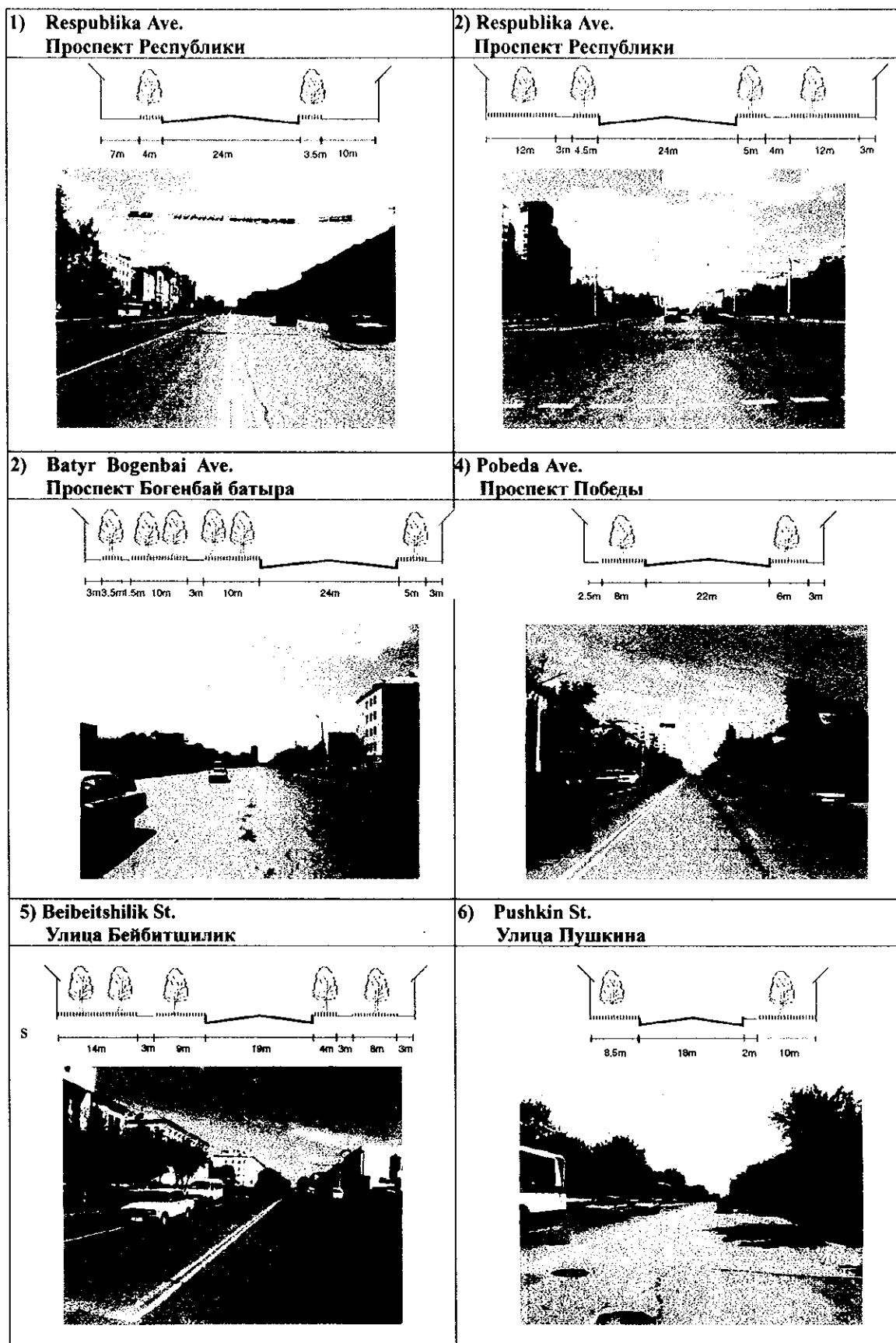


Figure A.1.1 (1/3) Cross-Sections and Images of Representative Streets in Astana
Рисунок А.1.1 (1/3) Внешний вид и поперечное сечение главных улиц г. Астаны

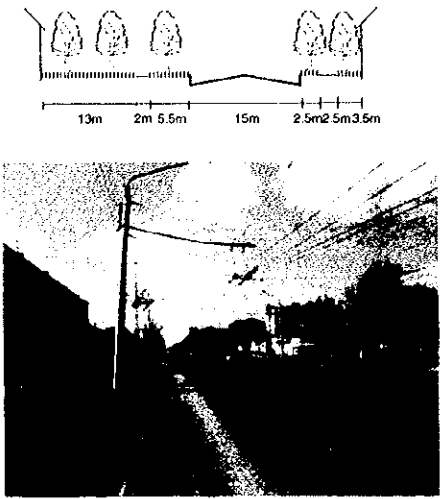
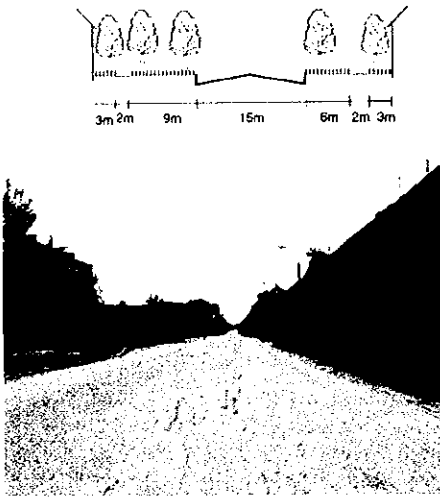
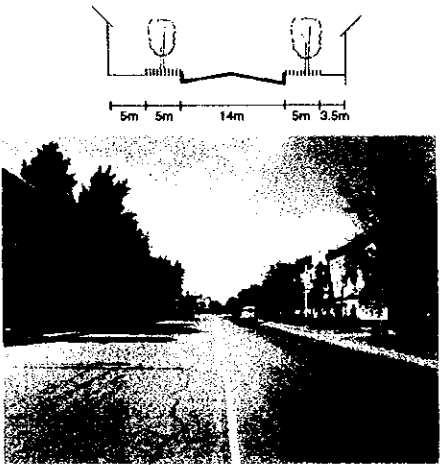
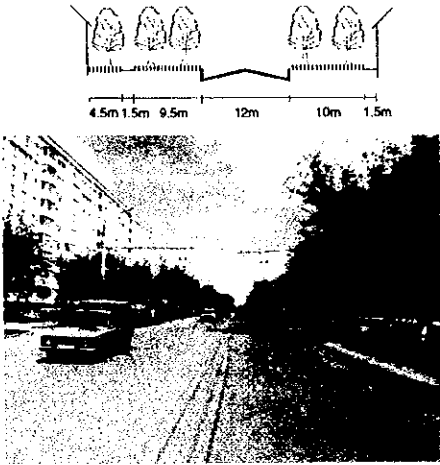
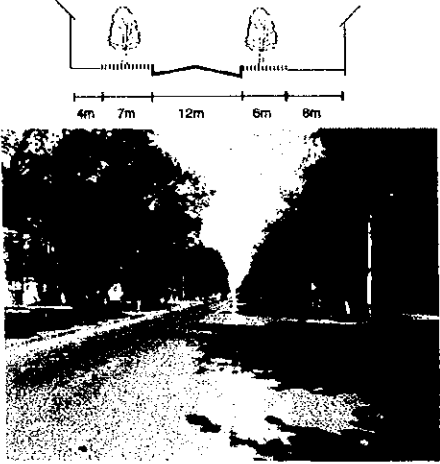
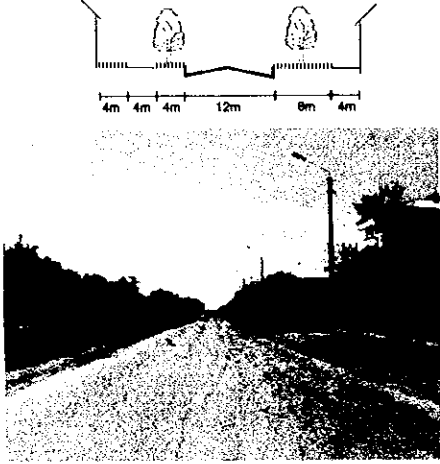
<p>7) Valikhanov St. Улица Валиханова</p> 	<p>8) Auezov St. Улица Ауэзова</p> 
<p>9) Akzhaiyk St. Улица Акжайык</p> 	<p>10) Seifullin St. Улица Сейфуллина</p> 
<p>11) Abai Ave. Проспект Абая</p> 	<p>12) Devyatoye Maya St. Улица 9 Мая</p> 

Figure A.1.1 (2/3) Cross-Sections and Images of Representative Streets in Astana
Рисунок А.1.1 (2/3) Внешний вид и поперечное сечение главных улиц г. Астаны

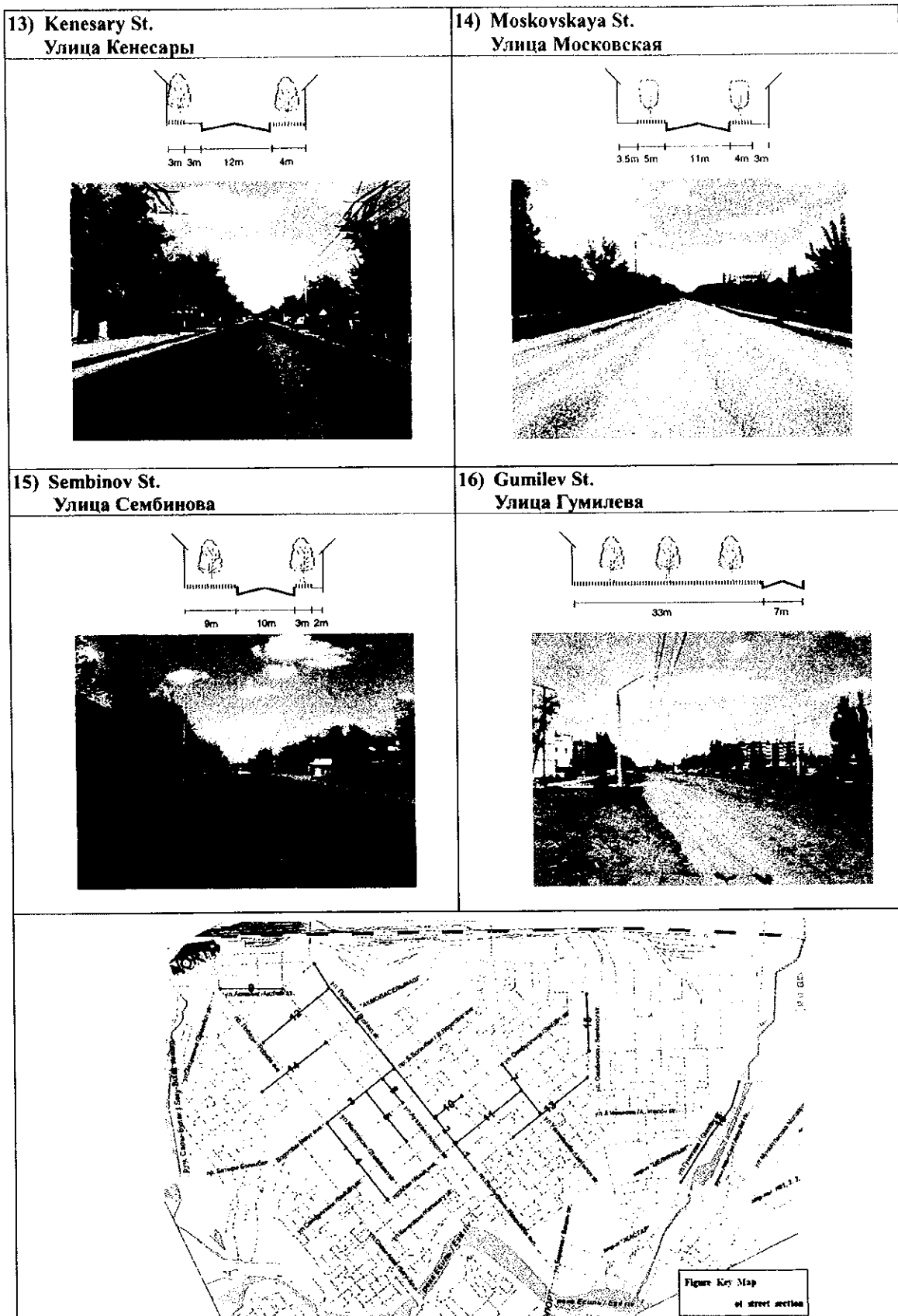


Figure A.1.1 (3/3) Cross-Sections and Images of Representative Streets in Astana
Рисунок А.1.1 (2/3) Внешний вид и поперечное сечение главных улиц г. Астаны

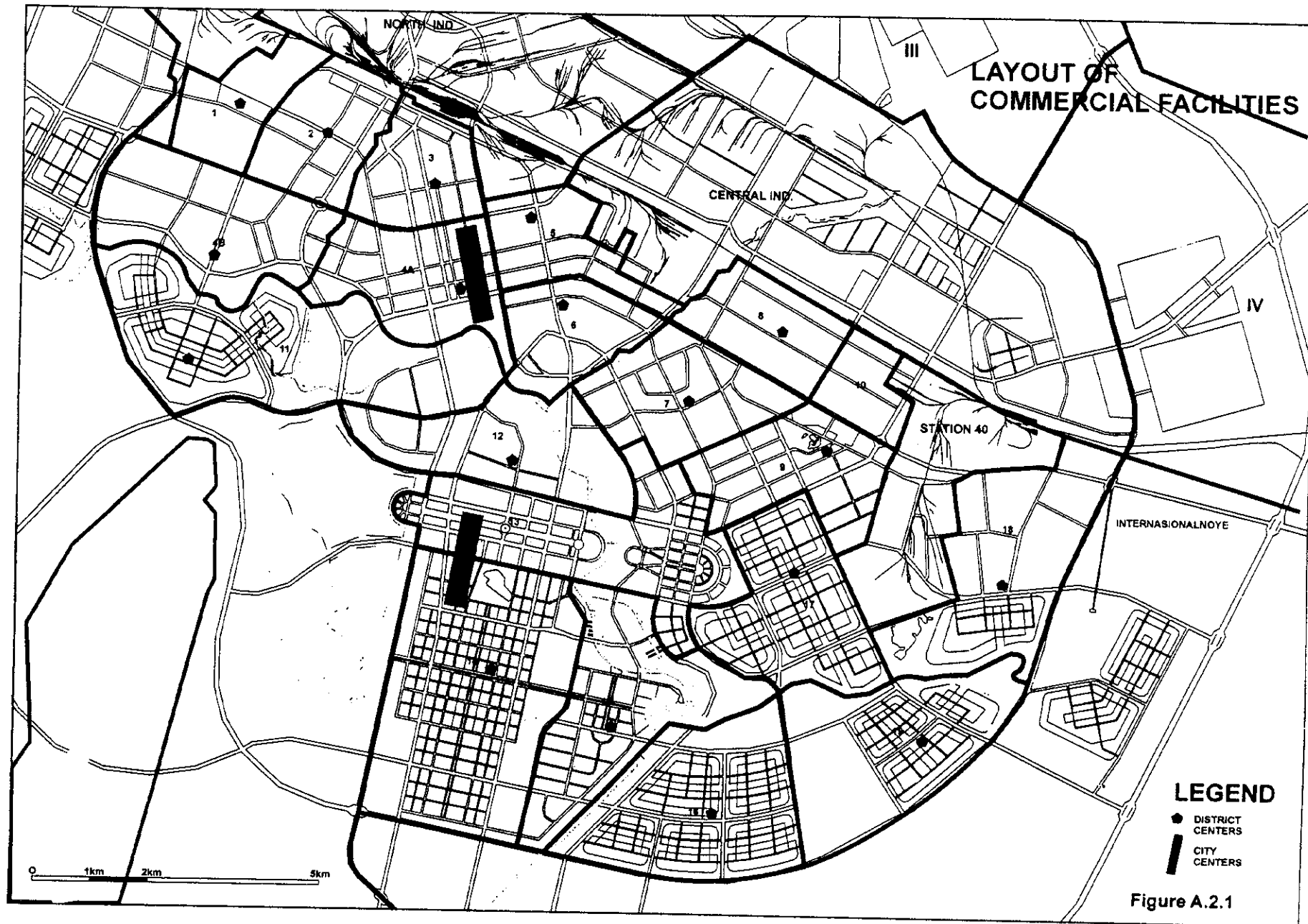


Figure A.2.1

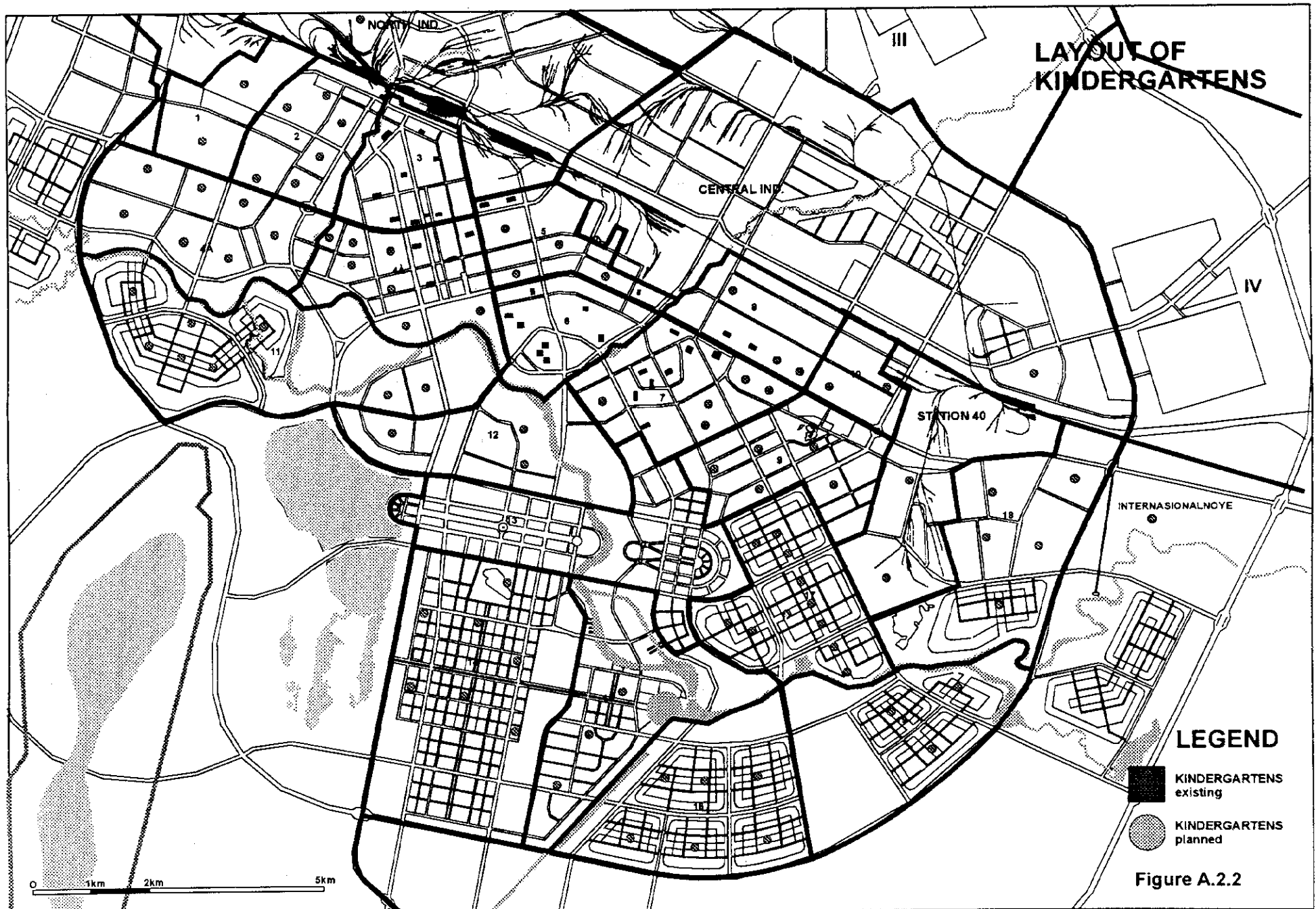
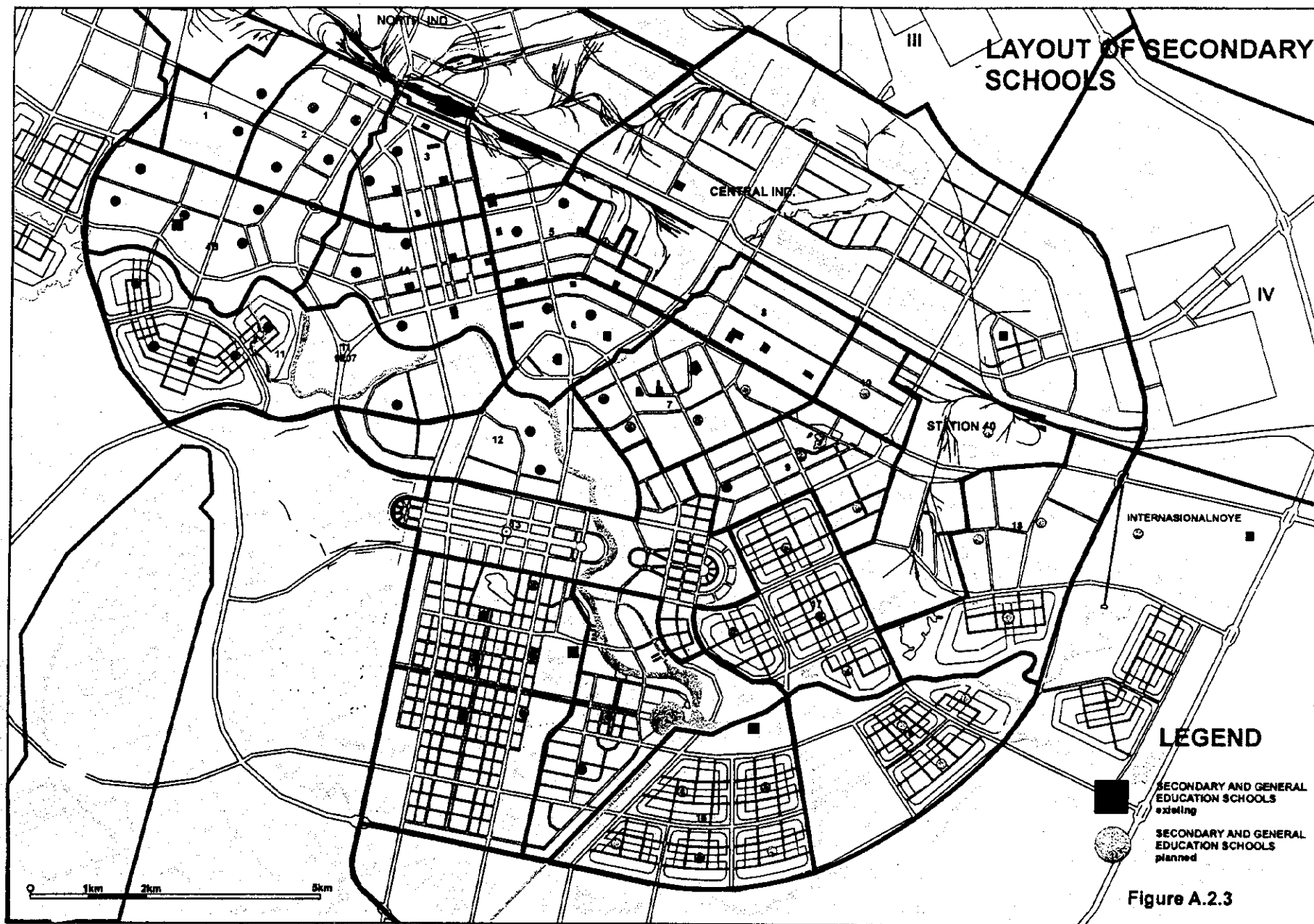
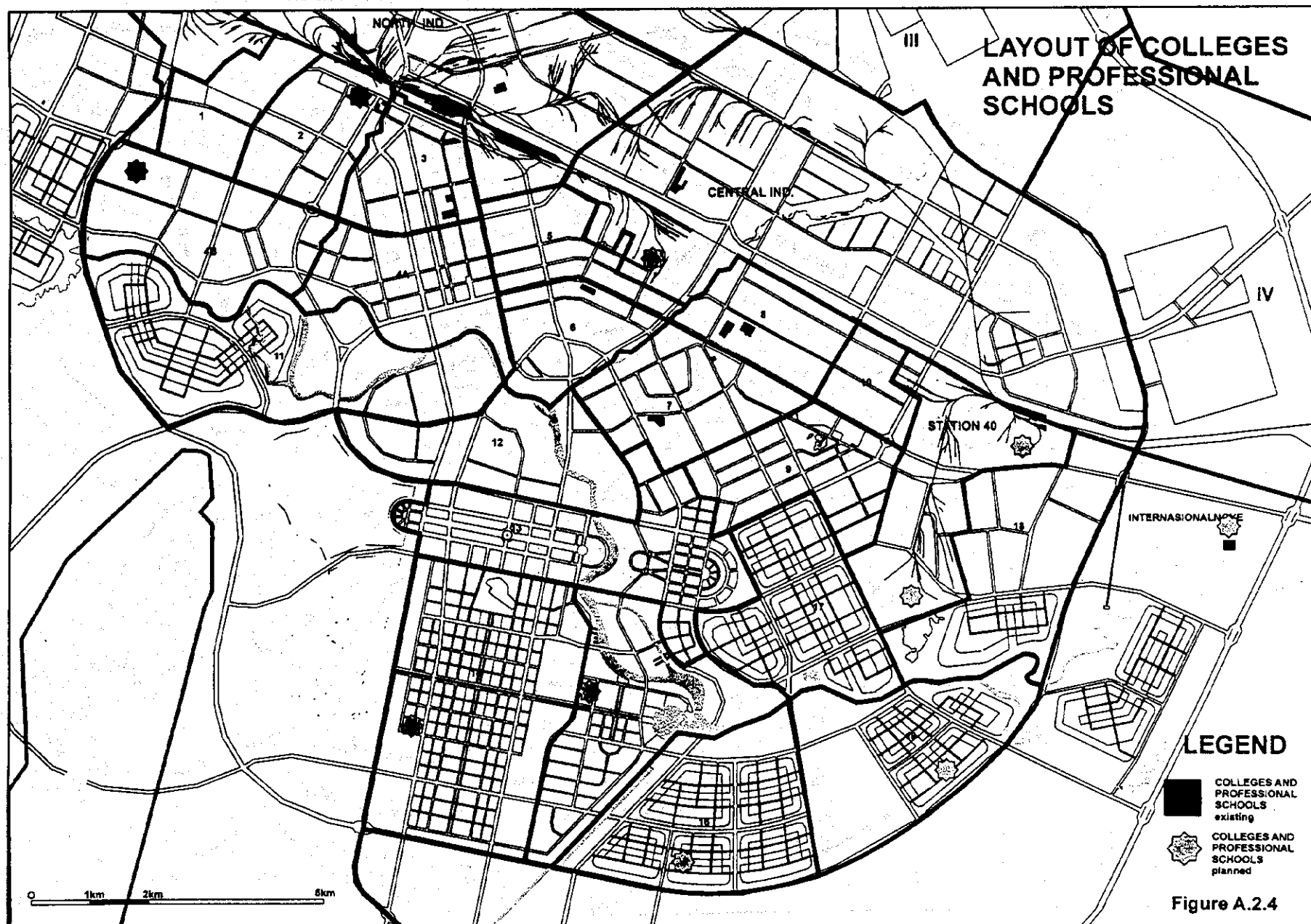
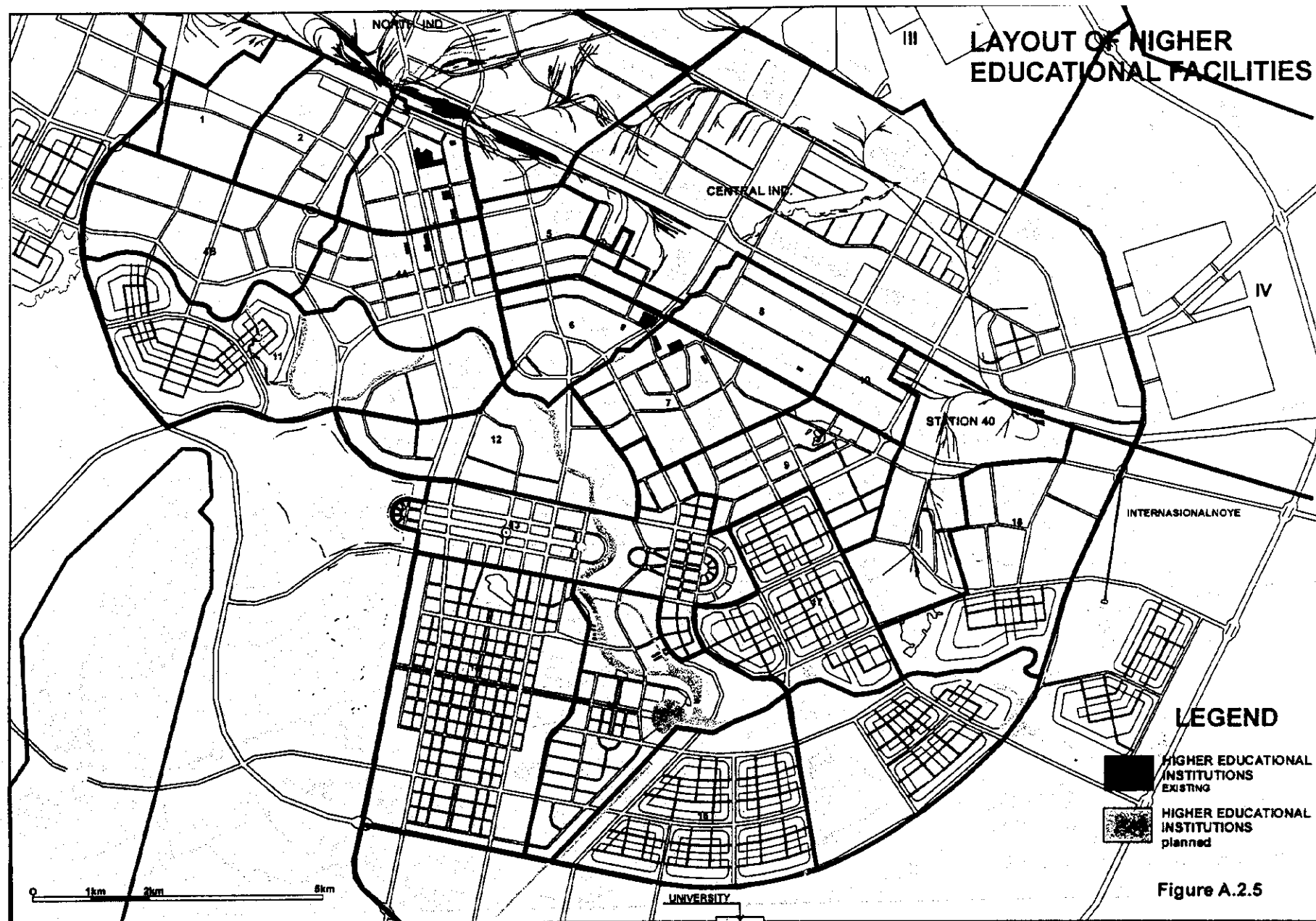
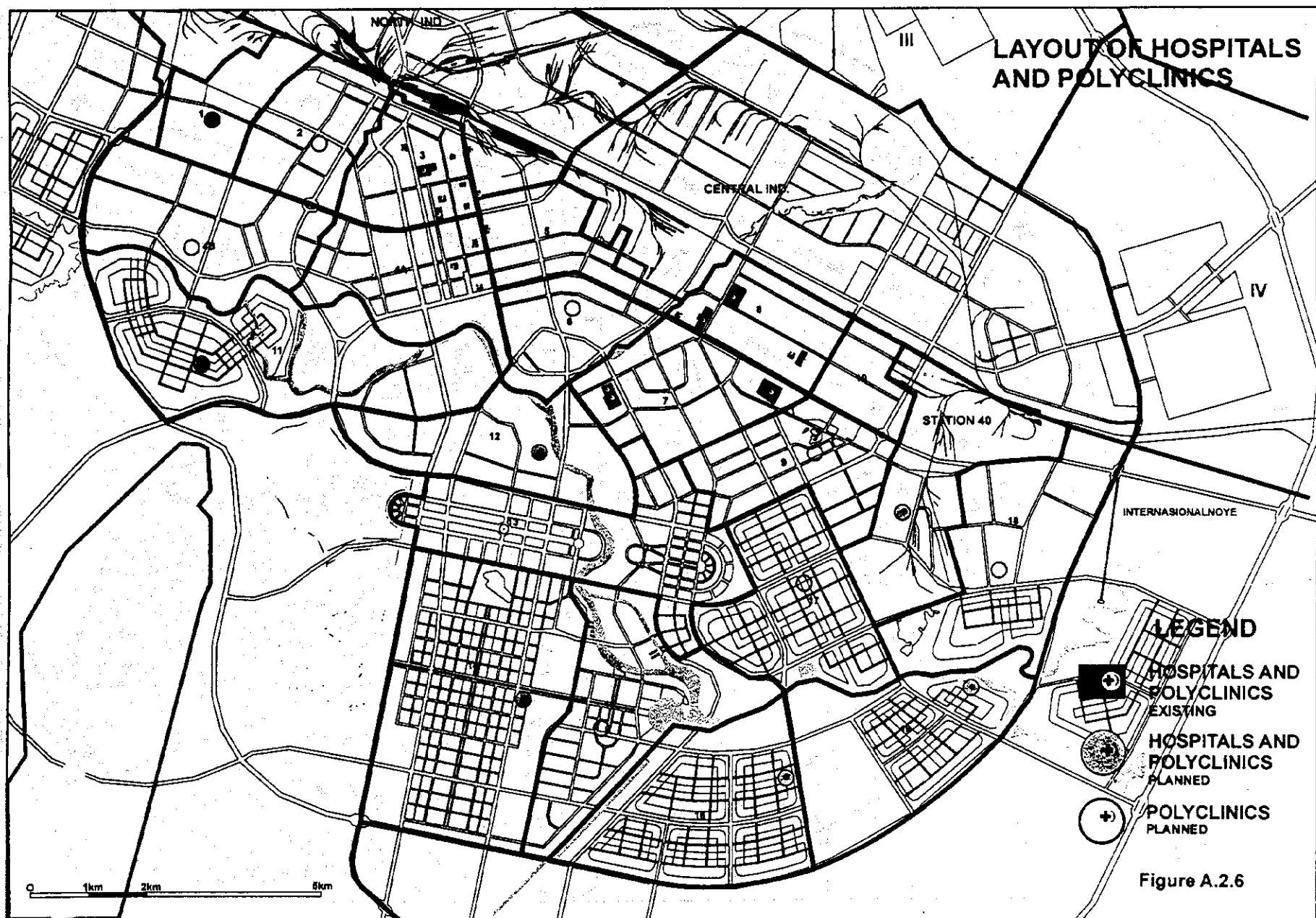


Figure A.2.2









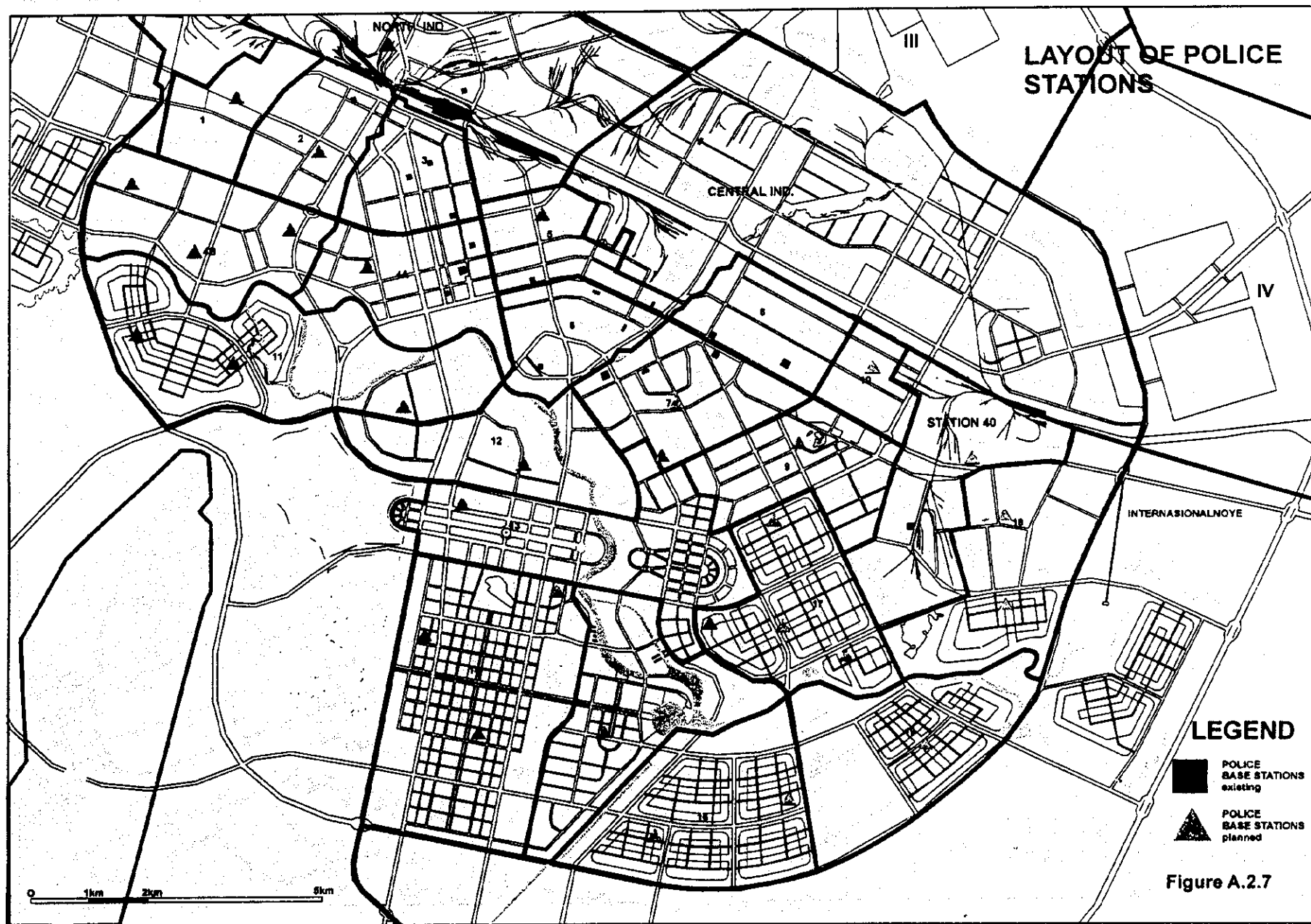




Figure A.3.1 Area Expansion Plan A (Kurokawa, 1998) (Plan A)

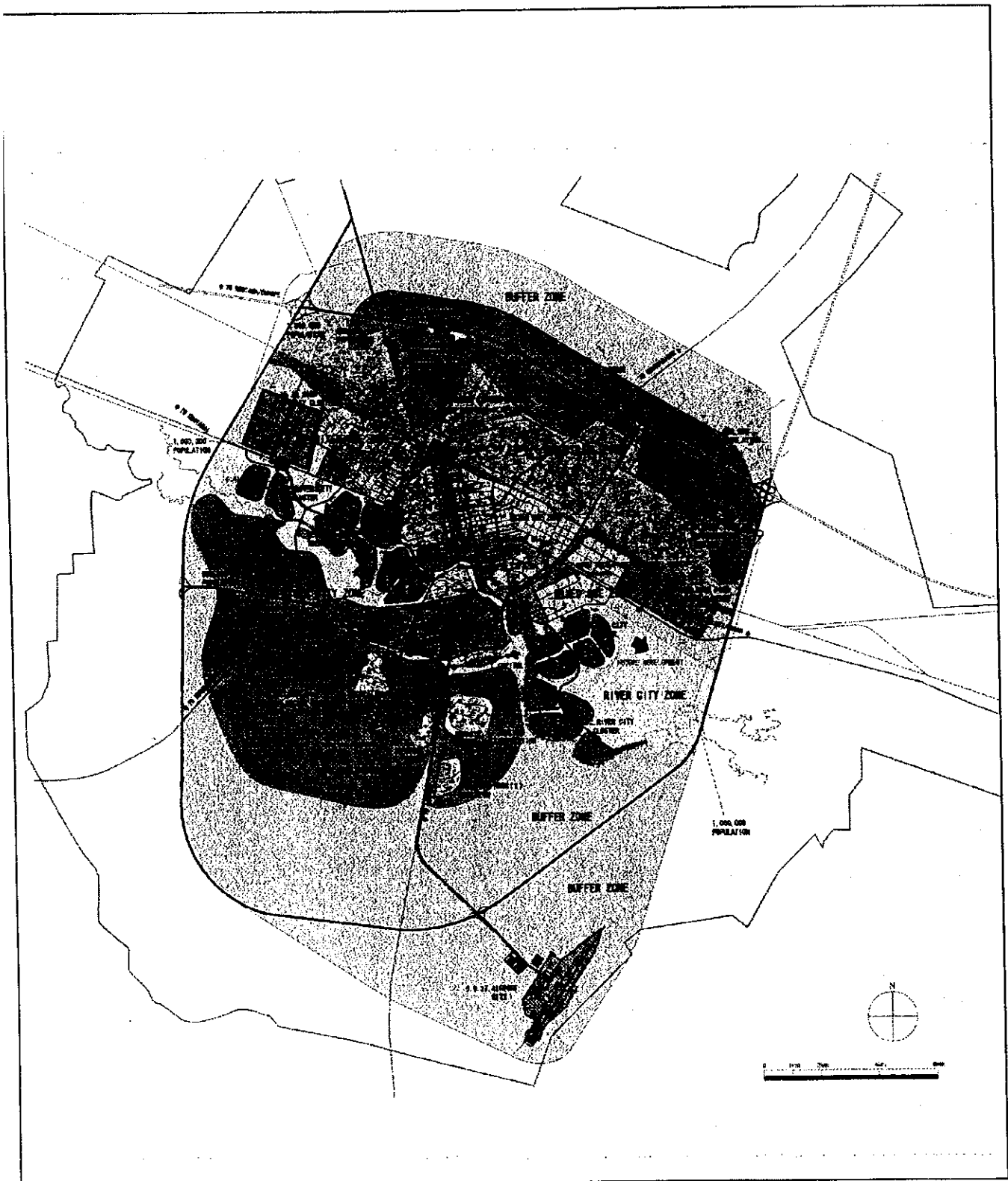


Figure A.3.2 Area Expansion Plan B (Saudi Binladen, 2000) (Plan B)

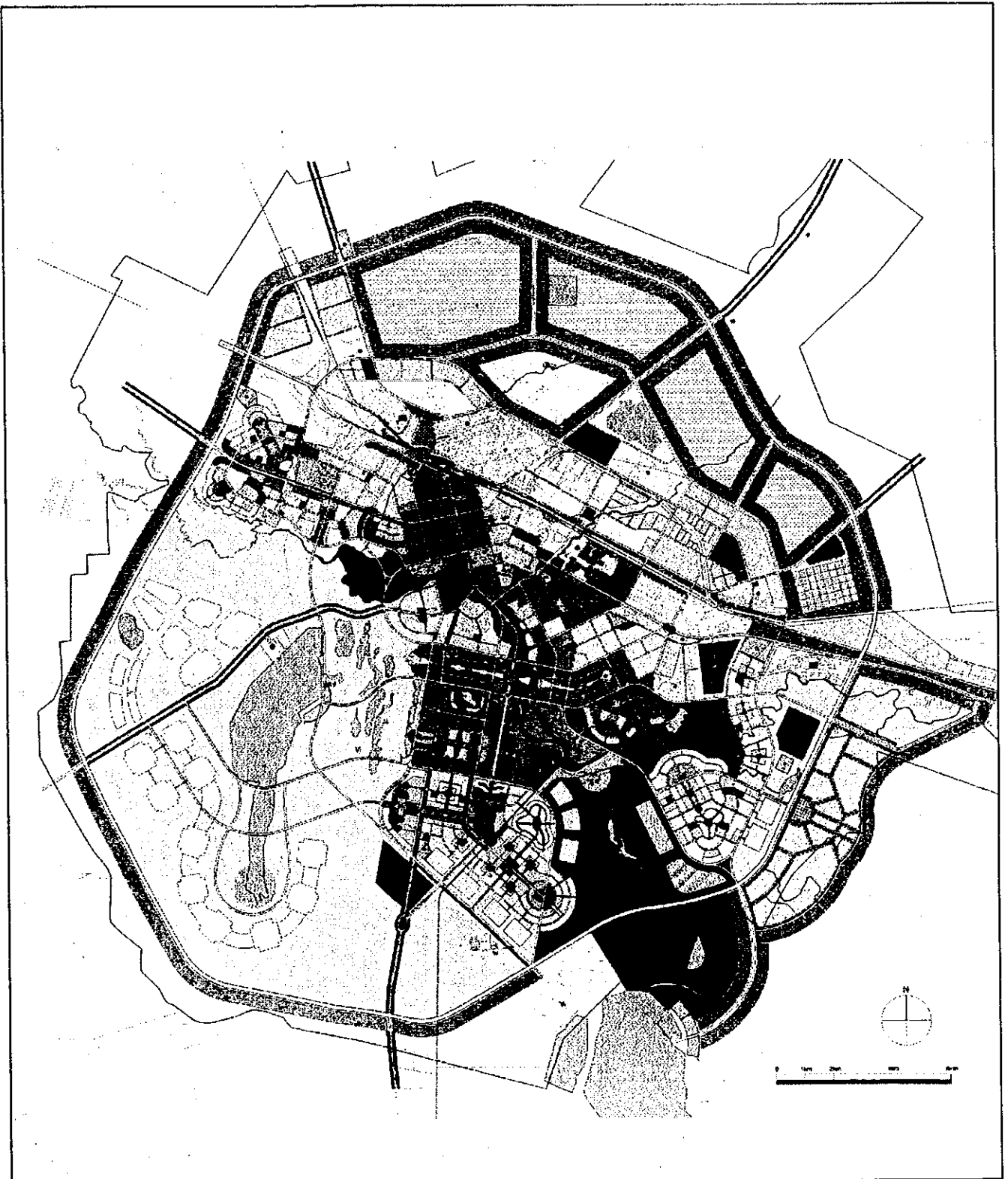
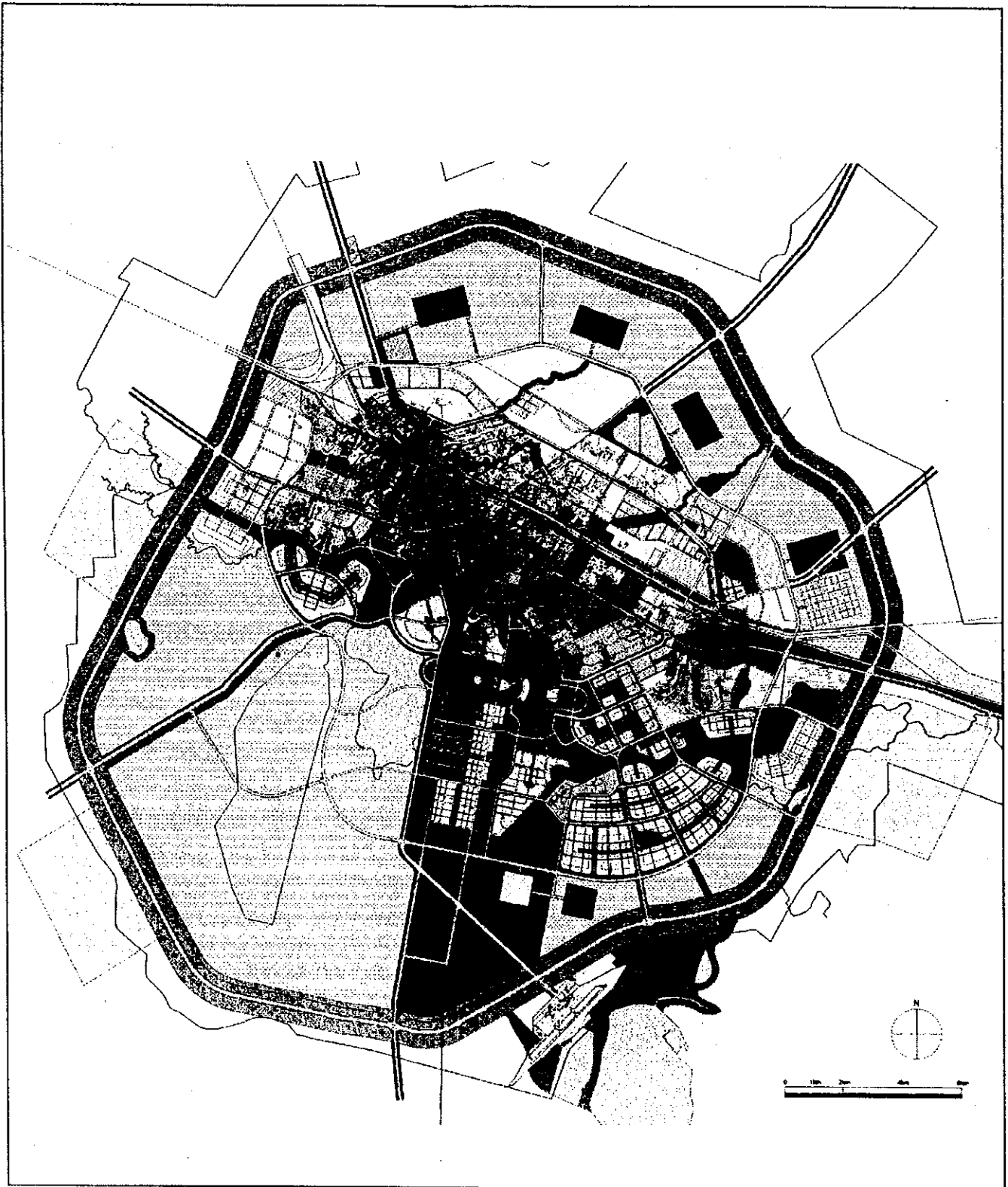


Figure A.3.3 Area Expansion Plan C (Present Maser Plan, 2000) (Plan C)



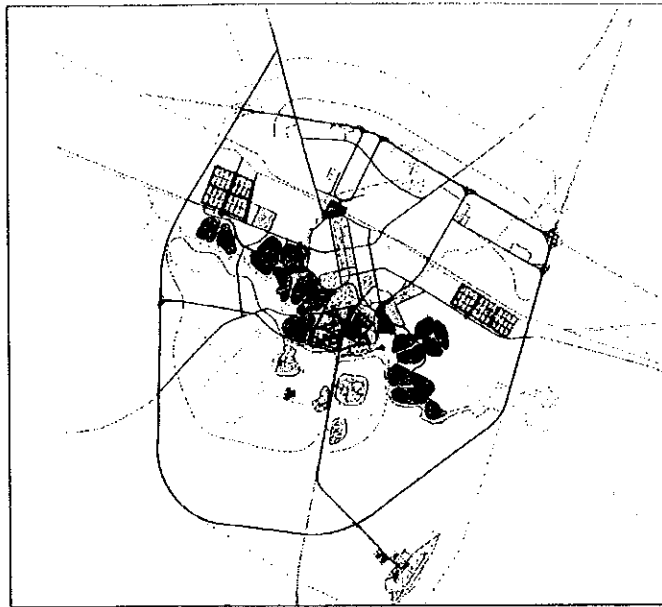
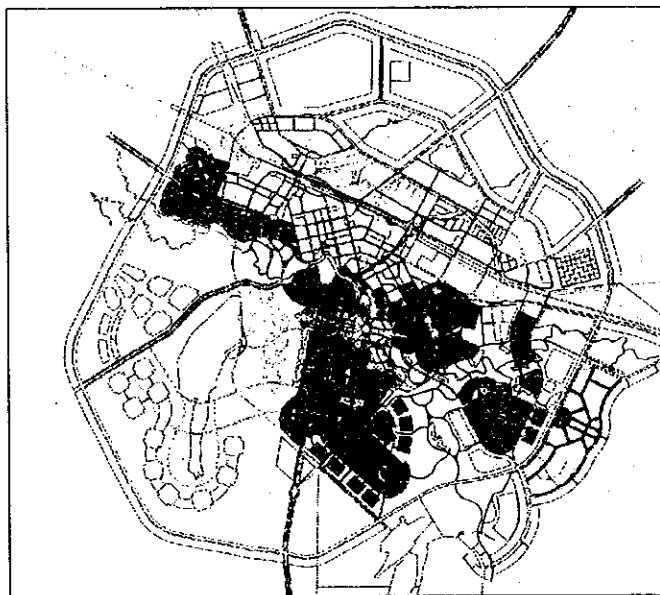
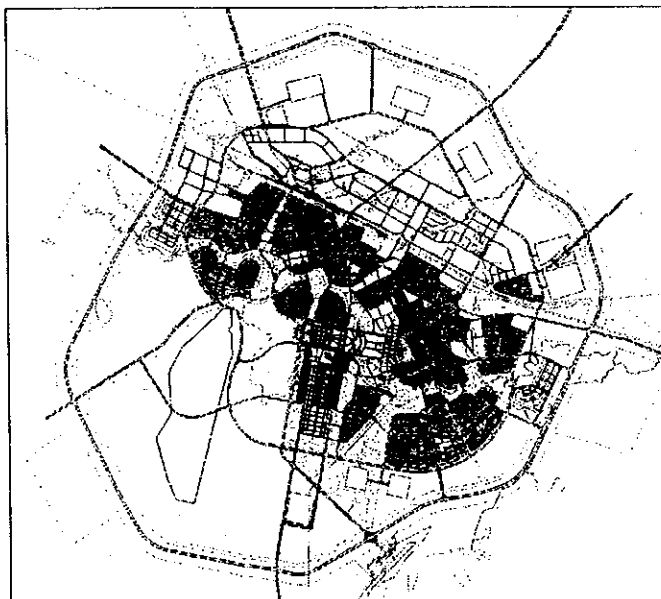


Figure A.3.4
Comparison of
Residential District

Plan A



Plan B



Plan C

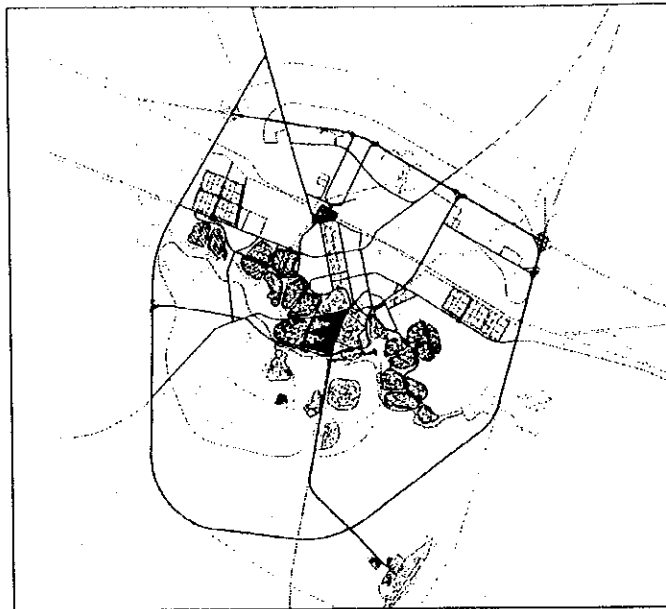
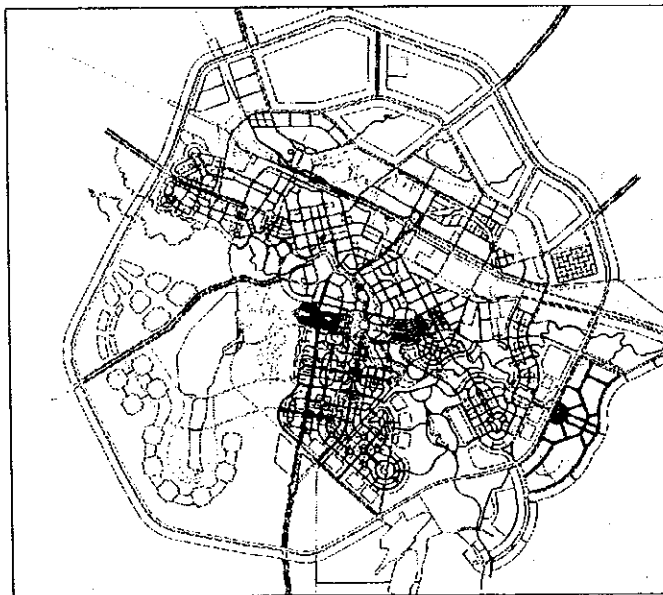
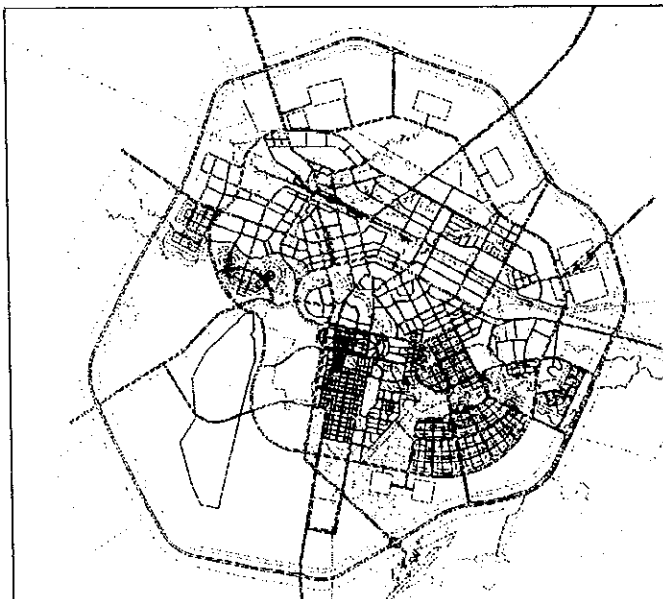


Figure A.3.5
Comparison of
Central Business District

Plan A



Plan B



Plan C

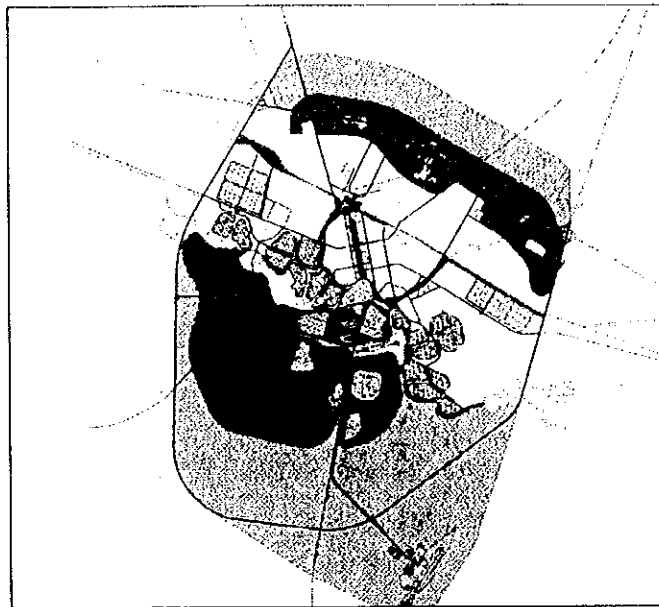
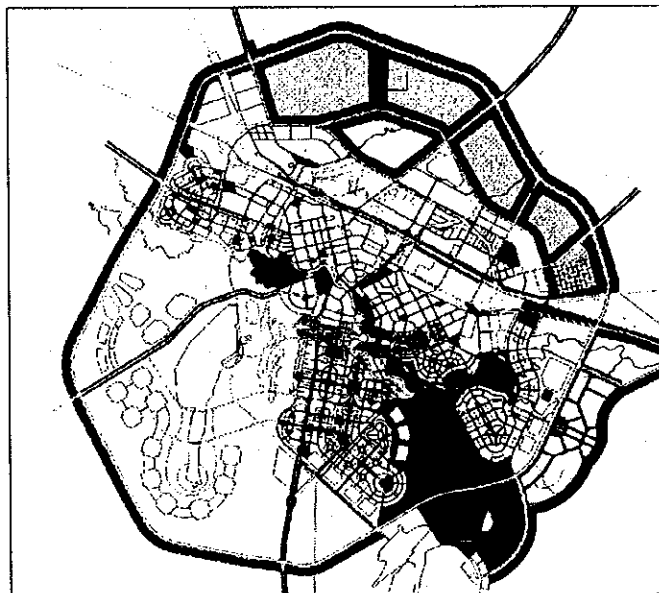


Figure A.3.6
Comparison of Green Areas

Plan A



Plan B



Plan C

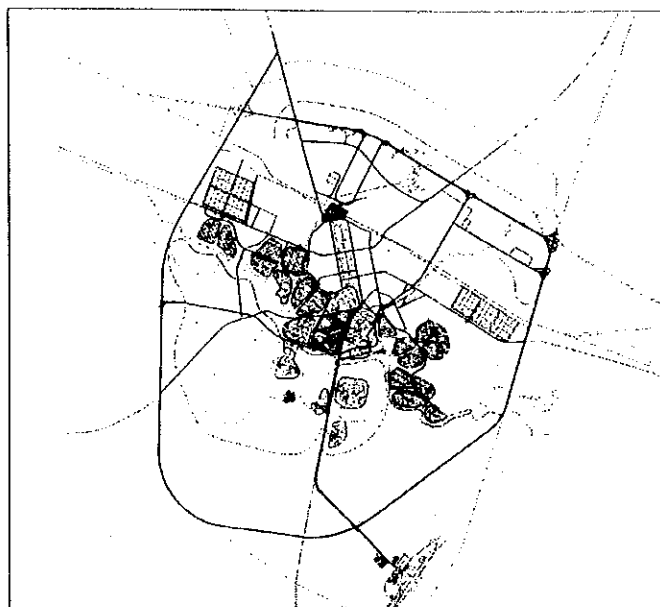
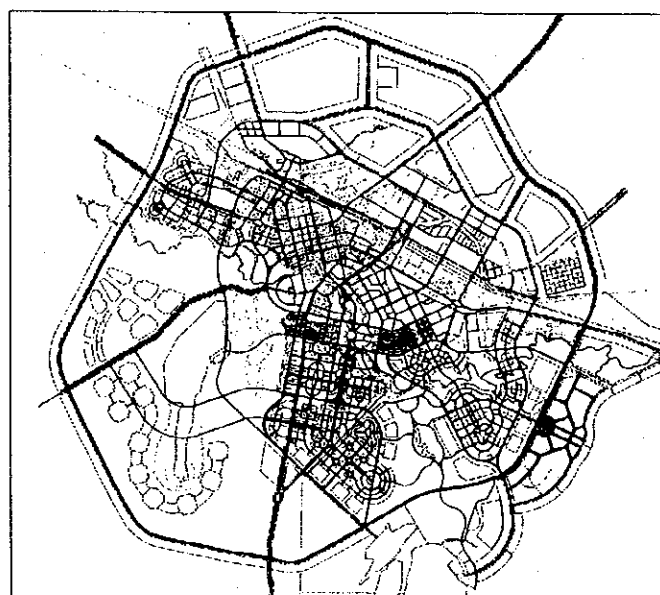
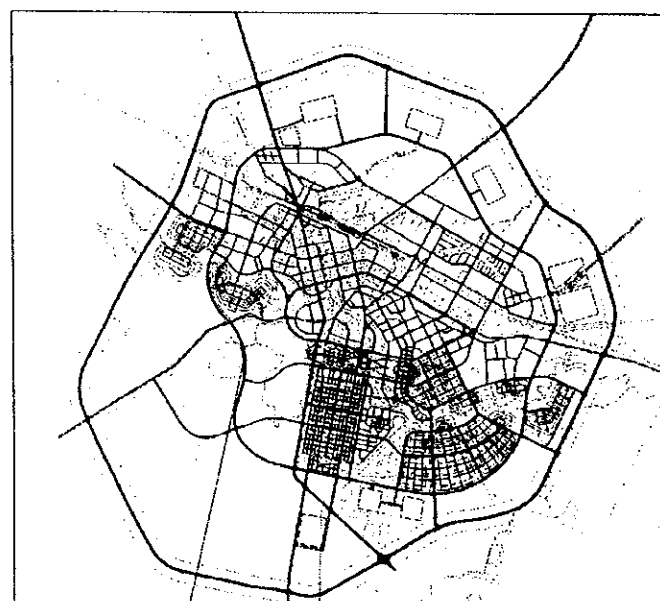


Figure A.3.7
Comparison of
Road Network

Plan A



Plan B



Plan C

