

Housing Planning In Kurdistan

Urban Planning of Residential Zones

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-PolSERVICE: "Housing Technical Standards and Codes of Practice", design office, Miastoprojekt- Krakow, Poland, 1983.

Housing Planning

Arrange, Organize, and Coordinate

Regular Stages or steps

Technical Process/Procedure

- 1-Data Collection
- 2- Data Analysis
- 3- Strategies

Built Environment (whole city)

human-made surroundings that provide the setting for human activity

Develop & Design → Housing Project

Development= Growth+ Changing

- Activities in the city:
- Housing.
 - Educational activities.
 - Health.
 - Commercial.
 - Sport..... etc.

$$Pop_{Future} = Pop_{Present} \times (1 + i)^n$$

$$Growth\ Rate = [(Present / Past)^{1/n} - 1] * 100$$

Definitions

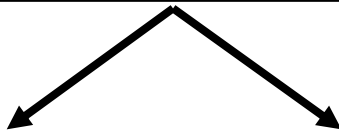
- **House:** a building for human habitation . the term is usually applied to a single-family dwelling . house generally refers to a shelter or building that is a dwelling or place for habitation by human beings.
- **The Housing** contains the meaning of calm, stability and tranquility.
- **Planning** is the process of making plans for something.
- A **planning** is a general word refers to the **organization, coordination** and **arrangement** any operation in any field. Such as social planning, economy planning, transportation planning and environmental planningetc.

Residential Area

Social Infrastructure



- Education.
- Health.
- Sport
- Religious.
- Entertainment.
- Governmental activities.



Location

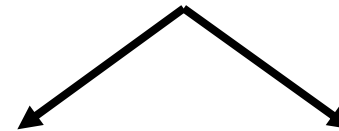
Capacity

Planning & Design Standards

Density



- Row houses.
- Detached houses.
- Semi - Detached houses.
- Apartments.



Compact

Sprawl

High
Density

Low
Density

Residential Activity System & Neighbourhood Community

For many neighborhoods planning purpose, it is desirable to know **community facilities land requirements** as a whole. Therefore, is a summation of these requirements. The area should be examined for available existing facilities. Special care must be taken to check the **capacity** as well as the **location** of such facility.

Standards on Residential Areas:

A dwelling is a basic unit in the spatial organization of housing development. Its function is to accommodate a household being the society's basic unit. A dwelling should give a shelter and create suitable conditions for living activities of its dwellers, i.e. resting and sleeping, family co-existence care and training of children, entertaining, and reception of relatives and guests .

Every household should be provided with a separate and independent dwelling of size and functional organization adequate to the number of persons according to (Housing Technical Standards and Codes of Practice) submitted by Polservice 1983 to study housing sector in Iraq, the main standards represented by following:

A- Planning & Design Standards for Social Infrastructure

Social infrastructure should meet planning and design standards; the following represents the main standards which must be taken into account in the neighbourhood design:

Facility	Design feature (Architectural Design)	General Location (Urban Planning)
Kindergarten	<ul style="list-style-type: none"> - Gross Ventilation. - Adequate internal installation. - In-door spaces for playing, rest and gymnastic, health care room. - Shaded spaces for games and rest in open air. - Covered circulation (corridors). -Recommended: one-storey pavilion-type building. 	<ul style="list-style-type: none"> - Close to dwelling-places and main pedestrian access-linking residential areas and places of work. - Safe access on foot. - Calm zone. - Should be accessible by foot path from dwelling units without crossing any street, if street must be crossed it should be a minor street.
Primary school	<ul style="list-style-type: none"> - Gross Ventilation. - Adequate equipment of class-rooms and work-shops. - Adequate internal installation. - Direct entrance to class rooms. -Recommended: 2-storey pavilion-type building, courtyard for meeting and recreation purposes. 	<ul style="list-style-type: none"> - Isolate from other facilities. - Far from circulation network. - Close to residential buildings and recreation areas. - Close to main pedestrian accesses. - Should be accessible by foot path from dwelling units without crossing any street, if street must be crossed it should be a minor street.
Intermediate school & Secondary school	<ul style="list-style-type: none"> - Gross Ventilation. - Adequate equipment of class-rooms, work-shops and laboratories. - Adequate internal installation. - Direct entrance to class rooms. -Recommended: 2-storey pavilion-type building, courtyard for meeting and recreation purposes. 	<ul style="list-style-type: none"> - Isolate from other facilities. - Far from circulation network. - Close to residential buildings and recreation areas. - Close to main pedestrian accesses. - Jointly with secondary school (recommended educational complex).
Health Care Center	<ul style="list-style-type: none"> - Two separate dispensaries for adults and children. - Children dispensary situated on the ground floor. - Joint registry. - Adequate micro-climate conditions. - Access to day-light to all. - Adequate internal. - Installations. -Maximum 2-storey building. - Orientation according to zone location. 	<ul style="list-style-type: none"> - In the center of served area. - Close to common green areas. - Isolation from noise and air pollution. - Convenient traffic activity. - Protection against sun and wind.
Mosque	<ul style="list-style-type: none"> - According to Muslim traditions and culture. 	<ul style="list-style-type: none"> - Located within civic center.

Cultural Center	<ul style="list-style-type: none"> - Gross Ventilation. - Adequate internal installations. 	<ul style="list-style-type: none"> - Close to main pedestrian accesses or close to common green areas. - Jointly for cultural center and youth center (cultural complex).
Youth Center	<ul style="list-style-type: none"> - Grouping of cultural and recreation youth activities. - Adequate internal installations. - Spatial and functional connection of interior sport facilities with external recreational facilities. 	<ul style="list-style-type: none"> - Close to recreation open spaces. - Jointly for cultural center and youth center (cultural complex).
Local Market	<ul style="list-style-type: none"> - Basic shops and services. - Additional services: watch market, metal workshop, electrician, haberdashery, artisan shop. - Tea-house for rest and social contact purposes. - Location along or around covered passages. 	<ul style="list-style-type: none"> - On direction from home to work places. - By main pedestrian accesses.
Shopping Center	<ul style="list-style-type: none"> - Grouping of shopping center with restaurants, tea-houses and refreshment shops. - Shade walkways. - Adequate internal installations. - Limitation of day-light access and sun-glare. 	<ul style="list-style-type: none"> - By main pedestrian accesses (commercial thoroughfares), or in areas between settlement streets and housing development.
Tea or Coffee House	<ul style="list-style-type: none"> - One story pavilion. - Internal yard or patio. - Roofed porticos. - Protection against intensive sun-light and winds. - Cross ventilation. - Adequate internal installations. 	<ul style="list-style-type: none"> - Center of neighbourhood activities. - Close to green areas.
Restaurants	<ul style="list-style-type: none"> - Not more than 2 storeys. - Adequate internal installations. - Protection against intensive sun-light and winds. - Internal yard or patio. - Roofed galleries and porticos. - Toilets accessible from entrance hall. 	<ul style="list-style-type: none"> - Center of neighbourhood activities. - Close to green areas.
Local Administration	<ul style="list-style-type: none"> - Should be decided by local authorities. - Adequate internal installations. 	<ul style="list-style-type: none"> - Located within civic center.
Post Office	<ul style="list-style-type: none"> - Gross ventilation. - Adequate internal installations. 	<ul style="list-style-type: none"> - Close to local administration offices and police station.
Police station	<ul style="list-style-type: none"> - Maximum 2-storey building. - Public access should not conflict with prisoner passageways. 	<ul style="list-style-type: none"> - Separation from other facilities. - Close to neighbourhood exit streets.

B- Residential activity system and spatial location

Residential activity system is usually related to the urban form characteristics. The main patterns can be divided into **compact** and **sprawl** pattern in term of density. **Compact urban form requires high density to reduce the distance between home and local center with its transport hub. The aim of planners is to plan urban areas so as to encourage a modal shift in travel behavior from high carbons forms of transport –principally individual car use on roads – to lower carbon forms such as public transport, cycling and walking, maximum distance consider an essential factor to create efficient urban system to achieve good walking distance from dwelling units to the facilities figure (1).**

By this way; carbon emissions reduce because dwellers will not mainly depend on car to travel from origin to destination, so the successful spatial planning reduce car dependency. From other hand many advantages will be done at the level of transportation system and energy consumption, therefore the essential element is promoting sustainable land use planning and management to achieve sustainability in city planning and to create healthy environment for the residents.

Compact urban form
"high density"



Sprawl urban form
"low density"



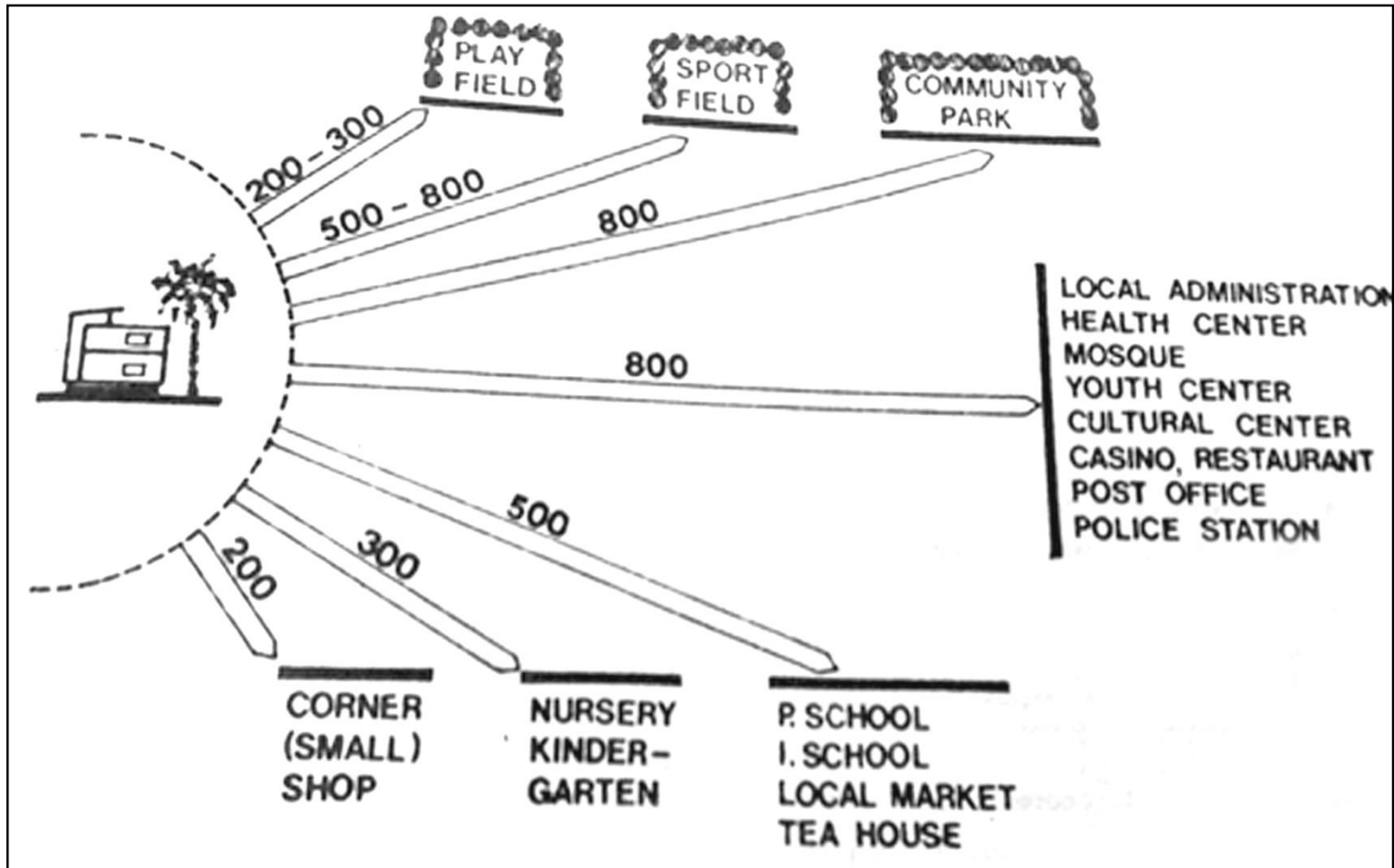


Fig (1) Maximum access distance in (m) from dwellings to community facilities.

Source: Polservice, 1983, p141.

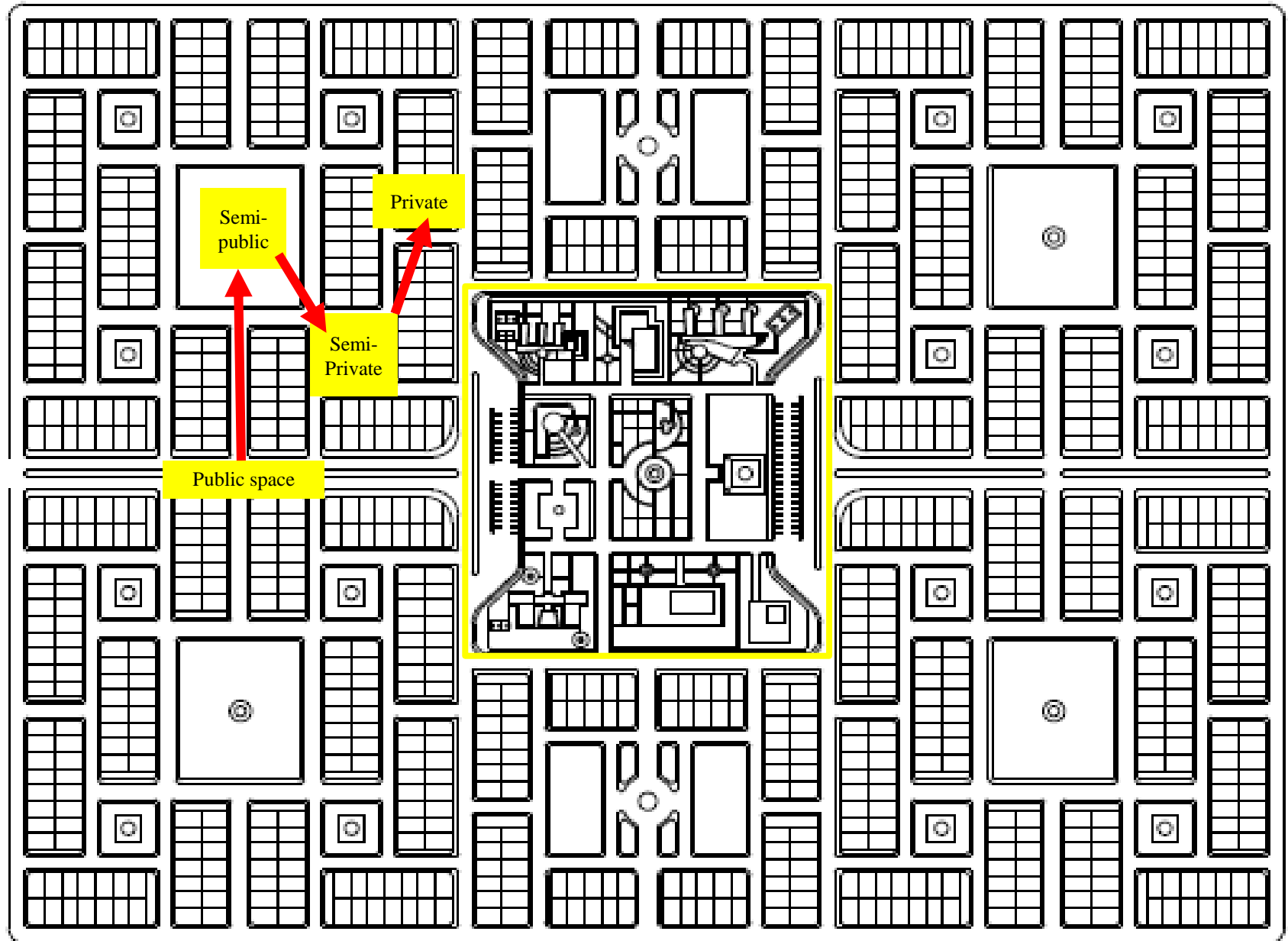
PLANNING AND DESIGN OF THE RESIDENTIAL AREA

First: In the planning of the residential area must be taken into account the **recommendations of the master plan** of the city in terms of density or the types of housing that achieve the required density.

Second: There are some consideration that must be taken into account when planning of housing:

- 1- Determine the ratio of net population density and the ration per capita.
- 2- Identify the necessary services for a residential area and the ration per capita.
- 3- The residential street or access roads must achieved minimum distance for walking to the house, in other hand must reduced a through traffic that tearing the residential mass.
- 4- Complete separation between the movement of pedestrians and traffic.
- 5-Achieve hierarchy in open spaces to get good accessibility to the services.
- 6- Do not exceed the proportion of housing to other uses such as green area, playground and recreation areas.
- 8- Diversity in housing units so as to achieve the desired beauty and health in housing.

Neighbourhood Community



HOUSING TECHNICAL STANDARDS AND CODES OF PRACTICE-FOR IRAQ

PolSERVICE's works included two phases :

The first phase: study of **samples of the houses** in Iraq and requirements.

The second phase: Determine housing needs(**social infrastructure**).

Types of houses	Plot area in (sqm) Obligatory	Frontage of plot in (m)	Minimum set back of building front line from right of way line in (m)	Coverage ratio (max. built up area to total plot area)	Floor area ratio (total floor area to net residential area)
One family houses: -detached	400-600	16-24	4.0	0.30	0.22-0.33
-semi-detached	300-400	10-20	4.0	0.45	0.25-0.39
-row houses	200-350	5-10	2.5	0.60	0.43-0.48
-courtyard houses	150-300	10-15	2.5	0.75	0.44-0.52

SOCIAL INFRASTRUCTURE

- Community facilities are classified as follow:

1-Educational

- **Nurseries, Kindergartens, primary schools, Intermediate schools, Secondary schools.**

2- Medical --- health center.

3- Religious---Mosques , Churches.

4- Social & Culture—culture center ,youth center.

5- Shopping Catering--- Local markets, Corner shop, Shopping centers, Tea or coffee houses; refreshment shops, Restaurants, Casinos.

6- Public services: local administration, post office, police stations , fire stations.

7-Transport: Filling station, Car service stations.

Required Areas According to Urban Housing Standards-Polservice-

1-Kindergarten (4-5)years **Maximum Distance=300m**

70 child / 1000 person inhabitants

net floor area / child 9.5-12.6 m²

plot area / child 50 m² (+ Future Expansion)

2-Primary school (6-11)years **Maximum Distance=500m**

175 pupil /1000 person

net floor area/pupil 3.9-4.7 m²

plot area /pupil 18-23 m² (+ Future Expansion)

3-Intermediate school (12-14)years **Maximum Distance=500m**

78 pupil /1000 person

net floor area/pupil 5.3-6.25 m²

plot area /pupil 21-26 m² (+ Future Expansion)

4-Secondary school (15-17)years **Maximum Distance=800m**

66 pupil/1000 inhabitant

net floor area /student 5.3-6.25 m²

plot area /student 21-26 m² (+ Future Expansion)

5-Health center

Maximum Distance=800m

for 1000 person 1000 served

net floor area for one person served 0.55 m²

plot area for one person served 3.5 m² (+ Future Expansion)

6-Mosque

Maximum Distance=800m

750 person/1000 inhabitant

plot area for one person served 1.0 (+ Future Expansion)

7-Culture center

Maximum Distance=800m

330 person/1000 inhabitant

net floor area for one person served 0.27 m²

plot area for one person served 2.05 m² (+ Future Expansion)

8-Local market

Maximum Distance=500m

750 person/1000 inhabitant

net floor area for one person served 0.43 – 0.53 m²

plot area for one person served 1 – 1.1 m² (+ Future Expansion)

9-Nursery 30 day – 3 years Maximum Distance=300m
5 child/ 1000 inhabitant
net floor area for one person served 10.65 – 13.60
plot area for one person served 50 m² (+ Future Expansion)

10-Tea coffee house Maximum Distance=500m
330 person/ 1000 inhabitant
net floor area for one person served 0.45 m²
plot area for one person served 0.9 m² (+ Future Expansion)

11-Restaurant Maximum Distance=800m
300person/1000 inhabitant
net floor area for one person served 0.33 m²
plot area for one person served 0.6 m² (+ Future Expansion)

12-Post office **Maximum Distance=800m**
for whole population
net floor area for one person served 0.035 m²
plot area for one person served 0.07 m² (+ Future Expansion)

13-Police station **Maximum Distance=800m**
for the whole population
net floor area for one person served 0.07 m²
plot area for one person served 0.1 m² (+ Future Expansion)

14- Filling station **Maximum Distance=1600m**
for the whole population
net floor area for one person served 0.01 m²
plot area for one person served 0.08 m² (+ Future Expansion)

15-Car service station **Maximum Distance=1600m**
for whole population
net floor area for one person served 0.08 m²
plot area for one person served 0.3 m² (+ Future Expansion)