THE METHODOLOGY FOR URBAN REGENERATION SURVEY

FUNCTIONAL AREAS IN THE EU

Crossing administrative boundaries for green transition and sustainable development

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The Opinion polls conducted to identify the particularities in the endowment and public equipment of urban neighborhoods are based on a methodology designed to bring the decision as close as possible to the respondent's living space, neighborhood, area, local community where they carry out most of their activities. This area of proximity contributes greatly to the respondent's appreciation of the quality of urban life.

The methodology used is described in the following steps:

Step 1. Sampling-selection of respondents

The sampling process uses the following concepts:

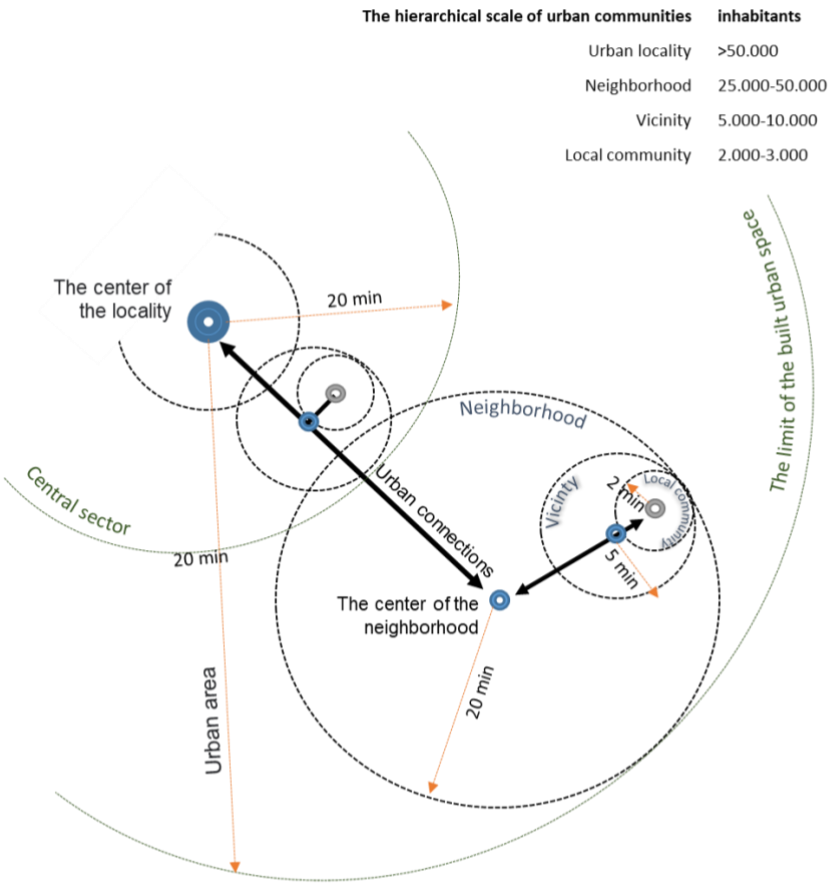
- Sampling area = urban area consisting of one or more local communities covered by a single sampling route (single spiral). It is characterized by a high level of homogeneity of the "urban texture" (houses, blocks, new area, etc.);
- Starting point = is the point specified exactly as the postal address from where the spiral guiding the route of the field operator begins to collect data. The direction will be from the inside of the sampling area to the outside;
- Sampling unit = household, respectively the group of persons who have cohabitation relations at the same physical address.

Three starting tools are needed for sampling the respondents: a prior knowledge of the urban area to be investigated, a map of the urban area under investigation and some statistical information on the population in the investigated area. Each of these tools has a specific role to play:

a. Based on **prior knowledge of the urban area**, the neighborhoods as the first layer of selection will be identified. The neighborhood is generally defined spatially as *„a specific geographic area and functionally as a set of social networks. Neighborhoods, then, are the spatial units in which face-to-face social interactions occur—the personal settings and situations where residents seek to realize common values, socialize youth, and maintain effective social control"*[1]. Pacione (2005) defines neighborhood as *"an urban district in a strict sense defined as one in which there is an identifiable subculture to which the majority of residents conform"*[2]. LEED for Neighborhood Developments (LEED-ND) Rating System points some features of an ideal neighborhood as follow: having a legible center and edge; being limited in size – typically five minutes average walk from center to edge; mixing land uses, allowing basic daily needs within the neighborhood; accommodating a variety of household types; having an integrated network of walkable streets, public spaces and civic buildings[3]. The experience shows that neighborhoods are usually well known (though not clearly demarcated) by the authorities and the residents. The neighborhoods function as identification tools in the formal or informal public space and are frequently mentioned in real estate information for easier localization. Often the number of neighborhoods for the same area differs from one approach to another, being a result of the balance between the desired decision-making level and the allocated resources. The lower the granularity, the higher the accuracy of the information collected is. However, attention to detail should not lose sight of the definition of the neighborhood as an urban functional unit, as a "miniature city". In this regard, we recall the hierarchical scale of urban communities proposed by the World Bank in the "Guide to Urban Regeneration":

[1] Schuck, Amie and Dennis Rosenbuam 2006 "Promoting Safe and Healthy Neighborhoods: What Research Tells Us about Intervention." The Aspen Institute
[2] Pacione, M. (2005). Urban Geography: A Global Perspective. New York: Routledge.
[3] https://sustainable-infrastructure-tools.org/tools/leed-for-neighborhood-development/

Figure 1-The hierarchical scale of urban communities



The source of image: World Bank - Guide to Urban Regeneration - Integrated Solutions for Improving the Urban Comfort of Large Collective Dwellings Built During State Socialism - June 2020

b. **The map** of the sampling area to be investigated. The map is the guidance tool for the field operators. The use of the map is necessary to identify the delimitation points and the starting points of the data collection paths. The territorial dispersion of the neighborhood determines the decision to choose one or more starting points. If the neighborhood is relatively compact (fig. A) you will choose one starting point in the data collection. If the neighborhood is heterogeneous (houses and blocks of flats) or covers a relatively large area (fig. B) then two or more starting points can be chosen in the data collection.

We also recommend showing the map with the delimitation of the neighborhoods of each respondent who feels the need to identify precisely which is the sampling area referred to in the questionnaire.

Figure 2- The choosing of the sampling route

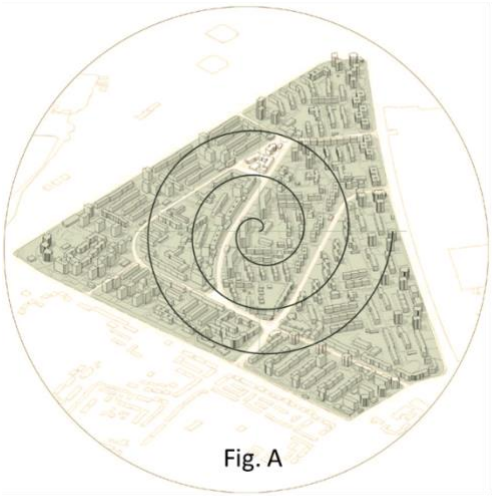


Image source: Urban regeneration guide for
for block neighborhoods. Constanţa, 2019, p. 299

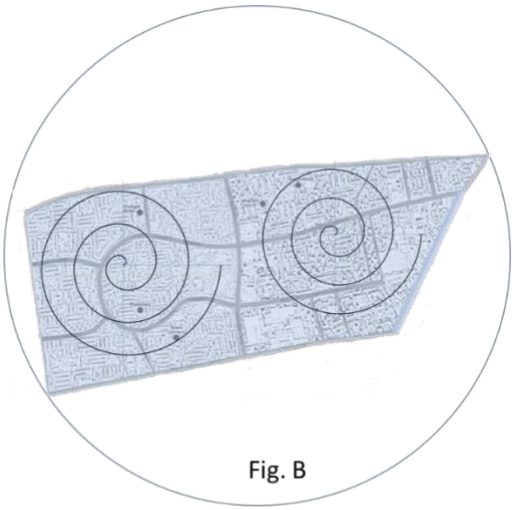


Image source: Bucharest, Drumul Taberei
https://drumultaberei.files.wordpress.com/2008/07/licee.jpg

c. **Statistical information** on the socio-demographic structure of the neighborhood is useful for two reasons: a) it allows us to verify, after the survey, whether the socio-demographic structure obtained by random selection overlaps with the previous statistically socio-demographic structure, respectively if is necessary or not to apply some weighting tools to the resulting sample and b) allow us to identify disparities at the level of the same neighborhood, if they exist (for example in Bucharest-Drumul Taberei neighborhood, demographic data collected at the level of census section shows that the Brâncuși vicinity has an average age of about five years lower than the rest of the neighborhood, being a set of blocks intended primarily for young families. In this case we recommend that this vicinity be approached as a stand-alone sampling unit with its own route.

Respondent sampling involves the following steps:

1. Delimitation of the sampling area and the starting point for each team of field operators[4] ;
2. Establish the route to follow for each team. The established route will be of the spiral type from the center of the neighborhood to the outside, with a fixed starting point;
3. The selection of the household. One household will be randomly selected per building/ staircase, alternatively lower / upper floors (depending on the height regime of the building), maximum two buildings / stairs in a set.
4. Selection of respondents in the household: in each household will be selected only one respondent, with the rule of selection of the person how will first celebrate the birthday.

We recommend collecting data throughout the day, both in the morning and in the evening in order to cover a wide range of human activity regimes and schedules. If the volume of questionnaires distributed was not covered in a single route, it is recommended to return in the opposite direction to the spiral with the change of alternation in household selections (so if in the first round a household was selected from the lower floors, in the second round will select the upper floor household).

Regarding the volume of questionnaires per neighborhood, we recommend a minimum of 100 questionnaires and recall the threshold of 30 questionnaires below which statistical processing loses the relevance. The

[4] The previous experience shown us that the use of teams of two field operators is the one that offers the highest yield

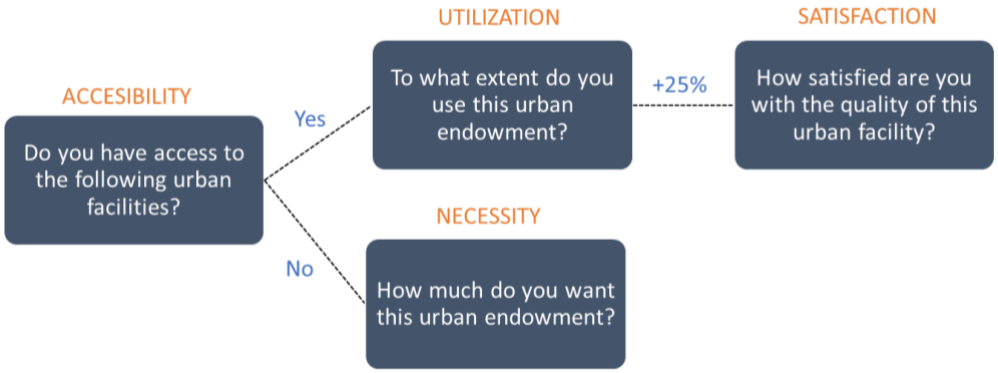
representativeness of the survey will be measured at the neighborhood level, even if the heterogeneity of the urban area requires more sample areas. It is recommended that for each sample area be a proportionate sub-sample with the demographic size of that area in the total neighborhood. Thus, although perhaps a section of houses in the neighborhood could cover half of the urban space, due to its lower density in relation to the blocks, the share of the total sample per a this section of houses will be much smaller.

To measure representativeness, we recommend the simplified Cochran[5] formula, for a random sample and a confidence interval of 95%.

Step 2: Develop the data collection tool

The questionnaire used for the opinion poll is a simple, intuitive tool that uses a simple pattern of conversation based on the following logical scheme:

Figure 3-The construction logic of the questionnaire



The questionnaire includes two batteries of items:

a. An inventory the socio-demographic data of the respondent. On the one hand these information will be used to assess the representativeness of the sample resulting from the purchase of statistical parameters of the reference population. Subsequently, the socio-demographic characteristics will be used as a supplementary dimensions of analysis of the results for specific target groups. Thus, for example, the different desires of women and men in terms of priority equipment with certain endowments, or the needs of families with small children, can be identified in the purchase of the needs of families without children, or the elderly, respectively the priorities of low-income families in comparison with the average population, etc.)
b. A set of items that lists all the general facilities that a neighborhood needs. At the level of the cities in Romania where the questionnaire was applied, a standard battery with 40 items was applied, covering all aspects of general equipment. Depending on the specifics of the area, particular items can be added that target specific issues (for example in Camp Road-Bucharest were added - with red-items on subway transport, or access to cars on sidewalks, or road markings on the road).

The questionnaire used is set out in the Annex.

5 Simplified formula $e = \frac{1}{\sqrt{n}} * 100$ where n=sample size, e (+/-) = maximum permissible error expressed as a percentage. The formula assumes 95%confidence interval and a 50% probability of favorable answers

Step 3: Data processing

Data processing is performed in two sequences: a first sequence that provides an overview of the neighborhood for each of the mentioned aspects and a second sequence that can provide a particular image for certain areas, social groups or segments of the population. In both sequences, the urban endowments will be evaluated in terms of accessibility, necessity, use and satisfaction, taking into account for each of them the following standard assessment thresholds:

ACCESSIBILITY/FACILITY – the valid percentage of the respondents in the area stating that they have (access to) the respective facility (utility). The accessibility index, measured on a scale from 1 to 100 according to the percentages below, was marked by using the following intervals:

- accessible for less than 50% of the population;
- accessible for 51-75% of the population;
- accessible for over 75% of the population

NECESSITY -the average of the scores – from 1 (none) to 10 (maximum) – granted by respondents for how necessary they believed the respective facility/utility was for the neighborhood. The question was addressed only to those who stated that the facility/utility was missing. The data was processed only if the deficit was significant (over 25% of the respondents in the area of interest stated that the facility/utility did not exist, or that they did not have access to it); the necessity index, measured from 1 to 10 according to the average given by the respondents, was marked by using the following intervals:

- high necessity, averages over 7,5 out of 10;
- average necessity, averages between 5 and 7,5 out of 10;
- low necessity, averages under 5 out of 10

UTILIZATION- the valid percentage of the respondents stating that they were benefitting frequently from the concerned public facility/utility. Data was processed only for an equipment level considered as a minimum threshold for the neighborhood (over 25% of the respondents in the area of interest stated that the facility/utility existed, or that they had access to it); the utilization index, measured from 1 to 100 according to the percentages given by the respondents, was marked by using the following intervals:

- used by 80%-100% of the population;
- used by 60%-79% of the population;
- used by 40%-59% of the population;
- used by 20%-39% of the population;
- used by less than 20% of the population

SATISFACTION– the average of the scores – from 1 (none) to 10 (maximum) – granted by respondents for how necessary they believe the respective facility/utility was for the neighborhood. The question was addressed only to those who stated that the facility/utility existed. Data was processed only for an equipment level considered as a minimum threshold for the neighborhood (over 25% of the respondents in the area of interest stated that the facility/utility existed, or that they had access to it). The satisfaction index, measured on a scale from 1 to 10 according to the average given by the respondents, was marked in the table by using the following intervals:

- very high satisfaction, averages between 8 and 10;
- high satisfaction, averages between 6 and 7.9;
- average satisfaction, averages between 4 and 5.9;
- low satisfaction, averages between 2 and 3.9;

- very low satisfaction, averages between 1 and 1.9.

It is easier to read the data if it is aggregated in an evaluation table that allows the purchase between the evaluation items used. The reading method we recommend prioritizes the endowment and subsequently the increase of the quality, and in the case of the endowment it prioritizes the endowments that create internal disparities and implicitly dissatisfaction and subsequently the increase of the endowment level with new utilities.

Such a table is the result presented in the following image, resulting from the survey applied in the Orizont neighborhood of Bucharest.

Figure 4-The results of the survey in Bucharest-Orizont neighborhood

PUBLIC FACILITIES AND UTILITIES	ACCESSIBILITY	NECESSITY	UTILIZATION	SATISFACTION
Subway station (use subway)	95%		51%	8,7
Surface public transport	95%		41%	7,0
Covered public transport stations	88%		36%	8,0
Public transport stations illuminated at night	61%	**9,7**	40%	8,5
Arranged / modernized sidewalks	49%	**9,4**	75%	8,5
Protected sidewalks (bars / poles) against parching	32%	8,0	69%	8,2
Adequate spaces for garbage collection	49%	8,5	75%	8,1
Arranged parking spaces	34%	8,9	64%	7,4
Asphalted streets	93%		100%	7,6
Streets with visible road markings	32%	8,6	92%	7,7
Bicycle lanes	27%	6,6	45%	7,2
Sports field	5%	6,0		
Green space for relaxation (park, green area)	54%	8,9	95%	8,0
Playground for kids	61%	7,0	68%	7,7
A place for relaxation and interaction for adults	41%	8,8	76%	8,1
Relaxation place for the elderly (chess tables, etc.)	15%	6,2		
Public outlets for power supply	2%	6,6		
Free internet (wi-fi) in public spaces	5%	8,5		
Street furniture: benches, racks, street rubbish bins, etc.)	41%	**9,5**	88%	7,6
Outdoor fitness area	12%	6,8		
Area dedicated to pets	22%	6,9		
Nursery	80%		36%	8,6
Kindergarten	78%		41%	8,7
Polyclinic	51%	**9,3**	76%	8,3
Agri-food market	56%	**9,9**	91%	8,3
Cinema (including summer garden)	12%	7,1		
Social canteen	5%	4,1		
Hair salon	46%	4,5	47%	7,4
Grocery store	66%	**10,0**	89%	8,7
Non-food store	63%	**10,0**	92%	8,5
Pharmacy	66%	**10,0**	96%	8,7
Dentist	80%		61%	8,6
Ophthalmologist	49%	**9,2**	70%	8,9
Counter for paying bills	46%	6,9	58%	8,6
Satisfactory street lighting	90%		92%	8,4
Road trees	90%			8,7
Space arranged around the block	46%	8,7		8,4
The building is thermally insulated	27%	**9,1**		8,0
The facade of the building is arranged	44%	8,7		8,2
Arranged entrance to the building	49%	9,0		8,3
Street art (statues, artesian wells, murals, etc.)	5%	6,1		
Are there any parties / events in the neighborhood?	2%	5,9		
Are sports competitions organized in the neighborhood?	2%	5,7		

Orizont neighborhood is a neighborhood with an average age of 53 years (rather an aging neighborhood) in which most residents have higher education and are employed in the private system or retirees. Thus, in the previous example we notice that 73% of respondents in this neighborhood do not have thermally insulated apartments, and the need index exceeds 9 decks (9.1), that 66% of respondents say they do not have access to parking spaces, and the index of necessity for this aspect is 8.9 points, that 78% state that the road markings

on the streets are not visible, and the index of necessity is 8.6 points, and 59% of the respondents accuse the lack of street furniture, the index of necessity for this aspect being 9.5 points. The evaluation is thus obvious and intuitive. It can also be facilitated by the use for each level of accessibility of the following calculation formula of what we could call the intervention imperative:

$$i_i = (100\% - I_a) * I_n$$

Where:
i_i *= the imperative of intervention*
I_a*= the accessibility index*
I_n *= the necessity index*

The more imperative the intervention value for an urban endowment aspect, the more imperative is the attention of the authorities to ensure that endowment.

In the case of quality assessment, we will focus our attention on the endowments with the highest possible level of use and a low level of satisfaction.

$$i_c = I_u * (10 - I_s)$$

Where:
i_c *= the imperative of quality*
I_u*= the usage index*
I_s *= the satisfaction index*

The higher the quality imperative for an urban endowment aspect, the more imperative is the attention of the authorities to increase the quality of that endowment.

Limitations of the opinion poll:

Face-to-face opinion polling and systematic field selection in accordance with housing characteristics is one of the tools with the highest level of data fidelity, of all types of public opinion polling instruments with the advantage of a wide territorial dispersion and ensuring a very high response rate. However, the selection may omit people who have an atypical work schedule (work at night and rest during the day) or people who work more than 10 hours a day. A good distribution of data collection throughout the day minimizes these losses. It is also very important for field operators to be trained so that they can communicate with all the social, ethnic and gender groups they may encounter in the field, ensuring all conditions for the maintenance of anonymity, confidentiality and compliance with the legal framework in force regarding the use of personal data.

The relatively small size of the questionnaire and its intensely structured form allow for some qualitative information, which can be customized for very different realities in the field. For example, in the case of street furniture, the needs may differ from one area to another. For example, banks are much more interested in the neighborhoods of the elderly, in the purchase of the desired bicycle racks in areas with many children. Accompanying the questionnaire with a systemic observation sheet for field operators and doubling the quantitative information with quality information are recommended to alleviate this limitation.

ANNEX : QUESTIONNAIRE

SD1.Respondent gender 1. Male 2. Female

SD2. Age……

SD3. Ethnicity 1. Romanian 2.Roma 3. Other

SD4: Educational level

1. Primary school 2. Secondary school 3. High school 4. University

SD5: Present occupation?

1. Employed in the budget system 2. Employed in the private system
3. Unemployed 4.Student 5.Owner, freelancer
6. Inactive 7. Retired

SD6: Monthly income

1. under 1000 LEI 2. 1001-2000 LEI 3. 2001 – 3000 LEI 4.3001-4000 LEI
5.4001-5000 LEI 6. 5001-6000 LEI. 7. 6001-7000 LEI 8. 7001-8000 LEI
9. 8001-9000 LEI 10. over 9001 LEI

SD7: Number of people in your household……

SD8: Number of children under 18 in your household ……..

SD9: Out of which children under 6 years old……..

Please think about the NEIGHBORHOOD where you live. (Operators, show the map!) I will read you a list of facilities and public utilities. For each of them, please tell me if there is that equipment / utility in the area.

- *If it EXISTS, please let me know if you USE it regularly or not; if you USE, how SATISFIED you are from 10 (I'm very satisfied) to 1 (I'm not satisfied at all)*
- *• If it DOESN'T EXIST, how much WOULD YOU WANT TO HAVE THAT UTILITY IN YOUR NEIGHBORHOOD FROM 10 (I would like that the most) to 1 (I wouldn't want that, it is not important to me and my family)*

code		Do you have…		Do you want…	Do you use…		Are you satisfied with…
		Yes	No	10 maximum/ 1 not at all	Yes	No	10 maximum/ 1 not at all
1a	Subway station (use subway)	1	0		1	0	
1	Surface public transport	1	0		1	0	
2	Covered public transport stations	1	0		1	0	
3	Public transport stations illuminated at night	1	0		1	0	
4	Arranged / modernized sidewalks	1	0		1	0	
4a	Protected sidewalks (bars / poles) against parching	1	0		1	0	
5	Adequate spaces for garbage collection	1	0		1	0	
6	Arranged parking spaces	1	0		1	0	

code		Do you have…		Do you want…	Do you use…		Are you satisfied with…
		Yes	No	10 maximum/ 1 not at all	Yes	No	10 maximum/ 1 not at all
7	Asphalted streets	1	0		1	0	
7a	Streets with visible road markings	1	0		1	0	
8	Bicycle lanes	1	0		1	0	
9	Sports field	1	0		1	0	
10	Green space for relaxation (park, green area)	1	0		1	0	
11	Playground for kids	1	0		1	0	
12	A place for relaxation and interaction for adults	1	0		1	0	
13	Relaxation place for the elderly (chess tables, etc.)	1	0		1	0	
14	Public outlets for power supply	1	0		1	0	
15	Free internet (wi-fi) in public spaces	1	0		1	0	
16	Street furniture: benches, racks, street rubbish bins, etc.)	1	0		1	0	
17	Outdoor fitness area	1	0		1	0	
18	Area dedicated to pets	1	0		1	0	
19	Nursery	1	0		1	0	
20	Kindergarten	1	0		1	0	
21	Polyclinic	1	0		1	0	
22	Agri-food market	1	0		1	0	
23	Cinema (including summer garden)	1	0		1	0	
24	Social canteen	1	0		1	0	
25	Hair salon	1	0		1	0	
26	Grocery store	1	0		1	0	
27	Non-food store	1	0		1	0	
28	Pharmacy	1	0		1	0	
29	Dentist	1	0		1	0	
30	Ophthalmologist	1	0		1	0	
31	Counter for paying bills	1	0		1	0	
32	Satisfactory street lighting	1	0		1	0	
33	Road trees	1	0				
34	Space arranged around the block	1	0				
35	The building is thermally insulated	1	0				
36	The facade of the building is arranged	1	0				
37	Arranged entrance to the building	1	0				
38	Street art (statues, artesian wells, murals, etc.)	1	0				
39	Are there any parties / events in the neighborhood?	1	0				
40	Are sports competitions organized in the neighborhood?	1	0				

Thank you! A nice day!