Integrated planning of the development of a city in terms of the diurnal activity of its residents

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How to cite:

Abstract. The change in Poland's systemic conditions and its membership of the European Union make it necessary to take a new look at the organisation, structure and operation of the Polish planning system. In place of two, not always well coordinated, types of planning: socio-economic, now called strategic, and physical, integrated planning is proposed which seeks to combine those two categories into a single stream and treat the objects of planning as a functional whole. This type of approach is recommended by international organisations of urban planners (the New Athens Charter) and academic planners. Integrated planning of urban development is also written in the Leipzig Charter on Sustainable European Cities, an EU urban policy document. However, each planning procedure requires the adoption of certain initial assumptions on which to base the conception of an integrated plan of the socio-economic and spatial development of a city that would accommodate its natural, social and economic spheres. The special character of a city as a living environment (a large population number, high population density, many social structures, etc.) demands giving the assumptions an anthropocentric orientation, i.e. with human beings as the addressees of the planned measures. This means that human needs should figure most prominently in the formulation of the assumptions of urban development. And since man's diurnal activity is one of the best indicators of articulated needs, an analysis of this activity can provide a basis for the formulation of development assumptions. In this paper we present a general model of integrated planning of the development of a city formulated primarily in terms of the diurnal activity of its residents, but also employing other factors.

Key words: planning, integrated planning, activity of residents, Poznań, Poland.
1. Introduction

The change in the systemic conditions after 1989, especially the gradual rebirth of local government structures and the introduction of the market type of economy, required a fundamental change in the Polish planning system, so far attuned to a centralised model of the organisation, structure and operation of the state, society and economy. The changes in the planning system were not fast; in fact, this process has not been completed to this day. Still needed are new legal regulations to make the planning system an effective tool for coordinating development and improving spatial order. Also necessary are new laws that would make planning integrated, i.e. embracing the entire set of issues concerning the organisation, structure and operation of the given territorial social system: a voivodeship (region), a commune, or a city.

Integrated planning should play an important role in the Polish planning system. It would allow formulating development assumptions of a concrete unit accommodating its systemic complexity. Such complexity is characteristic of modern cities; their mounting problems require systemic solutions.

Integrated planning is not a new idea (Albrechts, 2004; Mierzejewska, 2011). It keeps recurring from time to time, especially when there appears a new socio-economic or spatial situation. Also the European Union makes use of this idea when formulating urban policy assumptions. Under this policy, the Union recommends that European cities draw up and implement integrated urban development programmes for each city as a whole. To accomplish this goal, the EU recommends relying on the Leipzig Charter. This document encourages cities to adopt integrated planning that would accommodate simultaneously their economic and social development, ecological issues, and spatial development. This type of planning should seek, among other things, to (a) analyse factors of and barriers to development; (b) coordinate all kinds of development plans; (c) coordinate measures to be taken at the local (urban region) level and engage local economic entities and citizens in the development process; and (d) coordinate and spatially focus the use of development (especially EU) funds. In the integrated planning of urban development, special attention should be paid to problem areas of cities. The implementation of assumptions adopted in such integrated plans should ensure: high-quality public spaces, modernised physical infrastructure, more efficient energy systems, an upgraded physical environment, highly qualified, innovative development personnel trained under proactive educational policies, efficient and generally affordable public transport, and an efficient and strong local economy with its basic aim, viz. solving problems of the local labour markets (cf. Leipzig Charter, 2007; Parysek, 2010a; Mierzejewska, 2011).

The aim of this article is to outline a general model of integrated planning, the goals and tasks of which follow from the diurnal activity of city residents. This point of view is justified by the belief that the city should be a living environment for its residents, moulded primarily to suit their needs, especially general social ones.

The adoption of the diurnal activity of city residents as a basis for determining the development of urban infrastructure is a novel approach in a sense.
While the literature offers theoretical considerations, empirical analyses and application models in a stream of study known as activity-based research, they largely focus on the population's outdoor activity, and more specifically its mobility (Morris et al., 1979; Damm, 1980; Kitamura, 1983, 1988; Axhausen, Gärling, 1992; Bhat, Koppelman, 1993; Jones et al., 1990; Koppelman, 2005). What is more, works of this kind usually deal with the design and operation of networks of urban public transport in terms of citizens' mobility (outdoor activity) rather than in terms of planning the city's spatial development or its spatial-functional structure that would accommodate all categories of activity of its inhabitants, not only their mobility. The novelty of the presented approach also lies in the fact that 'integrated planning' as a planning category practically does not exist in Poland, although the European Union documents concerning both, regional policy and urban policy suggest the integration of planning processes in the Member States, an effort still awaiting Poland. This is simply a proposal for planners.

2. Evolution of the Polish planning model in the postwar period

After 1945, planning in Poland was adjusted to meet the systemic assumptions of the so-called socialist economy. Although it kept going through a number of modifications and changes, it had developed some characteristic, also good, features observed until 1990. Included in the command-redistributive system underlying the operation of the state, planning was highly centralised and embraced two separate categories, viz. socio-economic and physical planning, though the level of their integration and the coordination of planning processes was quite high. The coordination and integration was guaranteed by the institutionalisation of planning structures (institutions) that operated as part of state administration units of the central, voivodeship (regional) and poviat (subregional) levels. The superior role was played by socio-economic planning, ideological-propagandistic in nature (being an element of the so-called success propaganda) and performing command and distributive functions. Physical planning, in turn, enjoyed a relatively high degree of autonomy, although a spatial development conception always had to be based on a politicised plan of socio-economic development. Still, unlike its socio-economic counterpart, physical planning was greatly de-ideologised, hence it could rely on the good experiences from before 1939 and on the output of world science (especially regional science). Socio-economic planning was a short- and medium-term type of planning (1 and 5 years), while physical planning was a long-term (20 years) type. It was conducted at three or even four levels of the country's territorial division, viz. national, regional, subregional (poviat) and local (of the commune, including the city). Its organisational units had well-prepared, high-quality staffs of specialists, many of whom are active today in spatial management as well as geographical, economic, social and technical sciences (Parysek, 2008b, 2010a, b). Although the planning of that period concerned quite different systemic conditions, many solutions can be assessed as good, especially from today's perspective. Among them are the hierarchy of planning, a holistic treatment of its subject matter, the degree of integration and coordination of socio-economic and physical planning, the substantial autonomy of physical planning in the theoretical and methodological spheres and its de-ideologisation, reliance on the output of science, institutionalisation of the planning process, and highly skilled professional staff (Parysek, 2008b).

The 1989 transformation of the political system had to produce changes in economic and spatial policies. However, at the start of the transformation period, all kinds of authorities had other priorities for the necessary measures they had to take and which included, generally speaking, systemic and economic issues (resulting from the collapse of the economy). As a result, creating a new planning system was a slow process, not always consistent and often inept. What made it so laborious were: (a) the systemic transformation extended over time; (b) the political instability of the state and of central, regional and local power structures; (c) constantly changing conceptions of the operation of the state, economy and society; (d) search for a new territorial organisation of the country and the division of powers that each proposal involved; (e) a serious intention for Poland to seek membership
of the European Union (Chojnicki et al., 1999; Parysek, 2008a, 2010a, b; Mierzejewska, 2009b); and (f) seeking a so-called ‘third way’ for planning (Billert, 2006; Jędraszko, 2008). The introduced changes were not systemic in nature, and as a result, to this day Poland has not worked out a complete, consistent and transparent system of territorial planning, including integrated planning recommended by the European Union.

Still, the systemic changes and then Poland’s membership of the European Union have forced the adoption of some solutions in the field of planning. Thus, socio-economic planning has been replaced by strategic planning (although often strategic in name only). Regional policies have been instituted that are intended to reduce disproportions in the development of regions. Development strategies worked out at the commune level embrace primarily goals determined by the Commune Self-Government Act of 8 March 1990 and involve, whether directly or indirectly, the satisfaction of collective needs of local communities. The strategy itself is indirectly referred to in the Act as part of a task called preparing economic programmes. The financial framework of measures proposed in the strategies is determined by the commune budget adopted (the basic source of funding of the activities conducted and investments made by the commune), and to some extent also by its property that can be used for development. The basic development factors are thought to be development resources at the disposal of city authorities (Friedmann, 2005; Parysek, 2006). Also social needs are taken into consideration (Parysek, 1997).

New laws have also been adopted for physical planning. At first it was the Spatial Development Act of 7 July 1994, followed by the Physical Planning and Spatial Development Act of 27 March 2003, in force until today. This Act describes in detail physical planning tasks assigned to units at individual rungs of the country’s territorial division. It means the adoption of a three-tier structure (country-voivodeship-commune) of physical planning. The document also specifies the substantive scope of a plan and the procedure for its adoption. The basic unit in the current system of physical planning is the commune. On the strength of the so-called ‘planning power’ given them by the Act, only commune authorities can take decisions concerning changes in the land-use pattern and spatial development of their unit (Niewiadomski, 2002; Parysek, 2006). No other unit, whether controlled by a local government or state administration, has got such powers (Parysek, 2006). The commune executes its basic tasks, viz. (a) defining the principles of its spatial policy; and (b) defining the scope of action and procedure in allotting land for specific purposes as well as principles of its development and building, by passing two planning documents: a Study of the Conditions and Directions of Spatial Development and a Local Spatial Development Plan. The first is a tool for the implementation of spatial policy and spatial management, and the other is a model of the spatial development of an area, i.e. a model of spatial order and spatial balance of development (Parysek, 2006, 2010a, 2010b). This is a new solution, different from those in force in the previous years.

Integrated planning as an autonomous planning category practically does not exist in the current planning system in Poland. This notion does not figure in the Polish legal system, so commune authorities in principle do not prepare plans of this kind. Naturally, this does not mean that there is no integrated planning, but the integration concerns procedures rather than contents of planning documents. Polish communes are reluctant to undertake work they are not legally obliged to do, especially when this work involves expenses. This situation has changed because applying for financial means from the national, regional, and finally EU levels requires communes to have a strategy, and also because of greater maturity of local governments. In effect, a strategy has started to be considered an indispensable document when conducting and co-ordinating the economy at the local level (Parysek, 1997).

3. Integrated planning

Integrated planning in Poland is interpreted in a wide variety of ways in the literature on the subject (Topczewska, 2010). It is usually understood in terms of: (a) spatial integration; (b) integration of three orders: social, economic and natural; (c) integration of socio-economic issues with spatial ones;
(d) social integration (of various persons, circles and institutions important for local development); and (e) integration of management, in which one can distinguish further types of integration: horizontal (of the given unit with the surrounding communes), vertical (with the poviąt, region and the centre, i.e. multi-level governance), and internal (inter-sectoral).

Generally, in the process of integrated planning, developmental needs of a city as well as ways of their fulfilment in urban space are determined taking into consideration the interests of residents and other space users. The implementation of the priorities thus established is secured in detailed spatial development plans. Such integrated planning of development allows all-round, multi-level actions to be undertaken by a variety of entities and with a high degree of social participation. Its essence is creating a network of links among various entities that improve the coordination of measures taken at different management levels and ensure better control of development processes. Owing to integrated planning and management, cities can take up new challenges, which often requires a qualitative reconstruction of their spatial, social and economic structures.

This mode of urban planning and management is recommended in the already mentioned EU document, the Leipzig Charter on Sustainable European Cities. It states: “To make this multi-level government really effective, we must improve the coordination of the sectoral policy areas and develop a new sense of responsibility for integrated urban development policy”. To achieve this purpose, the document recommends (a) “making greater use of integrated urban development policy approaches”; and (b) “that special attention is paid to deprived neighbourhoods within the context of the city as a whole”. Issues thought to be especially important include: creating and ensuring high-quality public spaces, modernising the networks of physical and social infrastructure, improving energy efficiency, and proactive innovation and educational policies. In other words, the Charter emphasises that in an integrated approach to spatial and urban planning special attention should be paid to the quality of residents’ living environment in the various areas of the city (also poorer ones), which derives from the quality of individual elements of the natural and the social environment. It is assumed that the expected quality of the living environment in individual areas depends on their development pattern and the introduction of suitable functions adjusted to population needs. A characteristic feature of integrated planning is thus individual treatment of problem areas intended to improve the quality of life of the population living in them. Its goal is not only the development of the city as a whole, but also of its individual areas, especially problem ones, by both, transforming urban space and solving social and economic problems (Leipzig Charter, 2007). This paper proposes an approach to the integrated planning of the spatial development of a city treated as a living environment of its residents.

4. Anthropocentric orientation in urban development planning

The city is a highly specific settlement unit. Like no other unit of a country’s territorial division, it is an exceptionally ‘dense’ living environment for a local community. This density results from an accumulation of a large number of people, buildings and constructions, infrastructural networks and elements, economic entities, institutions, etc. in a relatively small area. All those components of the urban system are anthropogenic in derivation: they have been made by man, intentionally and on purpose, and located in suitable places in order to meet the needs, especially social, of the residents. Thus, when designing the development of the city, planners should seek to accomplish all the formulated goals leading to an improvement in the living conditions and operation of residents in this local environment. It is obvious that each plan should have a superior goal. In spatial management such a superior goal is spatial order, which is a common good and a common interest of residents (Chojnicki, 1989; Parysek, 2006; Mierzejewska, 2009a). Another superior goal in urban development planning, especially integrated planning, should be the best possible quality and functionality of the urban environment in its natural, social, economic and spatial spheres. Obviously, the determinants of measures taken to improve the quality and operation of the local living envi-
ronment in the city are the needs of its residents and the level of their satisfaction, while a social assessment of this level should ultimately calibrate the adopted goals of integrated planning. Appropriate choices as to which social needs to satisfy, given the funds available, must be made by the local authority, naturally after public consultation with residents’ opinions.

In the literature on social issues one can find various classifications of social needs. Most of them rely on the well-known Maslow’s diagram, with the structure and hierarchies of social needs presented in the form of an equilateral triangle (Maslow, 1970). It seems, however, that in urban development planning, especially if this is integrated planning, a preferable classification of needs would be one leading to a choice of concrete goals. The classification proposed in this paper is one based on everyday needs of inhabitants of a city, a unit which can be seen as a point of temporal-spatial convergence of human behaviour patterns (Giddens, 2006). More specifically, this will be a classification of needs following from the diurnal activity of city dwellers (Parysek, 2012). The adoption of the diurnal activity of city residents as a basis for reflections of a planning nature draws on the conception of a spatio-temporal analysis of human activities (space-time geography) formulated nearly 45 years ago by T. Hägerstrand’s, time-use analysis, or the already mentioned activity-based research (Hägerstrand, 1970; Chapin, 1971; Morris et al., 1979; Yu, Shaw, 2007).

5. Diurnal activity of Poznań residents

A research on the diurnal activity of Poznań residents conducted in 2012 allowed determining its general structure. The average citizen was found to devote 8 hours out of the 24 at his disposal to work and learning, 7 hours to sleep, 2 hours to work- and learning-related movement around the city, 1 hour to arranging various household-related matters, and the remaining 6 hours to housework, child care, leisure, amusement, culture, religious practices, sport, social life, family and friendly contacts, social activity, charity, and ‘doing nothing.’ This is the mean use of the 24-hour day by Poznań residents on a workday and in a non-vacation period. Naturally, it will be different on Saturdays, Sundays, holidays and school vacations, but urban development planning relies primarily on the most characteristic structure of time use, and this is supplied by the pattern repeated five times a week (Parysek, Mierzejewska, 2013).

Each category of time allocation is connected with an activity that can be defined as internal or external in relation to the place of residence. Internal activities are those taking place at home, and external ones are those pursued outside it.

Home is primarily the place where one sleeps. It is also a place where most citizens prepare and eat meals, wash the dishes after consumption, do various necessary housework (washing, ironing, cleaning, small repairs), and take care of children or other family members, especially sick ones. It is at home that residents, especially younger ones, study, do their homework, read books and newspapers, listen to the radio, watch television or a video, rest, etc.

External activities, i.e. those pursued outside home, primarily broadly understood everyday ones, embrace work, learning, shopping, taking children to the kindergarten and school and bringing them back home, participating in culture, religious and political life, sports and recreation, and entertainment events. They embrace health care, keeping up family and social contacts, pursuing hobbies, open-air recreation, as well as organisational, charity and other forms of activity. All this means that the individual categories of time use and activities performed in them can provide a basis for formulating goals in integrated plans of urban development because they concern, to a greater or lesser degree, the satisfaction of basic social needs.

This approach to the planning of urban development is reinforced by: (a) the systemic character of the city as a territorial unit; (b) its role as a living environment for residents; (c) citizen participation; (d) the necessity to satisfy basic needs of residents differing in their nature and frequency of occurrence; (e) mobility of residents connected with the satisfaction of basic needs; and (f) the drive to rationalise the use of time, the superior goal being maximisation of the free time left after all necessary matters have been arranged.
6. Categories of the diurnal activity of residents as determinants of goals of integrated planning

As has already been stated, the structure of the diurnal activity of residents can provide a basis for preparing an integrated plan of urban development. The individual categories of activity require a suitable organisation, structure and operation of the urban space to meet the needs connected with each of them. The basic structure of activity involves stay at home (sleep, housework and other home-related chores, various forms of leisure and relaxation) and external activity (work, learning, shopping, making use of services, and broadly understood participation in social and cultural life).

The right organisation, structure and operation of the urban fabric mean correct development of the city that allows it to meet its inhabitants' basic needs in the natural, social, economic and spatial spheres. Table 1 presents basic categories of residents’ activity and recommendations for integrated planning connected with them that are intended to help the city satisfy the most essential needs of its citizens. The most important consideration was the fact that inhabitants live their lives at home and outside it, which on the one hand calls for a suitable need-adjusted spatial structure of places where they can attain their goals (including places of residence), and on the other, for ensuring effective conditions of their mobility. The classification presented in Table 1 is not a fully disjoint one, but then it cannot be, because various forms of spending leisure time require various facilities to be located throughout the city area. Also important is for the mode of satisfaction of citizens’ needs to accommodate a function rationalising the spatial solutions adopted, namely the free time left after all the necessary duties have been fulfilled. In other words, the point is to give the city a spatial-functional structure that can guarantee its residents the best possible accessibility of places to accomplish their goals: real (it is possible to satisfy a need within city limits), spatial (the need can be satisfied by travelling a short distance and losing little time), and temporal (the need can be satisfied within a wide spectrum of time; Table 2).

Table 1. Activity of city residents and recommendations for planning measures

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sphere of activity</th>
<th>Recommendations for integrated planning</th>
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</thead>
<tbody>
<tr>
<td>Stay at home (sleep and housework)</td>
<td>Housing construction</td>
<td>Houses varying in size, height and standard, at locations ensuring security as well as access to public transport and places of goal accomplishment; flats of size suited to family situation, sunny, spacious, with balcony (loggia), accessible to disabled persons, their standards adjusted to material situation, accessible in terms of price, for purchase and for rent.</td>
</tr>
<tr>
<td>Mobility</td>
<td>Transport; municipal economy</td>
<td>Diversified, functional and accessible system of public passenger transport as residents’ preferred way of movement; functional road system with ring-roads; downtown zone of subdued traffic; spatial structure of city restricting range of resident mobility; safe system of bike routes.</td>
</tr>
<tr>
<td>Learning</td>
<td>Education; higher schools</td>
<td>Network of educational facilities of various ranks adjusted to population distribution and reflecting their level of centrality; limited size of schools; safe way of children to school; universal pre-school child care; high-quality higher education system offering diverse fields of study and adjusted to present and future needs of labour market.</td>
</tr>
<tr>
<td>Work</td>
<td>Economic activity, public services</td>
<td>Economic structure embracing various sectors and branches, adjusted to residents’ educational level; economic entities of various sizes, innovative, offering high wages, distributed rationally over city area (environment-friendly, spatially accessible).</td>
</tr>
<tr>
<td>Relaxation</td>
<td>Municipal economy; sport, recreation</td>
<td>Consistent and accessible system of urban green areas; sporting-recreational grounds accessible by public transport; greenery on housing estates, downtown parks and squares; marked tourist trails and bike routes; publicly accessible sporting facilities; allotment gardens outside built-up area; public spaces distributed in various parts of city, functionally diversified.</td>
</tr>
</tbody>
</table>
Table 2. Categories of accessibility of places of goal accomplishment

<table>
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<th>Category of accessibility</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Real accessibility</td>
<td>Possibility of achieving concrete goals guaranteed by existence of suitable places of their accomplishment (entities, institutions, facilities), e.g. secondary school, hospital, theatre, kindergarten, eye specialist’s office, etc.</td>
</tr>
<tr>
<td>Spatial accessibility</td>
<td>Possibility of reaching concrete places of goal accomplishment in acceptable time (being a function of distance), e.g. secondary school, ambulatory-patient clinic, radio and TV shop, park, indoor swimming pool.</td>
</tr>
<tr>
<td>Temporal accessibility</td>
<td>Time in which one can satisfy concrete need in given place of goal accomplishment, i.e. opening days and hours (of shopping places, eating facilities, parks, churches), service hours (of offices, doctors, lawyers), and time of various (cultural, sporting, entertainment) events, church services, etc.</td>
</tr>
</tbody>
</table>

Source: Own compilation

Each of the diurnal categories of time use is connected with a specified set of elements of the city’s spatial development, the function of which is to meet the basic social needs of its residents. Thus, each delineates the substantive scope of integrated development plans, although restricted by the attainable level of need satisfaction and the financial possibilities of city authorities. Plans, let us repeat, which combine the city’s socio-economic development as expressed by its economic and social potential with its spatial development, i.e. a suitable location of elements improving the spatial accessibility of places of goal accomplishment. The holistic and systemic treatment of the city means that its natural, social and economic spheres are treated jointly in their spatial dimensions.

7. Summing up

In planning theory, one of the criteria for the assessment of planning documents is their internal cohesion and coordination. It seems that the adoption of the model of integrated planning of urban development can help achieve such cohesion and coordination. The current practice is preparing development strategies, studies of the conditions and directions of spatial development as well as local plans of spatial development at various time moments as autonomous documents. As a result, the development of Polish cities is often disorganised rather than integrated, and chaos rather than order is a characteristic feature of the spatial structures.
created (Mierzejewska, 2009a, b; Parysek 2010a, b). The proposed approach is among several possible ones that allow building a socially effective model of the integrated planning of the spatial development of a city. Socially effective, because accommodating the diurnal activity of its residents and the spatial-functional structure meeting their needs that result from this activity.

Another new approach that probably offers good conditions for making urban development planning integrated is urban design. It places special emphasis on the functionality of urban space (Modrzewski, 2012; Parysek, 2012), determined in substantive and spatial terms by the temporal activity of citizens.

It seems that one of the conditions of putting the integrated planning model into effect is creating units of local government administration whose remit would be urban development as a whole. Their most important task should be the preparation of development plans and the monitoring and assessment of how they are implemented (another task would be a policy of socio-economic development, location and spatial development). Currently, there are many entities in Poland involved in the planning of urban development (some of them not well prepared for the task), which can guarantee neither coordination nor integration of the spatial development of a city. Another condition of implementing the integrated planning model is making citizen participation a regular element of the planning process, from the very beginning to the adoption of the final document.

Acknowledgement

The article is the part of a research conducted under the National Science Centre project (N306063640) entitled “Life of a city (a study of Poznań)

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