The city as a pretext for developing logistic concepts

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Abstract

The aim of this paper is to provide an outline of the author’s view on urbanity based on concepts developed in city logistics. The author, based on a review of multiple aspects of urban development, shows the importance of logistics in terms of the city’s logistics absorptive power in order to create public and semi-public space as well as improving the quality of life by way of developing the urban logistic infrastructure.

Keywords: city logistics, logistics, urban development, spatial development

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Introduction

Deliberations presented hereafter concerning city are short of pretending to exhaust the topic. On the contrary, the aim of this paper is to provide an outline of some of the author’s views on urbanity. First, the city as a category will be discussed. Afterwards, challenges in the development of city space, transportation and logistics as well as social needs and logistics are elaborated.

Category: city

A city may be perceived in many dimensions. The term itself is defined both as an Administrative Unit and a cluster of people. It may pertain to urban life as well as specific cultural and social characteristics. It may also refer to functional areas related to conducting business and economic exchange (Unia Europejska 2011: 1). In the architectural and spatial dimension, urbanity is perceived as relatively dense land development organised into a more or less sensible physical space. Especially town planning, today a vastly technical science, in its practical dimension focuses on planning living space to benefit its residents and concentrates its efforts on altering the landscape accordingly (Malisz 1982: 17). Space viewed through the prism of town planning is beyond all physical and geographical construct. This perception has also a personal, social and cultural aspect to it. Social and personal dimension is a way of seeing space, not its characteristic. Therefore, boundaries of urban space are not determined by its physical aspects, but by cultural factors such as values, knowledge, mental pictures and feelings. They are fundamental for shaping social spaces including urban spaces (Gutowski 2006: 21). As a side note, modern linguists hold the opinion that not a single thing could be described without setting it in space, because the brain stacks social relations and sorts them by assigning them with size and distance (Puzynina, Bartmiński 1991: 189).

A city is a form of humans’ spatial existence. It is a certain type of socialising mechanism whose essence, outlet and point of reference are beyond all urbanised spaces including everything they contain (Krajewski 2011: 112).

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Marek Krajewski perceives the process of socialising as: first and foremost - individuals, but also fauna and flora and everything produced by a man is incorporated into human community. Secondly - the outcome of the process of socialising is that individuals gain competences needed to adapt to the man-made environment. Thirdly - the consequence of the process of socialising is enabling an individual to function independently (Krajewski 2011: 111-134). Krzysztof Frysztacki does not define a city but merely how it is perceived i.e. he deals with a city as a social community (Frysztacki 1976: 235-259). This point of view is gaining ground and grows in popularity. It is often found in deliberations concerning cities perhaps due to sociologists who started to take over this subject matter. Pawel Rybicki shares this perception by saying "a number of characteristics confirm distinctness of the city as a social community: number of people and population density, heterogeneous population, multiplicity of skillsets, size of social classes and attributable ways of life, place in social and spatial dimension. Other characteristics include co-existing social groups and complex network of social connections between individuals and groups (Rybicki 1972: 334).” Piotr Zaremba, one of experts on modernism, in his book published in 1974 referred to the city and urbanity in a utilitarian manner: “a city should be an assembly of arrangements pleasant to live in, easy to work in, making relaxation easier and pleasing to the eye (Zaremba 1974: 135).” City residents evaluate those conditions and use them thus developing in their minds both feelings about the city and satisfaction from living in it. Urban dwellers create the urbanity [l’urbain], even if they do not contribute anything material that could be described as urban [l’urbanite]. The country side they colonised lost its characteristics and the charm of rural life. Everything that is urban, ravages the country. An urbanised country on the other hand resist the expropriated rusticity, an extreme case of great misery of those who are residents of what is inhabited, and the residency itself (Lefebvre 2012: 195). The urban viewpoint suggest that social units (localised) should be established or reconstructed, highly original, partial and centralised, whose relationships and power would reinstate urban unity, strengthened by intrinsic order, not devoid of structure, which is elastic and hierarchical (Lefebvre 2012: 191).

These reflections about the city and urbanity combine two perceptions - perspective of physical and intellectual space and perspective of people - individuals and groups. Experiencing the city together, creating its urbanity. Hence the description: "The city is a collective space belonging to all who live in it. These have the right to conditions which allow their own political, social and ecological development but at the same time accepting a commitment to solidarity."8

City space, transportation and logistics

In time-space domain the city exists in its physical form. Man requires space, where (often subconsciously) they feel good. Such space is not only safe and visually appealing, but also appropriate in size to fit human needs. It is a space filled with architectural "language" which is clear and determine our space not only in geographical sense, but also cultural. Zaremba, in his already quoted paper "Urbanizacja Polski i środowisko człowieka" (Urbanisation of Poland and space for people) makes the observation that city space is shaped to "consciously and intentionally achieve harmony and balance between terrain, nature and architecture, whilst assuring functional fit with human needs (Zaremba 1974: 64).” The city of the postmodern era is a common space of people and thus an open space. Emphasis is put on individualism and variety, which have become the paradigm of postmodern discourse. Urban spaces reflect the rule of equality between men. Individualism is a value which is one of the cornerstones of modern cities (Gutowski 2006: 214). “In the currently dominating large, heterogeneous communities, it is difficult or maybe even impossible to develop and maintain a generally accepted hierarchy of values. This means common objectives and universally understood contents are withering

8 The definition according to The European Charter for the Safeguarding of Human Rights in the City adopting the stance of the European Charter of Local Autonomy
away and become ever harder to understand. Globalisation, massification, rationalisation and other phenomena characteristic for the past half-century are causing dispersion of the world of values and meaningfulness. Foundations of social relationships, interactions and connections bonding people together are become shaky” (Karwańska 1998: 33).

The space, people, hustle and bustle, nature and congestion are some of the elements that may be used to describe a modern city. We become very much numb to geographical or even physical dimension of the space, purely because there is no longer the need for it, neither does anyone persistently go to great lengths to remind us about it (Kita 2003: 22). Socially centred urban space functions in two dimensions. The real dimension, embracing buildings, streets, parks and monuments, as well as the mental dimension, which can be represented by a plan which is conceptualised in minds of city dwellers. For years, a city was defined as a "densely populated area of permanent residence where no food is produced." Today, this dogma is being questioned. A city’s uniqueness would normally be determined based on its population and density of interactions. Space understood in a two-faceted manner (physical and mental) is a platform and catalyst for building artistic, aesthetic, social and personal values. They can be realised thanks to transportation.

An urban area typically features spaces where dialogue could be initiated, an intimate and personal meeting arranged as well as spaces shaped to allow for social communication, having an open character. These factors are linked to space, both the physical and spiritual. Space is absolutely the centrepiece to any city. In a postmodern city, the most important are tolerance, freedom and pluralism. Through those values happiness is to be found. It does not, however, come in any form which could be reflected by urban arrangements. In a world where superiority of intellect has been undermined, but above all variety and tolerance have been accepted as key values, building new spaces has become necessary. In a world where pluralism and tolerance are elementary, dialogue is at the heart of creating order. Tolerance is the fruit of dialogue which develops through communication processes. The challenge facing designers of modern cities is to create spaces which are open to communication, both in the individual as well as the social dimension.

The city is a meeting place, thus it needs to be designed and developed to create opportunities for establishing different relationships. It is necessary to create personal and social spaces, which become a place of dialogue (Gutowski 2006: 218). In a city there are spaces people recognise as their own and those that are public. Everything people encounter outside their homes, could be defined intuitively as public space (Orlik 2009). Nevertheless it is also someone’s property (state, regional society, unions) which is available to everyone and could be used by everyone - including those outside particular society (Jałowiecki 2009: 319). It would seem that urban space is in essence a public space, which belongs to everyone, but at the same time, to nobody. Public space is the most important value added - the very essence of urbanity and social bond holding city dwellers together. Cities, however, also are filled with privately owned spaces (Szołtysek 2014a: 31). Existing functions of public space is appropriated by private space. Large-area shopping centres are everything but public space. On the contrary, they are rather private since they cannot be accessed by all users on identical terms. They are in a way, a substitute of public space. A substitute which is imperfect - an analogy would be a chocolate-like product. Large-area shopping centres contribute very little if anything valuable at all to urban space, while generating problems, e.g., in the field of transportation (Beim et all. 2010: 78)

Thus the nature of the space is determined by the way ownership rights are exercised. The fundamental distinction between public and private space was first introduced at the beginning of the 1970s by Oscar Newman (1972), the author of the popular book "Defensible space." Private space is supervised by people who have complete power over it and thus make the decision about who is allowed to enter. Public space, on the other hand, was viewed by Newman as a "no one's" space. Even though he did not use this term, it shone through from his bodies of work (Nawratek 2012: 36). According to Krzysztof Nawrotek,
neither public nor private space exists. In his opinion, nowadays we are surrounded by condensed and diluted, mutually overlapping fields of interests and influences. The rationale behind this way of thinking is the fact that access to space is granted to eligible parties. Availability is not limited to only two choices: accessible/non-accessible. The question automatically arises: who can and who cannot enter? On what conditions? When? At what price? (Nawratek 2012: 36). I concur with this line of thinking. The state defends public spaces from being accessed by their political opponents. Also in democratic countries, there are a number of legal tools to withhold individuals and groups from accessing a space. Public space is also occupied by transport services - roads, transportation vehicles using it. Finally, this space is subject to argument between proponents and opponents of transport. The guerrilla gardening movement which appeared at the end of the 1960s to "fight" in order to liberate public space from reign of vehicles is indicative of a zero-one appraisal of public space ownership.

The role of urban space may be perceived relative to human and social development. Let us revert to the subject of communication. Note that a message is created by developing open spaces devoid of barriers - both physical and mental. "One's attitude towards space is determined by the extent to which space was conquered, tamed and embraced, therefore it is always about getting advantage of it, a factor and drive behind finding the perfect [...] means of transport and communication (Klimczak-Ziółek 2003: 89)." The city because of space requires from its users efforts in order to move through it. If so, then when moving through public and semi-public space, one experiences different obstructions when encountered with private spaces along the way. These obstructions, related with access to space and seamlessness of movement, complexity of the route and means available to cover it, costs of doing so, all influence mobility and perceived quality of life. It has been a long known fact that a city's development opportunities are closely linked to the satisfaction of its users. A city's organisational ability connected with covering space is one of the dimensions through which a city as well as its citizens' quality of life are appraised.

The concept of urban logistics has been known for over ten years. It involves managing flows of people and goods in cities, developing these processes, enhancing new opportunities for the public, and increasing mobility in a way that the act of daily moving about is not a nuisance for those that choose to or need to get around the city. The discourse about urban logistics in the context of space shows that this concept is and will continue to be subject to evolution, showing its usefulness for a wider range of issues. Initially, urban logisticians were engineering ways of delivering goods to recipients located in tightly packed city centres. Inefficiency or even failure in doing so carries a certain economic penalty and customer dissatisfaction. A cause was congestion and haggling over right of priority to use lanes of a roadway. Then urban logisticians turned their attention to improving movement of people. Attempts to rationalise access to urban spaces for different user groups were made by promoting public transportation, walking and cycling. Further down the road, the concept of integrating goods and people transport emerged. This was achieved by harmonising goods haulage with (more important) movement of people. The right to space and efforts to open it to the public, made city administrations, somewhat against transport prudence (given there is such prudence), to decide to close certain parts of the city to the traffic. Closed transportation routes were used as pedestrian and cyclist only zones. Released space, occupied by people, becomes a place where personal interactions are vibrant. This helps facilitate innovation – the city's hope to become competitive. Change of the communicational landscape of the city not only does reorganise flows of people and loads, but also necessitates finding new solutions fostering access to mobility. The range of solutions is very wide and includes technical solutions (e.g., moving vehicle traffic off the roads), technological (e.g., greater integration of inter-modal transport), behavioural (e.g. shaping transport behaviours). Urban logistics could be applied to all those areas - in some directly, in other indirectly, driving the change and facilitating it. It is not difficult to understand the premise of urban logistics - one
should review city good practices or papers written by logisticians. For urban decision makers and logisticians, it is of paramount importance to understand the underlying reason for the aforementioned changes. For this reason, a relatively large amount of contents seemingly unrelated to logistics is discussed in this paper.

Social needs and urban logistics

The right to a city is not a straightforward permission to visit or to return to old-fashioned cities. It may only be formulated as the transformed and renewed right to urban life. It does not matter whether the urban fabric encompasses the countryside and what has remained from rural life, provided that everything that is urban [l’urbain], the meeting place, the priority of use value, time promised by superiority over other goods inscribed into space has its morphological underpinning, its practical and sensory representation. This lies at the foundation of an integral theory of city and urban society, using resources of science and art (Lefebvre 2012: 195). Hence a certain relationship between a man and the city (understood as an environment) exists. Environment provides to a man an adequate quality of life. Quality of life is commonly perceived as general wellbeing of people and the quality of environment they live in. There is not one, widely acknowledged definition of quality of life. Some researchers boil it down to personal wellbeing and satisfaction and happiness. The others to living conditions found in given place. When it comes to analysing quality of life, scientists distinguish between subjective and objective quality of life and use that distinction as a basis for deriving indicators and premises for research (Szoltysek 2008: 209-220). The definition of a city presented in the first part of these deliberations places society (the people - the collective and individuals) in space. This space is given to them as proprietors of the city which organises (or better, self-organises) that society around it in order to yield, by way of solidary provision of services, conditions for self-fulfilment in several spheres of life. They include political and social life as well as prosperity.

The responsibility to solidary offer services to the benefit of the city, in my opinion, should be considered in a broad sense. It involves daily behaviours and decisions made by each citizen, aiming to develop the city into a friendly and safe environment. As co-owner, each citizen (and even broader - every user) should make every effort to uphold order, aesthetics and safety. This "agenda" does not necessitate in-depth elaboration. Correct attitudes should be promoted, where urban logistics should create conditions that facilitate this process. Logistics support functions are well suited for practical applications. Obligations of the city, e.g., creating conditions for self-development and self-fulfilment of society in the aforementioned areas, may require logistics support. Logistics not only should offer concrete solutions, but also support city strategy in terms of designed solutions. Assurance of above-mentioned rights to the citizens might come under pressure due to lately diagnosed factors. The authors of report "Miasta przyszłości. Wyzwania, wizje, perspektywy" (Cities of the future. Challenges, Visions, Prospects (Unia Europejska 2011) draw attention on threats to the European model of cities’ sustainable development. From the logistics point of view, these threats include territorial expansion of cities and propagation of low-density housing estates, uncontrolled growth as well as paving over the land with asphalt and concrete. These factors imply a special type of responsibility imposed on urban logisticians to maintain mobility. Weakening links between economic growth, employment and technological advance are causing greater unemployment or relegate certain parts of society to low paid jobs. Increasing social polarisation and segregation, increasing poverty and spatial segregation processes are posing indirect challenges for logistics. Hence cities should have the ability to create jobs, social services, healthcare, safety and security. Therefore the role of logistics in terms of a city’s logistics absorptive power is to create public and semi-public space as well as to create jobs in the process of creating the urban

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9 The necessity to create logistics strategies as a functional urban strategy is increasingly recognised in scientific publications.
logistic infrastructure.
European cities of the future will drive economic growth once conditions for creativity, innovation, developing and popularising and sharing knowledge are fostered. Intensity of interactions, also within created public spaces is critical. The role of transport is at the heart of logistics, especially when it comes to executing its assumptions. It cannot be omitted when discussing revitalised, local economies, diversified local production systems, local job market policies as well as developing and using internal manufacturing powers and short consumption cycles. A city that aspires to achieve sustainable growth needs to have attractive public spaces and promote sustainable and healthy mobility, fostering social inclusion. Moving around the city using different modes of transport than a car needs to become more appealing. Thus multimodal public transport has to be promoted (Unia Europejska 2011: VII). A holistic approach to environmental and energy issues allows drawing attention to green logistics in processes related to increasing economisation of environment protection.

Decision making in logistics involves creating projects, which could be represented as a series of attributes, each described by certain characteristics. The purpose of those decisions is to shape flows of materials, to achieve physical availability of a material product under agreed terms. Managing the flows, the central function of logistics, involves making adequate organisational and strategic decisions. Decision makers take into consideration a plethora of factors when making a decision. The driving force behind the mechanism of decision making are the consequences those decisions carry. They are considered in terms of satisfying key desires expressed by happiness, welfare, satisfaction, self-fulfilment, etc. (Szoltyszek 2014b). Before assigning resources to a task or project aimed to increase a city’s competitive edge and let citizens to live happily, a decision needs to be taken about which tasks or projects should be implemented, especially in the context of economic efficiency. The critical premises of economic prudence, frugality and efficiency, seem to fail or be flawed altogether in some cases, undermining the versatility of logistics management. Obtained results are often difficult to accept in terms of expected efficiency, effectiveness or from a moral and emotional point of view (Szoltyszek 2014b). These observations draw our attention to set patterns of decision making in logistics. They are imbued with the desire to achieve the so-called cost-service compromise. In other words, should a given project fail to satisfy cost requirements, the level of service drops adequately or the project is withheld from implementation altogether. Therefore, a city’s decisions concerning logistics-related matters, part of urban logistics, combine paradigms of both traditional logistics - seeking compromises regarding cost-service ratios as well as social logistics. In case of the latter, in life threatening or hazardous situations, where citizen safety is at risk, it is socially acceptable and possible under democratic laws to make decision regardless of potential costs.

The overarching objective of urban logistics is, since it was first brought to life, to counteract congestion - a phenomenon that hinders or even prevents altogether development of a modern city. Skills of logisticians should translate to particular projects and activities regulating vehicle access to transport infrastructure in urban agglomerations. They should also be able to devise ways of dividing public space between transport and transport free areas. In the middle between the two, there is space for limited access areas where limited transport activity is allowed. Vukan R. Vuchic in his book „Transportation for Liveable Cities” suggests the following rules (Vichic 2011: 12):
1. The pedestrian is more important than the car. The cyclist is more important than the car. Public transport bus or tram is more important than the car. All cars are equal.
A moving car is more important than a parked one - the former serves a purposeful function, the latter - does not. Furthermore, it is illegal to park on the pavement, inside courtyards and backyards (given it does not belong to the owner of the vehicle) and everywhere a parked car would obstruct and hinder movement of pedestrians and vehicles, including public transport.
2. The only bit of urban space, where motorists are not oppressed and cyclists, pedes-
rians, public transport stops are out of the picture, are freeways outside urban built-up area. No contemporary, forward-thinking megalopolis could survive without a refined functional stratification of road network. The streets are the starting point. They are dominated by pedestrians, who go beneath the surface only to use the underground rail, but not to cross the street. Speed limits are explicit and traffic lights are practically everywhere. Then there are the freeways, which may only be used by vehicle drivers, speed limits are significantly higher (some jurisdictions allow 100 miles per hour or even do not impose speed limits at all), exits onto other roads are infrequent or non-existent. There are no pedestrians or traffic lights.

3. Every bit of urban space - streets, interchanges, pavements, yards - is owned by someone. The owner is municipal authorities or property owners or flat owners united into a community (condominium). Parking a vehicle the without owner's consent is an offence. Especially in areas owned by municipal authorities, parking is only allowed in designated zones and places as marked by road signs after paying a fixed fee.

4. Parking in general, with rare exceptions is paid. The parking fee becomes progressively higher the closer one drives to city centre.

In a liveable city, it is always more comfortable to walk. In cities and downtown, cars are not parked in the streets, or at least not on main roads, and stopping a car is only allowed in "kiss-and-ride" designated areas. Parking or stopping a car on the pavement is prevented by any means available, either technical solutions or prohibitory traffic signs informing about draconian fines for offenders. Meeting those objectives requires a number of tools and measures, stretched over a period of several years. One of the goals of urban logistics (shared with other areas of city management) is to shape transportation. In the opinion of the author, this area is particularly important in increasing the probability of succeeding in implementing discussed urban logistics policy. Persuading people to change their commuting and transport habits, especially in societies used to driving their own cars - not only to move around comfortably but also because sense of prestige owning a car can give - is an arduous task. Shaping transport behaviours is a process involving systematic, differential reinforcement of city dweller's behaviours, which are starting to resemble the desired, target behaviour understood as preference of selected, logistically efficient modes of public transport promoted as main forms of transport. Differential reinforcement means that preferred behaviours, falling into a certain category, are rewarded, whereas other behaviour patterns previously rewarded or not penalised, are not reinforced anymore. As a consequence, the probability of a certain category of behaviour developing increases, while other types of behaviour become less likely. Shaping of modality is partially an outcome of shaping behaviour, while behaviour is partly shaped by the existing forms of transportation in the city. Such a process often requires a multi-stage implementation. Instantaneous progress is very rarely observed. However, systematic introduction of new rules supports the development of desired behaviour (Szoltysek 2011: 103-107). Such behaviour should be in accordance with the aforementioned four rules of creating a liveable city. First and foremost, the potential to walk around the city needs to be improved while incentives for such activity should be strengthened. One could argue that I overlook the essence of public transport by promoting walking. Social needs, including those concerning mobility, could be effectively satisfied in cities thanks to support of logistics.

Concluding remarks

The city as a modern phenomenon is not only an aggregation of people or concentration of resources over given area, but also a hot spot of many problems. Some of them could be alleviated or solved altogether by using logistics proactively. Problems of the urban jungle inspire search for new logistic concepts, which could practically support cities and their users. Urban logistics can be a tool for dealing with a wide range of challenges in urban development. This may require a change in focus, integrating the facilitation of movement of
people and goods into the aim of making urban space more livable and competitive.
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Miasto jako pretekst do rozwoju koncepcji logistycznych

Abstrakt
Celem artykułu jest przedstawienie ogólnego zarysu spojrzenia autora na miejskość bazującą na koncepcji rozwoju logistyki miejskiej. Autor w oparciu o przegląd różnych aspektów rozwoju miasta ukazuje znaczenie logistyki pod względem siły absorpcji miejskiej logistyki w celu kreowania publicznej oraz semipublicznej przestrzeni, jak również w celu poprawy jakości życia poprzez rozwijanie miejskiej infrastruktury logistycznej.

Słowa kluczowe: logistyka miejska, rozwój miasta, rozwój przestrzenny