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Post-Socialist Urban Infrastructures



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Post-Socialist Urban Infrastructures

Post-Socialist Urban Infrastructures critically elaborates on often forgotten, but some of the most essential, aspects of contemporary urban life, namely infrastructures, and links them to a discussion of post-socialist transformation.

As the skeletons of cities, infrastructures capture the ways in which urban environments are assembled and urban lives unfold. Focusing on post-socialist cities, marked by neoliberalisation, polarisation and hybridity, this book offers new and enriching perspectives on urban infrastructures by centering on the often marginalised aspects of urban research – transport, green spaces, and water and heating provision.

Featuring cases from West and East alike, the book covers examples from Azerbaijan, Bulgaria, Serbia, Croatia, Germany, Russia, Georgia, Lithuania, Poland, the Czech Republic, Tajikistan, and India. It provides original insights into the infrastructural back end of post-socialist cities for scholars, planners, and activists interested in urban geography, cultural and social anthropology, and urban studies.

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1 Introduction

Linking post-socialist and urban infrastructures

*Tauri Tuvikene, Wladimir Sgibnev and
Carola S. Neugebauer*

Infrastructural vignettes

As in many microrayons of the Soviet Union, a large-diameter pipe coming from the district heating plant, whose large exhaust chimney is visible from afar, meanders between the five-storey blocks of the ‘Sadriiddin Ayni’ housing estate at the northern gates of Dushanbe, capital of Tajikistan. High-rise residential buildings form the mainstay of Soviet-era housing provision in Tajikistan and elsewhere in the former Soviet Union (FSU), as well as in Central and Eastern Europe (CEE). Today, they are still the backbone of the housing stock. Yet, in this housing estate, the district heating has not been working since the years of the civil war (1992–1997). Electricity is scarce and expensive, so residents have resorted to do-it-yourself solutions, installing their own wood-fired stoves with pipes peeking out of the windows. In wintertime, many families seal off all rooms but the living room and spend their days around the stove. This shift from a centralized infrastructural regime to an individualized and fragmented system has led to a definite loss of trust in the state, in Dushanbe as elsewhere in the formerly socialist bloc.

Several minibuses wait for passengers at the ‘Vodonasos’ terminal stop by the ‘Sadriiddin Ayni’ housing estate. These minibuses, known as *marshrutkas*, were never thought of as means of mass transportation in Soviet urban planning, yet were particularly suited for the ‘wild 1990s’ in various parts of the post-socialist realm. New needs and possibilities, a new legal framework and new struggles for livelihood drastically transformed urban transport. Municipal operators were unable to meet the basic mobility needs of the population and an ever-growing fleet of *marshrutkas* filled the gap. At the same time, defunct industrial plants released thousands of people into unemployment, many of whom became absorbed by the *marshrutka* sector. The emergence of privately run transport options and the soaring increase in private car use signalled an individualization of mobility. Today, *marshrutkas* are banned on Dushanbe’s main thoroughfare: the administration considers them not to be presentable enough. Dushanbe, like many other cities, is looking for more modern and ‘world city’ alternatives, and aims to ban *marshrutkas* from its streets altogether.

Ambition and scope

The topic of these vignettes – collapse and deficiency, as well as ways of overcoming them – formed the primary common ground for infrastructure-related publications after the fall of communism. Indeed, the ‘continuing flow within the pipes [...] literally and metaphorically [constitutes] the body politic’ (Alexander et al., 2007, p. 23). Consequently, the people affected may see the end of infrastructure provision as a sign of societal disintegration. Unsurprisingly, unstable utilities has become the most important single factor in a prevailing admiration of the Soviet forms of infrastructural governance, and also a source of numerous contentions. The academic interest of this present volume thus builds upon the societal salience of the topic.

Most publications on the topic, however, did not emerge from academia but from major international donors such as the World Bank, the European Bank for Reconstruction and Development (EBRD) and the Asian Development Bank, and their (Western) consultants involved in project implementation. In these publications, the transitological paradigm prevailed, addressing infrastructure development as a tool for fostering competitiveness and enabling access to markets (see also Kaminski, 2000; Shepherd and Wilson, 2006). For many cities and regions, this literature provides the sole source of statistics and analyses of infrastructures so far. Regarding public transport, several studies have delved into major cities of European Union (EU) accession countries such as Poland (Pucher, 1995), the Czech Republic (Pucher, 1999) and Hungary (Hook, 1999). For the FSU, country- and city-specific studies exist, among others, on Uzbekistan (Gwilliam et al., 1999), Kazakhstan (Finn, 2008; Gwilliam, 2000; Gwilliam, 2001) and Georgia (Finn, 2008), as well as some comparative overview papers (Kominek, 2005). Several authors have delved into the utilities sector – from digital infrastructures (Clarke, 2001) to water, electricity and heating, both with an urban focus (Kennedy, 1999; Lampietti and Meyer, 2002; World Bank, 2010) and dealing with regional water and energy conflicts, particularly in Central Asia (International Crisis Group, 2007; International Crisis Group, 2014) or ‘transition economies’ in general terms (Zhang, 2013). These publications are also a valuable source for understanding why urban infrastructures in our region of concern look as they do today – both in positive and negative terms. Yet the bulk of these publications are either based on policy reviews or on data provided by national statistical agencies. Their data quality is often doubtful and rarely detailed. Moreover, such studies are not interested in theoretical and conceptual debates, nor do they pay attention to the everyday experience of infrastructures.

This book, *Post-Socialist Urban Infrastructures*, takes a different path. Over the past decade, many scientists in geography, urban studies and planning, and more recently in anthropology, have made infrastructures a central part of their research – empirically but also conceptually. This ‘infrastructural turn’ (Graham, 2010) has investigated infrastructures as linking

technologies and socio-material means with products of urban and societal change, which in turn shape the daily lives of individuals and societies. The ‘infrastructural turn’ has also drawn attention to ‘infrastructural lives’ – that is, the ways in which infrastructures are used and made usable in everyday practice (Graham and McFarlane, 2014). Infrastructures in this sense constitute a valuable conceptual lens for critical social research, particularly in urban contexts where infrastructures are dense and prominently visible, for example when they collapse in unstable institutional settings.

Infrastructure scholars have paid attention to the different ways in which infrastructures and their relations with cities have developed in the global North and South. The post-socialist context has remained largely excluded from the global North mainstream, but also from critical perspectives emanating from the global South (Tuvikene, 2016). The differences between materialities, practices, institutions and normative discourses should not be seen as definite: there are different accents brought forward through different assemblages of infrastructures. While the global North stresses the smooth operation and invisibility of infrastructures, the global South has highlighted the struggle for and lack of infrastructures, also highlighting colonial divides (Coutard and Rutherford, 2016). Departing from the global North and South, ‘post-socialism’ brings the hybridization of different infrastructural regimes to the fore. The legacies of socialist regimes are still present in aspects both material (such as housing stock, pipes and tramlines) and non-material (such as governing bodies and public discourses), now embedded in diversified paths of neoliberalism or paternalism. Thus, the adaptation of infrastructures to shrinking cities, downsized industries and shifted residential patterns has constituted a major post-socialist challenge, on top of challenges linked to the enormous concentration and growth of capital cities. This occurred simultaneously with different processes of democratization, as well as (new) exclusions, nation-building and dependencies, new modernization agendas and infrastructural setbacks. Post-socialism thus manifests a hybridity that constitutes an interesting field for critical reflection and mutual scholarly exchange between both the global North and global South, combining concerns from the infrastructural turn with emerging post-colonial theory-inspired comparative urbanism literature (e.g. Jacobs, 2012; Robinson, 2006, 2011; Tuvikene, 2016).

Henceforth, taking up the practical and theoretical value of infrastructural research, and the current ignorance of the interplay between infrastructure and post-socialist urban change, this volume positions post-socialism alongside the existing North and South literatures on infrastructure, drawing from previous studies and elaborating on how this literature informs what happens in contexts usually characterized as post-socialist, and how such contexts might help to reveal the production and consumption of infrastructures more generally, as well as to provide conceptual and practical insights. Therefore, the three terms in the book’s title constitute the starting points of discussion:

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- 1) How do urban features shape infrastructures, and how do infrastructures constitute urbanity?
- 2) How may we grasp the interrelation between research on infrastructures and post-socialist urban change?
- 3) Which lessons should we draw from post-socialism about urban infrastructures, and how do infrastructures help to understand post-socialist urban change?

Conceptualizing urban infrastructures

Over the past decade or so, infrastructures have gained a central position for research in social sciences, no longer subsumed under other processes (Rao, 2014). Inspired by the idea of studying the unstudied (Star, 1999), a number of researchers have focused on infrastructures, leading to declarations of an ‘infrastructural turn’ (Graham, 2010). We can thus observe the emergence of ‘a new genre of thinking that narrates the social life of a city through its material infrastructure’ (Amin, 2014, p. 137). A change of perspective from assuming infrastructures to be in the background to shifting them to the fore of thinking about cities and societies is on the way (Amin and Thrift, 2017; Coutard and Rutherford, 2016; Guy et al., 2001, 2011). According to Latham and Wood (2015), there are at least three reasons for such a rise in interest in infrastructures: first, new infrastructural elements (such as bicycle infrastructure and new public transit systems) have become important in contemporary cities. Second, cities and states have changed the ways in which they deal with established infrastructures (such as privatization and financialization). Third, infrastructures are seen as not purely technical phenomena, as they tended to be understood previously, but as incorporated into social practices. Additionally, a recent upsurge in assemblage studies, actor-network theory and science, and technology studies in urban studies and beyond (Farías and Bender, 2010; Graham and Marvin, 2001) has changed the focus of social research: it has become much more attentive to technical aspects that were previously considered to be merely the concerns of engineers. This emerging set of literature, as will be discussed later, has shown how urban infrastructures are linking technologies: they highlight ways in which cities and societies are socio-material, and how infrastructures are entangled within symbolic meanings.

Urban infrastructures as linking technologies

Infrastructures link processes on various scales (Furlong, 2010): while they always involve specific locations, being thus local, they also link political and economic processes, including authorities on various scales (McFarlane and Rutherford, 2008). Airports, ports and motorways are all in different ways localized, but their functions involve far more than their immediate locality. Discussing a pipeline from Baku to Ceyhan via Tbilisi, Barry (2013) shows how the international project is rooted in local power structures and

struggles for political recognition. Similarly, human bodies and the urban level meet at the scale of the home. While in modern cities infrastructures tend to be hidden from the residents' eyes – as the often unnoticed and taken for granted access to water in modern homes vividly shows (Kaika, 2004) – they do the work of linking citizens to one another and to the state. Infrastructures connect society more tightly than does, for instance, the process of voting (Tonkiss, 2013). Infrastructures are thus arteries of cities (Joyce, 2003; Tonkiss, 2013) as well as of societies in general. They are socio-technologies that link objects and technologies, and enable other objects – human and non-human – to operate (Larkin, 2013).

While the key characteristic of infrastructures is their capacity to link, hence not being scalar, the 'urban' aspect of infrastructures brings about some specificities. Of course, cities are not isolated entities. But while cities rely on a high concentration of technical networks extending far from the dense urban cores (Brenner, 2014; Graham, 2010), they are, at the same time, interlinked with various presences of 'natural' features including green spaces, parks, urban agriculture, rivers, lakes and wastelands. Combined with cities' particular exposure to vulnerabilities, the complex concentrations of the technical and the 'natural', and the human and non-human (Amin and Thrift, 2017), cities pose particular challenges for understanding and coping with infrastructures. Many of these challenges are related to how infrastructures can and should be developed in order to balance the conflicting interests of life quality, economic attractiveness, ecological sustainability and political representation: interests and developments can also mean the displacement of some social groups in order to provide space for others (Rao, 2014). Moreover, while associated with dynamics and future progress, infrastructures often make cities obdurate in terms of material stability: once they are built, they are resource heavy, time-consuming and expensive to change (Hommels, 2005).

Finally, there are various types of infrastructural hardware concentrated and interlinked in cities, among them transport infrastructures, green infrastructures and housing infrastructures. As characteristic and relatively well-researched urban features, they are key for the cities' economic, social, ecological and cultural well-being.

'Transport infrastructure' refers to nodes and networks that facilitate flows of people, goods and ideas between and within places (Alff et al., 2014; Kreutzmann, 1991; Reeves, 2011). But money laundering and diseases also travel the world via the same routes and nodes (Curtis and Riva, 2010). Transport infrastructures resonate with modernity, globalization and economic development, and have produced a vast and expanding literature. It ranges from studies noting the impressive character of transport hubs and networks forming part of the cultural heritage of cities and societies (Merriman, 2007) to studies concerned with sustainable transport systems designed for growing metropolitan regions (Banister, 2008). A further set of literature is inspired by the 'mobility turn' and focuses on the 'constructed fact of moving' (Cresswell, 2011, p. 550), the everyday practices of mobility,

and the ways in which transport infrastructures are inhabited, lived with and reproduced (Latham and Wood, 2015; Merriman, 2016).

‘Green infrastructures’ might be understood in a narrow way as gardens, cemeteries, pocket parks, green roofs and green walls in cities, but can also be seen as all kinds of green and blue spaces in urban regions, including forests, lakes and wetlands, parks, rural areas and brownfield sites. Indeed, the concept of green infrastructure has recently experienced a revival (Benedict and McMahon, 2006; Czechowski et al., 2015). For more than a century, this has constituted a key element of urban development and planning in industrialized societies in the global North (e.g. Benedict and McMahon, 2006; Hennebo and Schmidt, 1976; Howard, 1944) with the purpose of protecting ‘open spaces for recreation, reflection and relaxation’ (Benedict and McMahon, 2006, p. xiii), as well as providing economic subsistence and health care. Scholars and practitioners test the potential and implementation of green infrastructures for ecological, social and economic sustainability in increasingly polarized urban contexts, namely in shrinking cities (Rößler, 2010) – of particular relevance for cities in the post-socialist realm – as well as in growing urban regions (Momm-Schult et al., 2013). Moreover, these strands are linked to current debates on urban public space in general (Madanipour, 2003; Madanipour et al., 2014) and to forms of bottom-up appropriation such as urban gardening or temporary uses (see also Zupan and Büdenbender, this issue).

‘Housing as infrastructure’ refers to two aspects: first, to the technical equipment of housing with utilities involving energy, heating, water, sewage and telecommunication, and, second, to the wider residential area, including parking lots, playgrounds and waste management (Edwards and Turrent, 2000). Indeed, housing issues have received wide scholarly attention regarding the technical, institutional and financial challenges and solutions for modernizing and adapting various types of housing stocks, for example in terms of energy efficiency (Högberg et al., 2009) but also social and political aspects of retrofitting (Bouzarovski, 2015). Increasingly linked to questions of socio-spatial segregation (Bouzarovski et al., 2012, dealing with energy poverty and housing in the UK and Europe; Healy and Clinch, 2004), these approaches are discussed and tested in polarizing urban contexts, involving questions of infrastructural retreat (Moss, 2008) or the needs of growing urban regions (Libbe et al., 2010). Housing has been a prominent theme in cities in the post-socialist realm but the ways in which shifts in infrastructures have been interlinked with shifts in housing planning and governing deserves more attention (as elaborated in various chapters in this collection).

Infrastructures as socio-material: the force of the technical and its social production

The emphasis on the socio-material constructedness of infrastructure points out that materiality is not passive: hardware has manifold effects on the

individuals and institutions associated with it. Infrastructural obduracy is not simply ‘there’, but is achieved via *practices* (Geels, 2002) of repair and maintenance (Graham and Thrift, 2007) taking place in specific institutional settings. The persistence of, and change in, infrastructures may occur through many ‘small-scale, localised, or incremental processes’ (Latham and Wood, 2015, p. 303). Infrastructures are relational, in process and emerging in interactions (Cass et al., 2018, Coutard and Rutherford, 2016). At the same time, infrastructures are also produced, changed or maintained via strategically planned, complex interventions of state authorities and/or private enterprises, being the opposite of incremental, localized practices and having high potential for symbolism and normative settings. These practices are linked to institutions, in particular to legislative and executive public and political bodies and instruments. Lacking institutional structure, stability and effectiveness, however, may lead infrastructures to collapse. While institutional settings may foster the invisibility and obduracy of infrastructures (Furlong, 2010), given that universal access may be considered a civic entitlement, a lack of welfare-oriented institutional effectiveness might lead to the vulnerability of infrastructures, as has happened in many post-socialist cases.

So, one of the *effects* of infrastructures and related practices and institutions is their divisive character: infrastructures not only connect but also divide, both in planned and unplanned ways (Coutard and Rutherford, 2016; Högselius et al., 2013). While infrastructures become invisible (as Star, 1999 argues) to the better-off, they become painfully visible to those excluded from such urban amenities (Broto and Bulkeley, 2015). Infrastructures are always marred by inequalities in terms of access or proximity to harmful utilities for those with less money or political power (Tonkiss, 2013). These inequalities are increased by the fragmentation of infrastructural systems into premium services for some and regular services for the masses (Graham and Marvin, 2001). Infrastructures can be polarizing, between states and regions, within urban regions, and even globally between better-connected places and sidelined ones, particularly in the global South.

The building of socialism was in many ways a technological endeavour – demonstrated famously by Lenin’s dictum that Communism is Soviet power plus the electrification of the whole country. Technological potentials and limits deeply structured the Soviet society. Urban heating systems served workplaces and homes, and housing estates were built and connected by investment-heavy electric public transport lines – bearing significant consequences and causing new inequalities once the system collapsed.

Normative-symbolic significance of infrastructures

Apart from linking and socio-material effects, further social significance of infrastructures lies in their *symbolic and normative importance*. Not only are the material forms of infrastructures ideological – such as the grand

design of train stations in the heyday of rail travel – they also involve a wider set of ideas regarding society and the role of infrastructures within them. Modernization stands out as a process of infrastructural development, such as the provision of water utilities from the mid-19th century onwards. Besides providing running water, the aim was to develop clean and modern citizenship (Joyce, 2003). Today, as Dalakoglou and Harvey (2012) and Harvey and Knox (2015) show, such symbolic, ideological aspects of infrastructures prominently feature in road constructions. The powerful dream of tapping into Peru's tropical forests or connecting oceans by cross-continental roads were about new technological innovations and the capacities of government rather than technical questions of engineering (Harvey and Knox, 2015). Also in post-socialism, modernization and Europeanization have been conflated with road building, railway development and other large infrastructural projects (see also Plyushteva, this issue).

As one consequence, researchers have been interested in 'the affective and aesthetic qualities of the urban infrastructure' (Amin, 2014, p. 138) wherein 'public sentiments of progress, modernity and well-being' might become linked with buildings even if their functionality or material impact is not that important. Following Larkin, we can note 'the senses of awe and fascination' that infrastructures emanate, leading to various political effects. Instead of being 'merely functional', infrastructures are also enchanted (Harvey and Knox, 2012; see also Jovanović, this issue). We thus can apprehend the normative-symbolic significance of planned yet unbuilt infrastructures. They can have important effects on contemporary and future cities and their inhabitants. Motorways or railway projects may create new visions of cities and open up potential growth areas even before infrastructures physically appear (Thomas, 2013). Sometimes, infrastructure development is not about the technical aspects but about other spheres connected with government, such as companies acquiring access to political networks (Mbembe, 2001, cited in Larkin, 2013). Larkin claims that infrastructures are not merely 'infrastructures', but also 'as if...' they are infrastructures: 'material form' does not merely exist in itself but is 'transposed from a hollow tube to digits on a budget and words on a page' (Larkin, 2013, p. 335).

Consequently, infrastructures are not just things but reverberate in various other spheres of society. Infrastructure is thus a valuable conceptual lens for critical social research, in particular in urban contexts, because infrastructures are produced by and shape social practices and institutions, norms and discourses, and so reveal immaterial as well as material cleavages that emerge in societal transformations (Moss, 2014). Infrastructures are not background but formative, particularly so in the socio-spatial settings where they are most dense – that is, in cities (Amin and Thrift, 2017). Considering the interlinkages between continuity and changes in CEE and the FSU, post-socialism is a particularly prescient empirical and conceptual ground for thinking about urban infrastructures.