Cities 52 (2016) 66–78

Contents lists available at ScienceDirect

Cities

journal homepage: www.elsevier.com/locate/cities

Planning for sustainable mobility in transition cities: Cycling losses and hopes of revival in Novi Sad, Serbia

Vladimir Mrkajić [a,*], Isabelle Anguelovski [b]

[a] University of Novi Sad, Faculty of Technical Sciences, Serbia
[b] Universitat Autònoma. de Barcelona, Institute for Environmental Science and Technology (ICTA), Spain

ARTICLE INFO

Article history:
Received 26 January 2015
Received in revised form 15 October 2015
Accepted 30 November 2015
Available online xxxx

Keywords:
Sustainable mobility planning
Transition cities
Cycling planning
Public bike project
Urban mobility politics

ABSTRACT

The intensive urbanization and broader-scale motorization of cities in political and economic transition call for new research on how the political and socio-economic context of the transition has shaped sustainable mobility planning. Much remains to be learned on how changes to the political and economic landscape of transition cities have affected the development and consolidation of sustainable mobility planning and how municipal stakeholders involved in sustainable mobility planning respond to the changing nature of transitional cities — including market liberalization, economic growth, development pressures, and political restructuring. By using the case study of Novi Sad, Serbia, this paper examines a transition city with a long tradition of cycling infrastructure planning now facing frictions and setbacks with regards to sustaining and strengthening the cycling culture and infrastructure. Our findings reveal that the economic growth and the new regulations that accompanied the transition in the 1990s negatively impacted bicycling parking facilities and bicycling safety. The political transition also introduced a new planning practice and institutional arrangement that did not comprehensively consider daily cyclists' needs, yet recently allowed for new civic participation and adjustments to flagship cycling projects.

1. Introduction

1.1. Sustainable mobility planning

Sustainable mobility planning (SMP) is a relatively new approach that has developed in the past few decades in parallel to conventional transport planning approaches. Among its key goals, SMP requires the implementation of policy measures that will produce a modal shift towards non-motorized form of mobility (Banister, 2008; Page, 2005), highlighting cycling as one of the preferable modes of transportation in a new transport hierarchy (Meschik, 2012; Parkin, 2012). The rising academic and policy makers' interest in the role and potential of cycling in 'bringing sustainability' within unsustainable daily routines of short urban journeys is reflected in the numerous studies carried out on the topic in the last two decades. While predominantly concerned with the global north context, those studies have analyzed and assessed a range of factors associated with cycling, including infrastructure, built and natural environment, socio-demographic parameters, psychological factors, integration with public transport, safety, education, etc. (e.g. Duthie, Brady, Mills, & Machemehl, 2010; Fishman, Washington, & Haworth, 2014; Green, Steinbach, Datta, & Edwards, 2010; Heinen, van Wee, & Maat, 2010; Martens, 2007; Pucher & Buehler, 2008; Pucher, Dill, & Handy, 2010).

However, since transport, as Watson (2012) argues, represents a complex *socio-technical system* where change occurs through the dynamism of relations of its constituents across spatial and temporal scales, the transition towards sustainable mobility planning, and cycling in particular, requires an analysis that goes beyond understanding best practice in policy and individual behavior studies. This paper argues that, in order to make (local) transport systems more sustainable, it is also necessary to understand the development of planning activities and what influences and shapes planning processes and decisions, as these dynamics represent important constituents of transport planning practice and transport systems. However, to date, comparatively little attention has been paid to the intricacies and dynamics of cycling planning and the way in which broader political and socio-economic changes affect local cycling planning. This void is especially pronounced in the context of transitional (post-socialist) countries which are underrepresented in both the sustainable mobility literature in general and cycling literature in particular. We attempt to address these gaps by analyzing the changing fortunes of planning for cycling in the Serbian transitional city of Novi Sad.

1.2. Planning and urban change in transitional countries

Since 1989, the urban areas of former European socialist countries have undergone a significant restructuring process, moving rather in an unsustainable direction in relation to spatial structure, green space, urban transport and construction practice (Harloe, 1996; Hirt, 2013;

* Corresponding author.

http://dx.doi.org/10.1016/j.cities.2015.11.029
0264-2751/

Hirt & Stanilov, 2009). Policies that ultimately sought to encourage private investment saw a transfer of large amounts of central government power to new elites, private developers, and foreign companies and investors (Badyina & Golubchikov, 2005; Keivani, Parsa, & McGreal, 2001). This shift has significantly weakened the ability of public authorities to guide urban development and develop a cohesive fiscal capacity and strategy as part of urban revitalization programs. As a result, planning authorities have faced numerous challenges in tracking, guiding, and managing the innumerable and incremental transformations of the urban space, especially so in a climate dominated by deregulation (Stanilov, 2007a).

Such changes in urban governance together with the transformations of the urban space of post-socialist cities are manifestations of many political, institutional and socio-economic changes that occurred in short- and medium-term periods during the initial process of transition (Sýkora & Bouzarovski, 2011). However, while scholars have relatively easily tracked and evaluated the effects of various political, institutional, and economic factors on the countries' progress towards democracy and free market economy, it has been more challenging to assess the causes and impacts of urban space transformations, mainly because they represent longer processes that require a certain distance (Stanilov, 2007b). Only a decade or so after the beginning of the transition period has it become possible to observe and comprehend the rising trends of urban transformation and land use. For example, residential suburbanization has been one of the most visible processes of urban change in post-socialist countries, triggered by land privatization on the outskirts of cities, leading to a significant and uncontrolled sprawl (Borén & Gentile, 2007; EEA, 2006; Pichler-Milanović, Gutry-Korycka, & Rink, 2008) and new mobility patterns (Kährik, Leetmaa, & Tammaru, 2012; Krisjane, Berzins, Ivlevs, & Bauls, 2012). Also, scholars have researched the connection among economic transition, urban landscape changes, and local transport systems. For instance, Hirt and Stanilov (2009) observe that rapid economic growth strategies have contributed to skyrocketing rates of individual vehicle ownership, investment towards road construction and parking, and reduction in green areas and public space.

However, differences exist between countries in the nature and speed of transitional processes and in their impact on various policy domains and reforms (Tosics, 2005). In Serbia, the early transitional process of political pluralization and social-economic reform substantially differs from the accepted common paths of the majority of European transitional countries. Extreme events including the disintegration of former Yugoslavia, civil war, refugee movements, and the bombing of Serbia by NATO forces in 1999 postponed a reform process that eventually started in 2000 (Nedović-Budić, Djordjević, & Dabović, 2011). In the 2000s, Serbia managed to achieve a considerable material and institutional progress. However, this dynamic economic growth was not directed towards spatial and ecological sustainability and essentially resulted in "growth without development" (Vujošević, Zeković, & Maričić, 2010). For example, rapid economic growth strategies have contributed to a new urban transportation crisis, with increased air pollution, noise, congestion, and parking shortages as a direct result of skyrocketing rates of individual vehicle ownership (Bojković, Macura, Pejčić-Tarle, & Bojović, 2011; Kecman1, Antić, Babić, & Pavelkić, 2012; UNDP, 2010).

It is within this space, between the specific nature of the Serbian transition, common transitional processes of unsustainable local development, and much needed sustainable mobility planning, that this paper is situated. Our study responds to calls to examine in much greater depth urban space transformations in the context of political and socio-economic transitional reorganization. Greater scholarly attention must indeed be paid to the link between transitional changes and the practice of cycling, which was a traditional feature of many socialist cities, especially in Central Europe (Spencer, 2014). This research is particularly relevant in light of intensive urbanization and broader-scale motorization trends within post-socialist cities. Through the case study of the second largest Serbian urban area – Novi Sad, a growing city with a historic tradition of planning for cycling, — we ask how the political and socio-economic context of the transition has shaped sustainable mobility planning, especially cycling planning, and how local cycling stakeholders respond to the challenges that emerged during the transition. Our paper contributes to the understanding of the ways in which the political and socio-economic transition has affected and shaped local sustainability planning, especially cycling planning.

2. Methods

This paper examines the case of Novi Sad in Serbia, a critical case of a transition city with a long history and tradition of cycling infrastructure planning but now faced with frictions and setbacks with regard to sustaining and strengthening the cycling system and infrastructure, in the context of rapid urbanization and motorization pressures. The case of Novi Sad provides a rich set of observations about the relationship between an evolving political, institutional and socio-economic context on the one hand, and a variety of cycling planning and implementation activities on the other hand. Our paper uses a historical perspective to better understand the evolution of cycling over time and the intervening factors in promoting or dismantling the city's support for cycling and its related infrastructure.

Our data collection consisted of local planning documents, policy reports, and specialized journals and maps (i.e., from the library and the archive of the local Public Company for City Urbanization) in order to better trace and understand the evolution of cycling planning practice over time (see Table 1). We also collected all available data from local and regional media archives and from social network group discussions related to the local cycling planning and culture since those often included rich historical and user data on cycling in the city, on planning efforts and controversies, as well as testimonies from cyclists themselves on their experience and travel behavior in the city (which helped us to get a more nuanced picture on planning activities surrounding cycling). We also conducted 12 core semi-structured interviews with representatives and members of local municipal Departments directly involved in the process of cycling development in the city (see Table 2). In order to map out all of the relevant actors, we used a snowball sampling procedure, starting with local traffic planners directly involved in cycling planning activities and covering the entire landscape of involved stakeholders in sustainable mobility planning in the city. Initial interviews took place with staff members from the "City Urbanization" PC and the "Parking Service" PUC, who then referred us to other respondents.

In addition to interviews, based on one of the author's involvement in some of the planning and development activities related to cycling in Novi Sad (i.e., public debates, conferences, meeting between local

Table 1
Data sources on Novi Sad's cycling planning.

Type of document	Year/authors/source
Master plan (and associated maps)	1950, 1963, 1974, 1985, 2000
Traffic study (and associated maps)	1969, 1971, 1981, 1990, 1998, 2009
Specialized journal (Association of Novi Sad Architects Journal — DaNS)	1982–2015
Monograph (topics: Novi Sad's urban development; development of Novi Sad traffic systems)	Pušić (1987, 2009) Ozer, Marković, and Milićević (1991) Vukmanović (2000).
Images from The Historical Archives of Novi Sad	Official FaceBook page: "Historical.Archives.of.Novi.Sad"
Media archives[a]:	Youtube channel (key word: "bicikl")
RTV Vojvodina (regional TV)	Radio Televizija Vojvodine
TV Novosadska (local TV)	Novosadska televizija
TV Kanal9 (local TV)	Kanal9tvns

[a] We watched and analyzed informative broadcasts, TV debates on the local daily news, and interviews with cycling stakeholders, including local planners and engineers, activists, policy officers, police officials, and local residents. We analyzed data in relation to the cycling infrastructure (i.e. repair or building of new bicycle paths; installation of bicycle racks, and creation of bike sharing systems), bicycle theft, cyclist safety, and conflicts between cyclists and other road users.