



Public transport planning in a spatially segmented city: The case of Jerusalem



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1. Introduction

Transport planning seems uniform. Similar models with similar assumptions are widely applied, to achieve similar goals (Black, 1981; Banister, 2002; Manheim, 1979). While these goals have changed over time, the changes in the dominant discourse and practice have also taken a similar tack across settings. These apparent similarities lead professionals to suggest that planning practices can be transferred from one locale to another. And, indeed, practices are transferred, whether due to common transport planning processes, or to the hiring of international consultants who broadly offer the same approach in multiple contexts. However, if the locales are basically different, then the transferability of concepts needs to be critically discussed, particularly as empirical studies show that policies advocated by professionals are rarely transferred (Pojani and Stead, 2015). This is particularly true in the case of public transport due to the wide variety of options available and the need to tailor supply to city attributes (Brunn et al., forthcoming).

While it has been recognized that travel markets are segmented, these segmentations are either determined by type of trip and socio-demographic factors (Nicolaidis et al., 1977), to which life style choices can be added as an upper choice level (Salomon, 1983), or through the clustering of attitudes (Anable, 2005; Steg, 2005; Li et al., 2013). Models allowing for such segmentations are widely used to forecast long-term demand and generate scenarios, as a basis for multi-modal transport planning. These assumptions and structures may seem adequate for most cities. However, in some cases, mostly in non-western cities, housing markets are segmented spatially on ethnic or religious grounds. In this paper we ask to what degree such spatial segmentation should affect transport planning, focusing on public transport.

Following Desbarats' (1983) argument that spatial choice is constrained by cultural, political and institutional circumstances, Feitelson (1993) has suggested a hierarchical segmentation approach to residential choice. The upper tier in this segmentation structure is societal constraints, which are the outcomes of long-term historical processes. Though such constraints may not be viewed as legitimate in most Western cities, they are evident in many non-western cities (Eisenstadt and Shachar, 1987; Nightingale, 2012).

Jerusalem is perhaps an extreme case of residential and travel market segmentation. It is comprised of three different 'cities',

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which partially overlap in space. The first ‘city’ is the Jewish-Zionist city; the second is the Palestinian city and the third city within Jerusalem is the Jewish Ultra-Orthodox (JUO) city. A fourth city, the global-tourist city, is also evident in Jerusalem, but is not discussed in this paper. While the specific delineation of these cities is unique, Jerusalem can be seen as representative of other non-western cities where ethnic and religious tensions create highly segmented urban spaces and travel markets.

At present the transport discourse gives high precedence to public transport. Yet the planning of public transport systems largely follows the ‘normal’ structure and sequence of transport planning, in essence striving to respond to demand patterns (Quadrifoglio et al., 2008; Molander et al., 2012). In recent years particular emphasis has been placed on integrating transport systems, both across modes and with land use, in order to facilitate and encourage the use of public transport (Givoni and Banister, 2010). However, in cities with spatially segmented travel markets there may be tradeoffs between integration and responsiveness of public transport systems to demand patterns. To attract riders public transport should be responsive to the travel needs of different segments of the population. But spatially fragmented demand patterns may reduce the feasibility of public transport integration, as different segments may have widely divergent travel patterns.

In this paper we analyze the implications of spatial market segmentation for public transport planning. Particularly, looking at Jerusalem we analyze the ability to integrate public transport systems while being responsive to different societal segments that differ also in their ability to express demands. Specifically, we ask: to whom do services respond and how responsiveness differs across groups when a seemingly integrated public transport system is introduced with different options to “exit” the service. By “exit” we mean the extent to which different group are captive users and have no ability to choose other travel option and therefore exit the service.

To this end, we begin by reviewing the responsiveness of public transport in segmented markets relating to both captive and choice users of public transport (i.e., public transport users that have no other mobility and therefore called captive versus public transport users that do have other mobility option and still choose this option). Next, after a brief background regarding Jerusalem, we outline the public transport system there. Then we follow with a discussion regarding the introduction of a light rail based seemingly integrated public transport system into the city, and the implications and issues it raises for the various ‘cities’ of which Jerusalem is comprised. On this basis the relationship between integration and market responsiveness in spatially segmented cities is assessed and some general insights are derived regarding the politics underlying integration attempts in such settings.

2. Responsiveness of public transport in segmented markets: a brief review

Enhancing public transport patronage is a longstanding transport policy goal, not least due to its perceived contribution to the advancement of sustainable transport concepts (Santos et al., 2010; Newman and Kenworthy, 2015). Public transport is seen as both socially and environmentally advantageous (Boschmann and Kwan, 2008; Litman and Burwell, 2006). Effective transit is also viewed as essential for more compact development patterns, which are largely deemed more effective and efficient (Newman and Kenworthy, 1989).

In order to enhance public transport use it has been argued that public transport has to be responsive and market oriented¹ (Molander et al., 2012). It has also been recognized that in order to be responsive, public transport planning has to take into account market segmentation (Quadrifoglio et al., 2008). This is particularly true for choice users, as they have alternatives and hence need to be wooed away from other options they have (mainly the private car). Therefore, their needs and concerns have to be identified and addressed (Abou-Zeid and Ben-Akiva, 2012; Curtis and Headicar, 1997). Thus, one basis of segmentation is between choice and captive users (van-Lierop and El-Gnaidi, 2017). Captive public transport riders are usually defined as not having alternative transportation choices, either as a result of physical, economic or societal inaccessibility (Jacques et al., 2013).

Using Hirschman’s (1970) distinction between “exit, voice and loyalty”, captivity can be seen as inability to exit the existing public transport system. Hirschman offered two strategies that individuals can adopt when facing deteriorating services: *exit* (stop using the services), or *voice* (trying to change the services or policies). A third possible strategy is *neglect* (Rusbult et al., 1982), reflecting a passive response to dissatisfaction and distrust. Captive users can only voice or neglect, as they do not have an exit alternative. Choice users, on the other hand, also have the option of exiting the current public transport service by using a private transport mode or, where possible, by choosing a different public transport mode or a different public transport operator. If market oriented service and responsiveness is geared towards increasing ridership by attracting choice users, integrated public transport strategies are likely to be geared to their needs.

The most common basis for segmentation of market demand is according to a-priori determined socio-demographic variables (White, 2008). Upper-level long-term lifestyle levels can be added to this as lifestyle choice structures, and hence frames, daily procedures (Salomon, 1983). Alternatively, segmentation that is based on attitudes can be used (Anable, 2005; Li et al., 2013; Kandt et al., 2015). However, the implications of the upper-most tier market segmentation identified by Feitelson (1993) in the housing market (structural segmentation according to ethnicity, race and similar factors that spatially divide the housing market) has not been explored in the public transport field. As in such spatially segmented markets travel patterns may differ too, a responsive public transport system has to address the needs of all the ethnically/religiously/racially differentiated segments. However, as in such cleavage societies there are often wide discrepancies in power, responsiveness aimed at organized communities or groups with

¹ The term Market orientation is used in two different contexts. First it may refer to system that operate along free market incentives in contrast with regulated market. Second, it may refer to a type of service that is geared to its customers and make efforts to respond its costumers needs. Clearly, these are two different concepts that do not necessarily coexist. In this paper we refer to the second concept, namely, responsive system.

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