

Chapter 9

User Characteristics of Transit Oriented Developments: The Case of Kelvin Grove Urban Village

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ABSTRACT

Transit oriented developments are high density mixed use developments located within short and easily walkable distance of a major transit centre. These developments are often hypothesised as a means of enticing a mode shift from the private car to sustainable transport modes such as, walking, cycling and public transport. However, it is important to gather evidence to test this hypothesis by determining the travel characteristics of transit oriented developments users. For this purpose, travel surveys were conducted for an urban transit oriented development currently under development. This chapter presents the findings from the preliminary data analysis of the travel surveys. Kelvin Grove Urban Village, a mixed use development located in Brisbane, Australia, has been selected as the case for the transit oriented developments study. Travel data for all groups of transit oriented development users ranging from students to shoppers, and residents to employees were collected. Different survey instruments were used for different transit oriented development users to optimise their response rates, and the performance of these survey instruments are stated herein. The travel characteristics of transit oriented development users are reported in this chapter by explaining mode share, trip length distribution, and time of day of trip. The results of the travel survey reveal that Kelvin Grove Urban Village users use more sustainable modes of transport as compared to other Brisbane residents.

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INTRODUCTION

The travel characteristics of people living in urban areas have changed rapidly over past decades. There are a large number of people relying on car as their main mode of transport for their daily travel. The high reliance on car causes higher trip lengths, and this increases the time spent travelling from one destination to another. Generally, public transport as the main alternative has not been preferred because it is not seen to be convenient. Until recently, it was common for Government to construct more roads; however, considering the increasing levels of congestion and, in turn, environmental impacts, Governments now realise that people need to be shifted from car to other modes, particularly public transport which, if operated properly, has a higher productive capacity, especially during commuting peaks.

For this purpose, many new urban developments are planned as Transit Oriented Developments (TODs). These developments require placement of various mixed land uses, together with a high quality transport infrastructure for walking, cycling and public transport without neglecting private vehicle infrastructure. In addition to transportation benefits, these developments are assumed to demonstrate economic, environmental, and social benefits. Due to the atypical TOD development characteristics, TODs are seen as sustainable developments. These sustainable developments meet personal needs while preserving the environment so that these needs can be met not only in the present, but also in the future. Sustainable transport is an inevitable aspect of TODs. By mixing land uses, TOD planning places various origins and destinations close to each other. This is designed to reduce vehicle trips, to increase the likelihood of use of non car modes, and to reduce trip lengths. This chapter explores the transportation aspect of TODs.

The mixed land uses at a TOD may vary from residential to recreational, and from educational to office land uses. The involvement of various land

uses provides space for the interaction to various groups of TOD users in a relatively small space. Hence, the travel characteristics of a TOD can be specified for two groups of TOD users: residents and visitors. The people living in a TOD are termed as 'residents' and people travelling to a TOD for different purposes are termed as 'visitors'. Due to the presence of good quality sidewalks, cycling facilities and frequent public transport service, residents of these developments are assumed to have more sustainable travel patterns compared to people living in a conventional development. The next section summarises the previous studies undertaken to assess the travel characteristics of TOD users to provide the knowledge background for the current study.

BACKGROUND

The data from the 1985 American Housing Survey was used to study the commuting choices of residents for retail activities. It was found that the presence of nearby commercial land uses is associated with short commuting distances for the residents of a mixed-use neighbourhood (Cervero, 1996). Using the results of a home interview survey, Tong and Wong (1997) describe the land use and transport characteristics of a high density, mixed land-use, linear urban development located along the northern shore of Hong Kong Island. Major comparisons were done for car ownership and mode choice, trip rate, trip time, and self-containment. The development was shown to have four advantages: economy in land utilization, less road space, commercially viable public transport and high accessibility for residents, in spite of a low private car ownership rate. A study of parking requirements for six traditional shopping districts in the Oakland-Berkeley subarea shows that the reduction in parking and transportation fees is misguided for TODs because of higher attraction rates of shopping trips from adjacent suburbs as these shoppers drove to shopping centre and because

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