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Retail Precinct Management: A Case of Commercial Decentralization in Singapore

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Abstract

This paper reviews the logistics challenges of a decentralization strategy in Singapore. The main purpose of an urban decentralization, where the commercial hubs and retail clusters are distributed in several regional centers is to relieve congestion from the city center and to move business closer to home. However, this approach can also create congestion in regional centers due to the rapid flow of public, private and freight vehicles in and out of regional centers. This paper identifies three major challenges and proposes Retail Precinct Management (RPM) which consists of four inter-related components to overcome these challenges.

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1. Introduction

Commercial decentralization is an urban concept that is often used as a land use policy to encourage a better balance between the number of residents and workers, to minimize work travel costs, and to allow companies to utilize labour

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resources in sub-urban locations (Malone-Lee et al. 2001). The decentralization development strategy in Singapore was introduced in the 1991 Concept Plan to guide future land use (Urban Redevelopment Authority 1991, Wong and Yap 2004). It diffuses commercial activities to a series of regional centers where each center covers up to 1.5 million m² of commercial space with approximately 50% of that taken up for commercial use. As illustrated in Fig. 1, there are four regional centers proposed: Tampines in the East, Seletar in the Northeast, Woodlands in the North and Jurong East in the west. In this paper, we focus on the largest regional center: Jurong East which is developed as a new growth area Jurong Lake District (JLD).

JLD covers 360 ha of land and is envisioned to provide at least 500,000 m² of office space, 250,000 m² of retail, F&B and entertainment space, 2,800 hotel rooms and a number of edutainment attractions (Urban Redevelopment Authority 2012). It comprises two district precincts: Jurong Gateway (JG) and Lakeside. JG focuses as a commercial hub whereas Lakeside focuses as leisure.

As a key commercial precinct and also a retail cluster in the west of Singapore, JG generates the bulk of transportation flows for many important activities: commuter traffic, retail distribution/logistics traffic, and visitor traffic for different amenities. JG currently has 5 shopping malls with more than 690 retail shops with an expected numbers of daily visitors of more than 150,000 and daily deliveries more than 550. JG also has a neighborhood center containing a number of markets, shops, eating houses and market stalls.

These conditions create high density of urban logistics activities which naturally prone and highly sensitive to traffic congestion, especially when both freight and people are channeled into the area, causing negative externalities to all stakeholders. One most obvious impact of negative externalities is the traffic congestion which result in the increased travel time. The average travelling time to go to work for working person in Singapore in 2005 and 2010 (Department of Statistics 2006, Department of Statistics 2011) is increased by more than 20% in each range of time. The highest increase is on private vehicles that travel more than 60 minutes (up by 75%).

In (de Souza et al. 2013), a collaborative urban logistics concept was proposed to improve last-mile delivery operations for reducing traffic congestion. This paper is an implementation of our concept in a retail cluster such as JG. More precisely, we introduce the concept of retail precinct management to improve the efficiency of JG logistics activities.

We conduct our study in two stages: (1) identify of urban logistics challenges in JG; and (2) propose a concept of retail precinct management to improve the efficiency of JG logistics activities. We conducted a group discussion with manufacturers, their suppliers and logistics service providers, agencies and academics to identify key challenges in JG (The Logistics Institute Asia Pacific 2014a). Following that discussion, we conduct a field study involving a non-participation observation, questionnaires and semi-structured interviews (The Logistics Institute Asia Pacific 2014b).

From our findings in this study, we propose the concept of Retail Precinct Management (RPM). RPM consists of four inter related components: (1) urban logistics activities visualization and analytics, (2) multi-party loading dock coordination, (3) real-time delivery with multi-objective optimization and environmental impact considerations and (4) in-mall delivery consolidation.

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