Logistics Systems for Sustainable Cities
Proceedings of the 3rd International Conference on City Logistics
(Madeira, Portugal, 25-27 June, 2003)

BREWER, BUTTON & HENSHER (eds.) Handbook of Logistics and Supply-Chain Management

GIFFORD Flexible Urban Transportation

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Logistics Systems for Sustainable Cities

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INVESTOR IN PEOPLE

PREFACE

Following the First and Second International Conferences on City Logistics that took place on 12th – 14th July 1999 in Cairns, Australia, and in Okinawa, Japan on 27th – 29th June 2001, the Institute for City Logistics organised the Third International Conference on City Logistics in Madeira, Portugal on 25th – 27th June 2003.

Urban freight transport has become an important issue in urban planning. There are many challenges and problems relating to increasing levels of traffic congestion, environmental impacts and energy conservation. In addition, freight carriers are expected to provide higher levels of service with lower costs. To address these complicated and difficult problems, numerous city logistics schemes have been proposed and implemented in several cities, including: co-operative freight transport systems, advanced information systems, public freight terminals and the regulation of load factors. City logistics schemes are relatively new concepts that are aimed increasing the efficiency of urban freight transport systems as well reducing traffic congestion and impacts on the environment. However, new modelling, evaluation and planning techniques are required to conduct in-depth investigations before city logistics schemes can be effectively deployed.

This proceedings book includes recent developments in the modelling, evaluation and planning of city logistics schemes. Since city logistics schemes have already been implemented in several cities, a review of the performance of these schemes was presented and discussed. As well, an overview of the visions for city logistics and public private partnerships for city logistics was given.

Recent developments in ICT (Information Communication Technology) and ITS (Intelligent Transport Systems) allows the efficiency of freight transport systems to be improved. ICT and ITS applications can integrate components for more efficient urban freight transport by private companies with transport policies oriented towards better urban environments promoted by the public sector. Therefore, ICT and ITS have good potential to promote public private partnerships for solving urban freight problems.

We believe that this proceedings book covers wide range of important features of city logistics. It will help researchers, students and administrators to understand the current status of urban freight transport issues, models, evaluation methods and planning. We hope that the ideas and perspectives contained in this book will encourage people to research and implement schemes for creating more efficient and environmentally friendly logistics systems for sustainable cities.

The Institute for City Logistics (http://www.citylogistics.org) has been active in undertaking research and development, organising conferences, workshops and short courses as well as publishing books in the area of city logistics. The Institute provides a platform for promoting exchanging knowledge, applying the new ideas and methods in modelling, evaluating and planning city logistics schemes. The Fourth International Conference on City Logistics will be organised by the Institute in 2005.

We would like to express our heartiest appreciation to all the authors of papers submitted to the conference for their contributions and to the members of organising committee for their help in organising the conference.

Eiichi Taniguchi
Russell G. Thompson
October 2003

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VISIONS FOR CITY LOGISTICS

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ABSTRACT

This paper presents visions for city logistics that are required to set targets of the activities that can be achieved using city logistics schemes. Our visions for city logistics consider three pillars that are guiding principles: (a) Mobility, (b) Sustainability and (c) Liveability. These three pillars are supported by goals that brace the structure of the visions, comprising: (a) Global competitiveness, (b) Efficiency, (c) Environmental friendliness, (d) Congestion alleviation, (e) Security, (f) Safety, (g) Energy conservation and (h) Labour force. This paper discusses various features associated with urban freight transport issues to create mobile, sustainable and liveable cities. It concludes that there are a number of promising schemes that have the potential to fully realise the visions of city logistics, including: (i) Establishing effective partnerships between key stakeholder groups, (ii) Implementing information and communication technology and intelligent transport systems, (iii) Promoting corporate responsibility, (iv) Incorporating urban freight transport as an integral component of urban planning.

INTRODUCTION

Why are visions necessary?

This paper will present visions for city logistics. Why do we need visions? We have already given the definition of city logistics in the 2nd International Conference on City Logistics in Okinawa, Japan as:

"City Logistics is the process for totally optimising the logistics and transport activities by private companies with support of advanced information systems in urban areas considering the traffic environment, the traffic congestion, the traffic safety and the energy savings within the

framework of a market economy" (Taniguchi *et al.*, 2001)

This statement gives us a conceptual idea of what is city logistics. However, in order to establish efficient and environmentally friendly urban logistics systems through the process of city logistics, we need visions for city logistics.

First of all, it is necessary to set targets of the activities that can be achieved using city logistics. In this context we would like to consider three pillars as shown in Figure 1:

(a) Mobility
(b) Sustainability
(c) Liveability

Mobility is a basic requirement for transporting goods within as well as into and from urban areas. Reliable road, rail and other modal network are essential in terms of connectivity and travel times. Providing enough road network capacity and alleviating traffic congestion is always important in the agenda of urban traffic management. In particular this is vital for urban freight transport, since many of freight carriers have to meet severe time windows set by customers within the framework of Just-In-Time transport systems.

Sustainability has become more important, since people are concerned about environmental issues including air pollution, noise, vibration and visual intrusion. Large freight vehicles are often the source of these negative environmental effects. Therefore, minimising the negative impacts on the environment by trucks is an important issue to be addressed when managing urban freight transport systems. As well, minimising energy consumption is required to ensure a sustainable city.

Liveability should be taken into account when planning urban logistics systems. Residents in urban areas enjoy the benefits of buying wide variety of commodities based on urban delivery systems to retail shops or even directly to homes. But they are also concerned about traffic safety and environment in community, which may be threatened by heavy commercial vehicles travelling within and near residential areas.

Therefore, the visions for city logistics is to create a mobile, sustainable and liveable city by supplying necessary goods for activities and collecting goods that are produced in the city as well as minimising negative impacts on the environment, safety and energy consumption.

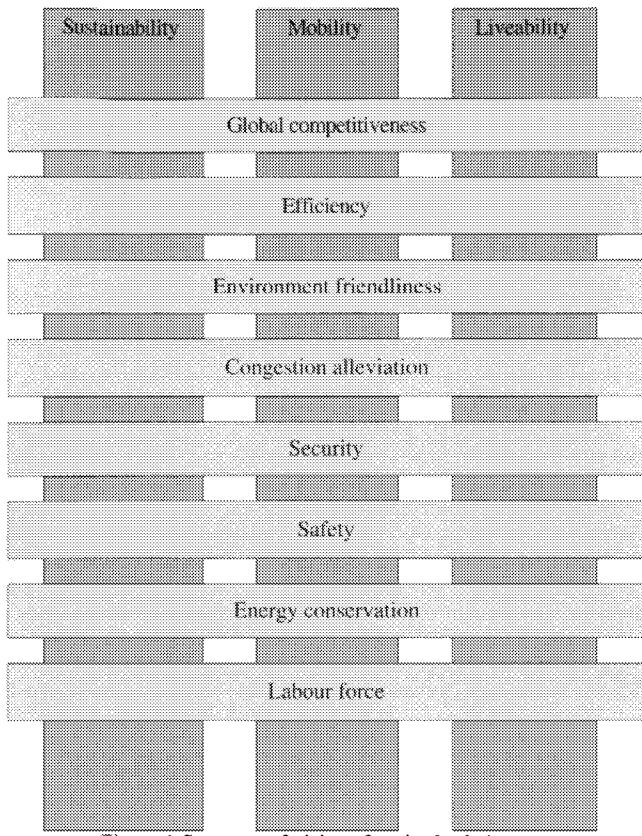

Figure 1 Structure of visions for city logistics

As Figure 1 indicates, mobility, sustainability and liveability are three pillars of the visions for city logistics. They are supported by goals that brace the structure of the visions, comprising:

(a) Global competitiveness
(b) Efficiency
(c) Environmental friendliness
(d) Congestion alleviation
(e) Security
(f) Safety
(g) Energy conservation
(h) Labour force

The pillars are the guiding principles of city logistics. They represent the philosophy of city logistics. The pillars provide the strategic basis for planning and managing urban goods movement systems. Goods movement has a strong influence on the sustainability, mobility and liveability within urban areas. City logistics embraces these planning principles and strives to enhance them.