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Reda, Abel Kebede; Gebresenbet, Girma; Tavasszy, Lori; Ljungberg, David

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Review

Identification of the Regional and Economic Contexts of Sustainable Urban Logistics Policies

Abel Kebede Reda [1,*], Girma Gebresenbet [1], Lori Tavasszy [2] and David Ljungberg [1]

[1] Department of Energy and Technology, Swedish University of Agricultural Sciences, P.O. Box 7032, 750 07 Uppsala, Sweden; Girma.Gebresenbet@slu.se (G.G.); David.Ljungberg@slu.se (D.L.)
[2] Faculty of Technology, Policy and Management (TPM), Delft University of Technology, Jaffalaan 5, 2628BX Delft, The Netherlands; L.A.Tavasszy@tudelft.nl
* Correspondence: abel.kebede.reda@slu.se

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Abstract: Urban logistics policies have become instrumental in achieving sustainable transport systems. Developing and emerging countries still lag far behind in the implementation of such policies when compared with developed countries. This exposure gap provides an opportunity for policy transfer, but this is a complex process requiring knowledge of many contextual factors and involving multiple steps. A good understanding of those contextual factors of measures by cities may be critical for a successful transfer. Our study aimed to identify the different contexts of urban logistics measures or policies worldwide and to assess their significance for policy transferability. In this study, urban logistics measures discussed in the literature were retrieved with a systematic literature review method and then the contexts were recorded, distinguishing between economic development levels and geographical regions. The analysis revealed that the economic level and geographical location of cities both have a strong association with the type of measure implemented. Barriers and drivers were identified by assessing policy transfer between developed and developing countries. Institutional and physical barriers appeared to be highly pertinent for a range of measures, while drivers or facilitators were identified from specific problems in developing countries and the respective measures in developed countries. Thus, the analysis of contextual factors can provide a first response to the key challenges and opportunities of sustainable urban logistics policies transfer to developing countries.

Keywords: urban logistics; city logistics; sustainable policies; developing countries; policy transfer; policy adaptability

1. Introduction

Today, more than half of the world's population resides in urban areas [1]. The increase in urban population and continued economic growth create a necessity for advanced urban logistics (UL) schemes [2]. These schemes help to sustain and maintain the urban way of life but also impose a range of external impacts in terms of congestion, air pollution, accidents, and noise [3]. Several trends drive the need for urban logistics, such as the rise of e-commerce and the sharing economy, the desire for speed in supply chains, and increased attention to sustainability [4]. Freight transport in urban areas is inherently complex, due to its multiple stakeholders, often with conflicting stakes [5], intricate routing patterns, and diverse goods types [6]. Urban logistics as a discipline specializes in coping with the sustainability problems encountered in urban freight transport [7]. The adoption of measures or policies that promote sustainability is thus essential [8].

Urban logistics challenges differ between cities in different regions of the world. For instance, cities in developed countries exhibit rapid changes, with lower store inventories and just-in-time (JIT) supplies to businesses, a significant increase in the type and variety of products on the market with the

rise in the service economy, and more frequent and customized deliveries [9]. In contrast, developing countries are shifting towards more small-scale manufacturing in homes or small high-tech parks, creating a need for transport services. The diversity of urban logistics is even more evident when comparing cities worldwide [10]. Specifically, many European cities give priority to the protection of residents from noise and preservation of historic town centers, whereas developing countries focus on mitigating congestion and air pollution and enhancing the serviceability of urban centers [11].

Apart from differences in focus, cities at different levels of economic development also differ in their level of adoption of urban logistics measures. Emerging economies, such as China, India, Mexico, Chile, and Brazil, among others, are at an earlier stage of urban logistics development than more developed countries, such as France, the Netherlands, and Japan [12]. Moreover, the Middle East and Africa show less uptake of urban logistics measures than cities in developed economies [13]. Therefore, the transfer of measures as policy best practices based on experiences is required to narrow the exposure gap between cities at different economic levels.

In the political science literature, policy transfer is defined as "a process in which knowledge about policies, administrative arrangements and institutions in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place" [14]. Policy transfer involves a range of specific needs and targets/objectives, but public organizations often look outside in search of promising solutions to address new and complex policy problems [15]. Practical transfer of policies can take various forms, from direct copying to taking inspiration from successful policies in other countries/states and transferring broad ideas [16].

Policy transfer or policy diffusion has been described as lesson-drawing, following one of five alternative transfer pathways: copying, emulation, hybridization, synthesis, and inspiration [17]. In contrast to copying and inspiration, emulation refers to adaptation that permits adjustment to programs already in effect. Hybridization combines recognizable elements of programs from two different places, while synthesis extends hybridization by combining elements from more than two places.

Transferability of policy does not simply refer to an individual technical or operational feature of instruments, but rather to how a series of policy instruments may fit to solve a problem within the context of the recipient city [18]. New solutions are sought either by looking at how the problem was dealt with in the same place in the past or by examining how the problem is (or has been) dealt with elsewhere. The ultimate goal is not simply to confirm that policy transfer has occurred, but also to evaluate whether it can facilitate better policy outcomes and under what conditions this can be achieved [19]. In the transport domain, policy transfer has been deemed a useful concept in terms of policy development, relations with stakeholders, scheme design, and administrative approaches [20].

In general, the transport domain is showing a growing interest in theory and practice [21]. City-to-city policy transfer is an active process but, according to Marsden et al. [22], not enough is known about its benefits or the conditions for success. Identification, analysis, and uptake of urban transport policy ideas, concepts, or instruments from elsewhere are subject to a range of different influences, including political, professional, institutional, economic, and social [23]. Understanding the context of dependencies associated with measures, standardized barriers, and drivers is reported to be the main precondition for the transfer of urban logistics policies [18]. Successful transfer to the target city depends strongly on an accurate understanding of the favoring contexts. Although there has been mention of policy transfer in the urban logistics literature [21], to our knowledge there has been no thorough review of existing literature on the issue. The aim of this study was to analyze the contexts of urban logistics measures or policies worldwide and to assess their significance for policy transferability. Thus, to achieve its aim, this study answers the following research questions:

What are the contexts of sustainable urban logistics policies worldwide with regard to economic development level and geographical region?

Can those contexts be used to identify barriers and drivers for the transfer process?

The remainder of the paper is structured as follows. Section 2 describes the research methodology used in the analysis, Section 3 presents the results obtained, and Section 4 discusses the main findings. Section 5 provides some concluding remarks.

2. Materials and Methods

The process of policy transfer involves a range of variables and multiple steps. The most common extensive framework, by Dolowitz and Marsh [24], comprises key policy transfer components and seven questions: (1) What is transferred? (2) Why do actors engage in policy transfer? (3) Who are the key actors involved in the policy transfer process? (4) From where are lessons drawn? (5) What are the different degrees of transfer? (6) What restricts or facilitates the policy transfer process? Finally, (7) how is the process of policy transfer related to policy "success" or policy "failure"? Addressing these questions provides a clear and complete picture of the feasibility of policy transfer. Several studies have applied the framework in the transport domain [19,21,22,25,26].

Macario and Marques [18] suggest a 10-step logical framework for the transfer of urban mobility measures which is capable of addressing the seven questions (Figure 1). Their framework sets the sequence and interrelations between various steps, to identify the potential for a successful transfer.

The work in this study was organized into four stages (I-IV), to cover the contextual variability in sustainable urban logistics policies around the world, and linked to five steps in the 10-step framework, as illustrated in Figure 1. Knowledge of the contexts of urban logistics measures can be useful input to cities when establishing the main problem/s (Step 1), looking for similar contexts (Step 4), and deciding on the practices to be adopted (Step 5). Identification of barriers and drivers specifies the particular assessment points of the measure(s) (Step 8) and provides insights when adjustments are required (Step 9).

2.1. Stage I: Retrieve Relevant Urban Logistics Measures from the Literature

The urban logistics literature is currently showing a steep increase in terms of both the number of studies performed and the diversity of discussion topics [5,27–29]. The challenge of retrieving representative results from existing studies can be simplified by applying a systematic literature review (SLR) method, which uses well-defined and rigorous criteria to identify existing studies and select contributions to further analyze and synthesize [30,31]. A step-by-step SLR approach was used here to retrieve relevant articles.

Keywords with the general term "urban logistics" (or other synonyms such as city logistics, urban delivery, urban freight transport, urban goods transport, urban goods distribution, urban goods delivery, last-mile logistics, and last-mile delivery) and the specific terms "measures" or "solutions" were combined with Boolean logic to formulate the search string. Two databases were searched, Scopus and Web of Science Core Collection, with the search restricted to peer-reviewed journal articles in the English language published after the year 2000. Relevant articles were retrieved from the database search and the duplicates of similar articles were removed from the search results. Then, inclusion/exclusion criteria were applied through abstract and content analysis to filter articles with the focus on sustainable urban logistics measures.

2.2. Stage II: Filter the Measures into Regional and Economic Development Categories

The retrieved and selected urban logistics measures were categorized based on geographical/regional location and economic development class of the source. The source of urban logistics measures in the papers reviewed was set as the country of the case study (if applicable) in the first instance, and then affiliation of the first author. The regional categorization followed the six continents (Africa, Asia, Oceania (including Australia), Europe, North America, and South/Latin America, with Antarctica excluded since it has no permanent human habitation).

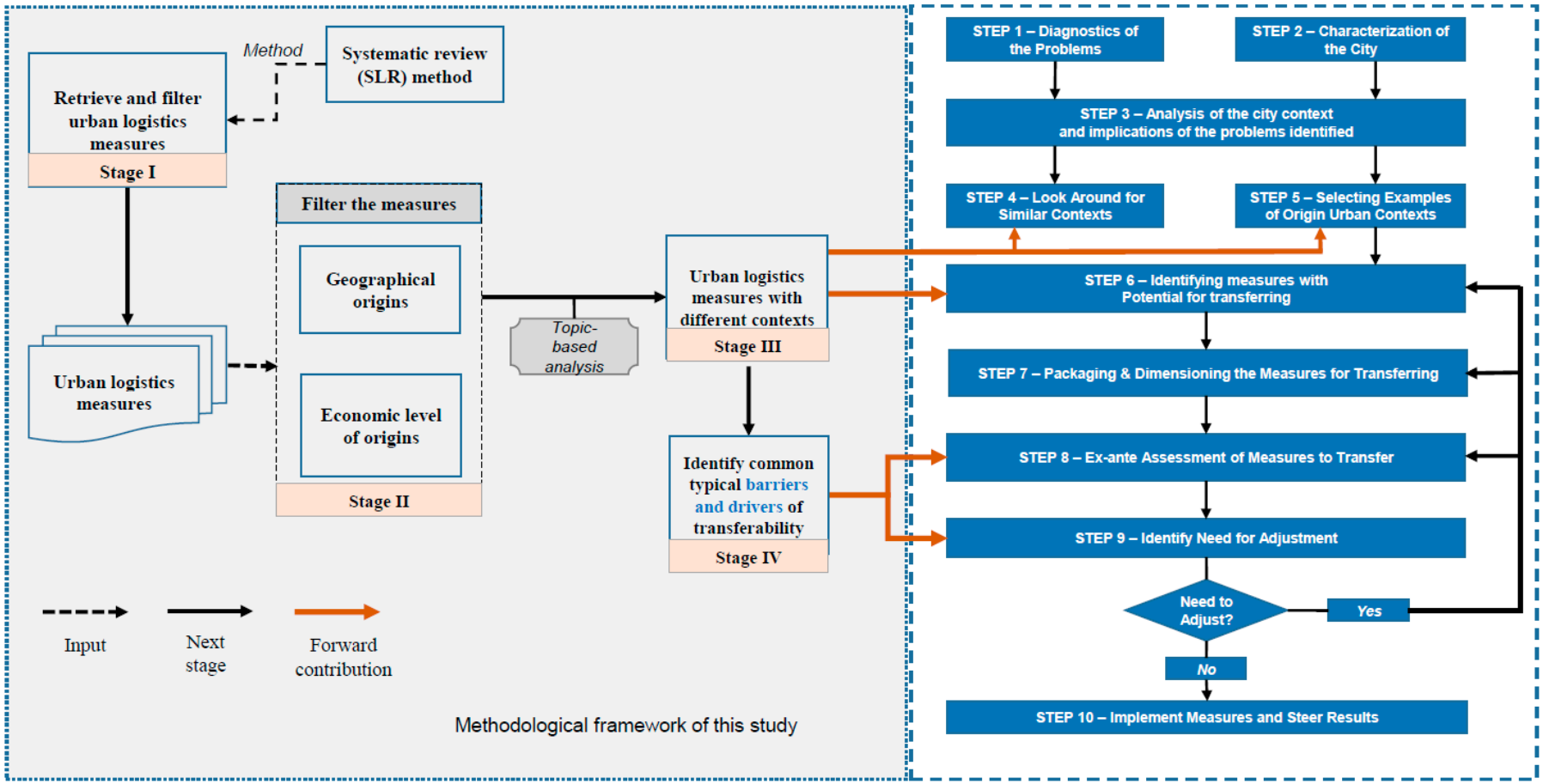

Figure 1. (Left) Methodological framework applied in this study, based on the 10-step logical framework devised by Macario and Marques [18].

The economic development categorization was based on a United Nations [32] report that divides countries into three broad categories: developed economies, economies in transition, and developing economies. Here, emerging market economies were considered as the fourth category in the discussion of the results. Emerging market economies are striving to become advanced and are generally on a more economically disciplined track. However, no universal consensus has yet been reached on exactly which countries qualify as emerging market economies. Different financial institutions have made up lists, including the International Monetary Fund (IMF), Dow Jones and Russell, and Morgan Stanley Capital International (MSCI)'s Emerging Market Index [33]. The MSCI list is the most comprehensive, comprising 26 countries, all of which were selected for this study (Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates). Therefore, four economic development classes were recognized in this study: developed economies, emerging economies, economies in transition, and developing economies. Countries such as the Czech Republic, Greece, Hungary, and Poland, which can be categorized as both developed and emerging economies, were considered to be developed economies in this study.

2.3. Stage III: Establish the Contexts of the Measures with the Categories

The next stage involved two main tasks, identifying the main topics addressed and then distinguishing the contexts of the measures. Topic identification followed the method/approach used by Lagorio et al. [34], setting the dominant theme of measures or policies in the papers with the main emphasis on their application areas. Topics refer to the type of solution(s) being discussed in the article as recognizable by the title, keywords, or abstract. This approach is flexible in allowing multiple topics per article, which helps to attain broad visualization in establishing the contexts.

The inclusion of more factors in the analysis of contexts improves the credibility of policy transfer [16]. The task of distinguishing contexts was carried out using the topics identified as a basis and outlining three components of the papers reviewed:

- The main objective/research problem stated;
- The methodology used to attain the objective or solve the problem;
- Related considerations connecting the above two (objective–method combinations).

Each topic corresponded to at least one context. The contexts indicated the level of uptake of measures through their variability for each category.

2.4. Stage IV: Identify Barriers and Drivers in the Transfer of Measures between Contexts

Identification of barriers and drivers can facilitate the adoption of policies or measures between different economic development and geographical categories which exhibit different levels of exposure to urban logistics. Barriers are factors that undermine the success of policy transfer in the recipient city, while drivers are enablers or motivating factors/conditions or facilitators in the policy transfer. In this study, we used a more general approach both to generalize the contexts in the economic development categories, and then identify potential barriers and drivers in policy transfer across those categories.

TURBLOG [12] identified seven categories of barriers: financial, physical, technological, cultural, political, legal, and security. In this study, we considered four of these barrier types: financial, physical, technological, and cultural, for analysis of the respective topics. The other three categories (political, legal, security) are highly subject to local conditions of the city, or in general of the country.

The financial barrier accounts for the high cost of a measure in the recipient city. The natural or built aspects of the recipient city that make transfer unsuitable represent a physical barrier. Technological barriers include the unavailability of technological elements or deviation from the existing system. Cultural barriers involve the requirement to depart from the traditional culture operating in the recipient city through the measures [21]. There may also be institutional barriers, generated by the need to change the institutional framework and enhance its strength to implement and enforce a specific

measure. The corresponding drivers are the opportunities that can be achieved through the transfer of measures to the recipient city.

In the analysis to identify barriers and drivers to transfer measures between developed and developing economies, we followed a more general approach. The basis for the analysis was the contexts of measures from developed economies and relevant sets of problems related to urban logistics in developing economies. However, due to the lack of literature describing pertinent problems in the case of developing economies, we had to conduct additional reviews of other published and gray literature. We rated the five barrier categories into three levels that indicated the necessity of transfer as: highly relevant, relevant, and irrelevant. Barriers rated highly relevant could strongly determine the success of policy transfer and possibly impose the highest negative impact on the transfer. Barriers rated irrelevant were inapplicable to the measure under discussion. Drivers were derived as potential opportunities or suitable conditions in the recipient city that could be obtained through the transfer of policy measures.

3. Results

3.1. Urban Logistics Measures and Topics

The database searches in Scopus and Web of Science Core yielded a total of 387 articles after the removal of duplicates. Application of inclusion/exclusion criteria to filter for articles with the focus on urban logistics measures resulted in 325 articles, which were further used for classification and context analysis.

Urban logistics measures covered by the articles were classified into different geographical and economic development levels based on the case study used in the article (if any) or the country of affiliation of the first author (Table 1). This classification of measures revealed the exposure level or the distribution of measures across the geographical regions and economic development classes. The majority of the measures were in Europe, in developed economies. The last row in Table 1 indicates the exposure level to urban logistics measures across the economic development classes.

Table 1. Distribution of papers in the selected dataset by geographical region and economic development class.

Region/Continent	Number (and Percentage) of Relevant Papers	Economic Development Class			
		Developed	In Transition	Emerging	Developing
Africa	1 (0.3)	-	-	-	1
Asia	61 (17.3)	8	-	43	10
Australia	7 (2.4)	7	-	-	-
Europe	200 (63)	171	4	25	-
North America	39 (12.7)	38	-	1	-
Latin America	17 (4.2)	-	-	17	-
Total	325 (100)	224	4	86	11

Topic identification involved outlining the dominant theme in the measures or policies mentioned in articles and their application area (see Section 2). A single article might comprise more than one topic; our analysis allowed up to four different topics to be identified. These classifications resulted in a total of 19 different topics, covered 343 times. A full list of the topics, their detailed description, and the frequency of occurance is presented in Table A1 (in the Appendix A to this paper). The top five topics in terms of the total number of relevant articles were: *carrier operations optimization*, *stakeholder participation*, *solution performance*, *sustainability*, and *urban consolidation centers (UCCs)*. As with published articles on urban logistics measures, the topics of discussion also varied greatly across different regions and economic development classes.

3.2. Urban Logistics Topics in Different Economic Development Classes

The topics covered revealed significant variations between the different economic development classes, with 260 topics from developed economies, four topics from economies in transition, 68 topics from emerging economies, and 11 topics from developing economies.

The economic development class context was analyzed in terms of the distribution of topics and the detailed focus on individual topics. The analysis indicated that 80% of the topics in developed economies were from Europe (Figure 2), and the central topics were *carrier operations optimization*, *stakeholder participation*, and *solutions performance*. In emerging economies, around 66% of the topics were contributed by Asia (Figure 3), and the main topics were *carrier operations optimization*, *stakeholder participation*, and *sustainability*. The main topics found in economies in transition were *stakeholder participation* and *sustainability*. The topics in developing economies were *crowd-shipping*, *urban consolidation centers (UCC)/distribution centers (UDC)*, *e-commerce delivery*, *loading/unloading areas*, *alternative modes*, and *parcel lockers*.

The context of the topics was established from the measures' objective(s) and/or method(s), or combinations, used to solve the prevailing problems. These contexts can be categorized under the same topic while being found in different economic development classes. The major highlights of urban logistics contexts in the different economic development classes are presented in Table 2.

3.3. Urban Logistics Topics across Geographical Regions

Analysis of regional context by comparing different topics across geographical regions (continents, i.e., Africa, Asia, Australia (representing Oceania), Europe, North America, and Latin America) revealed that their contribution varied significantly (Table 1). The analysis involved checking the topics of discussion across the geographical regions, and also within the same economic development classes for more clarity (Supplementary Table S2). Europe contributed the most topics, while Africa contributed the least.

3.3.1. Regional Contexts in Developed Economies

Europe contributed to all 19 topics identified. North America contributed to the topics *solution performance, stakeholder participation, pick-up points, off-hour delivery (OHD), cargo bikes, carrier operations optimization, traffic congestion management related to UL*, and *crowd-shipping*. Asia contributed to the *topics of road pricing, solution performance, e-commerce delivery*, and *carrier operations optimization*. Australia contributed to the topics *solution performance, stakeholder participation, alternative modes, eco-friendly vehicles, UCCs*, and *traffic congestion management related to UL*. The main findings were:

(1) *Traffic congestion management related to UL*: The context in all regions with developed economies was on solving congestion to improve delivery performance.
(2) *Carrier operations optimization*: The objective was generally to optimize routing and other operations by the carrier. This was similar for all regions but differed in the problem/s tackled. The contexts in Europe involved single- and multi-echelon routing, electric vehicles, reducing emissions, truck-based drones, and intelligent transport systems. In North America, the contexts were time windows, network optimization, deployment of drones and eco-friendly vans, and carrier collaboration. The context in Asia was time windows.
(3) *Stakeholder participation*: The contexts in Europe involved stakeholder role, participation/preference, policy evaluation, and the multi-actor multi-criteria assessment (MAMCA) method for structuring stakeholder consultations. The context in both North America and Australia was collaborative decision support approaches.

Europe and Asia also contributed to the topics of *e-commerce delivery* and *road pricing*. The contexts in Europe on *e-commerce delivery* topics were e-retail experiences of customers, home delivery, and the engagement of local authorities in facilitation, whereas the contexts in Asia were policies to address home delivery issues. The contexts for *road pricing* topics in Europe were acceptance and equity, whereas the Asia context was the effects of pricing on actors.

Table 2. Major contexts of urban logistics (UL) policies in different economic development classes.

Topic	Developed Economies	Emerging Economies	Developing Economies
Urban consolidation centers (UCCs)	User perceptions and financial viability; policies and governance mechanisms; UCCs and electric vehicle combinations	Distribution models to spatially allocate retailers to UCCs	Manage UCCs facility operations
E-commerce delivery	Last-mile delivery and e-retail experience; customer availability during home delivery; performance levels of home delivery vs. nearby pick-up points; local authority's role in facilitation and policy formulations	Impact of carrier and consumer trips to local collection points; re-engineer the order fulfillment processes	Cost related to customers' flexibility on assigning delivery points
Pick-up points/ parcel lockers	Assessing parcel locker network performance, creating values based on understanding customer perspectives	Customer perceptions and spatial parcel locker network design; intentions to use self-service parcel delivery	Customer perceptions and parcel lockers network design
Cargo bikes	Policies for electric bikes to enhance performance and economic viability	Performance comparison of motorbike vs. bicycle for lightweight deliveries; environmental savings	
Stakeholder participation	Role and perceptions of stakeholders to formulate policy alternatives; multi-actor multi-criteria analysis (MAMCA) methods for consultations; collaborative decision support systems	Actors' perception of UL in their cities; opinion analysis of actors towards regulations; collaborative autonomic logistics	Consumer participation in co-creating logistics service values
Solutions performance	Measures comparison in different cities; economic and environmental impacts analysis; data and models for solutions evaluations; tools and index development for decision making and sustainability evaluations; adaptability level of implemented measures	Evaluation of total logistics cost minimization models; evaluate transferability of solutions between different cities	N/A
Sustainability	Analysis of greenhouse gas (GHG) emissions from trucking services; comparisons of sustainability practices between cities; innovative solutions involving multi-stakeholders and formulation of green policies; multi-criteria decision analysis on choice of sustainable measures	Assessment of sustainable development perspectives; life cycle assessment (LCA) of logistics systems; emission footprint of non-motorized modes; analysis of greenhouse gas (GHG) emissions from trucking services	N/A

Europe and Australia contributed to the topics of *alternative modes* and *UCCs*. The context in Europe for the *alternative modes* topic was on the use of urban intermodal, passenger rail network, and urban waterways, whereas the Australian context was urban intermodal for a port city. European contexts on *UCC* topics were perceptions of users and related benefits, policies and governance mechanisms, and integration of electric vehicles, whereas Australia focused on connecting UCCs with eco-friendly vehicles.

Both North America and Europe contributed to the topics *cargo bikes*, *off-hours delivery (OHD)*, and *crowd-shipping*. The European context was evaluating the use of electric cargo bikes from policy perspectives, whereas the North American context was the overall performance and economic viability. The European contexts on *OHD* topics were addressing stakeholder acceptability and evaluating policy gaps, whereas North America emphasized impact analysis. The context for *crowd-shipping* topics

in Europe was existing mass transit systems, whereas the context in North America was assigning individual customers to the crowd-shipper.

In addition to the topics covered in common with the other regions, unique topics discussed in Europe were information and communications technology/intelligent transport systems (ICT/ITS), loading/unloading area, parcel lockers, policy making, sustainability, and limited traffic zones (LTZ).

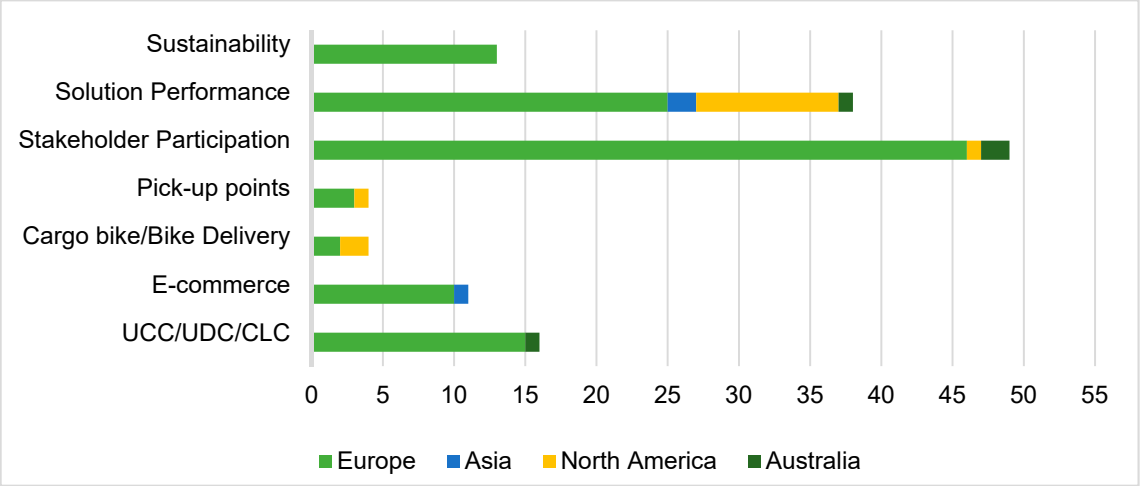

Figure 2. Distribution of urban logistics topics in developed economic regions of the world.

3.3.2. Regional Contexts in Emerging Economies

All the contributions of emerging economies were from Asia and Latin America. The topics *crowd-shipping*, *UCCs*, and *policy making* were unique to Asia, and *cargo bikes* to South America (Figure 3). The Asian context for *e-commerce delivery* topics was order fulfillment, whereas in South America the focus was emissions analysis on the use of local delivery points. The context for *stakeholder participation* in both Asia and South America was perceptions of the actors, while that for *solution performance* was adopting or transferring urban logistics solutions between cities. Similarly, emission footprint and sustainability plans were *sustainability* topics.

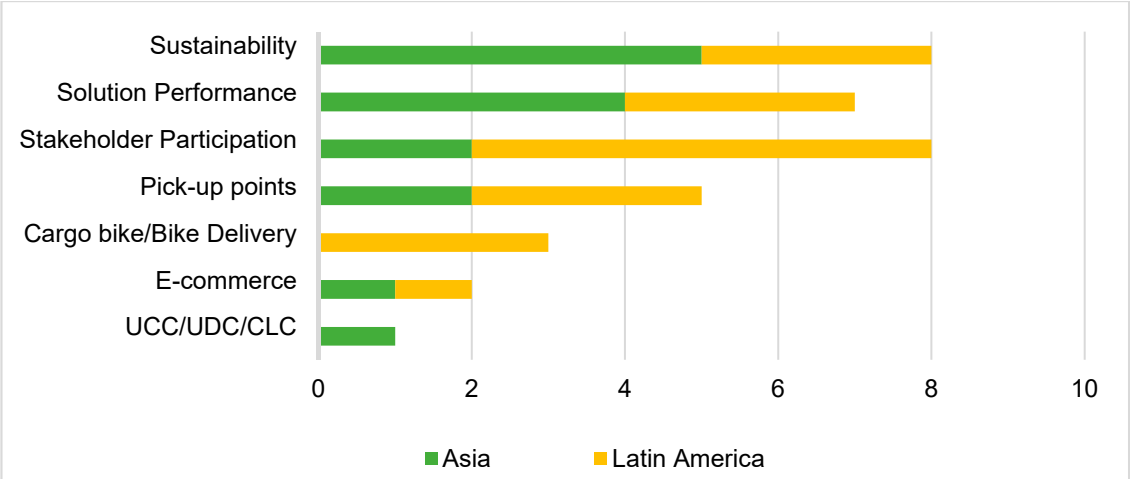

Figure 3. Distribution of sustainable urban logistics topics in emerging economies.

3.3.3. Regional Context in Other Economic Development Classes

The European countries in the economies in transition class only had two topics of discussion, *stakeholder participation* and *sustainability*. In developing economies, only a single topic on *alternate modes* was contributed by Africa, while the rest of the topics (*crowd-shipping*, *UCCs*, *e-commerce delivery*, *parking areas*, and *parcel lockers*) were covered by articles from Asia.

3.4. Barriers and Drivers of Transfer between Developed and Developing Countries

Transfer of measures is a multi-step and multi-variable process (Figure 1), where matching contexts is the core activity. In this study, we incorporated different contexts into transferability analysis to increase the reliability and success of the process. Among the range of relevant contexts, those in the source city and recipient city are of dominant importance. However, our analysis based on the identified topics revealed a variety of contexts for measures in different regions, even under the same topic. This variability made it necessary to identify the barriers (potential undermining factors) and the drivers (potential motivating factors) of success in policy transfer.

The identification of barriers and drivers was based on general problems in developing economies and the contexts of measures implemented in developed economies, as described in Section 3.1 and 3.2. However, the lack of published literature on urban logistics in developing economies meant that we had to seek additional information from other literature sources, such as gray literature. The review results were summarized into relevant general urban challenges and particular urban logistics problems (see Table A2 in the Appendix A). The problems ranged from institutional roles and set-ups to specific urban logistics operations. The general problems for the city development group were urban development and land use, institutional set-up and role, policy and planning, and general traffic systems, outlining the city traffic conditions. The problems related to specific urban logistics were grouped into three categories: freight infrastructures, urban logistics operations, and environmental impacts. These challenges and realities were directly used in the analysis of barriers and drivers.

Five barrier types were identified considering their suitability to the analysis in this study (as described in Section 2, Stage IV). Those barriers were rated for relevance in the transferability of the topic under consideration between the two contexts. The rating of relevance has three scale levels as highly relevant, relevant, and irrelevant. The ratings are given based on the contexts where the urban logistics topics measures were implemented at the source city in the developed economies and the existing challenges of cities in developing economies. Moreover, drivers or facilitators are the potential opportunities or suitable conditions in the recipient city that could be obtained or uncovered through the transfer of policy measures. The barriers, with their corresponding relevance scaling, and the drivers identified are shown in Table 3.

Table 3. Barriers and drivers to adopting urban logistics (UL) measures in developed and developing economies.

Topic of Measure	Rating of Barriers					Barriers	Drivers
	I	F	P	T	C		
Traffic congestion management related to UL	**	*	**	*	-	Lack of sufficient road network, the high proportion of old vehicles, weak regulatory institutions	Improved city traffic conditions through congestion management, and enhanced freight vehicle performance
Crowd-shipping	*	-	-	*	*	Limited capacity in policy implementation and dominance of traditional retail over online retail may hinder the larger benefits	High population density and urban sprawl provide potential to initiate crowd-shipping schemes
Urban consolidation/distribution centers, construction logistics centers	*	**	**	-	-	Needs initial investment to build the infrastructure, plus clear policies with stakeholder acceptance and feasible business model to ensure the long-term financial sustainability	Improved freight delivery performance to urban centers and the opportunity to integrate with other innovative measures, such as eco-friendly vehicles or crowd-shipping
Carrier/logistics service provider optimization of operations	-	*	*	**	-	Apart from the technological requirements, fragmented industry structure and extensive informal sector with presence of many nano-stores complicate goods distribution	Improved operational efficiency and reduced environmental burden from carrier operations
E-commerce delivery	**	-	-	**	*	Weak set-ups of regulatory institutions to cultivate the online market and install the required technological systems, and lack of urban logistics initiatives integratable to these systems	The change from traditional retail to modern e-retail market can enhance business development
Eco-friendly vehicles	**	*	*	**	-	Lack of investments and strategic policies on new vehicle technologies and their supportive facilities; absence of logistics schemes operated by eco-friendly vehicles	Reduced climate burden from urban logistic operations
Smart UL systems with ICT/ITS	*	-	-	**	-	Limited institutional capacity to adopt technological requirements and fragmentation of industry structures	Enhanced delivery performance and eased traffic management
Alternative modes	*	**	**	*	-	Low quality and availability of transport systems with low level of infrastructure development	Eased burden on road-based UL operations and more competition to foster innovative solutions
Cargo bike/bike delivery	*	-	**	-	**	Proper infrastructure for cycling and proper policy backings to better nurture the culture	Greater convenience in delivery to highly congested urban centers and slums, promotes innovative solutions

Table 3. *Cont.*

Topic of Measure	Rating of Barriers					Barriers	Drivers
	I	F	P	T	C		
Loading/unloading/parking areas	*	*	**	*	-	Lack of logistics infrastructure	Reduced times and costs of UL operations such as delivery activities
Off-hour deliveries (OHD)	**	-	*	-	**	Weak institutional set-up, lack of adequate infrastructure and working at night, fragmented industry structure, and acceptance from the stakeholders	Use of underused available infrastructure for UL operations at night
Pick-up points or parcel lockers	*	-	*	*	-	Lack of strong institutional and legal frameworks to manage systems. Industry structure fragmentation and extensive informal sector create more barriers	Use of nano-stores as potential pick-up points
Policy making	**	-	-	*	*	Limited institutional capacity to set up and implement proper policies. For specific cases, it can link with other barriers	Urban development and related logistics challenges
Limited traffic zones	**	-	*	*	*	Inadequate infrastructure and lack of strong regulatory institutions to enforce the restrictions	Reduced emissions from old vehicles and preservation of historic city centers
Solution performance	**	-	-	*	-	Lack of institutional strength in addition to freight and related data to conduct extensive assessments	Urban development challenges at the city level and market competitiveness at the sector or company levels
Sustainability/Emissions/Pollutions	**	*	*	*	-	Lack of strategic policies for old vehicles and the use of leaded gasoline along with inadequate transport infrastructure	A global call for healthy cities and environmental sustainability
Stakeholder participation	**	-	-	-	*	Fragmented industry structure and presence of an extensive informal sector, in addition to weak institutional and legal framework, ignored in the application stages	Economic development and business competition between companies
Road pricing	*	**	**	*	-	Low level of infrastructure development, and institutional strength to formulate and manage schemes	Need to increase available investments for new infrastructure developments
Delivery robots/drones	*	*	-	**	-	Higher technological capability and investments, along with proper policy backing. Convenience to integrate the applications with other transport modes	Shorter set-up time and functionality than developing infrastructure for other transport modes like roads and rail

Barriers: I = institutional; F = financial, P = physical, T = technological, C = cultural. *Rating:* ** = highly relevant, * = relevant, - = irrelevant.

4. Discussion

Policy transfer concepts can be important to both practitioners and researchers in the urban logistics domain, but there is a limited amount of literature on this topic. Related studies, e.g., in the transport domain, call for more research on the role of contexts and the overall transfer process [35,36]. Establishing the context for successful urban logistics measures is considered a core task and vital step in the process. Many relevant contexts need to be considered in policy transfer, with the accuracy of the process reported to increase with an increasing number of contextual factors accounted for in the analysis [16]. In the present analysis, we examined the contexts of urban logistics measures for economies at different stages of development and in different geographical regions (continents). Two types of contexts were considered in all cases: the context in the source city and contextual factors in the recipient city. Establishing a broad context of measures in the source city can expedite policy transfer.

The results provide responses to three of the seven questions posed by Dolowitz and Marsh [24], namely: "What is transferred?"; "From where are the lessons drawn?"; and "What restricts or facilitates the policy transfer process?". The "bottom-up" approach of Timms [25] was used to consider policy transfer from a "city perspective". The results also contributed to five major steps in the 10-step logical framework devised by Macario and Marques [18] (Figure 1). The broad contexts of urban logistics measures contributed to the search for similar contexts (Step 4), selecting urban contexts in the source city (Step 5), and identifying potential measures for their transferability (Step 6). The identified barriers and drivers in the analysis to transfer measures contributed to ex ante assessment (Step 8) and to identifying the need for adjustment of measures (Step 9) to improve transferability between developed and developing economies.

The contexts were found to be highly different across geographical regions, even for economies within the same development class. These differences can be explained by taking the case of Europe and the USA, where the contexts for sustainable urban logistics measures are quite different [37]. For instance, the European context for the *OHD* topic was stakeholder acceptability [38,39], whereas the USA context was the overall impact of OHD programs [40], which were rated as having medium applicability to the USA context [37].

European articles also covered unique topics of discussion, such as *ICT/ITS*, *LTZ*, *loading/unloading area*, *parcel lockers*, and *policy making*. The applicability rating of some of these topics to the case of the USA was highly variable [37]. *LTZ* was rated highly effective, but has low applicability to the USA context, while *ICT/ITS* was rated medium for both effectiveness and applicability.

In addition to the contributions from different economic development classes, the regional contributions on topics varied widely. Europe contributed most to the relevant literature and Africa contributed the least, confirming findings by Kin et al. [13] that the Middle East and Africa are underexposed to urban logistics measures. Policy transfer has a crucial role to play in bridging this exposure gap. The policy transfer process involves the identification of potential barriers and drivers. Five general barriers were considered in this study (institutional, financial, physical, technological, and cultural), and identification of barriers for each topic was based on prevailing problems in developing countries (Table A2). The drivers considered were the general opportunities or gains in the recipient city.

Among the barrier types considered, institutional barriers were rated highly relevant for most of the topics considered, as a strong institutional set-up is required for the transfer process but a weak institutional framework generally prevails in recipient countries. The next major barrier was physical, reflecting a lack of adequate infrastructure. The high relevance of these barriers is in agreement with Pojani [41], who identified institutional, financial, and physical barriers to the transfer of sustainable urban transport practices to Southeast Asian cities such as Jakarta, Manila, Kuala Lumpur, and Bangkok. A range of general drivers was also identified, most providing opportunities to increase the desirability of policy transfer from the specific case to cities in developing economies (Table 2).

Further comparisons between our findings and those in similar studies with different contexts revealed the broad reality and specific conditions. For example, Maria and Marcus [20] studied the transfer of *road pricing* policy from other European cities to Valletta, Malta, and identified the unique

geography of the city as a barrier, while international events, local conditions, and a political champion driving change were seen as specific drivers. Macario and Marques [18] found high sensitivity to the barriers of political commitment and strategy, legislation and regulative institutions, information and public relations, and technology. Besides, our study identified financial and physical barriers as highly relevant, in addition to institutional barriers, whereas the need to increase available investments was considered a general driver.

In the case of *UCCs*, Nordtømme et al. [42] identified financial concerns and stakeholder acceptability as the main barriers to UCC implementation in Norway (Europe). We also found physical and financial barriers to be highly important for this topic, along with institutional barriers. In general, policy transfer faces a range of barriers when dealing with different topics and dimensions. Rye et al. [26] claim that language and planning traditions are even crucial barriers to transport policy transfer between European cities. TURBLOG (2011) recommended two approaches to overcome barriers, one by adapting the transferability of measures to remove or reduce the aspect weakened by the barriers, and the other by combining one or more measures (policy package) to counteract the barriers.

Drivers (enablers or facilitators) of the transfer of sustainable urban logistics measures to cities in developing economies were established from the particular problems and respective topics in developed economies (Table 2). In some cases, factors that acted as a barrier to one measure were a driver of other measures. A good example was the presence of many small traditional retail stores or nano-stores in cities in developing economies, which complicates delivery and was identified as a barrier to *carrier optimization of operations*, but nano-stores can also be a driver in the implementation of *pick-up points* by acting as pick-up stations. However, the identification of specific drivers required a detailed focus on the particular contextual factors of the recipient city. For example, Timms [21] identified a history of cooperation between local authority and stakeholders as enablers for the transfer of regulative measures to the city of Cariacica, Brazil.

Overall, the findings of this study contribute to portray worldwide contexts of sustainable urban logistics measures to analyze the transferability of policy experiences between different contexts. Theoretically, this study implies the strong association of the economic development level and geographical location of a city with the context in which measures were implemented. Besides, the categorization of urban logistics measures indicated which topics were given more attention and at which geographic locations.

Furthermore, this study has a practical implication to authorities considering policy transfer in urban logistics. The contextual factors analysis can provide a first response to the key challenges and opportunities for the transfer of sustainable urban logistics policies, especially to the ones in developing countries. Moreover, the establishments of barriers and drivers specific to urban logistics measures or policies also enhance the transferability process and help to focus only on the important and relevant factors.

This study has limitations in covering all available urban logistics solutions worldwide due to two reasons, namely limited literature published in scientific journals generally found before the year 2000 and little availability of published literature on the case of developing countries. Additional field research could reveal scientific work that has not been reported in the literature.

5. Conclusions

This study analyzed the wider contexts of urban logistics measures based on economic development classes and geographical regions, including their significance in the transfer of urban freight policy. Policy transfer is a process involving multiple steps and many variables, among which the characteristics of the source and recipient city and the context within which the measure (package of measures) is applied in the source city are the cornerstones. Understanding the context in the source city can thus ease the appraisal and selection of measures for the recipient city.

The SLR method was used here for retrieval of a relevant and representative sample of published articles describing urban logistics measures, to ensure transparency in drawing objective conclusions. The analytical approach was based on a broad categorization of topics/measures into different economic

development levels and geographical regions, to obtain a comprehensive global perspective with an adequate level of detail. Generalization of topics to cities located within the same economic development class and region (continent) can facilitate the transfer of best policy on urban logistics.

The results revealed that the economic development class and regional location of urban logistics topics assessed in the selected dataset were highly diverse. The economic development level and geographical location of a city were both found to have a strong association with the context in which measures were implemented. The contexts for the topics also reflected the nature of existing problems, which permitted appraisal of the suitability of measures for transfer to cities with similar challenges. Finding favorable contexts for measures in the recipient city is central to the success of the whole process.

Barriers and drivers to the transfer of measures were identified based on the contexts when evaluating the potential for transfer between two different exposure levels (developed and developing countries). In particular, institutional and physical barriers were found to be relevant to the transfer of urban logistics measures. Weak institutional set-up to formulate and regulate policy was identified as an institutional barrier and lack of adequate physical infrastructure provision as a physical barrier. Cities in developing economies should thus aim to reduce or counteract the influence of those barriers. Specifically, the measures (or package of measures) chosen should not require strong institutional control and follow-ups, to reduce the impact of institutional barriers, and should not require additional physical infrastructures, to reduce the impact of physical barriers.

The drivers depended on the specific contexts in the recipient city. In some cases, barriers to implementing one measure were a driver for implementing another measure. Identifying the specific enabler of measures in the recipient city can thus be of prime importance in the overall transfer process.

There has been little research about the transfer of urban logistics policies and the overall success in meeting the intended purpose in the recipient city, so this study makes an important novel contribution by providing a global picture of contexts in urban logistics measures. The results can also help to identify a broad set of barriers and drivers for cities in developing countries on measures originating from developed countries.

Supplementary Materials: The following are available online at http://doi.org/10.5281/zenodo.4004037, Table S1: The complete list of retrieved and selected journal articles; Table S2: Full list of urban logistics measures contexts over economic classes.

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Appendix A

Table A1. Sustainable urban logistics (UL) topics identified in the selected dataset, with corresponding descriptions and the total number of articles in which they are mentioned.

Topic	Description	Total Number
Traffic congestion management related to UL operations	The effect of traffic congestion on urban logistics operations and vice versa	6
Crowd-shipping	Local people as carriers to pick up/drop off goods from automated parcel lockers or end-consumer locations, in dedicated or non-dedicated trips, to reduce environmental impact and possibly the cost of delivery	8
UCC/UDC/CLC	Infrastructure to consolidate goods before the last-mile journey. Depending on the activity type and the time spent at the facility, there are: urban consolidation centers (UCCs), urban distribution centers (UDCs), and construction logistics centers (CLCs)	18

Table A1. *Cont.*

Topic	Description	Total Number
Carrier/logistics service provider optimization of operations	Vehicle routing problems (VRP) plus scheduling or general operations optimization of paths and locations for the fleet(s) of vehicles to reduce travel time and distance, waiting times, a penalty for time windows, vehicular emissions, and traffic congestion	104
E-commerce delivery	Online purchasing/ordering goods that involve delivery operations to customers (end-consumers or ever retailers). Online market–customer interactions involving delivery have become a dominant trend in urban freight studies	14
Eco-friendly Vehicles	Considering vehicles emitting less pollutants and powered by sustainable/environmentally friendly sources (electric vehicles, compressed natural gas, bio-gas) for urban freight	16
Smart UL systems with ICT/ITS	Information and communications technology/intelligent transport systems (ICT/ITS) applications provide information, planning tools, and resource sharing between the actors to enhance the safety, efficiency, and more coordinated utilization of the logistics system	4
Alternative modes	Urban freight is dominated by road-based transport, other modes like rail or urban waterways or even intermodal transport being considered as an alternative modes	7
Cargo bike/ Bike Delivery	Use of human-powered or electric bike for freight delivery in urban areas	7
Loading/unloading area/Parking area	Related to management and utilization of infrastructures to serve trucks at cities for transfer of goods or other pertinent services	5
Off-hour deliveries (OHD)	Delivery of goods during low-traffic activities in the cities, usually between late nights and early mornings	5
Pick-up points/ parcel lockers	Pre-arranged places where people go to collect or retrieve online ordered parcels	10
Policy making	Choice and formulation of urban freight policies especially by local authorities serve for setting policy priorities and recommendations	5
LTZ	A limited traffic zone (LTZ) is an urban area subjected to restriction of traffic (trucks for the case of urban freight) such as a time window, or limitation of weight, width, and type of fuel	3
Solution performance	Analysis and evaluation methods to assess the performance of urban freight measures, and comparisons based on various criteria to select the optimal measure	45
Sustainability/ emissions/pollution	Environmental sustainability with ways to reduce vehicle pollutant levels, and related short- and long-term strategies, technologies, and applications in addressing the environmental effects of urban freight	23
Stakeholder participation	Ways to consult, manage, and involve stakeholders in the planning and implementation of urban freight measures. Also takes into account their interactions, perceptions/reactions, roles, and evaluations in making decisions regarding urban freight measures	60
Road pricing	All measures involving payment of a toll for use of particular infrastructures, such as city centers, LTZ, bridges, and bypasses	2
Delivery robots/drones	The use of drones or autonomous robots for urban deliveries, especially the last-mile segment	1

Table A2. General problems related to urban logistics in developing countries.

Categories	Summaries of Main Problems
Urban development and land use	High population density, low level of infrastructure development, fragmented industry structure, and extensive informal sector [11,22]; mixed land use [43]; urban sprawl [44]
Institutional set-up and role	Poorly developed municipal and regulatory institutions [45]; limited institutional capacity [46]; institutional and legal framework ignored in the application [47]; lack of freight and related data [11]
Policy and planning for urban logistics	Lack of initiatives for urban freight [48]; poorly defined strategic policies and limited implementation [46]
City traffic conditions	Lower availability and quality of transport system [44]; weak traffic management [45]; extreme variety in transport modes and vehicle sizes; frequent breakdowns and accidents [11]; walking and cycling often unpleasant or unsafe [49]
Freight infrastructures	Infrastructure for walking and cycling often lacking [49]; lack of logistics infrastructure like loading/unloading areas (with the few existing being used for other purposes) [43,46,48]; parking and road design problems, and insufficient road network [43]; a narrow and often unpaved road, congested intersection, obstructed sidewalks and roadways, and uncontrolled access of heavy delivery trucks [50]
Urban freight operations	The existence of many small traditional retail stores (nano-stores) complicates the distribution of goods [48,51,52]; increase in truck movement, lack of coordination, and overloading of trucks [11]; higher empty returns increase the cost of trucking even for short distances [53]
Environmental impacts	Emissions from old vehicles [43]; high pollution from trucks using leaded gasoline [45]

References

1. UN. *Urbanization and Development: Emerging Futures*; UN-Habitat: Nairobi, Kenya, 2016; pp. 1–24.
2. Browne, M.; Allen, J.; Nemoto, T.; Patier, D.; Visser, J. Reducing Social and Environmental Impacts of Urban Freight Transport: A Review of Some Major Cities. *Procedia Soc. Behav. Sci.* **2012**, *39*, 19–33. [CrossRef]
3. Quak, H. Sustainability of Urban Freight Transport: Retail Distribution and Local Regulations in Cities. Ph.D. Thesis, Erasmus University, Rotterdam, The Nederland, 2008.
4. Savelsbergh, M.; Van Woensel, T. 50th Anniversary Invited Article—City Logistics: Challenges and Opportunities. *Transp. Sci.* **2016**, *50*, 579–590. [CrossRef]
5. Behrends, S. Recent Developments in Urban Logistics Research—A Review of the Proceedings of the International Conference on City Logistics 2009–2013. *Transp. Res. Procedia* **2016**, *12*, 278–287. [CrossRef]
6. Stathopoulos, A.; Valeri, E.; Marcucci, E. Stakeholder reactions to urban freight policy innovation. *J. Transp. Geogr.* **2012**, *22*, 34–45. [CrossRef]
7. Anand, N.; Yang, M.; Van Duin, J.; Tavasszy, L. GenCLOn: An ontology for city logistics. *Expert Syst. Appl.* **2012**, *39*, 11944–11960. [CrossRef]
8. Bouhouras, E.; Basbas, S. Policies towards sustainable city logistics the case of Thessaloniki. *J. Environ. Prot. Ecol.* **2015**, *16*, 417–423.
9. Dablanc, L. Goods transport in large European cities: Difficult to organize, difficult to modernize. *Transp. Res. Part A Policy Pr.* **2007**, *41*, 280–285. [CrossRef]
10. Dablanc, L. City Distribution, a Key Element of the Urban Economy: Guidelines for Practitioners. In *City Distribution and Urban Freight Transport: Multiple Perspectives*; Macharis, C., Melo, S., Eds.; Edward Elgar Publishing: Brookfield, UK, 2011.
11. Herzog, B. *Urban Freight in Developing Cities*; Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ) GmbH: Eschborn, Germany, 2010.
12. TURBLOG_ww. Transferability of Urban Logistics Concepts and Practices from a Worldwide Perspective. 2011. Available online: https://trimis.ec.europa.eu/project/transferability-urban-logistics-concepts-and-practices-world-wide-perspective#tab-docs (accessed on 12 May 2020).

13. Kin, B.; Verlinde, S.; Macharis, C. Sustainable urban freight transport in megacities in emerging markets. *Sustain. Cities Soc.* **2017**, *32*, 31–41. [CrossRef]
14. Dolowitz, D.; Marsh, D. Who Learns What from Whom: A Review of the Policy Transfer Literature. *Political Stud.* **1996**, *44*, 343–357. [CrossRef]
15. Evans, M. New directions in the study of policy transfer. *Policy Stud.* **2009**, *30*, 237–241. [CrossRef]
16. Warren, P. Transferability of demand-side policies between countries. *Energy Policy* **2017**, *109*, 757–766. [CrossRef]
17. Rose, R. What Is Lesson-Drawing? *J. Public Policy* **1991**, *11*, 3–30. [CrossRef]
18. Macário, R.; Marques, C.F. Transferability of sustainable urban mobility measures. *Res. Transp. Econ.* **2008**, *22*, 146–156. [CrossRef]
19. Marsden, G.; Stead, D. Policy transfer and learning in the field of transport: A review of concepts and evidence. *Transp. Policy* **2011**, *18*, 492–500. [CrossRef]
20. Attard, M.; Enoch, M. Policy transfer and the introduction of road pricing in Valletta, Malta. *Transp. Policy* **2011**, *18*, 544–553. [CrossRef]
21. Timms, P. Transferability of urban freight transport measures: A case study of Cariacica (Brazil). *Res. Transp. Bus. Manag.* **2014**, *11*, 63–74. [CrossRef]
22. Marsden, G.; Frick, K.T.; May, A.D.; Deakin, E. How do cities approach policy innovation and policy learning? A study of 30 policies in Northern Europe and North America. *Transp. Policy* **2011**, *18*, 501–512. [CrossRef]
23. Pojani, D.; Stead, D. Policy design for sustainable urban transport in the global south. *Policy Des. Pract.* **2018**, *1*, 90–102. [CrossRef]
24. Dolowitz, D.P.; Marsh, D. Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making. *Governance* **2000**, *13*, 5–23. [CrossRef]
25. Timms, P. Urban transport policy transfer: "bottom-up" and "top-down" perspectives. *Transp. Policy* **2011**, *18*, 513–521. [CrossRef]
26. Rye, T.; Welsch, J.; Plevnik, A.; Tommasi, R.d. First steps towards cross-national transfer in integrating mobility management and land use planning in the EU and Switzerland. *Transp. Policy* **2011**, *18*, 533–543. [CrossRef]
27. Lagorio, A.; Pinto, R.; Golini, R. Urban Logistics Ecosystem: A system of system framework for stakeholders in urban freight transport projects. *IFAC Pap.* **2017**, *50*, 7284–7289. [CrossRef]
28. Dolati Neghabadi, P.; Evrard Samuel, K.; Espinouse, M.-L. Systematic literature review on city logistics: Overview, classification and analysis. *Int. J. Prod. Res.* **2019**, *57*, 865–887. [CrossRef]
29. Hu, W.; Dong, J.; Hwang, B.-g.; Ren, R.; Chen, Z. A Scientometrics Review on City Logistics Literature: Research Trends, Advanced Theory and Practice. *Sustainability* **2019**, *11*, 2724. [CrossRef]
30. Brereton, P.; Kitchenham, B.A.; Budgen, D.; Turner, M.; Khalil, M. Lessons from applying the systematic literature review process within the software engineering domain. *J. Syst. Softw.* **2007**, *80*, 571–583. [CrossRef]
31. Rothstein, H.; Hopewell, S. Grey Literature. In *The Handbook of Research Synthesis and Meta-Analysis*, 2nd ed.; Cooper, H., Hedges, L.V., Valentine, J.C., Eds.; Russell Sage Foundation: New York, NY, USA, 2009; pp. 103–125.
32. UN. *World Economic Situation and Prospects: Statistical Annex*; United Nations: New York, NY, USA, 2019.
33. M.S.C.I. MSCI Emerging Markets Index (USD). Available online: https://www.msci.com/documents/10199/c0db0a48-01f2-4ba9-ad01-226fd5678111 (accessed on 29 June 2020).
34. Lagorio, A.; Pinto, R.; Golini, R. Research in urban logistics: A systematic literature review. *Int. J. Phys. Distrib. Logist. Manag.* **2016**, *46*, 908–931. [CrossRef]
35. Marsden, G.; Frick, K.T.; May, A.D.; Deakin, E. Bounded Rationality in Policy Learning Amongst Cities: Lessons from the Transport Sector. *Environ. Plan. A Econ. Space* **2012**, *44*, 905–920. [CrossRef]
36. Peck, J. Geographies of policy: From transfer-diffusion to mobility-mutation. *Prog. Hum. Geogr.* **2011**, *35*, 773–797. [CrossRef]
37. Dablanc, L.; Giuliano, G.; Holliday, K.; O'Brien, T. Best Practices in Urban Freight Management: Lessons from an International Survey. *Transp. Res. Rec.* **2013**, *2379*, 29–38. [CrossRef]
38. Gatta, V.; Marcucci, E.; Site, P.D.; Pira, M.L.; Carrocci, C.S. Planning with stakeholders: Analysing alternative off-hour delivery solutions via an interactive multi-criteria approach. *Res. Transp. Econ.* **2019**, *73*, 53–62. [CrossRef]
39. Bjerkan, K.Y.; Sund, A.B.; Nordtømme, M.E. Stakeholder responses to measures green and efficient urban freight. *Res. Transp. Bus. Manag.* **2014**, *11*, 32–42. [CrossRef]

40. Ukkusuri, S.V.; Ozbay, K.; Yushimito, W.F.; Iyer, S.; Morgul, E.F.; Holguín-Veras, J. Assessing the impact of urban off-hour delivery program using city scale simulation models. *EURO J. Transp. Logist.* **2016**, *5*, 205–230. [CrossRef]
41. Pojani, D. Sustainable Urban Transport in Southeast Asia: Making It Happen. In *Planning for Sustainable Urban Transport in Southeast Asia*; Pojani, D., Ed.; Springer: Cham, Switzerland, 2020.
42. Nordtømme, M.; Bjerkan, K.; Sund, A. Barriers to urban freight policy implementation: The case of urban consolidation center in Oslo. *Transp. Policy* **2015**, *44*, 179–186. [CrossRef]
43. Castro, J.T.; Kuse, H.; Takahashi, Y. A Comparative Study on the Major Problems of Urban Goods Movement and its Countermeasures Between Developed and Developing Cities in Asia. In Proceedings of the World Transport Research: Selected Proceedings of the 8th World Conference on Transport Research, Antwerp, Belgium, 12–16 July 1998; pp. 637–650.
44. Robertson, K.; Jägerbrand, A.K.; Tschan, G.F. *Evaluation of Transport Interventions in Developing Countries*; VTI rapport 855A; Swedish National Road and Transport Research Institute (VTI): Linköping, Sweden, 2015; p. 87.
45. Gwilliam, K. Urban transport in developing countries. *Transp. Rev.* **2003**, *23*, 197–216. [CrossRef]
46. Okyere, S.; Yang, J.; Zhan, B. Impact of Multimodal Transport Strategy on Promoting Sustainable City Logistics Management: Application of Factor Analysis Technique. In Proceedings of the 2nd International Conference on Telecommunications and Communication Engineering, Beijing, China, 14–15 November 2018; pp. 352–357.
47. Evren, G.; Akad, M. *Transportation Planning Problems in Developing Countries*; Technical University of Istanbul: Istanbul, Turkey, 2001; Available online: http://www.iasi.cnr.it/ewgt/13conference/143_evren.pdf (accessed on 8 August 2020).
48. Córdova, J.; Merchán, D.; Torres, S. Redesigning a Retail Distribution Network in Restricted Urban Areas: A Case Study on Beverage Distribution in the Historic Center of Quito. *J. Appl. Res. Technol.* **2014**, *12*, 850–859. [CrossRef]
49. Pojani, D.; Stead, D. The Urban Transport Crisis in Emerging Economies, An Introduction. In *The Urban Transport Crisis in Emerging Economies*; Pojani, D., Stead, D., Eds.; Springer: Cham, Switzerland, 2017.
50. UN-OHRLLS. Achieving Sustainable Transport in Landlocked Developing Countries. 2017. Available online: https://unohrlls.org/custom-content/uploads/2017/06/Transport-in-LLDC-Report-FINAL_June-22_2017_High.pdf (accessed on 8 August 2020).
51. Boulaksil, Y.; Fransoo, J.C.; Blanco, E.E.; Koubida, S. Understanding the fragmented demand for transportation—Small traditional retailers in emerging markets. *Transp. Res. Part A Policy Pract.* **2019**, *130*, 65–81. [CrossRef]
52. Jennings, G. *Planning for Sustainable Urban Freight Movement*; WWF: Cape Town, South Africa, 2017.
53. World-Bank. *Urbanization beyond Municipal Boundaries: Nurturing Metropolitan Economies and Connecting Peri-Urban Areas in India. Directions in Development*; World-Bank: Washington, DC, USA, 2013. [CrossRef]