
Contents

Preface	ix
Chapter 1. Where Are We After 20 Years of Urban Logistics?	1
1.1. Introduction	1
1.2. The valorization of research in urban logistics: French and international approaches	7
1.3. From research to practice: a plethora of projects, initiatives and their practical application	14
1.3.1. France	23
1.3.2. Italy	25
1.3.3. Southern Europe (Spain, Greece, Portugal and other countries of Mediterranean Europe)	27
1.3.4. Germany	30
1.3.5. Belgium and the Netherlands	32
1.3.6. The United Kingdom	33
1.3.7. Northern Europe (Sweden, Norway, Finland and Denmark)	33
1.3.8. North America	34
1.3.9. Asia-Pacific Region	35
1.3.10. South America	36
1.3.11. Other regions of the world	37
1.4. Key questions in the quantitative and qualitative identification of urban logistics	38

Chapter 2. A Unified Definition of Sustainable Urban Logistics	43
2.1. The components of sustainability	43
2.2. The flows considered in urban freight transport	49
2.3. The stakeholders involved and their interests	52
2.3.1. Introduction	52
2.3.2. The urban logistics interests of these two categories of stakeholders	54
2.4. Visions for sustainable urban logistics	56
2.4.1. The main definitions of urban logistics	56
2.4.2. Vision of collective utility versus individual profitability	58
2.5. A unified definition of sustainable urban logistics	60
Chapter 3. The Evaluation, Assessment and Analysis of Scenarios as Decision-Making Tools	65
3.1. Assessment and evaluation in urban logistics: a body of work with little unification?	65
3.2. The role of scenario construction in assessments and evaluations	71
3.3. Before–after assessments	73
3.4. Proposal of a methodological framework for the assessment and evaluation of the impacts of sustainable urban logistics	76
Chapter 4. Estimating Inter-establishment Flows	83
4.1. Data collection and modeling: close links but not homogeneous	83
4.2. Methodological proposal	94
4.3. Demand generation	96
4.4. Demand distribution models	101
4.5. The construction of routes and distances	106
Chapter 5. The Estimation of Other Urban Freight Transport Flows	121
5.1. Estimating end consumer and urban management flows: a topic less studied, but nevertheless more standardized	121
5.2. Estimating household purchasing activities	125
5.2.1. Some general information on household purchasing activities	125

5.2.2. Proposed methodology	132
5.2.3. Shopping trip generation	133
5.2.4. Distribution of purchase trips: the gravity model	137
5.2.5. Construction of shopping trip chains	139
5.3. Estimating delivery routes to households and delivery depots	143
5.4. Estimation of urban management flows	145
Chapter 6. Estimating and Modeling Change in Urban Logistics	147
6.1. Aims, goals and principles of modeling change in urban logistics	147
6.2. Examples of assessments and analyses using change modeling	151
6.2.1. Modeling the changes induced by the introduction of the SimplyCité UCC to Saint-Étienne	151
6.2.2. Modeling the change(s) brought about by restricting access to the city center	154
6.2.3. Modeling the change brought about by new forms of e-commerce	156
6.3. Generalizing the examples of overall change modeling framework	157
6.4. The importance of solution problematics in change analysis	159
Chapter 7. Indicators and Dashboards for the Evaluation of Sustainable Urban Logistics	165
7.1. The need to evaluate sustainable urban logistics for the definition of dashboards	165
7.2. Methodological proposals	168
7.2.1. The “expert network” method	171
7.2.2. The co-constructive consensus method	173
7.3. Examples of use	177
7.4. Inputs and limitations of the proposed methodology	182
Chapter 8. Estimating the Impact of Sustainable Urban Logistics	185
8.1. Introduction	185
8.2. Economic evaluation	186

8.2.1. Estimating the direct costs of transportation and storage.	187
8.2.2. Analysis of margin on variable costs	189
8.2.3. Cost–benefit analysis.	193
8.2.4. Example uses of economic valuation methods.	198
8.3. Methods for estimating environmental impacts.	205
8.3.1. Main methods for estimating environmental impacts.	205
8.3.2. Introduction to life cycle analysis	207
8.4. Spatial indicators: centrality, inequality, attractiveness and accessibility	213
8.4.1. Service level indicators	214
8.4.2. Distance and cost indicators.	216
8.4.3. Gravitational indicators	217
8.5. Practical considerations of indicator estimation methods	220
Conclusion	225
Bibliography	231
Index	279