

BSI Series

Sofie Vermeulen
Aniss M. Mezoued
Jean-Philippe De Visscher (eds.)

Towards a METROPOLITAN CITY CENTRE for BRUSSELS



BSI Series

Towards a
METROPOLITAN
CITY CENTRE
for **BRUSSELS**

Sofie Vermeulen
Aniss M. Mezoued
Jean-Philippe De Visscher (eds.)

With the collaboration of
Anneloes Vandenbroucke and
Gabrielle Fenton



Éditions de l'Université de Bruxelles

VUBPRESS



bsi.brussels
brussels studies institute

This book received financial support from:

- The city of Brussels
- USL-B | IRIB
- VUB | BCUS
- UCLouvain | LOCI, ULB | EBxl
- Brussels Studies Institute

Front cover photo: scale model by BSI-BCO
Photograph by Aniss Mezoued
Layout cover: T'ink Studio

Printing: Silhouet, Maldegem (Belgique)

Published in 2020 by VUBPRESS Brussels
University Press
VUBPRESS is an imprint of ASP nv (Academic
and Scientific Publishers nv)
Boulevard de l'Empereur 34
1000 Brussels (Belgium)
info@aspeditions.be
www.vubpress.be

Éditions de l'Université de Bruxelles
Avenue Paul Héger 26
1000 Brussels (Belgium)
editions@ulb.be
www.editions-ulb.be

Legal deposit D/2020/11.161/025
ISBN (EUB) 978-2-8004-1713-4
ISBN (VUBPRESS): 978-90-5718-517-5

Selection and editorial matter
© Sofie Vermeulen, Aniss M. Mezoued,
Jean-Philippe De Visscher

Individual chapters
©The respective authors, 2020

This book is published under a Creative
Commons Attribution Non-Commercial
Non-Derivative 4.0 Licence.



The license allows you to share, copy,
distribute, and transmit the work for personal
and non-commercial use providing author
and publisher attribution is clearly stated.

Attribution should include the following
information:

Sofie Vermeulen, Aniss M. Mezoued,
Jean-Philippe De Visscher (eds.),
*Towards a metropolitan city centre for
Brussels*, Bruxelles, Éditions de l'Université
de Bruxelles/VUBPRESS, 2020
(CC-BY-NC-ND-4.0)

Since 2012, the Brussels Studies Institute has been contributing to a more integrated, multi-perspective knowledge on Brussels. Researchers and experts with varied profiles jointly examine the metropolitan challenges Brussels is facing. The broad dissemination and valorisation of the research results, and the associated debate, are high on BSI's agenda. The BSI Series is one of the communication tools to this end.

The Brussels Centre Observatory is a knowledge and exchange platform involving about 70 researchers, that was created in 2015 as part of the Brussels Studies Institute with the support of the City of Brussels. This research was carried out thanks to the support of Innoviris, Brussels Mobility, perspective.brussels, Forum des Vies Mobiles, the Fund for Scientific Research and the Flemish Community Commission, and with the collaboration of many partners including BOZAR, the bMa-Brussels architect, Brussels Academy, Architecture Workroom Brussels and the city organisations BRAL, Atelier Groot Eiland and Welkom op de Kleine Ring.

<http://bco.bsi-brussels.be>
Twitter : @BcoBrussels

Members of the BCO since its inception

Coordination Office

1. Eric Corijn (BSI | VUB – Cosmopolis)
2. Margaux Hardy (BSI | USL-B – CES)
3. Michel Hubert (BSI | USL-B – CES)
4. Aniss Mezoued (BSI | USL-B & UCLouvain)
5. Julie Neuwels (BSI)
6. Sofie Vermeulen (BSI)
7. Simon Boone (BSI)
8. Serge Jaumain (BSI | ULB)
9. Joost Vaesen (BSI | VUB)

Support to the coordination

1. Gabrielle Fenton (BSI)
2. Clara Lozano Lopez (BSI | stagiaire)
3. Dirk Moors (BSI)
4. Anneloes Vandenbroucke (BSI)

Steering Committee

5. Mathieu Berger (UCL – CriDIS)
6. Kobe Boussauw (VUB – Cosmopolis & STeR*)
7. Catherine Bouland (ULB – École de Santé publique)
8. Nicola da Schio (VUB – Cosmopolis)
9. Jean-Philippe De Visscher (UCL – LOCI)
10. Christophe Loir (ULB – SOCIAMM)
11. Jean-Michel Decroly (ULB – IGEAT)
12. Jean-Louis Genard (ULB – CLARA)
13. Imre Keserü (VUB – MOBI)
14. Judith le Maire (ULB – CLARA)
15. Cathy Macharis (VUB – MOBI)
16. Pierre Vanderstraeten (UCL – LOCI)
17. Benjamin Wayens (BSI – ULB – IGEAT)

Members of the taskforce

18. Guy Bakumba (ULB – HABITER)
19. Céline Brandeleer (USL-B – CES)
20. Cristina Braschi (UCL – LOCI)
21. Heleen Buldeo Rai (VUB – MOBI)
22. Tim Cassiers (BRAL)
23. Alexis Creten (USL-B – CES)
24. Bénédicte Dawance (UCL – LOCI)
25. Roeland Dudal (AWB)
26. Livia de Bethune (KU Leuven)
27. Stefan De Corte (VUB – Cosmopolis)
28. Bas de Geus (VUB – MFYS)
29. Roselyne de Lestrangé (UCL – LOCI)
30. Myriam De Spiegelaele (ULB)
31. Julie Deneff (UCL – LOCI)
32. Alexandre Donnen (UCL – IRSS)
33. Ana Daniela Dresler (VUB – Cosmopolis)
34. Thomas Ermans (USL – B – CES)
35. Geoffrey Grulois (ULB – LOUISE)
36. Rafaella Houlstan-Hasaerts (ULB – CLARA – sASHa et hortence)
37. Virginie Jourdain (BSI)
38. Bram Kin (VUB – MOBI)
39. Annelies Kums (Pyblik)
40. Giulietta Laki (ULB – GRAP)
41. Philippe Lebeau (VUB – MOBI)
42. Kevin Lebrun (USL-B – CES)
43. Gérald Ledent (UCL – LOCI, Uses & Spaces)
44. Barbara Le Fort (UCL – LOCI)

Scientific and Evaluation Committee

45. Géry Leloutre (ULB – LOUISE)
 46. Quentin Letesson (USL-B – CES)
 47. Cristina Lopez-Garcia de Leaniz (VUB – MOBI)
 48. Alain Malherbe (UCL – LOCI, CREAT)
 49. Wim Menten (BPC)
 50. Benoit Moritz (ULB – LOUISE)
 51. Claire Pelgrims (ULB – LOUISE)
 52. Hugo Perilleux (ULB – DGES)
 53. Anna Plushteva (VUB – Cosmopolis)
 54. Lucien Rigaux (ULB – Centre de Droit Public)
 55. Elisabetta Rosa (UCL – LOCI)
 56. Chloé Salembier (UCL – LOCI, Uses & Spaces)
 57. Mathieu Strale (ULB – IGEAT)
 58. Geert te Boveldt (VUB – MOBI)
 59. Julie Tessuto (USL-B – CES)
 60. Stéphanie van Doosselaere (Pyblik)
 61. Eva Van Eeno (VUB – Cosmopolis)
 62. Emilie van Haute (ULB – Cevipol)
 63. Linus Vanhellemont (VUB – Cosmopolis)
 64. Fabio Vanin (VUB – MOBI)
 65. Rien van de Wall (BPC)
 66. Sara Verlinde (VUB – MOBI)
 67. Heleen Verheyden (AWB)
 68. Nils Wuytens (VUB – MOBI)
 69. Mareile Wiegmann (VUB – MOBI)
 70. Sarah De Boeck (VUB – Cosmopolis)
- Nele Aernouts | VUB
 - Catherine Bouland | ULB
 - Simon Boone | BSI
 - Eric Corijn | VUB
 - Nicola da Schio | VUB
 - Jean-Philippe De Visscher | UCLouvain
 - Jean-Michel Decroly | ULB
 - Aurelie De Smet | KU Leuven
 - Frédéric Dobruszkes | ULB
 - Isabelle Doucet | VUB
 - Thomas Ermans | perspective.brussels
 - Michel Hubert | USL-B
 - Serge Jaumain | ULB
 - Sonia Lavadinho | Bfluid – Genève
 - Emmanuelle Lenel | USL-B
 - Christophe Loir | ULB
 - Aniss M. Mezoued | BSI
 - Benoit Moritz | ULB
 - Pierre Ozer | ULiège
 - Sophie Paquin | UQAM – Montréal
 - Claire Pelgrims | ULB
 - Elisabetta cinzia Rosa | UCLouvain
 - Chloé Salembier | UCLouvain
 - Frederik Serroen | BMA
 - Frederik Tack | BIRA – IASB
 - Geert te Boveldt | VUB
 - Eva Van Eenoo | VUB
 - Anneloes Vandenbroucke | BSI
 - Pierre Vanderstraeten | UCLouvain
 - Fabio Vanin | VUB
 - Sofie Vermeulen | BSI
 - Benjamin Wayens | ULB
 - Mareile Wiegmann | VUB

In the same book series

1. Vandenbroucke, A. M. Mezoued, J. Vaesen (eds.), *Voitures de société et mobilité durable. Diagnostic et enjeux*, Éditions de l'Université de Bruxelles, 2019
2. Vandenbroucke, A. M. Mezoued, J. Vaesen (red.), *Bedrijfswagen en duurzame mobiliteit*, VUBPRESS, 2019

TABLE OF CONTENTS <

Introduction	9
Part 1 – Findings	13
1 From Pedestrian Area to Urban and Metropolitan Project: Assets and Challenges for the Centre of Brussels.....	15
2 Pedestrianization of a Multifunctional Space: Challenges and Early Observations of the Brussels Pentagon	55
3 Right(s) to Brussels’s City Centre and the Urban Project: What Possibilities Exist for Future Transformations?	81
4 A Historical Perspective on the Central Boulevards in Brussels’s City Centre	113
5 The International Climate Footprint of a Cosmopolitan City: Magnitude and Trends of Brussels’s Air Travel Burden.....	137
Part 2 – Vision	161
6 Politics, Aesthetics, Economics: Imaginaries of Urban Public Space and Their Reshaping Through the Transformation of the Brussels City Centre	163
7 Transition Pathways Towards the Strong Sustainability of the Brussels Metropolitan City Centre: A Plea for an Ecosystemic Approach.....	193
8 The Walkability of the Metropolitan City Centre as Lever for Brussels’s Mobility Transition	217
9 A Common Vision for the Brussels Metropolitan City Centre Beyond the Pentagon.....	243
Part 3 – Action and projects.....	275
Zoom on Project 1: Steenweg	277
Zoom on Project 2: A Green-Blue Walking Network in the Southern Pentagon	309
Conclusion	341

INTRODUCTION



Aniss M. MEZOUEDE, Jean-Philippe DE VISSCHER
and Michel HUBERT

At the end of June 2015, the central boulevards of Brussels were transformed into pedestrian zones from Place Fontainas to Place De Brouckère. This major political decision was taken by the new Socialist Liberal majority following the municipal elections held in October 2012. It was a response to the numerous studies commissioned by the City of Brussels itself, and the demands various urban associations had been making for over fifteen years in favour of a transformation of the centre of Brussels and a reduction of vehicular pressure upon it. The high point of this mobilization appears to have been the ‘Picnic the Streets’ movement, initiated in June 2012. The municipal authorities presented the project as a paradigm shift in terms of both mobility and urban planning. After decades of dependence on speed and cars, and of peri-urbanisation in terms of housing, employment and trade, the pedestrian zone project was perceived as capable of inducing considerable changes within Brussels.

First, in terms of mobility, it would promote a transition, i.e., from a mobility based on fossil and carbon energy to a more sustainable, de-carbonized mobility. Such a transition, however, does not happen spontaneously, and requires the reorganisation of public space, transport systems and lifestyles.

From an ecological perspective, reducing the public space dedicated to the car would help improve air quality and reduce nuisances (including noise and traffic), at least in the pedestrian zone. It would also provide an opportunity to make the land more permeable and the city greener, conditions necessary for the improvement of living conditions and the reduction of urban temperatures in the context of global warming.

From an economic perspective, the pedestrian zone would make it possible to rethink the functioning of businesses within the city centre and the hyper-concentration of the tourism sector.

Lastly, on the social level, reducing the public space dedicated to the car increases the chances of encounters between the inhabitants and the city's users, leading to the emergence of new urban practices, which in turn, will strengthen social cohesion and the symbolic dimension of the centre of Brussels. Additionally, many cultural institutions present in the city centre would have an opportunity to reflect on the different ways they could interact with the public space.

However, despite these potential benefits, the pedestrianization of the centre of Brussels has been the subject of numerous controversies and strong opposition. These initially stemmed from several weaknesses in the project's design, management and communication, which revealed multiple concerns surrounding the direct and indirect impacts of the project. Among the elements at the heart of the debates were the mobility plan and what was referred to as a 'mini-ring', the (ultimately abandoned) plan to build new car parks in the city centre, a lack of communication and participation, a lack of support for traders during the transition, inadequate alternative solutions for deliveries, and a lack of planning of the public space and the built-up spaces around the pedestrian zone.

These controversies, and the opposition the project met, reveal the complexity of such a large urban project in which many issues have undoubtedly been underestimated. They have shed light on the fact that the development of the pedestrian zone must go beyond the local redevelopment of a section of public space: this zone lies at the very heart of the city and challenges the multiple dynamics, practices and imaginaries present there. Consequently, the challenges of such a transformation can only be addressed if it is placed within its territorial or societal context, and if it is aligned with the numerous dynamic citizens' initiatives – both private and public – already in place.

This book presents the activities undertaken by the *Brussels Centre Observatory* (BCO) over a four-year period. The initiative was driven by the *Brussels Studies Institute* (BSI), an inter-university and interdisciplinary collaboration platform for research on Brussels. With the support of the City of Brussels, BSI-BCO mobilised seventy researchers from a dozen research centres across five universities (ULB, VUB, USL-B, UCLouvain and KU Leuven). Adopting a transdisciplinary approach, these researchers attempted to address three main objectives. First, they sought to capitalize on existing academic knowledge on the challenges associated with pedestrianization in general and initiate reflection and concrete courses of action at the various relevant levels. The second objective was to promote discussion around both this knowledge and the proposals made with public actors and civil society within the context of existing discussion platforms or those created to this end. Third, they sought to identify unresolved issues and gaps in the knowledge and data.

These different objectives quickly revealed the need to broaden the scope of study and to reflect on what we refer to as the 'metropolitan city centre'. The study clearly revealed that the current centre goes well beyond the boundaries of

the historic Pentagon. Indeed, with the urban growth of Brussels over the last 25 years, the Region, which is characterized by a high density and diversity in terms of users and functions, and which aspires to the highest accessibility possible for the largest number, is now expanding to include a wider perimeter, including, in particular, the space within the loop of Line 2 of the Brussels Metro, the canal, and the areas surrounding the main train stations (North, South, Central, Schuman, Luxembourg, Ouest). This work, which has attempted to reconceptualise the extended metropolitan centre, has allowed us to further develop the role and functioning of the city centre as the main hub of the Brussels polycentric structure, as defined by the Regional Sustainable Development Plan (RSDP). The 'metropolitan city centre' is thus perceived as the most appropriate scale upon which to resituate the pedestrian zone and more broadly develop the paradigm shifts initiated there. While it provides a sufficiently broad framework that makes it possible to consider the multiple dimensions of urban issues and projects, it remains small enough to be analysed and concretely experimented upon. It allows actors to focus on the development of a specific territory, while taking into account its role and impact on the regional and metropolitan structure.

A fourth objective thus emerged for BSI-BCO. Indeed, it appeared necessary to initiate a process by which to assess the analyses and plans of action envisaged through the development of project scenarios, participatory co-design sessions and the experimentation of temporary solutions. BSI-BCO thus shifted from a research process organized around four transdisciplinary and inter-university working groups (space and society, economy and commerce, mobility and accessibility, and governance), to a process of research-by-design that reorganized the working groups around four territories revolving around three axes perpendicular to the pedestrian zone, and one around its northern and southern connections. This led to a collective learning process that allowed BSI-BCO to broaden its collaboration beyond the academic world and the City of Brussels, to civil society and regional administrations. BSI-BCO thus positioned itself as a mediator, independent of the classical procedures of urban public action and participation. The working methods developed have made it possible to understand the complexity of the urban project across different perspectives and take into account multiple actors. In such a scenario, the university becomes a potential actor in the formation of the urban fabric by creating an interface between public actors and citizens. In particular, it helps to objectify and better contextualize the debate, and also supports the emergence of an explicit vision of Brussels' urbanity that goes beyond the differences of opinions and interests.

1 > TWO BOOKS FOR THE METROPOLITAN CITY CENTRE OF BRUSSELS

This book, as well as the associated book for the general public¹, is organized into three parts.

- 1 Findings: This first part presents an analysis of the pedestrian zone and defines the opportunities and challenges facing the city centre of Brussels.
- 2 Vision: The second part conceptualizes the shared vision developed for the metropolitan city centre.
- 3 Action and projects: The third part details the methods certain projects have used, and explores their sources. It presents pilot and experimental projects on which BSI-BCO made some progress.

Both books were largely written before the COVID-19 crisis. This crisis highlights their relevance because they underscore the urgent need to implement an economic, social and ecological transition, for which the transformation of the metropolitan centre of Brussels lays down certain milestones. We will come back to this in the general conclusion section.

¹ Mezoued, A., Vermeulen, S. and De Visscher, J.-P. (eds.)(2020). *Au-delà du Pentagone. Le centre-ville métropolitain de Bruxelles | De Vijfhoek voorbij. Het metropolitane stadscentrum van Brussel.* Brussels : EUB and VUBPress.

PART 1



FINDINGS



FROM PEDESTRIAN AREA TO URBAN AND METROPOLITAN PROJECT: ASSETS AND CHALLENGES FOR THE CENTRE OF BRUSSELS¹



Michel HUBERT², Eric CORIJN³, Julie NEUWELS⁴, Margaux HARDY⁵, Sofie VERMEULEN⁶ and Joost VAESEN⁷

> Abstract

The new pedestrian area in the centre of Brussels is one of the most important urban projects of the last decades. In 2015, the central traffic artery, Boulevard Anspach, was pedestrianised. The public space and the biggest metro stations were renovated. The implementation of this project and the challenges it faces are inherently complex. Experiences in Belgium and abroad show that the impact on the city centre of Brussels will be significant at different levels: the quality of public space; housing and public services; local economy and employment; mobility, logistics and accessibility; and social and cultural activities. However, recent data and analyses are fragmented, non-existent or inaccessible for all stakeholders involved. Nevertheless, an urban project may only

- 1 This chapter is an update of the synopsis published in *Brussels Studies* on 11 September 2017, and is based in particular on the work published by BSI - Brussels Centre Observatory (<http://bco.bsi-brussels.be>), whose authors we wish to thank.
- 2 Université Saint-Louis — Bruxelles and Université libre de Bruxelles, Vice-Chair Brussels Studies Institute
- 3 Cosmopolis – Vrije Universiteit Brussel
- 4 Faculté d'Architecture, Université de Liège
- 5 Institut de recherches interdisciplinaires sur Bruxelles (IRIB) – Université Saint-Louis
- 6 Brussels Studies Institute – Brussels Centre Observatory
- 7 Vrije Universiteit Brussel

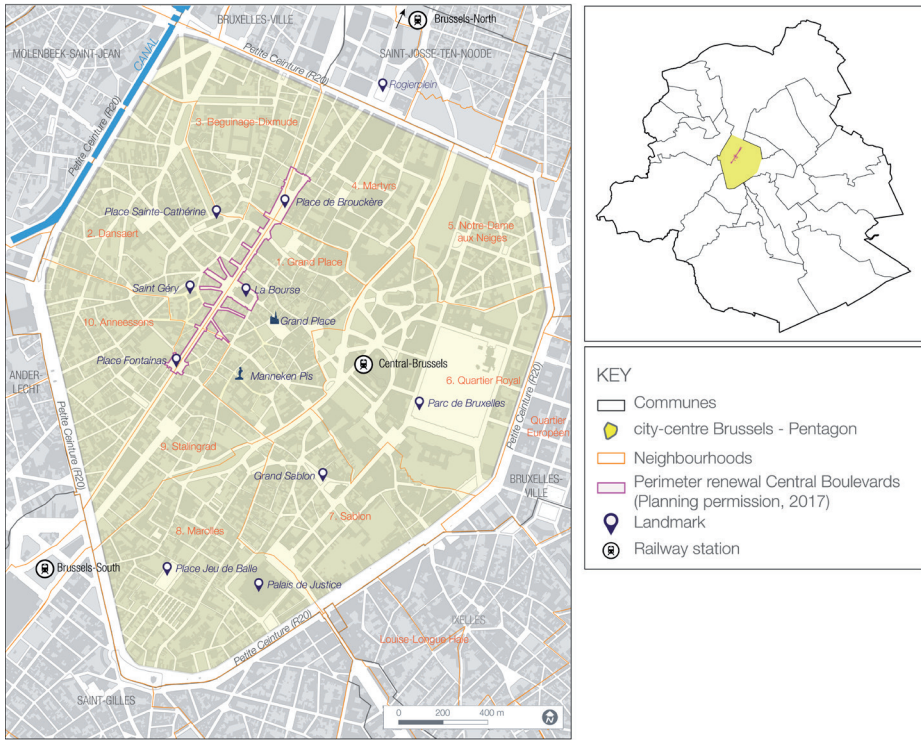
succeed when knowledge and expertise are gathered and shared, and used to support decision-making. Therefore, BSI - Brussels Centre Observatory (BSI-BCO) has been monitoring this project closely. Previously published research is further developed in this synopsis. Part 1 discusses the context of the project. Part 2 details the main challenges based on our observations. The synopsis concludes with concrete scenarios to improve the overall quality and management of the project.

1 > INTRODUCTION

Planned since the end of the 1990s, announced in 2012, and effective as of 29 June 2015, the pedestrianization of the central boulevards, i.e. from Boulevard Anspach which links Place De Brouckère to Place Fontainas (Figures 1 and 2), is unquestionably – for the centre of Brussels – the most significant urban project of the last decade, and one which has only just begun. More than just the development of public space, the ‘pedestrian area’ concerns many dimensions and levels in the making of the city. It provides major opportunities for the city centre, as well as for the Brussels-Capital Region (BCR) and the Brussels metropolis. The feedback from other cities in Belgium and abroad illustrates that pedestrianization can have the effect of fundamentally transforming the urban space by having an impact on its social, environmental, economic and cultural dimensions. At the same time, however, its success is not a given (Ghel, 2011; Ferial, 2013; Boussauw, 2016).

The outline of this chapter is based on work undertaken by the BSI-BCO in which the authors were closely involved: we shall focus on the pedestrianization of the central boulevards of Brussels as an important trigger and nodal point for rethinking not only the city centre but also the urban and metropolitan development of Brussels as a whole. Firstly, we shall briefly describe the general framework of pedestrianisation: the international trends, the expectations of the Brussels project, its challenges and the main factual data concerning it, as well as its recent developments. Secondly, based on the literature regarding other cities and a contextual analysis of the centre of Brussels, we shall reexamine the four main challenges and debates which we have discussed already in the past (Hubert et al., 2017), and which we feel the project has to face, along with a series of ideas for public action.

> Figure 1. Map of the pedestrianized central boulevards of Brussels



Data: City of Brussels, 2017; SumProject & B-Group-Greisch, 2015. UrbIS Release 2016Q2. CC- BY 2.0. CIRB-CIBG-BRIC.
Update: Sofie Vermeulen

> **Figure 2.** View of the boulevards before pedestrianization (2013), after pedestrianization (2016) and after development works (2020)



Sources from left to right respectively: 罗布泊 (author); BSI-BCO 2017; SumProject 2015; BSI-BCO, 2020

2 > FRAMEWORK

2.1 Pedestrianization: an urban development instrument

2.1.1 From functionalist project to urban project

The transformation of the streets of many European cities into spaces dedicated almost exclusively to traffic (to the detriment of non-motorized functions) and the gradual domination of cars (at the expense of other modes) in these spaces is the fruit of a long transformation process begun at the end of the 18th century (Loir, 2016). The first pedestrian areas, which appeared in 1959 in Germany (Kettwiger Straße in Essen) and in the United States (Burdick Street in Kalamazoo), constituted the outcome of this specialization of the public space. They emerged as a complement to the urban configuration dominated by cars and rapid modes of transportation. Advocated in particular since the 8th International Congress for Modern Architecture (CIAM) in 1951, the pedestrianization of certain main roads in city centres was a subject of discussion, publication and study trips, and became widespread in the 1970s (Brandeleer et al., 2016a). According to a functionalist approach, these pedestrian areas – which we can qualify as ‘first-generation’ – were manifested in a strict separation of modes of travel without calling into question

the use of cars in the city, and were usually created on main roads with a high commercial and/or touristic potential. The 1972 ban on parking on the Grand-Place in Brussels⁸ and the pedestrianization of Rue Neuve in 1975 are clearly part of this logic. As a result of policies in favour of car use, these pedestrian areas were not able to prevent vehicular traffic, which increased greatly during the postwar years in urban centres. The projects developed at the time in the United States have been commonly referenced in this regard, due to their failures in this respect (Ferial, 2013).

Since the beginning of the 2000s, pedestrianization has played a major role once again in the debates and projects related to urban development in Europe. The rationale behind many of these 'second generation' pedestrianization plans is not one of separation, but rather of a connection and coexistence between modes of travel (Ferial, 2013) and activities. This involves the combination of walking, cycling (and other light modes), public transport and/or limited car traffic according to the reference of shared space (Brandeleer et al., 2016a; Janssens and Vanderstraeten, 2016). The idea of public space in which the different modes of travel and activities exist in harmony – the logic which prevailed to a certain extent until the beginning of the 20th century (Jourdain and Loir, 2016; Loir, 2016) – thus re-emerged through a new way of connecting speed and slowness (Pelgrims, 2018).

➤ **Table 1.** Comparison of different types of shared space – pedestrian, residential and gathering areas – according to the Highway Code)

	Pedestrian area	Residential area	Meeting area
Function	mainly commerce/tourism	housing environment	housing environment, artisans, commerce, tourism, education, recreational activities
Relationships between users	pedestrians have priority in all cases	pedestrians have priority but mix of modes and uses (pedestrians may not hold up traffic unnecessarily)	
Access and car traffic			
Access	forbidden except in specific cases	authorised	
Speed	walking speed for exceptions	20 km/h, speed limited by speed bumps (in the case of residential areas), a non-linear development and a delimiting of start and end of the area (pavement across, etc.)	
Parking	forbidden, authorised stop in certain cases	forbidden except in defined areas, authorised stop	
Deliveries	if authorised, only at specific times	authorised in clearly identified areas with the least possible impact on pedestrians	

⁸ The final pedestrianization of the Grand-Place and its surrounding streets did not take place until 1991.

Cyclists	forbidden, but where authorised, obligation to get off bicycle when there are too many pedestrians	authorised	
Public transport	authorised	forbidden	authorised
Specific development according to traffic code	no specific development required, apart from signs at start and end of the area	specific development to guarantee the co-existence of modes (urban furniture, plants, etc. positioned in order to limit speed of vehicles and determine their route), development of street level, removal of pavements, delimiting of start and end of the area (signs + difference in level, for example), delimiting of parking spaces	

Source: Brandeleer et al. 2016: 166

This transition from a rationale of separation to one of connection meant that pedestrianization would be thought of more in terms of an urban project in the sense that it ‘allows developments to be considered for the city as a whole, without limiting interventions to single blocks’ (Feriél, 2013: 5). The reorganization of the sharing of public space between modes of travel and other traffic and living functions (walking, strolling, games, events, etc.) no longer attempts only to organize the functionality of the city, but also to ensure usability, social cohesion, entertainment, tourism, etc. in keeping with the territorialisation of socioeconomic policies and, more recently, environmental policies (Pinson, 2004, 2009; Dessouroux et al., 2009; Genard and Neuwels, 2016).

2.1.2 The positive potential role of pedestrianization

Today, pedestrianization constitutes a fully fledged urban development instrument whose potential role has been discussed in the international literature (Ghel, 2011; Boussauw, 2016; Keserü et al., 2016). In the cities studied, pedestrianization has:

- Led to a series of positive effects with respect to mobility choices, by promoting active modes of travel (bicycle, walking, etc.), the adaptation of delivery systems in favour of alternative systems and the improvement of public transport services;
- Had a positive impact on the accessibility of the city by decreasing car traffic and improving the performance of public transport in pedestrian areas;
- Resulted in better sharing between modes of travel and the freeing-up of spaces that were formerly dedicated to cars, thus allowing an improvement in the sustainability of increasingly densely inhabited cities;
- Improved the quality of life and the health of inhabitants and workers by reducing air and noise pollution resulting from road traffic;

- › Participated in the fight against global warming by reducing carbon emissions due to car traffic;
- › Turned out to be beneficial – after an initial downturn – for commercial activity and therefore for the creation of jobs, due to an average increase in the number of visitors and revenue;
- › Established places for sociocultural activities, quality interactions and social cohesion;
- › Led to the development of green spaces and contributed to urban biodiversity and the improvement of the local microclimate;
- › Created an opportunity to promote architectural heritage.

As underlined in the second part of this synopsis, the literature shows, however, that the success of pedestrianization projects is not a given. It may be threatened by the fragmentation of the institutional levels involved (both among and within themselves), by power relations that fail to permit the project to be brought to a successful conclusion, by failures in the governance tools used (strategic plans, economic incentives, participatory processes, etc.) or by a lack of clarity of and within the objectives pursued.

2.2 The pedestrianization of the central boulevards in Brussels

2.2.1 From a shared space to an urban motorway

As an extension of the ‘comfort zone’ established gradually around the Grand-Place in the 2000s, the pedestrianization of the central boulevards is presented as an urban development tool by the City of Brussels. More specifically, it emerges as the expression and formalization of a paradigm shift with respect to post-war urban policies: a means of giving ‘the necessary impetus to the economic, cultural and social revival’⁹ of the centre of Brussels, which, over time, has become ‘a grey and increasingly crowded space [...] dominated by cars’. The objective is to make the city centre ‘more welcoming, greener, more breathable – a guarantee of better health and well-being for everyone’, and for ‘citizens (local inhabitants, workers, tourists and shopkeepers) to reclaim the public space and enjoy a healthier and more breathable city’.¹⁰

The challenges for the centre of Brussels are indeed great. Beginning in the 1950s, it was considered – by public authorities in particular – above all to be an

⁹ CITY OF BRUSSELS. Un nouveau centre-ville ambitieux et dynamique, In: Ensemble, faisons battre le cœur de Bruxelles (Centre-ville Bruxelles) (online). Retrieved on 23 February 2017. Available at: <http://centre-ville.bruxelles.be/fr/le-projet/objectifs>

¹⁰ *Ibid.*

administrative space and a place of consumption for the benefit of peri-urban residents, as well as 'one of the biggest crossroads in the western world' (Ministère des travaux publics et de la reconstruction, 1957: 8). The Brussels territory was then transformed by a major expansion of the road network for three decades subsequent to the 1958 Brussels World's Fair (Demey, 1992; Hubert, 2008; Ryckewaert, 2011).

Built in the 19th century after the covering of the Senne, the central boulevards were connected to this network via the transformation of the inner ring into a main road for heavy traffic (as of 1955) and redeveloped following the creation of the pre-metro (inaugurated in 1976). At the time, these boulevards were designed to be what would be referred to today as 'gathering areas' (Jourdain and Loir, 2016), yet over time the room left for pedestrians became severely restricted and was limited to the pavements, which were cluttered with flower boxes, café terraces and access points for the underground stations. Far from being as functional as planned, the central boulevards soon became a congested urban motorway at the heart of Brussels (also referred to as the Pentagon). At the same time, the surrounding working class neighbourhoods degraded and became poor areas following the deindustrialization of the nearby canal area (in particular the central part), the urban exodus, the disinterest of the public authorities and the speculative strategies favouring the dilapidation of buildings in order to justify demolition/reconstruction projects (Aron, 1978; Grosjean 2010; Ryckewaert, 2011). Traffic congestion, air and noise pollution, and the development of the service sector therefore created a vicious circle of the deterioration of the living environment: as the city centre decayed, the residential attractiveness – and therefore the municipal revenue – decreased, thus making the development of urban renewal operations more difficult (Zimmer, 2002).

2.3 The restructuring of the city centre

Beginning in the 1980s, politicians began to worry about the industrial and residential decline of the centre of Brussels (Hubert, 1982). The public authorities gradually became interested once again in the central neighbourhoods, through *neighbourhood contracts* in particular (beginning in 1993), from a perspective of urban revitalization and social cohesion (Noël, 2009). For its part, the City of Brussels created a *Délégation au développement du pentagone* (DDP, Pentagon Development Delegation) (1995), and, with the help of different instruments in the fight against empty buildings (industrial buildings in particular), it obtained rapid results.¹¹ The Pentagon thus experienced steady demographic growth as of 1999-2000 (+/- 2.2% per year between 2000 and 2011), at a rate which was close to twice as high as that for the Region as a whole (+/- 1.1% per year during the same period). Today, the centre of Brussels is a densely inhabited space, in particular in the western part, where there is an over-representation of people aged 20-34

(Decroly and Wayens, 2016). The area inside the Pentagon is home to more than 50,000 inhabitants,¹² which represents just under 5% of the regional population in 2.5% of its area.

This demographic growth is heterogeneous from a socioeconomic point of view. The south and southwest parts of the Pentagon are mainly home to disadvantaged populations, whereas the other parts (northwest, east) are undergoing gentrification, attracting young (and not-so-young) adults from privileged backgrounds, at least as regards cultural capital (Van Criekingen, 2006, 2013; Bernard, 2008), as well as investors (Dessouroux et al., 2016). This heterogeneity is also evidenced in the quality of housing.

Finally, the centre of Brussels is characterized by high levels of economic and sociocultural activity (Decroly and Wayens, 2016). It constitutes a major employment centre, with administrative, financial, commercial (dominated by clothing shops and the restaurant sector, as well as specific businesses with a wide reach), health and educational functions. The city centre also constitutes the main touristic and cultural centre in the Region, concentrated around the *îlot sacré* (Grand-Place and surroundings), the central boulevards and the Mont des Arts.¹³

2.3.1 A high level of road congestion with many consequences

Road transport is the biggest cause of air pollution in European cities, with a significant impact on health (Keserü et al., 2016). According to Bruxelles Environnement (2016), in 2012 (and also in the 2015-16 update), it was the main sector responsible for the emission of three major air pollutants in BCR: nitrogen oxides (NO_x), carbon monoxide (CO) and fine particles (PM₁₀), although the level of these pollutants has diminished significantly. It was also responsible for 16% of lead and non-methane volatile organic compound (NMVOC) emissions, and the sector responsible for the second-highest proportion of direct emissions of greenhouse gases (26% in 2013). The noise pollution caused by car traffic also has a negative impact on health by increasing the risk of ischaemic heart disease, high blood pressure, tinnitus and hearing problems (Keserü et al., 2016).

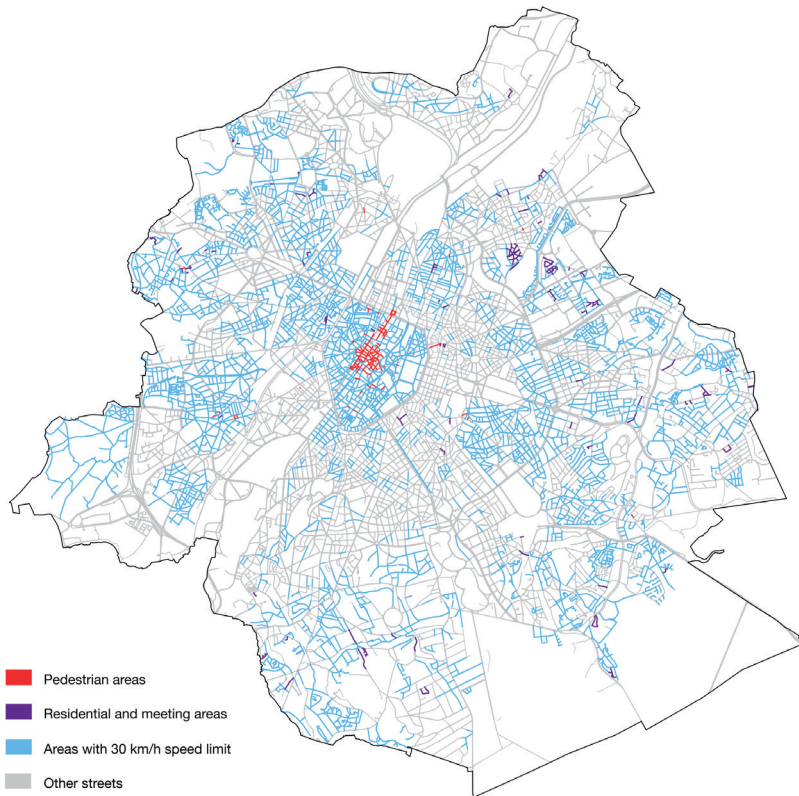
At present in the BCR, the sharing of space between different modes of travel takes place mainly through isolated interventions which restrict the access and the speed of cars: areas with 30 km/h speed limit, speed bumps, widening of pavements and parking barriers, dedicated lanes for public transport, etc. (Moritz, 2011; Brandeleer et al., 2016b). Pelgrims (2018) describes these interventions very precisely as mechanisms for speed *domestication*, speed *externalization* (outside the perimeters where car traffic is deliberately slowed down or prohibited) and speed object *invisibility* (with street parking restrictions and support for the reinforcement of off-street parking). In Brussels (Figure 3), the proportion of

¹² Online: <https://monitoringdesquartiers.brussels/>

¹³ See also the following chapter on the evolution of the centre of Brussels.

pedestrian, residential and gathering areas is relatively low with respect to the European pedestrianization movement which has been developing since the early 2000s (Brandeleer et al., 2016a), but has increased greatly in recent years, albeit with little continuity between these areas today.

> **Figure 3.** Pedestrian and residential areas, and areas with a 30 km/h speed limit in the BCR



Author: Thomas Ermans. Data: Bruxelles Mobilité, MobiGIS v2.0, March 2020

Furthermore, while a rapid evolution of travel practices has been observed in the Region in terms of greater multimodality (combination of the use of a car, public transport, walking, bicycle, etc. for a single trip or depending on the trip) and a reduction in the use of the car (Lebrun et al., 2013, 2014; SPF Mobilité et Transports, 2019), this evolution scarcely compensates for the increase in the total volume of travel due to the demographic boom, and must adapt to the continued high rate of use of the car for inbound and outbound travel (Hubert et al., 2013; Ermans et al., 2019). Also, the concentration of motorized traffic on regional and metropolitan roads –excluding residential neighbourhoods– has not helped to reduce congestion (Brandeleer et al., 2016b).

2.3.2 The pedestrianization of central boulevards: a turning point in a long decision process

It is in this context of demographic growth and reorganization of the city centre, followed by road congestion and noise and air pollution, and finally, the expectation for inhabited public space and quieter traffic, that we must understand the decision to take strong action, which has been manifested in the pedestrianization of the central boulevards in Brussels.

While the first study – referred to as ‘Simons’ – conducted by the architecture and urbanism firm *Groep Planning* – later to become *SumProject* – on mobility in the Pentagon dates from 1997/98, the *renovation* of the central boulevards only became part of the political agenda of the City of Brussels in 2003, in the framework of *Fonds Beliris*¹⁴ (Vanhellemont and Vermeulen, 2016). A more in-depth study was then assigned to *Groep Planning*, without immediate follow-up. While there was support from civil society for a reduction in road congestion (see *Plan NoMo* in 2000¹⁵), it took several years before the first concrete actions were implemented: the closure to car traffic of approximately ten streets around the Grand-Place (referred to as the ‘comfort zone’), whose planning permission was granted at the end of 2009, and the reduction of lanes for car traffic on Anspach, Lemonnier and Adolphe Max boulevards to the benefit of the development of bicycle paths in 2012. Finally, following the arrival of Yvan Mayeur as the mayor of the City of Brussels in 2013 (replacing Freddy Thielemans), the renovation of central boulevards – decided on by the Liberal/Socialist municipal majority after the 2012 elections – became clearer, with the decision to pedestrianize Boulevard Anspach between Place De Brouckère and Place Fontainas, thus extending the comfort zone around the Grand-Place. This evolution was justified in particular with regard to citizen movements, which called for the renovation of central boulevards in order to reduce car traffic, without specifically advocating their pedestrianization (in particular, *PicNic the Streets* in May 2012, as well as the *ParcAnspachPark* call for ideas organized by BRAL in July 2013) (Tessuto, 2016; Vanhellemont, 2016).

¹⁴ Following the Cooperation Agreement of 15 September 1993, the federal government committed itself to carrying out and financing a series of interventions upon Brussels’s territory in the areas of mobility, green spaces, culture, heritage, social housing, etc. These interventions are ensured by the Beliris administration (from the name of this cooperation agreement), which is part of *SPF Mobilité et Transport*.

¹⁵ Association des Non Motorisés – Autrement mobile. At the time of writing (January 2020), this plan was still available on the Bral website (bral.brussels).

➤ **Table 2. Main strategic plans concerning mobility and/or the renovation of central boulevards in the centre of Brussels before pedestrianization**

Name of the plan	Stakeholders and status
Tekhné Plan–1962	<p>'Master plan for the Brussels Pentagon'. Urban development masterplan for the entire Pentagon (horizon 1985). Carried out by Groep Tekhné. Commissioned by the City of Brussels–Alderman for Urban Development Van den Boeynants (CVP). Partly executed project.</p>
Simons Study–1997/1998	<p>Mobility study for the Pentagon–3 scenarios for a car-free city centre. Within the framework of the preparation of a Municipal Mobility Plan for the City of Brussels. Carried out by Groep Planning (now SumProject). Commissioned by the City of Brussels, Alderman for Urbanism H. Simons (Ecolo). Project never carried out, but resulted in the plans below.</p>
NoMo Plan–2000	<p>Proposal by the non-profit organization NoMo (experts and residents) on its own initiative for '50% less cars in the Pentagon'. Based on one of the three scenarios–the most ambitious–from the study by Simons (1997). Project never carried out, but served as a reference in the non-profit sector for a long time, and prompted the Beliris Plan (2003).</p>
Beliris Plan–2003	<p>Study for the development of the central boulevards. Carried out by Groep Planning (now SumProject). Commissioned by Beliris, for a project competition. Budget granted, but project never carried out. Led to the Simons Plan (2004) and the Ceux Plan (2010)</p>
Simons Plan–2004	<p>Mobility study for the City of Brussels on the development of the central boulevards. Carried out by Cooparch-RU (now ERU), under the auspices of AGORA. Commissioned by the City of Brussels, Alderman for Urbanism H. Simons (Ecolo). Study based on preliminary studies and scenarios proposed in 1998. Approved by municipal council but never carried out.</p>
Ceux Plan — 2010	<p>Mobility study for the City of Brussels (Pentagon section, p. 91). Within the framework of the preparation of a Municipal Mobility Plan for the City of Brussels. Carried out by Espaces mobilités and Transitec. Commissioned by the City of Brussels, Alderman for Urbanism C. Ceux (cdH). The study takes into account the regional strategic development and mobility plans (PRD II & IRIS II plans), but is not based on the Simons plans (1997/1998 and 2004). Never approved by the municipal council.</p>

Source: Vanhellemont & Vermeulen, 2016, p.48

The renovation of the central boulevards was therefore not included on the political agenda for a long time, which was less due to the need to prepare the project with many technical studies, than to the fear of decision makers to take on an urban project of such vast scope. Courtois and Dobruszkes (2008) and

Brandeleer and Ermans (2016b) have shown that this feebleness is common in Brussels when it comes to reducing the spatial and temporal ascendancy of cars at communal and regional level. This results in an ‘overemphasized importance of car users in the development of the city and mobility management’ (Courtois and Dobruszkes, 2008: 19). At the same time, Brussels is characterized by a network of relatively narrow roads, which makes the balanced coexistence of active modes of travel, public transport and car traffic complex and sometimes even impossible (Brandeleer et al., 2016b).

2.3.3 Controversies and a compromise to ‘take action’

Given the above, the implementation of the pedestrian area in Brussels appears to be an eminently political act (Vanhellemont, 2016). Encouraged by the last citizen mobilization efforts (*PicNic the Streets*) on the eve of the municipal elections of 2012, this ‘taking of action’ was possible at the time thanks to a great political compromise within the new municipal majority: the pedestrianization of a section of the central boulevards, provided that four new local car parks would be built, and reorganization of the traffic in the adjacent streets.¹⁶ This involved ensuring accessibility by car for visitors and inhabitants who were used to using or forced to use their cars, while making up for the disappearance of parking spaces in the pedestrian area (Keserü et al., 2016).

However, this compromise has blurred the political aim of the project and has generated considerable controversy. The announced development of four new car parks in the immediate surroundings of the pedestrian area was understood to be a strategy to render cars invisible, to the detriment of a policy to reduce road congestion in the city centre (Genard and Neuwels, 2016). The reorganization of traffic into a service ring around the pedestrian area was described as a ‘mini ring-road’, testifying to the fear that traffic and pollution would simply move to the surrounding neighbourhoods (Figure 4).

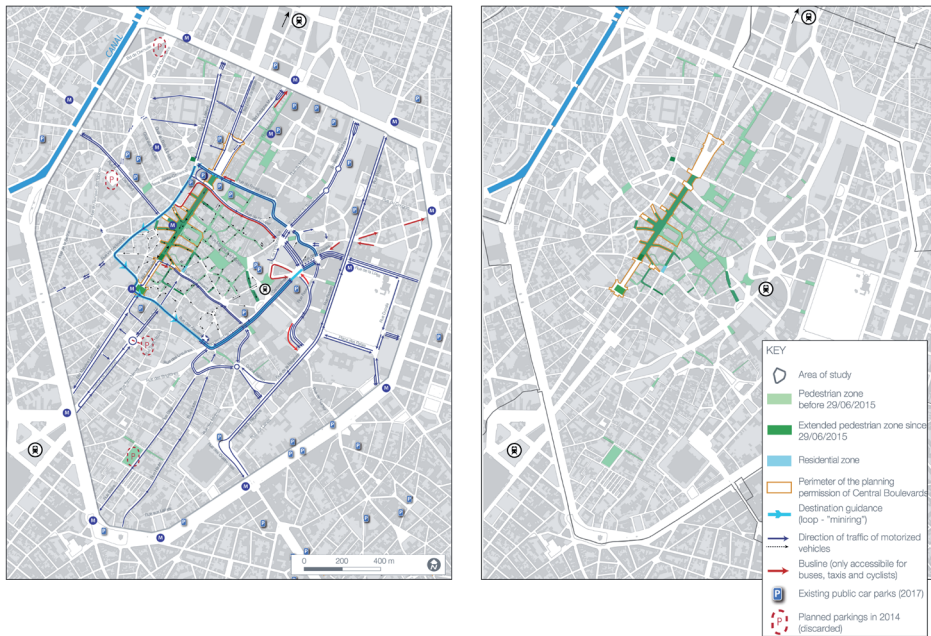
The lack of clarity of the political aim was also reinforced by the decision to increase the distance between bus stops and by the removal of certain dedicated lanes, which harmed the clarity and efficiency of the public transport surface network (Keserü et al., 2016), as well as by the coexistence of a rationale in support of ‘a city built for its inhabitants’¹⁷ and statements and actions in keeping with the perspective of economic attractiveness (make De Brouckère a ‘Times Square’, make the pedestrian area a ‘Belgian Avenue’ then a ‘Family Pleasure Shopping’, transform the Bourse into a ‘Beer Temple’, etc.) (Vanhellemont, 2016; Genard et al., 2016).

¹⁶ These car park projects were gradually abandoned following opposition (in particular to the plan to build a car park under Place du Jeu de balle in the Marolles neighbourhood).

¹⁷ City of Brussels, 2015. *Ensemble, faisons battre le cœur de Bruxelles*, p. 3.

Compromises are inevitable in the framework of the implementation of major urban projects (Le Galès, 1995; 2002). However, in the case of the pedestrian area in Brussels, the resulting lack of transparency means that these compromises may in the end become more divisive than unifying, and more ineffective than effective, if they are not explained and supported. The pedestrian area has indeed been the subject of many controversies and opposition movements. And the context of these controversies is complex, especially as the future of the city centre concerns many stakeholders, levels of authority and urban governance challenges well beyond the local challenges (Vanhellemont and Vermeulen, 2016; Genard et al., 2016).

> **Figure 4. Traffic plan and pedestrian areas in the centre of Brussels – June 2016**



Data: City of Brussels, 2014 and 2017; SumProject & B-Group-Greisch, 2015. UrbIS Release 2016Q2. CC- BY 2.0. CIRB-CIBG-BRIC. Update: Sofie Vermeulen

2.3.4 Difficult implementation in a context of indeterminacy yet exponential attendance

On 29 June 2015, Boulevard Anspach was closed to car traffic and temporary facilities were set up (wooden furniture, ping-pong tables, etc.). During the summer period, there was a good-natured atmosphere in the area during the day, which became more tense in the evening. But very soon, the implementation of the project was held back. The international context, with the Minister of the Interior's introduction of a lockdown following the attacks in Paris (November 2015), followed by the attacks in Brussels (March 2016), placed a leaden weight on the centre of Brussels, particularly its pedestrian area, which was subjected to patrols by armed soldiers. Tourism plummeted, and concern about the future was palpable. At the

same time, the accessibility of the city centre by car was being undermined by what would be referred to as the 'tunnel crisis'.¹⁸ While the media announced the start of works on the pedestrian area from the outset,¹⁹ these were delayed for more than two years, in particular by several appeals against applications for planning permission. As Fenton et al. (2020) explain,

┌ *For many residents and merchants in the city centre, this period was experienced quite negatively and the boulevard was perceived as having been abandoned, left to its own devices by the authorities. The lack of communication as to the next steps, combined with the presence of temporary facilities considered by some to be of poor quality as well as indecision in terms of road management, were sources of concern and a feeling of stagnation, conveying negative ideas about the implementation of the project. What is more, temporary facilities led to uses which some residents and merchants in the area vigorously complained about.* ┘

Work finally began in 2017 and, section by section, the boulevard was redesigned, as well as the Bourse and De Brouckère metro stations. However, a certain degree of indeterminacy (Fenton et al., 2020) continued to overshadow the project in terms of the regulatory status of the road infrastructure in certain places (Place De Brouckère or south of Boulevard Anspach, for example), communication and citizen consultation, and also political aims.

Meanwhile, private investors, particularly Whitewood and ImmoBel, were not idle and clearly believed in the future of the city centre. These two groups were involved in the renovation of Centre Monnaie (soon deserted by the city administration), the Allianz block (De Brouckère) and the former Tour Philips.

It should also be noted that a new mayor, Philippe Close, was appointed in July 2017 following the resignation of Yvan Mayeur in the wake of the Samu social scandal. This allowed the Socialist Party to revive itself just in time for the municipal elections in October 2018. This resulted in a new Socialist-Ecologist majority (plus Défi) which is expected, among other things, not to go back on the parking projects of the previous majority and to improve the accessibility of the city centre by public transport.

At the time of writing, the use of the pedestrian area is increasing sharply, especially

¹⁸ Temporary closure of several road tunnels for access to or around the city centre, following a rockfall due to the deterioration of these engineering structures that date to the 1950s and 1960s. The Brussels-Capital Region was obliged to implement a vast renovation plan as a matter of urgency, avoiding a debate on the future of this modernist infrastructure (Hubert, 2008).

¹⁹ See for example "Piétonnier sur les boulevards du centre de Bruxelles : le début des travaux", RTBF, June 22 2015, https://www.rtf.be/info/dossier/tout-savoir-sur-le-nouveau-pietonnier-bruxellois/detail_pietonnier-sur-les-boulevards-du-centre-de-bruxelles-le-debut-des-travaux?id=9013287, retrieved on 19/01/2020.

during major events such as the start of the Tour de France or Plaisirs d’hiver, and tourism is breaking new records only three years after the Brussels terrorist attacks. Only the renovation of Place de la Bourse and Place Fontainas is still in progress, with completion expected by autumn 2020. But the transformations in the centre of Brussels, particularly in terms of property, have only just begun.

3 > OBSERVATIONS AND CHALLENGES

The second part of this chapter explains what we feel are the four main challenges still faced by the project to renovate the centre of Brussels. Based on a number of observations from international literature and specific knowledge pertaining to Brussels, it aims to contribute to the objectification of debates on the future of the centre of Brussels, as well as to shaping their evolution.

3.1 Challenge 1: Clarify and achieve the objectives of the development of public space by taking action on the intangible – ‘life between buildings’²⁰

Established by the architecture and urbanism firm *SumProject*, the development plan for the public pedestrian space – when it was created in 2015 – proposed a division of the central boulevards into a series of spaces, each with a specific name designating an atmosphere: an ‘urban garden’, a ‘green walk’, an ‘urban scene’, a ‘home’ and an ‘agora’. Currently, only the spatial aspects of these developments have been defined and largely implemented (materials, equipment, greenery, etc.). While urban development and the organization of activities in the public space structure in part the behaviour of the different users (inhabitants, workers, visitors, etc.), they may not regulate it completely. There are several different uses, changes of use and conflicting uses which constitute the fundamental unpredictability of the ways in which users appropriate the space, and which are well documented in urban studies (Corijn and Vanderstraeten, 2016; Gehl, 2011; Lofland, 1998; Jacobs, 1993).

In order to achieve the objectives of a pedestrian area, there is a need for action involving more than just the development of public space; there must also be action involving the intangible aspects (uses, sociability, symbolic actions, etc.). The main challenge in this respect is to know how – with which instruments of governance, public policies and partnerships – to improve and ensure the continued existence of desirable social practices and their diversity in this reorganized public space.

3.1.1 Guaranteeing the diversity of atmospheres and uses of the public space

By detailing its development, the pedestrian area of the centre of Brussels differs from the pedestrian areas and shared spaces recently developed in the Brussels-Capital Region based on a freeing-up of space through minimum use (for example, Place Flagey, Place de la Monnaie or Chaussée d'Ixelles). *SumProject's* plan defines a series of sub-spaces, each with a key function (consume, walk, show, rest, gather and play, for the main part) and a specific development (traffic lanes, benches, plant containers, fountains, etc.). These functions and developments aim to create the specific atmospheres mentioned above.

In particular, the development of successive sections of the boulevard may be understood as a compromise between economic and habitability objectives (Corijn et al., 2016). On the one hand, the project testifies to the will not to create a simple neighbourhood, but rather to target inhabitants as well as visitors by defining relatively neutral uses and facilities. On the other, the project seeks to restrict commercial activities in the public space in order to avoid an excess.

International research shows that, in general, pedestrianization favours an almost exclusive use of the road by certain commercial activities which privatize the public space (terraces, displays, etc.) to the detriment of social and cultural activities and leisurely walks (Mitchell, 2003; Dessouroux, 2006; Hass-Klau, 2015; Boussauw, 2016). The development plan was intended to limit this phenomenon by ensuring a certain functional sharing of the public space. This partitioning of developments raises questions in at least three respects:

- A lot of the research shows that the *a priori* overdetermination of the functions of public space favours certain practices and, therefore, populations. By overdetermining the development of an area, there is the risk that certain categories of the population in terms of sociocultural status, gender, generation, etc. will take over (Amin, 2008; Gehl, 2011; Wood and Landry, 2008). The mix and diversity of users and uses remain an important issue for the centre of Brussels and particularly its pedestrianized area, frequented by a population of mainly young people who are more often from the central neighbourhoods than from the outskirts (Keserü et al., 2016; Weigmann et al., 2018; Fenton et al., 2020), and mainly men in the evenings and at night (Fenton et al., 2020).
- The development of successive sections of the boulevards reproduces a significant north – south linearity. The west – east direction is less pronounced, despite the declared will to reconnect it. Despite the presence of living spaces and a street-level layout, users reproduce their usual movement patterns, favouring window-shopping, strolling and slow wandering along the facades, while the central strip is rather used for transit traffic on foot and by bicycle (and other light vehicles), if not by bus or car in the southern part of

Boulevard Anspach (Fenton et al., 2020). In between, terraces over-occupy the public space, particularly in the Bourse – De Brouckère section, without many restrictions (including in terms of type of furniture) and without it being clear how the mini green spaces will be used when the protective barriers surrounding them are removed. Conversely, it must be recognized that the low organizational level of the pedestrianized area before the works left the door open to multiple uses, ‘favouring the unexpected as well as the improvised’. It thus allowed ‘popular and informal creative resources’ to be taken advantage of instead of ‘the risk of a public space which would slowly be devoted only to consumerism’ (Genard et al., 2016: 69).

- It is more difficult to ensure the quality of a public space when there are several different developments, stakeholders and instruments involved. For example, all of the material, plants and equipment used must meet technical constraints in terms of maintenance and use, durability, installation, etc. Equipment and materials that deteriorate rapidly, are not adapted to uses, or do not match the environment in aesthetic terms detract from the quality of the public space as a whole. In order to ensure the quality of this complex whole, it is not sufficient to merely follow construction standards. It requires continuous, coordinated and cross-cutting management. It should be noted here that after only a few months of intensive use, some surfaces have already deteriorated severely due to the authorized car traffic (e.g. Place De Brouckère and the southern part of Boulevard Anspach) or are considered unsuitable by people with reduced mobility (Fenton et al., 2020; Creten et al., 2019).

In keeping with the multifunctionality that characterizes the centre of Brussels (Decroly and Wayens, 2016), it therefore seems necessary to ensure the plurality of atmospheres and uses of the public space following its closure to car traffic, in order to increase quality. This involves spatial development (facilities, type of urban furniture, etc.), activities, and the management of public space (commercial/touristic, sociocultural, artistic, sports activities, etc.), which we shall discuss in the following section.

3.1.2 Supporting and defining activities in the public space

The *atmospheres* in the pedestrian area refer to intangible activities in the public space, which have become a true tool for urban policy (Bianchini and Parkinson, 1993; Pradel, 2007; Amin, 2008). Genard et al. (2016) highlighted the fact that activities in the pedestrian area constituted a central issue in the controversies, outlining at least three major ‘visions’ or ‘ideas’ of the city centre and the public space: *commercial* public space, *political or symbolic* public space and *aesthetic* or cultural public space:

- For the advocates of *commercial* public space, the quality of the project for a pedestrian area is measured by its potential to be an impetus in terms of

economy and tourism for the city centre, and even for the Brussels Region. This impetus is dependent on a series of guarantees, such as the security of the neighbourhood and continuation of activities in the public space.

- › For the advocates of *political or symbolic* public space, the first challenge involves the potential for appropriation of the public space by the population through participation in its design, co-production and co-management. The success of the pedestrian area is therefore partly due to its ability to symbolize the political and to be a welcoming place for events, activities, moments of celebration as a group, etc.
- › For the advocates of *aesthetic or cultural* public space, it is thought of above all in terms of culture and experience. A vast space such as the pedestrian area must allow relationships of co-presence and co-visibility between strangers and produce an aesthetic of gatherings, stakeholders and spectators, following the example of the uses made of central boulevards in the 19th century (Jourdain and Loir, 2016). It is therefore necessary for people to be able to experience this and not be overly distracted by consumer activities, for example.

As regards the pedestrian area, these three visions of the public space are potentially complementary, as long as they are all applied and managed through a cross-cutting approach. Today, the activities in the pedestrian area are nevertheless not very well defined from this perspective. They involve the accumulation of specific actions initiated by the public authorities or by private stakeholders. But they do not seem to be considered or taken advantage of as an integral part of the creation of atmospheres and the urban project based on the development of the pedestrian area, as designed initially by *SumProject*.

The literature shows that the activity in the public space is generally in keeping with a perspective of privatization (economic or other), to the detriment of the usage value of the public space (Lefebvre, 1968; Decroly et al., 2003). The main roads with shops, restaurants and cafés are particularly prone to this mono-functional appropriation of the public space, to the benefit of commercial activities and to the detriment of socio-cultural activities (Gravari-Barbas, 2001). The pedestrianization of these main roads reinforces this phenomenon (Boussauw, 2016), as confirmed by the case of Brussels (Fenton et al., 2020).

Public intervention is therefore necessary in order to ensure a certain balance which allows a coexistence of the three visions of the public space (commercial, political and aesthetic) with respect to the pedestrian area. This involves establishing a calendar of activities with the stakeholders concerned, while ensuring 'idle time' in order to avoid a saturation of events and activities, to allow the pedestrian area to have a life of its own, and to limit the feeling of constant encroachment experienced by the inhabitants. This also involves facilitating and developing expressive and artistic activities in collaboration with the local cultural operators,

in order to prevent a predominance of commercial space, a phenomenon that is well underway today in the centre of Brussels. As for the political public space, it seems to be disappearing from the central boulevards, as demonstrations no longer take place there. It remains to be seen whether Place de la Bourse will once again become a space for expression and commemoration following its renovation (Fenton et al., 2020).

3.2 Challenge 2: Connecting the project to regional and metropolitan dynamics, and linking all of its dimensions together

The pedestrianization of the central boulevards and the transformation of the centre of Brussels have an impact at three levels: local, regional and metropolitan (Genard et al., 2016), and, arguably, even international. We know that good coordination between levels and stakeholders concerned is necessary in order to ensure the success of complex urban projects (Le Galès, 1995, 2002; Pinson, 2004, 2009). Furthermore, the presence of a multitude of ideas, interests, competences and motivations often requires the development of innovative instruments for public action in order to ensure the networking of projects (Boudry et al., 2003; Van den Broeck, 2010; Moulaert et al. 2013; Segers et al., 2013).

3.2.1 Outside the perimeter: positioning the pedestrian area in a wider spatial framework

By removing the barrier formed by the urban motorway that the central boulevards had become, and by recreating the squares which existed along the original Boulevard Anspach, the pedestrian area aims to reconnect the east and the west (in the lower part) of the city centre: the reconnection of the Grand-Place neighbourhood and the Saint-Géry, Sainte-Catherine and Dansaert neighbourhoods via the Bourse, and beyond the canal towards Molenbeek; the reconnection of the Anneessens and Jardin aux Fleurs neighbourhoods and the Saint-Jacques and Marolles neighbourhoods via Parc Fontainas; and the reconnection of the Rue Neuve neighbourhood and the Quais neighbourhood via Place De Brouckère.²¹

While the project reconnects the east – west premodern fabric (De Visscher et al., 2016) – which is a very important positive point – it fails to define the desired impact of the pedestrianization of boulevards on the connections between the city centre, the Region and the metropolis. What are the recommended relationships with the other major projects and/or vectors of urban centrality, at the level of the Pentagon (Sablon, Marolles, redevelopment of the North – South junction, canal, inner ring, etc.), the neighbouring municipalities (Molenbeek in particular), and the Region (Porte de Ninove master development plan, Canal Plan, etc.)? The City of Brussels considers that the city centre is its own business, and the BCR rarely challenges it on

this point. Thus, it was only *in extremis* that the Regional Sustainable Development Plan (PRDD), adopted in 2018,²² underlined the specificity of the city centre within the framework of a metropolitan and polycentric vision of the city. For the first time in an official document, there was the suggestion of extending the limits of the city centre: ‘The city centre is commonly confined to the “pentagon”, the historical centre of the city. The developments in Brussels make it necessary to reconsider this area and to extend it in order to be in keeping with current realities’ (p.22). The PRDD also calls for ‘positioning the Pentagon and the urban projects which are being developed there within a broader framework (the city centre framework) so as to meet the need for a link between the city centre, the Region and the metropolis and to deepen its relations with other strategic projects in Brussels’ (p.61).

It is nonetheless true that the *city project* underpinned by the pedestrian area does not appear clearly in the communications of the City and BCR, which discourages the acceptance of the project by society (Vermeulen and Hardy, 2016). Vanhellefont (2016) has shown that this has even stirred up controversies and has led to a loss of support from stakeholders who are in favour of the project. Furthermore, by focusing on the very local scale of the central boulevards and neighbouring streets, the project for the transformation of the centre of Brussels might not be able to achieve the desired paradigm shift.

It is therefore necessary to strengthen the possible relationships between the city centre and other strategic projects in Brussels. This also involves working on the structural axes to be deployed in order to expand the city centre from east to west and from north to south (see the second and third parts of the present book).

Although there is a difference in spatial scale, the project promoters – in particular the City of Brussels – could draw inspiration from the *International Bauausstellung*²³ (IBA), an instrument for urban planning and renewal developed in Germany. IBAs are flexible structures that unite – in a predetermined direction – a group of projects supported by different stakeholders in order to ensure overall coherence, while preserving independent project management. Usually ensured by a ‘chamber of quality’ – i.e. a multidisciplinary follow-up committee that ensures that the desired objectives are met, formulating practical recommendations and coordinated by a steward – their effectiveness is based on the fact that they are light and flexible governance structures established for the duration of the project. These structures ensure the overall coherence of urban transformation, which is formalized via a multitude of projects, by combining efforts and facilitating collaboration between the various public institutions involved (APUR, 2009; Pinch and Adams, 2013; Shay, 2012).

²² <http://www.prdd.brussels>

²³ <https://www.open-iba.de/en/>

3.2.2 Making the pedestrian area one of the milestones of an ambitious mobility policy at regional and metropolitan levels

Contrary to the (semi-)pedestrianization projects which are often cited as examples (Copenhagen, Bordeaux, Barcelona, Lyon, Ghent, etc.), the pedestrian area in Brussels is struggling to become part of a mobility policy at regional and metropolitan level (Brandeleer et al., 2016a; Boussauw, 2016; Keserü et al., 2016). It is not – or only scarcely – connected to the other spaces that have been made into pedestrian, gathering, etc. areas, or that are being developed for these purposes in the Brussels-Capital Region (Brandeleer et al., 2016a) (see Figure 3). A radical increase in the use of active means of travel (bicycle, walking, etc.) has therefore not been facilitated. The coherence of infrastructures and the connectivity of journeys have a determining influence in this respect (Gehl, 2011; Saelens, 2003; Craig et al., 2002; Handy et al., 2002).

The extension of the pedestrian area has also not been an occasion to reinforce the accessibility of the city centre by public transport and/or increase the frequency of service (Keserü et al., 2016), while 27% of the inhabitants of Brussels do not have easy access to the centre via public transport, given their distance from it (Lebrun, 2016). On the contrary, the modification of the STIB/MIVB bus network which accompanied the pedestrianization of the central boulevards was not exactly beneficial in terms of services to and from the centre (reduction in the 'legibility' of the terminals, more complex connections, removal of dedicated transport corridors, etc.). The lingering issue of the structuring of bus lines (through or terminus lines) and the location of bus terminals is yet to be resolved, as is the question of the creation of a structuring east–west tram line. The international literature details how essential easy access by public transport is for the success – in particular, the economic success – of pedestrian areas (Sandahl and Lindh, 1995; Boussauw, 2016). As regards motorized travel (Keserü et al., 2016), the view that the city centre has become inaccessible (also due to the 'tunnel crisis') has not been thwarted by a *park & ride* policy reinforced at regional and metropolitan level, while signage and electronic signs for public car parks were implemented at a late stage, and are still not perfected today. Furthermore, the systems for goods deliveries are having trouble adapting to the pedestrian area due to a regional policy which is not yet fully operational (Verlinde et al., 2016).

This situation is common in Brussels. The institutional context, the multitude of stakeholders involved, and the diverging opinions prevent the development of a coherent and ambitious mobility policy (Courtois and Dobruszkes, 2008), to the benefit of scattered actions, which are developed on a 'case-by-case' basis (Moritz, 2011: 12). Analyses of pedestrianization projects carried out in the 1960s and 1970s have highlighted the fact that isolated solutions have not allowed the problem of car traffic and the coexistence of various modes of travel to be solved (Feriél, 2013). We must not disregard the potential 'mass effect' which could result from the multiplication of qualitative projects in favour of active forms of mobility.

3.2.3 Connecting the public space development plan to commercial, economic, touristic and heritage promotion development plans

The implementation of the pedestrianized area aims in particular to boost economic activities in the city centre, especially in the retail sector, which is currently undergoing a major reorganization phase in response to changing consumer practices, and which is developing its offer in other parts of the city, notably through recently opened or planned shopping centres (such as the one included in the City of Brussels Neo project). Thus far, the pursuit of this objective has essentially opened the door to development studies on its commercial future conducted by GeoConsulting (commercial development perspective for the city centre) and Citytools/Devimo (management of commercial property belonging to the property management service and located in the pedestrian area).²⁴ While the economic impact of pedestrianization has received little attention, Boussauw (2016) presents a review of the literature which identifies useful information with respect to the case of Brussels:

- As it cannot be ensured by the resident population alone, the economic success of pedestrian areas is related in particular to the presence of commercial as well as cultural, administrative, educational, etc., hubs which allow them to differentiate themselves from shopping centres, for example (Bromley et al., 2003).
- Whitehead et al. (2006) have shown that, overall, following an approximately two-year downturn, pedestrianization has led to an average increase in visitors, sales revenue and rental prices for commercial space. But this increase is asymmetrical, benefitting organized trade (franchisees, branches), mainly in the areas of clothing and restaurants/café (Mérenne-Schoumaker, 1981; 1983). This is what seems to be happening today in the Brussels pedestrianized area, presenting a potentially serious drawback for the clothing sector, which is subject to the dual pressures of e-commerce and developments in the outskirts.
- Conversely, the improvement in economic attractiveness thanks to pedestrianization may lead to the disappearance of other types of business, mainly in the sectors which do not benefit from higher profits related to an increase in traffic that leads to a proportional rent increase (Wong, 2014). A commercial turnover therefore tends to establish itself at the expense of a diversity of supply in the city centre, which constitutes an advantage with respect to shopping centres in outlying areas (Grimmeau et al., 2004). This evolution is also accelerated by the development of mass tourism and the resulting 'touristification' of shops (Wayens et al., 2020). All of this takes place to the

²⁴ Studies financed respectively by the City of Brussels (2015) and *Régie foncière de la Ville de Bruxelles* (2016).

detriment of the neighbourhood city, i.e. economic supply addressed above all to the inhabitants (thus having an impact on the profiles of users of the public space).

- However, the economic success of a pedestrian area also depends in part on the density of the resident population and its purchasing power (Boussauw, 2016). Since the beginning of the 2000s, the centre of Brussels has experienced significant demographic growth which involves an increase *and* a diversification of needs for services and local businesses (schools, nurseries, sports activities, daily shopping, etc.) (Van Criekingen, 2006, 2013; Decroly and Wayens, 2016; see also Chapter X in the present book). The importance of local (and regional) aspects in ensuring the economic success of the pedestrian area in Brussels seems all the more important considering the decline in pedestrian areas in North American city centres since they first appeared in the 1980s, which is partly explained by the fact that mobility culture is focused traditionally on accessibility by car (Faulk, 2006), as it is in Belgium.
- Finally, the economic success of pedestrian areas is also linked to a certain flexibility of uses in time, on a daily basis (with the special challenge of the night, which can make a city centre uninhabitable) as well as over the years, according to urbanistic and economic reorganization. Among other things, the quality and flexibility of developments must be ensured with regard to the many worksites which exist throughout the life of a commercial area during reorganization/renovations, which are much more frequent than for other functions.

In terms of activities, a balance must therefore be established between the city of leisure and tourism, and the neighbourhood city, similar to the Local Urbanism Plan for Paris, which was adopted in 2006 (ARAU, 2014). In this respect, the economic dimension of the pedestrian area must not be considered only in commercial and touristic terms, and must instead better integrate the cultural, administrative, health, educational, etc. aspects that characterize the centre of Brussels (Decroly and Wayens, 2016). And, spatially, the reflection should not only take into account the boulevards and Rue Neuve, because a significant proportion of the shops which make up the specificity and commercial originality of a city centre (especially those which are highly specialized in terms of product or public) tend to be located on its margins (Grimmeau et al. 2004).

It is also necessary to connect the heritage promotion plans to the development of public space. Among others, the pedestrianization of Boulevard Anspach represents an occasion to promote its heritage, which has been altered over time (loss of homogeneity, transparency and identity), with the presence of equipment (benches, lighting, etc.) and a plan for façades/signs (Jourdain and Loir, 2016), bearing in mind that heritage quality is also a source of attractiveness (Grimmeau and Wayens, 2003). Such a plan does not as yet appear to be underway,

and a city official is currently working alone to try to save what can be saved, especially in the interiors of buildings.

3.3 Challenge 3: Working together on an urban and metropolitan project

The debate regarding the pedestrianization of the central boulevards was heated, taking place in the political arena and in society, with the involvement of the media. The context of the controversies regarding the requests for planning permission is complex (Vanhellemont and Vermeulen, 2016; Vanhellemont, 2016) and involves many aspects of urban reality and different ideas of Brussels, its public spaces, mobility, inequalities, economy, etc. (Genard et al., 2016; see also Chapter X in the present book). The controversies are not limited to an opposition between authorities and citizens, shopkeepers and inhabitants, or motorists and cyclists; on the contrary, potential and expected supporters of the project have opposed each other and continue to do so to this day (Vanhellemont, 2016). There are many reasons for this complexity:

- › Due to the diversity of functions and uses, the status of city centre emphasizes the diverging points of view in terms of needs, expectations, challenges, risks, etc. In this respect, even if it is not always explained clearly by the stakeholders, the question as to the level (local, regional, metropolitan) at which the city should be considered is at the heart of the debates (Tessuto, 2016; Genard et al., 2016).
- › As in many major urban projects (De Rynck and Dezeure, 2009) and as presented above, the compromises made in the political and administrative arena have interfered with the favourable reception of the political aim of the project (Vanhellemont, 2016).
- › Conversely, by exacerbating the terms of the debate, many stakeholders (project promoters as well as their ‘opponents’) have played a part in spreading a simplistic vision of the project throughout society (Vanhellemont and Vermeulen, 2016).

There are many controversies regarding the implementation of major urban projects (De Rynck and Dezeure, 2009), and projects involving (semi-)pedestrianization are no exception (Boussauw, 2016; Vermeulen and Hardy, 2016). At the same time, the analysis of examples in other countries shows that the authorities should build on such conflicts (at least in part), in order to carry out complex large-scale urban projects (Pinson, 2009; Castillo-Manzano, 2014), win the support of civil society, private, semi-public and public stakeholders and thus ensure the realization of the project and its *effective* appropriation. It is also an occasion to take advantage of *common knowledge*, i.e. the knowledge of stakeholders in the field that decision makers and consultancy firms lack, and which may add substantial impetus to the project by ensuring that it is in line with reality (Callon et al., 2001).

3.3.1 Developing a communication policy equal to the project

To date, the City of Brussels has been solely responsible for organizing official communication regarding the pedestrian area, with different services having shared the task according to their competences. The communication department for the City manages the production of various tools to promote the pedestrian area (kiosks set up on site, flyers, a brochure, a video, etc.). The public peace department manages a contact point via email, and on several occasions (between late 2015 and 2016) worked with the public stakeholders involved in order to establish joint answers to the questions received. *Brussels Major Events* (BME) set up an information kiosk at Place de la Bourse for a certain amount of time. At the same time, many public and private stakeholders have communicated about the project, in particular via the media. When it comes to the pedestrianized area, the City's policy today is essentially reactive, as in the example of the alcohol ban introduced for six months from 1 February 2020, following a media campaign pointing the finger at this problem. The dominant strategy is to communicate as little as possible for fear of rekindling past controversies. Consequently, contrary to what is done in other cities (see, for example, the Ile de Nantes renovation project²⁵), a global communication strategy for this major urban and metropolitan project has not been implemented in coordination with the different stakeholders concerned. However, large parts of the Brussels and metropolitan population, in particular those that have long since deserted the city centre, are still far from supporting the project (Weigmann et al., 2018; Fenton et al., 2020).

In order to better understand the challenge regarding the future of the city centre, it is therefore necessary to adopt a cross-cutting communication strategy, bringing together all the actors involved in the project, while ensuring a certain degree of transparency is upheld. The Brussels-Capital Region should be involved in this policy by developing adapted means of support. There is also a need to adopt a proactive approach, taking into consideration not only those who seek information. Finally, special attention must be paid to the celebration of the main steps of progress of the project.

3.3.2 Organizing transversality and co-production

Participation constitutes one of the key aspects of the controversies – such as the one concerning the centre of Brussels – or, at the very least, insufficient participation often represents one of the arguments put forward by certain critics of major urban projects. Participation is subject to power relations, and in essence does not ensure the democratic nature of a project (Le Naour and Massardier, 2013). One may also consider that, given the scope of the challenges, the limitation of the participatory process allows the 'taking of action' and the implementation of a project for which a consensus could never be reached. However, the literature highlights

a series of elements that show the importance of establishing room for participation, i.e. co-production:

- › The implementation of participatory processes could favour the acceptance of a project and bring all of the stakeholders together in the same approach (Pinson, 2004; Vermeulen and Hardy, 2016).
- › These processes also provide an opportunity to take advantage of the common knowledge of stakeholders in the field. This common knowledge, which experts and politicians do not necessarily have, constitutes a basis for ensuring that the project is in keeping with the reality in the field (Callon et al., 2001). In this sense, participation allows the needs and expectations of inhabitants, users, shopkeepers, etc. to be met, the problems encountered to be highlighted, and efficient means of action to be defined (Lascoumes and Le Bourhis, 1998).
- › The co-production and co-management of a project favours the development of a feeling of belonging to a place and, therefore, respect towards it (Vermeulen and Hardy, 2016).

The opening of project implementation to different fields of co-production would thus allow an improvement in its quality. There are at least three pertinent levels of co-production: economic co-production through dialogue on the economic and commercial development of the city centre; intangible co-production concerning activities in the public space, and the *material* co-production of the public space.

However, in order for co-production involving stakeholders outside the strict sphere of political decision-making to be possible, transversality is necessary within the governing bodies. It has to be said, however, that there is a great deal of compartmentalization between departments and areas of competence within the City of Brussels, and, until recently, a certain reluctance to collaborate with the regional level.

3.4 Challenge 4: Confirming the paradigm shift

The pedestrianization and redeployment of the city centre were initially presented by the project leaders, in particular the mayor of the City of Brussels, as the formalization of a paradigm shift with respect to post-war urban policies. The implementation of this paradigm shift is, however, faced with three major difficulties.

Firstly, the project is not located in an ordinary neighbourhood, but rather in a multifunctional city centre with many different users (underprivileged and privileged inhabitants, workers, tourists, customers, etc.) who have different relationships with the city centre, which are sometimes difficult to reconcile

(Decroly and Wayens, 2016; Genard et al., 2016; Van Crieelingen, 2006, 2013; Van Hamme et al., 2016).

Secondly, the project is torn between the usual febleness of Brussels decision-makers with respect to reducing the influence of car traffic (Courtois and Dobruszkes, 2008) and the increasing rejection of cars to the benefit of non-motorized mobility (Genard et al., 2016; Genard and Neuwels, 2016).

Finally, for a multitude of institutional levels and public stakeholders, the project is based on a diversity of visions of the city, its centre, motivations and objectives (Vanhellemont, 2016). The challenge in this respect is to ensure that the compromises necessary do not reduce the impact of the project.

3.4.1 Taking action on and via housing

On the part of the public authorities, the pedestrianization of central boulevards is justified in particular with regard to two major joint objectives: 'to go from being a utilitarian city designed for car transit, to a city designed for its inhabitants and where it is nice to live'; and 'to revitalize economic activity in the centre' by targeting visitors for the most part (workers, tourists, consumers, culture enthusiasts, etc.).²⁶ On the contrary, the analysis of debates highlights the role of the opposition between 'inhabitants' and 'visitors' in the controversies (Vanhellemont, 2016; Tessuto, 2016; Genard et al., 2016), implying that the two objectives revealed by the public authorities would be difficult to reconcile. The pedestrian area would prejudice certain categories of stakeholders, namely the inhabitants and/or shopkeepers in the city centre, depending on the point of view.

Many international projects testify to the fact that the improvement in habitability and economic revitalization are not antagonistic, but that precautions must be taken in order to ensure a balance. The literature shows that the economic success of pedestrian areas depends in particular on residential density (Boussauw, 2016). At the same time, it highlights two possible harmful effects of pedestrianization on the residential sector, which are visible when there is too great a focus on commercial attractiveness:

- The creation of a pedestrian area generally results in an increase in rental prices for commercial space (Sandahl and Lindh, 1995; Boussauw, 2016), which favours the mono-functionality of the area. Therefore, it sometimes becomes more worthwhile, from an economic perspective, to make all of the available commercial space in a building profitable and to not utilize the upper floors for residential purposes, not to mention the fact that it often becomes difficult to access these floors (Dessouroux, 2006).

- › The predominance of the commercial function also hinders residential attractiveness, as disturbances due to activities in pedestrianized public spaces cause the middle and well-to-do classes to leave (Wackermann, 1982).

The Pentagon has experienced a strong demographic growth that is heterogeneous from a socioeconomic point of view. This leads to an increase in and a diversification of housing needs, subject to pressures from the development of the residential tourist offer, and especially rooms or flats, or even entire buildings made available on the Airbnb reservation platform and similar. In 2017, this accounted for nearly one third of the housing capacity in the BCR (Decroly et al., 2019) and a significant share of the total number of private dwellings in parts of the Pentagon (Decroly and Wayens, 2016).

It is therefore essential to take action on and via housing. This involves ensuring residential attractiveness while maintaining a balance at two levels: on the one hand, between the necessity to revitalize the city centre and the risk of gentrification and, on the other, between the increase in temporary housing (Airbnb, hotels, bed and breakfasts, etc.) and the need for permanent inhabitants. The question therefore arises as to the strengthening of technical and legal levers that favour or require the maintenance of residential functions in commercial and tourist areas (in particular ERU 2001–2012; 2012–2014; Decroly et al., 2019), and the future of buildings that belong to the city and the Brussels CPAS located in the pedestrian area and its surroundings.

3.4.2 Preventing the transfer of pollution

The car-free areas and the areas with low emissions may improve the quality of life of inhabitants and workers in three ways: (1) by improving air quality through a decrease in the emission of air pollutants (Genc et al., 2012; Lim et al., 2012; IBSA, 2016), (2) by reducing the noise caused by road traffic, and (3) by favouring the use of active modes of travel (Gehl, 2011; Keserü et al., 2016). In order to achieve the desired paradigm shift, the challenge is to allow these improvements to benefit the entire city and not only the pedestrian area:

- › The feedback from North American projects from the 1960s and 1970s indeed shows that the pedestrian areas themselves do not give rise to a decrease in the use of cars and therefore do not regulate the pollution they cause (Ferial, 2013). They may lead to a shift of traffic and pollution to the surrounding streets. In order to have a positive impact beyond the area of intervention, pedestrianization must be integrated into an ambitious mobility plan that ensures a modal shift.
- › The extent, content (air, noise, etc.) and scope of the impact of the pedestrian area in Brussels have yet to be the subjects of exhaustive and continuous evaluations. While measures have been established, these have been obtained in an isolated manner by different sources (Bruxelles Mobilité,

Atrium, ProVélo, City of Brussels), and according to different methodologies and timescales (Bruxelles Mobilité, 2016). Due to a lack of systematic collection of data, it is very difficult to evaluate the quality of results. At the same time, the data gathered concerns volumes of traffic and does not provide a detailed interpretation of the situation (for example, modal shares, effects due to car traffic, etc.).

- Although it is quantitatively minimal, the shifting of car traffic to certain neighbouring streets may have the effect of increasing the deterioration in air quality tenfold, as it depends in particular on urban morphology (Keserü et al., 2016) (for example, around the Central Station and Boulevard de l'Empereur, an increase of 270 vehicles/hour (Bruxelles Mobilité, 2016), Quai du Commerce or Rue des Six Jetons). Air pollution is less easily extracted in narrow streets.
- Although the volume of traffic stagnates or decreases, it is possible that car traffic might increase in certain streets, thus increasing noise pollution and air pollutants.
- The shifting of traffic to the neighbouring streets can discourage the use of active modes of travel and have a negative impact on the commercial speed of public transport (Keserü et al., 2016), as we can see in particular during major events (Plaisirs d'hiver, etc.).
- The excessive development of activities in the pedestrian area could hinder the suppression of noise caused by road traffic.
- The shift of pollution and the creation of new types of pollution ignite controversies (Vanhellemont, 2016; Genard et al., 2016).

In order to ensure the sustainability of the city centre, the pedestrianization of central boulevards is insufficient in itself. At the same time, there is a very real risk of a shift of pollution to the streets surrounding the pedestrian area. Various monitoring efforts underway will allow an objective view of the situation and could constitute the basis for the revision of traffic and mobility plans.²⁷

3.4.3 Integrating the existing car parks into the reflection on the evolution of the pedestrian area

As a consequence of postwar urban policies, the centre of Brussels is characterized by the presence of a very high number of private and public car parks (Hubert et al., 2013). To the best of our knowledge, the gradual reduction in the number of existing car parks when environmental permits are renewed is neither on the agenda of the City of Brussels, nor of Bruxelles Environnement (which issues these permits). The presence of these car parks has a direct impact on the configuration,

²⁷ In particular the BSI-MOBI project "Monitoring the impact of travel behaviour, accessibility and satisfaction with regards to the city centre", supported by Bruxelles Mobilité.

organization and perimeter of the current and future pedestrian area, as well as on the air quality in the city (Brandeleer et al., 2016a; Keserü et al., 2016):

- The existing (off-street) public car parks in the Pentagon provide approximately 25,000 parking spaces (i.e. far more than in other city centres with a comparable surface area), and play a ‘role as an “attractor” of cars’ in the heart of the pedestrian area or in its immediate surroundings (Hubert et al., 2013).
- These car parks, whose access must be legally guaranteed, have determined the perimeter of the pedestrian area (for example, Rue de l’Ecuyer and Rue Fossé-aux-loups).
- They limit the possible future widening of the pedestrian area (other cities, such as the City of Ghent, have faced this difficulty).
- Their number and scattered location make it difficult to design *P-routes*²⁸ allowing a means to enter and exit car parks.

An action that suggests that cars are no longer welcome in the city leads to heated debates in the public sphere as well as in the political arena (Courtois and Dobruszkes, 2008). In the framework of the pedestrian area, these debates were stirred up by the lockdown following the Paris attacks, the effects of the Brussels attacks and the closing of the tunnels, which gave the impression that the city centre was no longer accessible by car (Vanhellemont and Vermeulen, 2016; Genard et al., 2016).

As expressed by Brandeleer et al. (2016a), the pedestrianization of the centre is significantly restricted by the presence of car parks and not the reverse. If their pertinence is not called into question, power relations will always be established in favour of parking infrastructures, and the ability for the city centre to create a paradigm shift may be limited.

3.4.4 Achieving a true sharing of public space

The notion of *comfort* for pedestrians, *hospitality* of public spaces towards walking (see Chapter X in the present book) or *mechanisms for accelerating slowness* (Pelgrims, 2018) is expressed through the safety of slow routes, obtained through the domestication of car flows, and the spatial and temporal continuity of facilities (Pelgrims, 2018).

But the modal segregation of public space, i.e. the clear separation of the spaces devoted to each mode of transportation within the public space (Brandeleer et al., 2016), is deeply rooted in Belgium, and particularly in Brussels. Its roots can be

²⁸ A *Parking route* or *P-route* is a marked circuit, generally in a loop, which leads motorists from outside the area concerned towards one or more car parks, and which allows them to leave the area easily.

traced back to the end of the 18th century (Loir, 2016), and it did not disappear with the pedestrianization of certain fragments of the central city. Thus, it can be found in the accounts of users, as well as in the development of the central boulevards (Fenton et al., 2020). The longitudinal morphology and the organization of the width of the main sections of the boulevards contribute to the reproduction of 'classic' travel patterns (pedestrians on the sides, two-wheelers and other vehicles – when they can enter – along the central strip). The modal segregation which is implicit to this morphology is reinforced through certain layouts, such as the change of surface for the different lanes in the boulevard or the near-ubiquitousness of bollards, classic symbols of this modal segregation, between areas where motor vehicles are allowed and those where they are not. However, at times of high density pedestrian flows, segregations between modes and rhythms of travel become more complicated. Pedestrians occupy the whole area in a more homogeneous way, making it nigh on impossible to mix modes of travel. Clashes and frictions appear, fuelling debates on ideas of the city for pedestrians, and reinforcing the archetype of modal segregation in the eyes of some. Consequently, modal segregation often remains the standard according to which the functioning of public space is assessed and perceived, both in terms of efficiency and safety. It conflicts with the principle of a shared space, which implies the coexistence of different modes of transport within the same space, without physical arrangements necessarily marking their separation. For such a novelty to become permanent, restrictions are clearly not enough, especially if an idea as prominent as that of modal segregation continues to occupy people's minds. A change in mentality through a long-term informative and educational effort is necessary. But it also involves relieving the pressure on a city centre which, at certain times, concentrates too much pedestrian flow.

If a sharing of public space between all modes of travel is yet to be achieved at city level, avoiding an over-occupation of space by one mode to the detriment of all of the others, the same applies to the balance between traffic and living functions. The standardization of facilities and the limited diversity possible in the uses of public space (apart from traffic and consumption) reduce 'the plurality of ways of being and, therefore, the richness of the urban atmosphere' (Pelgrims, 2018).

In this context, the Brussels public space undoubtedly needs relief, with the help being offered in the form of an ambitious social policy. As Wayens et al. (2020) write,

┌ *the increase in homelessness is widespread in Brussels (Quittelier and Horvat, 2019) and is reinforced by flows of migrants associated with political instability and many conflicts at international level. As long as care for these people is insufficient and limited to the night, the pedestrian area, consisting mainly of commercial spaces, will remain, for many reasons (social control, specific urban morphology, availability of boxes, pedestrian flows, etc.), havens for marginalized populations in the urban space (Malherbe and Rosa, 2017). (...) A purely security-based response is*

obviously inappropriate given the scale of this social crisis, but it is high time to invest massively, together with shopkeepers, in a pragmatic and humane management of the issue of homelessness and marginality in the public space.

4 > CONCLUSION

Successful pedestrianization and redevelopment of a city centre are not a given. As seen in the literature, various precautions must be taken and many aspects must be dealt with. The realization of a complex urban project is an art in itself, requiring, among other things, the collaboration of stakeholders and services which are not necessarily in the habit of doing so, the combination of different – and even competing – levels of governance, the creation of positive political and civic dynamics regarding the project, and the taking advantage and development of the levers for action that allow the long-term goals of the project to be achieved.

In this chapter, we have highlighted four possible areas for improvement. This would involve (1) adding to the spatial planning by taking action on the intangible aspects, through better planning of the different atmospheres and social, commercial and artistic activities in the city centre; (2) including the project in a multi-scale vision of territorial development and associating it with different plans (mobility, environmental, trade, tourism, culture, social, housing, etc.); (3) increasing the support for the project by qualitatively improving information and communication, as well as participation and coproduction, and strengthening the transversality within and between the governing bodies; (4) deepening the paradigm shift by clarifying the anticipated city project, as outlined by the PRDD. This is what we have attempted to explain in Parts 2 and 3 of the present work.

The project for the redevelopment of the centre of Brussels is still far from complete. Given the extent and range of the challenges, stakeholders, instruments and levels of action, the implementation – as was recently done for the BeursBourse project – of a cross-cutting operational structure coordinated by an independent steward recognized by all stakeholders, and which would be responsible for the organization of structured meetings with stakeholders in the field, as well as the creation of a ‘chamber of quality’, are more pressing than ever. The latter, composed of recognized experts and representatives of the different levels of authority involved (City, Region, Beliris, etc.), would ensure compliance with the defined objectives and the quality of the implementation of the project. This method has borne success for over a decade in many European cities, such as Amsterdam, Antwerp and Zurich (Moulaert et al., 2013; Segers et al., 2013). In this context, the maintenance of a city centre observatory such as BSI-BCO²⁹ makes sense, not only

²⁹ On the challenges of regional observatories such as BSI-BCO, see in particular Roux and Feyt (2011).

in order to facilitate the monitoring of the evolution of social uses and practices, habitability, air quality, mobility and accessibility, economic, commercial and touristic dynamics, larger scale effects, etc., but also to explore and experiment with the implementation of the aforementioned city project through action research and – research by design – mechanisms.

5 > BIBLIOGRAPHY

- AMIN, A. (2008). Collective culture and urban public space. *City*, No 12 (1), pp. 5–24.
- APUR (2009). Initier des projets métropolitains : l'IBA, une pratique féconde. Note rapide. *Territoires*, No 478. Available at: <http://www.apur.org/etude/initier-projets-metropolitains-iba-une-pratique-feconde>
- ARAU (2014). *Des commerces de proximité pour la diversité dans la ville!*, (Retrieved on 6 April 2017). Available at: <http://www.arau.org/au/ef671fa2aade854bdf33a32cb553673d85715bfb.pdf>
- ARON, J. (1995). *La Cambre et l'architecture : un regard sur le Bauhaus belge*. Brussels: Mardaga.
- BERNARD, N. (2008). The impact of the European Union on real estate in Brussels: between stereotype and underestimate. *Brussels Studies*, No 21. Available at: www.brusselsstudies.be
- BIANCHINI, F. and PARKINSON, M. (1993). *Cultural policy and urban regeneration: the West European experience*. Manchester: Manchester University Press.
- BOUDRY, L., CABUS, P., CORIJN, E., DE RYNCK, F., KESTELOOT, C. and LOECKX, A. (2003). *De eeuw van de stad. Over stadsrepublieken en rastersteden*. Witboek. Brussels: Ministerie van de Vlaamse Gemeenschap.
- BOUSSAUW, K. (2016). Lokale economische aspecten van voetgangersgebieden: een beknopt literatuuroverzicht. In E. CORIJN, M. HUBERT, N. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages - Kader, Ouvertures - Aanzet, Focus*. Brussels: BSI-BCO, pp. 79–86.
- BRANDELEER, C., ERMANS, T. and HUBERT, M. (2016a). Zone piétonne, résidentielle, de rencontre : le cadre légal du piétonnier bruxellois en contexte. In E. CORIJN, M. HUBERT, N. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages — Kader, Ouvertures — Aanzet, Focus*. Brussels: BSI-BCO, pp. 149–158.
- BRANDELEER, C. and ERMANS, T. (2016b). When traffic light management prefigures mobility choices: the strategic challenges of a technical tool. In: *Brussels Studies*, No 103. Available at: www.brusselsstudies.be
- BRANDELEER, C., ERMANS, T., HUBERT, M., JANSSENS, I., LANNOY, P., LOIR, C. and VANDERSTRAETEN, P. (2016c). *Le partage de l'espace public en Région de Bruxelles-Capitale*, Brussels : Bruxelles Mobilité — Service public régional de Bruxelles, Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale, No 5.
- BROMLEY, R., HALL, M. and THOMAS, C. (2003). The impact of environmental improvements on town centre regeneration. *Town Planning Review*, Vol. 74, No 2, pp. 143–164.
- BRUXELLES ENVIRONNEMENT (2016). *État de l'environnement, rapport 2011-2014*. Brussels: Brussels-Capital Region.
- BRUXELLES MOBILITÉ (2016). *Évaluation intermédiaire des impacts de la piétonnisation des boulevards du Centre et de la mise à l'essai du plan de circulation du Pentagone*. (non public). Brussels: Brussels-Capital Region.
- CALLON, M., LASCOURMES, P. and BARTHE, Y. (2001). *Agir dans un monde incertain. Essai sur la démocratie technique*. Paris : Le Seuil.
- CASTILLO-MANZANO, J. I., LOPEZ-VALPUESTA, L. and ASECIO-FLORES, J. P. (2014). Extending pedestrianization processes outside the old city centre; conflict and benefits in the case of the city of Seville. *Habitat International*, Vol. 44, pp. 194–201.

CORIJN, E. and VANDERSTRAETEN, P. (2016). Qu'est-ce qu'un espace public ? In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet*, Focus. Brussels: BSI-BCO, pp. 15-20.

CORIJN, E., VANDERSTRAETEN, P. and NEUWELS, J. (2016). Remarques préliminaires concernant le plan d'aménagement du piétonnier. In E. CORIJN, M. HUBERT, N. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet*, Focus. Brussels: BSI-BCO, pp. 67-75.

COURTOIS, X. and DOBRUSZKES, F. (2008). The (in) efficiency of trams and buses in Brussels: a fine geographical analysis. *Brussels Studies*, No 20. Available at: www.brusselsstudies.be

CRAIG, C. L., BROWNSON, R. C., CRAGG, S. E. and DUNN, A. L. (2002). Exploring the effect of the environment on physical activity: a study examining walking to work. *Am. J. Prev. Med.*, No 23 (2 Suppl), pp. 36-43.

CRETEN, A., HUBERT, M., LETESSON, Q., MEZOUE, A., COCU, X., HINDRIJCKX, M., and VAN DAMME, O. (2019). *Gènes piétonnes dans les rues commerçantes. Rapport de recherche pour Bruxelles Mobilité*, Brussels : Centre d'études sociologiques et Centre de recherches routières.

CRESWELL, J.W. and CLARK, V.L.P. (2007). Designing and conducting mixed methods research. *The Journal of the Public Health Association of Australia*, No 4 (31), pp. 53-106.

DE RYNCK, F. and DEZEURE, K. (2009). *Burgerparticipatie in Vlaamse steden - Naar een innoverend participatiebeleid*. Bruges: Vanden Broele.

DE VISSCHER, J.-P., NEUWELS, J., VANDERSTRAETEN, P. and CORIJN, E. (2016). Brève histoire critique des imaginaires à la base des aménagements successifs des boulevards. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet*, Focus. Brussels: BSI-BCO, pp. 135-147.

DECROLY, J.-M. and WAYENS, B. (2016). Le centre-ville : un espace multifonctionnel. In E. CORIJN, M. HUBERT, N. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet*, Focus. Brussels: BSI-BCO, pp. 21-34.

DECROLY, J.-M., DESSOUROUX, C. and VAN CRIEKINGEN, M. (2003). Les dynamiques contemporaines de privatisation des espaces urbains dans les villes européennes. *Belgeo*, No 1. Available at: <https://belgeo.revues.org/15280>

DECROLY, J.-M., BERNARD, N., BRODERSEN, M., DEBROUX, L., LANNOY, P. PERILLEUX, H., RETOUT, M., et al. (2019). *Mission d'évaluation de l'ordonnance du 8 mai 2014 relative à l'hébergement touristique*, Brussels : BSI.

DEMEY, T. (1992). *Bruxelles. Chronique d'une capitale en chantier. 2. De l'Expo 58 au siège de la C.E.E.* Brussels : Paul Legrain.

DESSOUROUX, C. (2003). La diversité des processus de privatisation de l'espace public dans les villes européennes. *Belgeo*, No 1. Available at: <http://belgeo.revues.org/15293>

DESSOUROUX, C. (2006). *La production des espaces publics dans la ville contemporaine. Enjeux, acteurs et logiques de gestion et d'aménagements dans trois communes de la Région de Bruxelles-Capitale*. Doctoral thesis in geography. Brussels: Université libre de Bruxelles.

DESSOUROUX, C., VAN CRIEKINGEN, M. and DECROLY, J.-M. (2009). Embellissement sous surveillance : une géographie des politiques de réaménagement des espaces publics au centre de Bruxelles. *Belgeo*, No 2. Available at: <https://belgeo.revues.org/7946>

DESSOUROUX, C., BENSLIMAN, R., BERNARD, N., DE LAET, S., DEMONTY, F., MARISSAL, P. and SURKYN, J. (2016). Housing in Brussels: diagnosis and challenges. *Brussels Studies*, BSI synopses, No 99. Available at: www.brusselsstudies.be

DOBRUSZKES, F. and FOURNEAU, Y. (2007). The direct cost and geography of Brussels mass transport's operating delays. *Brussels Studies*, No 7. Available at: www.brusselsstudies.be

EERMANS, T., BRANDELEER, C., D'ANDRIMONT, C., HUBERT, M., LEBRUN, K., MARISSAL, P., VANDERMOTTEN, C. and WAYENS, B. (2019). *Analyse des déplacements domicile-travail et domicile-école en lien avec la Région de Bruxelles-Capitale*, Bruxelles, Bruxelles Mobilité, Service public régional

- de Bruxelles, Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale, 6, 239 pp. Available at: <https://mobilite-mobiliteit.brussels/fr/cahiers-de-lobservatoire-de-la-mobilite>
- FAULK, D. (2006). The process and practice of downtown revitalization. *Review of Policy Research*, Vol. 23, No 2, pp. 625–645.
- FENTON, G., GLORIEUX, A., LETESSON, Q. and MINNEN, J. (2020). *Centre-ville, piétonnisation et modes de vie*. Brussels : BSI-BCO and Forum des vies mobiles (Paris), under the supervision of Genard, J.-L., Glorieux, I. and Hubert, M.
- FÉRIEL, C., (2013). Le piéton, la voiture et la ville. De l'opposition à la cohabitation. In: *Métropolitiques*. Available at: <http://www.metropolitiques.eu/Le-pieton-la-voiture-et-la-ville.html>
- FEYT, G., ROUX, E. (2011). *Les observatoires territoriaux : sens et enjeux*, DATAR, La Documentation française, Collections Travaux, 14.
- GEHL, J. (2011). *Life between buildings. Using public space*. Washington: Island Press.
- GENARD, J.-L., BERGER, M. and VANHELLEMONT, L. (2016). L'architecture des débats : les imaginaires mobilisés. In E. CORIJN, M. HUBERT, N. NEUWELS, S. VERMEULEN AND M. (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet, Focus*. Brussels: BSI-BCO, pp. 53-66.
- GENARD, J.-L. AND NEUWELS, J. (2016). Le développement durable comme objet de transactions. *SociologieS*. Available at: <http://sociologies.revues.org/5378>
- GRAVARI-BARBAS, M. (2001). Les enclaves ludiques : Le cas du Navy Pier à Chicago. In C. GHORRA-GOBIN (eds.) *Réinventer le sens de la ville : Les espaces publics à l'heure globale*. Paris : L'Harmattan, pp. 159-168.
- GRIMMEAU, J.-P. and WAYENS, B. (2003). Le commerce à Bruxelles et l'évolution de la ville. In RÉGION DE BRUXELLES-CAPITALE (eds.), *Commerce et négoce*. Brussels: Mardaga, pp. 31-42.
- GRIMMEAU, J. P., BEYS, N., BASTIN, S., VAN CUTSEM, S., VERHETSEL, A. and WAYENS, B. (2004). *Le commerce dans les grandes villes belges et leur périphérie*. Study for Cellule Politique des Grandes Villes, SPP Intégration Sociale. Brussels.
- GROSJEAN, B. (2010). *Urbanisation sans urbanisme. Une histoire de la « ville diffuse »*. Bruxelles : Mardaga.
- HALLEUX, J.-M. (2005). *Structuration spatiale des marchés fonciers et production de l'urbanisation morphologique : application à la Belgique et à ses nouveaux espaces résidentiels*, Doctoral thesis, 24 June 2005, Université de Liège, Département de Géographie.
- HANDY, S. L., BOARNET, M. G., EWING, R. and KILLINGSWORTH, R. E. (2002). How the built environment affects physical activity: views from urban planning. *Am. J. Prev. Med.*, No 23 (2 Suppl), pp. 64–73.
- HASS-KLAU, C. (2015). *The Pedestrian and the City*. New York and London: Routledge.
- HUBERT, M. (1982). *Perspectives pour une renaissance du Pentagone Ouest*, Study for the ministre et le Secrétaire d'État à la Région bruxelloise. Brussels: Inter-environnement, 46 pp.
- HUBERT, M. (2008). Expo58 and 'the car as king'. *Brussels Studies*, No 22. Available at: www.brusselsstudies.be
- HUBERT, M., LEBRUN, K., HUYNEN, P. and DOBRUSZKES, F. (2013). Daily mobility in Brussels: challenges, tools and priority undertakings. *Brussels Studies*, BSI synopses, No 71. Available at: www.brusselsstudies.be
- HUBERT, M., CORIJN, E., NEUWELS, J., HARDY, M., VERMEULEN, S. and VAESEN, J. (2017). From pedestrian area to urban project: assets and challenges for the centre of Brussels. *Brussels Studies* (online), Synopsis, n° 115, published online on 11 September 2017. URL: <http://journals.openedition.org/brussels/1551>; DOI: 10.4000/brussels.1551
- HUNT, J. D. and ABRAHAM, J. E. (2007). Influences on bicycle use. *Transportation*, No 34, pp. 453–470.
- INGALLINA, P. (2008). *Le projet urbain*. Paris: Presses universitaires de France
- JACOBS, J. (1993). *The death and life of great American cities*. New York: The Modern Library.

JANSSENS, I. and VANDERSTRAETEN, P. (2016). Espaces partagés : du concept à la mise en œuvre. In C. BRANDELEER *et al.*, *Le partage de l'espace public en Région de Bruxelles-Capitale*. Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale No 5. Brussels. pp. 14-104.

JOURDAIN, V. and LOIR, C. (2016). Le régime de mobilité et les modalités d'usages de l'espace public sur les boulevards centraux à la fin du 19^e siècle. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages — Kader, Ouvertures — Aanzet, Focus*. Brussels: BSI-BCO, pp. 123-134.

KESERÛ, I., WUYTENS, N., DE GEUS, B., MACHARIS, C., HUBERT, M., ERMANS, T. and BRANDELEER, C. (2016). Monitoring the impact of pedestrianization schemes on mobility and sustainability. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet, Focus*. Brussels: BSI-BCO, pp. 87-95.

KESTELOOT, C. and DE MAESSCHALCK, F. (2001). Anti-urbanism in Flanders: the political and social consequences of a spatial class struggle strategy. *Belgeo*, n° 2, pp. 41–62, available at: <https://belgeo.revues.org/15346?lang=en-article-15346>

KÜBLER, D. (2005). Démocratie et gouvernance d'agglomération : quelques leçons européennes. *Pouvoirs locaux*, No 65, pp. 85–91.

LASCOUMES, P. and LE BOURHIS, J.-P. (1998). Le bien commun comme construit territorial. Identités d'action et procédures. *Politix*, No 42 (11), pp. 37–66.

LE GALÈS, P. (1995). Du gouvernement des villes à la gouvernance urbaine. *Revue française de science politique*, No 1 (45), pp. 57–95.

LE GALÈS, P. (2002). *European cities: social conflicts and governance*. Oxford: Oxford University Press.

LE NAOUR, G. and MASSARDIER, G. (eds.) (2013). *L'action publique sélective*. Paris : Librairie générale de droit et de jurisprudence.

LEBRUN, K., HUBERT, M., HUYNEN, P., DE WITTE, A. and MACHARIS, C. (2013). *Les pratiques de déplacement à Bruxelles*, Brussels, Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale, n° 2, available at : <https://mobilite-mobiliteit.brussels/fr/cahiers-de-lobservatoire-de-la-mobilite>

LEBRUN, K., HUBERT, M., HUYNEN, P. and PATRIARCHE, G. (2014). *Les pratiques de déplacement à Bruxelles : analyses approfondies*, Brussels, Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale, n° 3, available at : <https://mobilite-mobiliteit.brussels/fr/cahiers-de-lobservatoire-de-la-mobilite>

LEBRUN, K. (2016). L'accessibilité de l'« hypercentre bruxellois ». Premiers résultats pour le transport public. In E. CORIJN, M. HUBERT, N. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet, Focus*. Brussels: BSI-BCO, pp. 159-165.

LEFEBVRE, H. (1968). *Le droit à la ville*. Paris : Anthropos.

LOFLAND, L. (1998). *Public realm: exploring the city's quintessential social territory*. New Brunswick: Transaction Publishers.

LOIR, C. (2016). De l'espace partagé à la ségrégation modale : le long processus de transformation de l'espace public (1775-1936). In C. BRANDELEER *et al.*, *Le partage de l'espace public en Région de Bruxelles-Capitale*, Brussels : Bruxelles Mobilité - Service public régional de Bruxelles, Cahiers de l'Observatoire de la mobilité de la Région de Bruxelles-Capitale, No 5, pp. 13-29.

LOOPMANS, M., DE DECKER P. and KESTELOOT, C. (2010). Social Mix and Passive Revolution. A Neo-Gramscian Analysis of the Social Mix Rhetoric in Flanders, Belgium. *Housing Studies*, vol. 25, n° 2, March, pp. 181–200.

MÉRENNE-SCHOUMAKER, B. (1981). Structure commerciales des rues et centres piétonniers : Essai de comparaison de quelques cas français et belges. *Bulletin de la société Belge d'études géographiques*, Vol. 50, No 2, pp. 135–144.

MÉRENNE-SCHOUMAKER, B. (1983). Les activités commerciales dans les secteurs piétonniers : structure et évolution. *Analyse de l'espace*, No 2, pp. 19–37.

- MINISTÈRE DES TRAVAUX PUBLICS ET DE LA RECONSTRUCTION (1956). *Bruxelles, Carrefour de l'Occident*. Brussels: ministère des Travaux publics et de la reconstruction.
- MITCHELL, D. (2003). *The right to the city: Social justice and the fight for public space*. New York: Guilford Press.
- MORITZ, B. (2011). Designing and developing public spaces in Brussels. *Brussels Studies*, No 50. Available at: www.brusselsstudies.be
- MOULAERT, F., VAN DYCK, B., KHAN, A. Z. and SCHREURS, J. (2013). Building a Meta-Framework to 'Address' Spatial Quality. *International planning studies*, No 18 (3-4), pp. 389-409.
- NELSON, A. and ALLEN, D. (1997). If you build them, commuters will use them: association between bicycle facilities and bicycle commuting. *Transportation Research Record: Journal of the Transportation Research Board*, No 1578, pp. 79-83.
- NOËL, F. (2009). La politique de revitalisation des quartiers : à la croisée de l'action urbanistique et sociale. In P. DEJEMEPPE, C. MOUCHART, C. PIERSOTTE, F. RAYNAUD, and D. VAN DE PUTTE (eds.), *Bruxelles (dans) 20 ans*. Brussels: Brussels-Capital Region, pp. 213-233.
- PELGRIMS, C. (2018). Aménager la lenteur. La dimension imaginaire de la piétonnisation du centre-ville bruxellois. *Espaces et sociétés*, 4/175, pp. 143-162.
- PINCH, P. and ADAMS, N. (2013). Lessons from the IBA Emscher Park. In M. E. Leary, and J. McCarthy (eds.) *The Routledge companion to Urban Regeneration*. London: Routledge. pp. 230-240.
- PINSON, G. (2004). Le projet urbain comme instrument d'action publique. In: Lascoumes, P. and Le Galès, P. (eds.) *Gouverner par les instruments*. Paris : Presses de Sciences Po., pp. 199-223.
- PINSON, G. (2009). *Gouverner la ville par projet. Urbanisme et gouvernance des villes européens*. Paris : Presses de Sciences Po.
- PRADEL, B. (2007). Mettre en scène et mettre en intrigue : un urbanisme festif des espaces publics. *Géocarrefour*, No 82 (3), pp. 123-130.
- PUCHER, J. and BUEHLER, R. (2008). Cycling for Everyone: Lessons from Europe. *Transportation Research Record: Journal of the Transportation Research Board*, No 2074, pp. 58-65.
- REMY, J., VOYÉ, L., BLONDEL, J.-P. and DESIMPELAER, W. (1974). Scénarios de vie urbaine. *A+*, No 12, p. 23.
- RYCKEWAERT, M. (2011). *Building the economic backbone of the Belgian welfare state. Infrastructure, planning and architecture 1945 1973*. Rotterdam: 010 Publishers
- SAELENS, B. E., SALLIS, J. F. and FRANK, L. D. (2003). Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures. *Ann.Behav.Med*, No 25 (2), pp. 80-91.
- SANDAHL, J. and LINDH, C. (1995). Impact of improving the attractiveness of town centres. *Transport Policy*, Vol. 2, No 1, pp. 51-56.
- SEGRS, R., VAN DEN BROECK, P., KAHN, A., MOULAERT, F., SCHREURS, J., DE MEULDER B., VIGAR, G. and MADANIPOUR, A. (eds.) 2013. *Handboek Ruimtelijke Kwaliteit*. Brussels: ASP éditions.
- SHAY, A. (2012). *The contemporary International Building Exhibition (IBA): innovative regeneration strategies in Germany*. Doctoral thesis in urbanism. Cambridge. Massachusetts Institute Of Technology. Available at: <http://dspace.mit.edu/handle/1721.1/73709#files-area>
- SPF Mobilité et Transports (2019). *Enquête MONITOR sur la mobilité des Belges*, Brussels.
- TESSUTO, J. (2016). Changer la ville pour changer la vie? Le mouvement citoyen *PicNic the Streets* et l'invisibilisation des enjeux socio-économiques liés au réaménagement du centre-ville de Bruxelles. *Environnement Urbain/ Urban Environment*, Vol. 10. Available at: <http://eue.revues.org/1405>
- VAN CRIEKINGEN, M. (2006). What is happening to Brussels' inner-city neighbourhoods? *Brussels Studies*, No 1. Available at: www.brusselsstudies.be

VAN CRIEKINGEN, M. (2013). La gentrification mise en politiques. *Métropoles*, No 13. Available at: <http://metropoles.revues.org/4753>

VANDEN BROECK, P. (2010). *De sociale constructie van plannings- en projectinstrumenten. Onderzoek naar de socio-technische dynamiek in het Eerste Kwartier in Antwerpen*. Doctoral thesis in engineering. Leuven: Katholieke Universiteit Leuven.

VAN HAMME, G., GRIPPA, T. and VAN CRIEKINGEN, M. (2016). Migratory movements and dynamics of neighbourhoods in Brussels. *Brussels Studies*, No 97. Available at: www.brusselsstudies.be

VANHELLEMONT, L. and VERMEULEN, S. (2016). De aanleg van de voetgangerszone in het Brusselse stadscentrum (2012-...). Een analyse van (het discours van) het procesverloop. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages - Kader, Ouvertures - Aanzet, Focus*. Brussels: BSI-BCO, pp. 35-51.

VANHELLEMONT, L. (2016). *The Power of the Imaginary in Urban Planning Processes*. Doctoral thesis in urban sociology. Milan. Milano-Bicocca University.

VERLINDE, S., KIN, B., STRALE, M. and MACHARIS, C. (2016). Sustainable freight deliveries in the pedestrian zone: facilitating the necessity. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages - Kader, Ouvertures - Aanzet, Focus*. Brussels: BSI-BCO, pp. 97-109.

VERMEULEN, S. and HARDY, M. (2016). Communication et participation dans le cadre de grands projets urbains. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages - Kader, Ouvertures - Aanzet, Focus*. Brussels: BSI-BCO, pp. 111-119.

WACKERMANN, G. (1982). Le vécu commercial en zones piétonnières européennes. In *Annales de Géographie*, No 506, pp. 454-462

WAYENS, B., DECROLY, J.-M., STRALE, M., DA SCHIO, N., KESERÜ, I. and PERILLEUX, H. (2020). Pedestrianization of a multifunctional space: challenges and early observations on the Brussels Pentagon. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB & VUBPRESS.

WHITEHEAD, T., SIMMONDS, D. and PRESTON, J. (2006). The effect of urban quality improvements on economic activity. *Journal of Environmental Management*, Vol. 80, No 1, pp. 1-12.

WIEGMANN, M., VERMEULEN, S., KESERÜ, I., TE BOVELDT, G., HEYNDELS, E. and MACHARIS, C. (2018). *Impactanalyse bereikbaarheid, verplaatsingsgedrag en tevredenheid rond de uitbreiding van de Brusselse voetgangerszone. Report voor Brussel Mobiliteit*, Brussels, VUB-MOBI en Brussels Studies Institute.

WONG, H. (2014). *Impacts of Pedestrian Schemes on the Types of Retailers*. Doctoral thesis in urbanism and design. Hong Kong: The University of Hong Kong.

WOOD, P. and LANDRY, C. (2008). *The intercultural city. Planning for diversity advantage*. London: Earthscan.

ZIMMER, P. (2002). La politique de l'habitat dans la Région de Bruxelles-Capitale. *Courrier Hebdomadaire, CRISP*. No 1746-1747.

PEDESTRIANIZATION OF A MULTIFUNCTIONAL SPACE: CHALLENGES AND EARLY OBSERVATIONS OF THE BRUSSELS PENTAGON



Benjamin WAYENS¹, Jean-Michel DECROLY²,
Mathieu STRALE², Nicola DA SCHIO³, Imre KESERU⁴,
Mareile WIEGMANN⁴, Hugo PERILLEUX⁵

> Abstract

After recalling the definition, characteristics and functioning of the city centre, this chapter addresses three questions: what functionally characterizes a city centre in Europe? To what does this correspond in Brussels? What has the extension of the pedestrianization changed and what else may it change?

- 1 EB^{xl}, interdisciplinary network for Brussels Studies, Université libre de Bruxelles.
- 2 Institut de gestion de l'environnement et d'aménagement du territoire (IGEAT), Université libre de Bruxelles
- 3 Cosmopolis Centre for Urban Research, Vrije Universiteit Brussel
- 4 MOBI Mobility, Logistics and Automotive Technology Research Centre, Vrije Universiteit Brussel
- 5 Service d'Enseignement en Sciences Géographiques, Université libre de Bruxelles

Drawing on these three perspectives, this chapter examines the residential, economic, commercial and tourist functions of the city centre. Several empirical elements show that what has been observed in the field appears to be the result of both contemporary developments in city centres across Europe and a direct effect which may be attributed specifically to the extension of the pedestrianization. Naturally, renovation is not a new phenomenon in the Pentagon. However, a wider pedestrian zone reveals tensions between urban functions and even within different functions. It highlights the challenges facing functional and social diversity, which requires governments to assume or at least acknowledge their responsibilities and arbitrations.

Over the past three decades, the definition, delimitation, characterization and functioning of the city centre have been notably absent from urban research agendas. In a rather characteristic manner, one of the most important syntheses of socio-spatial structures of European cities at the end of the 20th century (Vandermotten et al., 1999) questioned neither the contours nor the functions of the city centres studied, meaning that, in the face of metropolization, the emergence of new urban centralities and the formation of so-called 'polycentric' agglomerations, there is a urgent need to pose questions about the city centre; if not for research purposes, then at least for urban managers.

The objective of this chapter is simple, albeit ambitious. It seeks to respond to three questions: What functionally characterizes a city centre in Europe? What does this mean in Brussels? What has the expansion of pedestrianization changed, and what else could it change?

For the purpose of answering these questions, we will use the available scientific and technical literature, and, where possible, mobilize statistical data that may be disaggregated on a sufficiently detailed scale.

1 > HOW CAN WE DEFINE A CITY CENTRE IN EUROPE?

Geographers who addressed this theme in the 1970s and 1980s (see, for example, Beaujeu-Garnier, 1972; Carter, 1981; Lévy, 1986) focused primarily on the differences between urban centres in North America and Europe. In North America, with the exception of larger agglomerations, city centres are exclusively occupied by a Central Business District, where high value-added financial activities (head offices, companies specializing in transactions, etc.) and associated proximity services (shops, restaurants) are concentrated in high-rise buildings. In Europe, on the contrary, city centres are characterized by a variety of functions, whereby houses, public facilities, diversified services, light industry, seats of power, and large office spaces dedicated to decision-making services coexist.

Despite the residential and commercial peri-urbanization observed since the 1960s, European city centres are therefore privileged places of interaction. As Lévy (1986) points out, the plurality of functions favours random encounters of different individuals (inhabitants, shoppers, workers, tourists, etc.), thus complicating exchange patterns.

Drawing on the studies undertaken by Beaujeu-Garnier (1972) in particular, it is possible to provide an overview of what, in Europe, sets the city centre apart from the rest of the urban fabric. First, at the spatial level, the city centre is often a focal point, centrally situated, for a long time surrounded by a medieval enclosure, towards which communication routes converge. While the city centre occupies a specific space, it also embodies history, as Roncayolo aptly summarizes: 'The city, in its materiality, is consolidated time' (Chesnau and Roncayolo, 2011). That the city centre is the oldest built-up and occupied area is far from trivial. Even today, this fact continues to condition a number of its characteristics.

Until the urban revolution of the 19th century, marked by strong demographic and spatial growth in European cities, the city centre was the only built-up area of the agglomerations that not only concentrated the population but also exclusively housed the inner workings of urban life (administrative, commercial, cultural, crafts and even industrial activities). There also existed – and Brussels is no exception to this rule – ancient spatial dissociations between where the civil or religious authorities were established and places of trade.

Because of this pre-industrial heritage, as transport networks developed, the centres of major European cities accumulated, within their central urban fabric, both a high economic value, reflected in land prices, and an exceptional symbolic value, expressed by the presence of iconic buildings, vectors of collective imaginaries. As a result of this initial accumulation, city centres have remained places where the main urban functions are concentrated, despite the peri-urbanization of businesses and services, first to the suburbs of the 19th century and later to more distant areas.

Various factors explain the reasons for residential areas being maintained in many urban centres in Europe, even as they whittled away in the centres of the North American model: a relatively delayed and slower development of private vehicles, the persistence of dense intra-urban transport networks, international immigration which filled the residential spaces left vacant by those emigrating to the suburbs, the persistence and/or development of local businesses and services aimed at both inhabitants and the users of the city centre, etc. Alongside these factors, the effects of which were felt as early as the 1960s, the gentrification process which began in the 1990s also helped keep housing within city centres while increasing real estate pressure for the populations already in place (Clerval et al. 2011).

The historic centre of Brussels, commonly referred to as the Pentagon, which resulted from the delimitation of the medieval city by a second enclosure in the 14th century, is a densely inhabited area. And this despite the fact that offices, places of power, public facilities (courts, hospitals, schools, sports and cultural facilities, etc.), businesses, tourist accommodation and the Parc de Bruxelles occupy vast areas.

2 > THE CITY CENTRE: A LIVED SPACE

While in the Pentagon population densities remain modest, i.e. less than 5,000 inhabitants per km² between the Parc de Bruxelles and the Central Station, they reach or exceed 10,000 inhabitants per km² in several neighbourhoods of the city centre that nevertheless accommodate a wide range of non-residential functions (around the Grand-Place and the Place de la Monnaie). Finally, in the western part of the Pentagon, from the Marolles to the Béguinage-Dixmude neighbourhoods, there are well over 15,000 inhabitants per km². Together with the 'poor crescent' (the working-class neighbourhoods bordering the western part of the first ring, from the lower end of Saint-Gilles to Saint-Josse, and passing through Molenbeek), these are the most densely inhabited areas in the Region (Figure 1a).

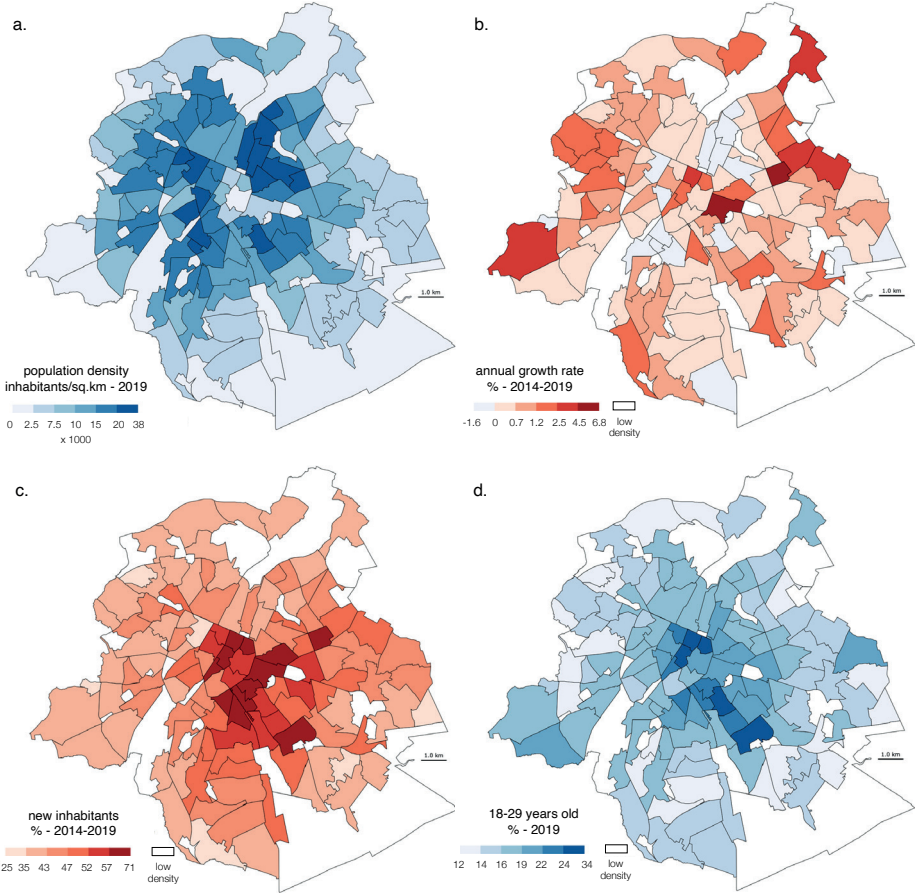
During the 20th century, the Pentagon experienced a sharp decline in population, from 140,000 to 40,000 between 1910 and 2000. Over the past two decades, the population growth has been higher than that of the regional average, and this has been achieved both by increasing the population density of existing residential buildings and by converting areas originally dedicated to other activities into residential buildings (Figure 1b).

The demographic shift observed since the early 2000s is the result of several processes.

First, immigration from abroad, which increased sharply between 2000 and 2010 across the entire Region, was concentrated in the densest and poorest areas of the city, notably in the west of the Pentagon. A detailed observation shows that, while migrant populations born in countries that may be classified as 'poor' or middle-income had a preference for the working-class neighbourhoods of the Pentagon (from Anneessens to Béguinage-Diksmuide), those from 'rich' countries preferred areas undergoing gentrification, such as the Dansaert and Sablon neighbourhoods.

Second, although the Brussels-Capital Region continues to exhibit a highly negative migration balance with the rest of Belgium, the neighbourhoods of the Pentagon are distinguished by slightly negative or even positive balances, in the context of high residential mobility (Figures 1b. and 1c.). Some of these neighbourhoods host precarious populations who often reside there for long periods, either because of material difficulties to leave the need to draw on the resources such as social networks, or because these neighbourhoods have a more affordable cost of living (Van Hamme et al., 2016). The other neighbourhoods, which are gentrified or in the process of gentrification, attract young adults, students or graduates from privileged backgrounds, at least in terms of cultural capital.

➤ **Figure 1.** Population density (2019), average annual population growth rate (2014–2019), share of new inhabitants in the territory (2014–2019) and share of 18–29-year-olds in the population (2019)



Source: monitoringdesquartiers. brussels

Lastly, the recent strong demographic growth in the Pentagon may be explained by the impact of the age structure on the birth rate. In the Pentagon as a whole, the considerable levels of immigration of young adults, both from outside and within Belgium, is reflected in the substantial over-representation of young adults, who correspond to the age of the highest fertility rate (Figure 1d).

2.1 What the pedestrian zone has changed with regard to the residential function of the city centre

The construction of the pedestrian zone was accompanied by the eviction of cars from this space and by the transformation of its uses. These two phenomena have affected the residential function of the city centre in several ways.

The development of car-free zones and the associated reduction in road traffic has had two positive effects on the living conditions of inhabitants within the pedestrian zone (Hubert et al., 2017, 2020): improved air quality and reduced noise pollution.

Following widespread mobilization by citizens, civil society and academia, air pollution is now considered an important indicator of the quality of life. Recent research shows that air pollution is particularly problematic in disadvantaged neighbourhoods, in which there seem to be significantly higher pollution-related death rates compared to wealthier neighbourhoods (Noel et al. 2020). Given that air pollution concentrations in Brussels follow concentric patterns, with neighbourhoods in the city centre generally more polluted than those situated in the peripheries, analysing the impact of pedestrianization on pollution is an unavoidable issue.

To assess the level of air pollution in and around the pedestrian zone, various measurements were undertaken before and after the closure of the central boulevards to car traffic. These first surveys show that the development of the pedestrian zone resulted in a significant reduction, i.e. between 35% and 55%, in the concentration of black carbon particles, a pollutant that results from the incomplete combustion of hydrocarbons emitted by exhaust pipes (predominantly of diesel engines) and from the combustion of certain domestic heating appliances. The pedestrian zone therefore significantly reduced the concentrations of this pollutant during peak hours: there was a drop in pollution 'peaks'. However, this had almost zero impact on the substantive effect generated by sources other than local traffic, such as the traffic across the entire Region and heating (Beaujean et al., 2016). Analyses undertaken in neighbouring areas revealed an increased local presence of this pollutant, with higher concentrations of pollution in areas such as Boulevard de l'Empereur (134%) and Marché au Bois (128%).⁶

These observations therefore suggest that a public space without traffic has the direct effect of reducing the exposure of those who 'use' it by passing through it, working in it and, in general, spending time there. For those living within the pedestrian zone, positive health effects are to be expected, because the concentration of indoor air pollution is influenced in part by outdoor air pollution.

⁶ See the parliamentary inquiry mentioning the results of the ExPair project at <http://weblex.brussels/data/crb/biq/2016-17/00037/images.pdf>

Outside the extended pedestrian zone itself, the improvement in air quality is by no means established. The wider impact of a pedestrian zone on pollution depends on whether or not it is involved in a broader strategy of cleaner transport and mobility solutions. While the pedestrian zone remains a car-free island in a city structured by – or for – the car, traffic and the associated pollution simply shifts to adjacent streets. Locally, as has been partly observed, this has a low net positive impact on the city centre and its inhabitants, or a negative impact if traffic is redirected to a narrower street where the dispersion of pollutants is less evident. In this case, residents and pedestrians in the city centre benefit from cleaner air, but to the detriment of the health and quality of life of those in the surrounding areas.

To address the issue, a multi-scalar analysis is therefore crucial. Increased traffic on one street and an overall decrease in traffic are not incompatible phenomena. It is likely that the closure of the central boulevards, which are a major transit infrastructure, has played a significant role in the net reduction of vehicular traffic across the Pentagon through the ‘traffic vanishing’ effect. Studies have regularly shown that the closure of vehicle infrastructure generally leads to a decline in road traffic as opposed to merely a shift to adjacent streets (Crozet and Mercier, 2017).

The pedestrian zone and other (semi-)pedestrianization projects in the city can provide a valuable opportunity to practically and symbolically redefine its pedestrian spaces. This can only succeed if a car-free street is part of a neighbourhood renovation plan and is supported by effective strategies to avoid traffic percolation into neighbouring areas and to ensure that the area becomes accessible through cleaner and/or less punitive options for residents (see Mezoued et al., 2020).

With respect to vehicle-related noise, observations (Fenton et al., 2020) suggest that there has been a decrease in general road noise in pedestrian zones. However, most importantly, a modification of the sound landscape has been observed. Even the traffic noise itself has changed and is now focused on the streets open to motorized traffic (including buses) and crossing the pedestrian zone, or the horns of the vehicles involved in the numerous conflict situations on the pedestrian zone. It has been reported that some inhabitants consider these intermittent, rather than background, noises to be more stressful.

Moreover, pedestrianization has helped transform the uses of the space concerned, making it ‘favourable’ for hotels, restaurants and catering services (Horeca industry) and for festive events, while encouraging the ‘stagnancy’ of party-goers and alcoholics living on the margins of society in the public space (see Rosa et al., 2020 and Fenton et al., 2020). These uses are associated with various nuisances, such as the noise of partygoers, and, above all, the noises associated with people leaving bars and being inebriated. Inhabitants have reported these noises as more annoying than traffic noise, because they are intermittent and occur in the middle of the night. In the absence of management by the authorities, inhabitants have to deal with a space that is probably less noisy ‘on average’, but is actually less quiet

at a number of 'key periods' that guarantee liveability (predominantly nights and early mornings).

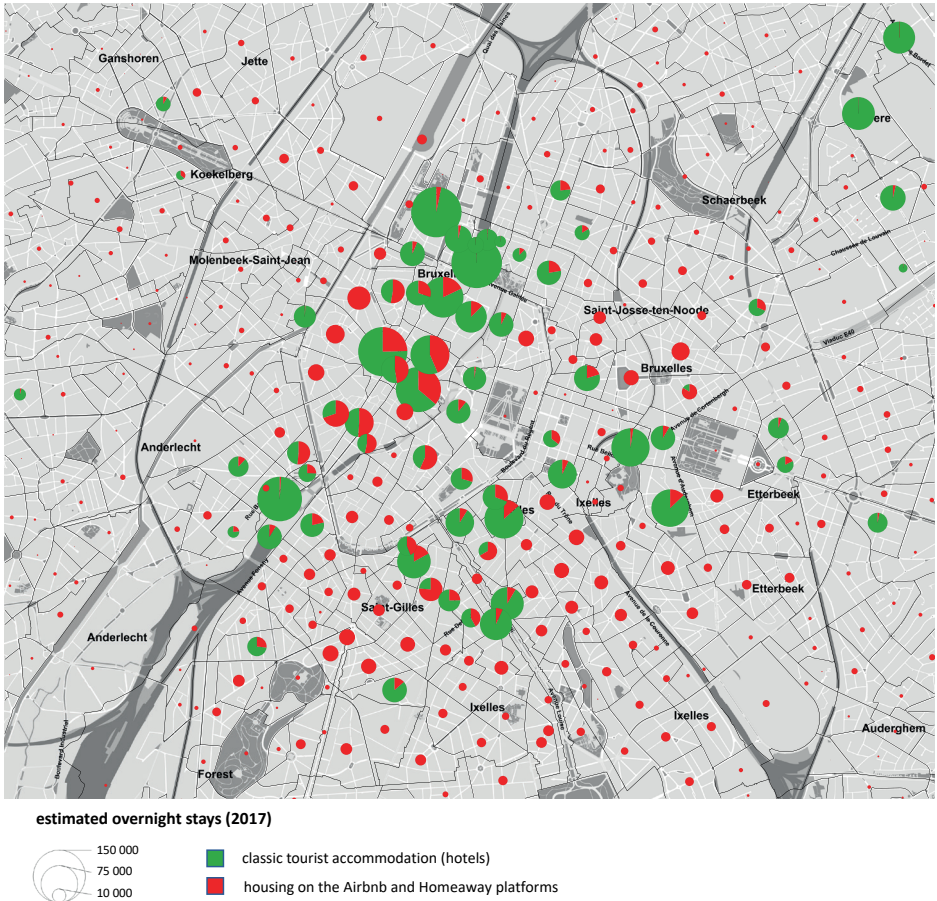
The pedestrian zone is therefore a quiet space in terms of car traffic, probably less polluted than before and potentially less noisy on average, but it is not always quiet throughout the night. Outside the pedestrian area, it is unlikely that the situation improved ubiquitously in terms of pollution or traffic noise. In some streets, the situation most likely even deteriorated. In the case of Brussels, and despite a likely decrease in traffic throughout the Pentagon, traffic nuisances have partly shifted outside the pedestrian zone and now affect the more working-class neighbourhoods located to the west (Aneessens) and south (Marolles) of the Pentagon. At the spatial level, therefore, there are arguably winners and losers of pedestrianization.

2.2 What the pedestrian zone may change relative to the residential function of the city centre

While the issue of the socially contrasting effects of pedestrianization may be addressed at a particular moment in terms of its spatial dimension, it may also be addressed diachronically, in terms of its temporal dimension. Indeed, the development of a pedestrian zone is a signal which, if it does not generate, may yet reinforce certain developments, particularly with regard to the residential real estate market. In the latter context, property value is determined by the intrinsic characteristics of the property, but also by the environment in which it is located. However, the characteristics of the properties (size, equipment and price) largely determine the profile of the (future) inhabitants. This means that the inhabitants of the pedestrian zone today will not necessarily be those of tomorrow, especially in a space where residential movements abound, and the composition of inhabitants changes at a relatively rapid pace.

In this regard, it is worth mentioning that the perimeter of the Pentagon has experienced a sharp increase in the number of tourist offers (furnished rooms and apartments) rented for short periods on platforms such as Airbnb and HomeAway. This development is itself likely to induce a process of tourism gentrification, both indirectly, through an increase in rent and residential property prices, and directly, through the eviction or non-replacement of tenants when leases end (for a summary, see Cocola-Gant, 2019).

> **Figure 2.** Estimated nights in hotels and accommodations available for rent on Airbnb and Homeaway in 2017



Source: H. Perilleux (ULB) from Statbel, Brussels Economy and Employment, AirDNA

Inexistent in Brussels 10 years ago, Airbnb and HomeAway accounted for 2.3 million overnight stays in 2019, or 25% of all regional overnight stays, with an average growth of 40% per year between 2015 and 2019. The short-term accommodation offered upon these platforms is highly concentrated in the Pentagon (21% of the regional offer) and in the eastern area of the first ring road (34% of the regional offer), from the Haut de Saint-Gilles neighbourhood to the European neighbourhood, via Ixelles. The Pentagon distinguishes itself through its high proportion of fully leased properties, of properties possessed by multiple owners, and of properties frequently put up for rent. In other words, this is a privileged space in which the investment logics associated with hosting platforms play out. It is also in this part of the city, which is characterized by a strong social heterogeneity of its inhabitants, that one finds the strongest competition between tourist accommodation

platforms and housing for precarious and even middle-class populations. Conversely, in the more peripheral areas, where the opportunistic logic dominates, i.e. the occasional renting of a room in one's house to a private individual, little pressure is exerted on the housing market.

Within the Pentagon, the offer of furnished accommodation on the platform was primarily implemented in the Îlot sacré area and the adjacent neighbourhoods. The statistical areas around the pedestrian zone (Grand-Place, Bourse, Bourse-Nord-Ouest et Monnaie) provide by themselves one-third of the entire properties and a quarter of the rooms available for rent on Airbnb and HomeAway. Even more significantly, there are nearly 120 entire properties for rent per 1,000 inhabitants and just over 20 whole properties per 100 private dwellings. Elsewhere in the Pentagon, the relative weight of furnished tourist accommodation is much lower, with values ranging from 4 (Marolles) to 8 (upper part of the town) entire properties for 100 private dwellings. The tourism function thus exerts strong pressure on the residential housing market within the pedestrian zone itself. While a reduction in the number of inhabitants is yet to be seen, it is likely that the conditions of access to housing for the working classes have already deteriorated and will continue to do so in the future, unless there is a long-term slowdown of tourism flows.

This issue emerged quite early in the debates on the pedestrian zone, with associations and members of the scientific community rapidly highlighting the need to act *on* and *through* housing. Property rights and housing regulations are a prerequisite for establishing some form of equilibrium: for instance between the need to revitalize the city centre and the risk of gentrification, and between the rise of temporary housing (Airbnb, hotels, bed and breakfasts, etc.) and the need for permanent residents (Hubert et al., 2017). The need to maintain residential functions (including for the working-class populations) is thus more acute in a pedestrian zone placed under increasing pressure from tourism.

3 > THE CITY CENTRE: A WORKING AREA

The city centre is not a Central Business District (CBD) in the strict meaning of the term. Indeed, in the centre of Brussels there has been no complete elimination of residential functions, industrial activities, or even certain forms of commerce in order to set up a space where administrative tertiary activities (head offices, public decision-making centres) and the associated services (businesses focused exclusively on office clientele and Horeca) are exclusively concentrated. In the Pentagon itself, apart from the very functionalist Philips tower and its esplanade above street level, the administrative centre of the City and the Post Office, and the administrative area of Pacheco Boulevard, there are few very tall buildings which occupy a large surface, due to the high land prices associated with centrality. The Brussels CBD will be referred to rather in regard of peri-central spaces, such as the European Quarter and the Northern Quarter, where the defining elements of this urban

➤ **Table 1.** Number of employment opportunities recorded by the social security agencies (workstations), by place of employment in 2011, by sector of activity. The workstations only very partially include workers from international institutions. Jobs that could not be situated at the statistical sector level were accounted for at the level of the municipality. Self-employment is located at the head office. The north-south axis is reconstructed by combining the statistical sectors adjacent to the boulevards, from Rogier to Midi: A001, A002, A01-, A02-, A03-, A20-, A21-, A32-, A35- and A83-

NACE	Sector of activity	North-south axis		Pentagon		Brussels-City municipality		Brussels-Capital Region	
		#	regional share	#	part régionale regional share	#	regional share	#	regional share
K	Financial and insurance activities	13,490	21.1%	19,849	31.1%	31,293	49.0%	63,841	100.0%
O	Public Administration	13,054	10.6%	37,205	30.1%	55,571	45.0%	123,617	100.0%
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	4,689	6.2%	7,516	9.9%	20,929	27.5%	76,208	100.0%
I	Accommodation and catering	4,348	14.3%	6,542	21.5%	11,652	38.3%	30,392	100.0%
N	Administrative and support service activities	4,211	7.6%	7,436	13.4%	21,602	38.8%	55,616	100.0%
P	Education	2,467	5.0%	5,420	11.1%	11,024	22.5%	48,971	100.0%
Q	Human Health and Social Action	2,166	3.6%	7,599	12.6%	14,270	23.6%	60,490	100.0%
STU	others	1,984	6.8%	4,911	16.9%	11,988	41.2%	29,101	100.0%
M	Professional, scientific and technical activities	1,427	2.9%	4,981	10.0%	16,544	33.2%	49,759	100.0%
R	Arts, entertainment and recreation	1,295	14.4%	2,606	29.0%	3,832	42.6%	9,000	100.0%
H	Transportation and Warehousing	953	3.0%	2,091	6.5%	9,359	29.3%	31,940	100.0%
ABCEFF	Agriculture and Industry	691	1.3%	4,348	8.3%	12,448	23.8%	52,194	100.0%
J	Information and communication	385	1.0%	3,107	8.4%	8,873	24.0%	36,995	100.0%
L	Real estate activities	153	2.2%	436	6.1%	1,684	23.7%	7,102	100.0%
	Total	51,313	7.6%	114,047	16.9%	231,069	34.2%	675,226	100.0%

Source: IRIB/IGEAT calculations based on Belgium Statistics, 2011 Census

typology, including the skyline and the magnitude of vertical rather than horizontal buildings, are fully present (Vandermotten and Wayens, 2009).

Although the administrative function is not dominant in the Pentagon, it is very much present, because almost a third of the employment opportunities in the financial sector or public administration in the Brussels-Capital Region are located there, with a significant proportion bordering the north–south axis located around the boulevards (in 2011, respectively 21.1% and 10.6%, see Table 1). Adding the administrative and support services raises the figure to approximately 30,000 administrative jobs identified in the neighbourhoods along the North–South axis.

Given the strong presence of commercial and tourist functions, retail and hospitality (Horeca) services also constitute a large proportion of the jobs along the north–south axis (close to 9,000 of the 14,000 jobs listed in the Pentagon). The hospitals and schools present entail employment in the health and education sectors of more than 4,500 jobs on the north–south axis. While this may appear a considerable figure at the Pentagon level, compared to the proportion of these types of jobs across the entire Region, it is actually quite low. Lastly, we must highlight the relative importance of the arts, entertainment and leisure activities sector (14% of regional employment on the north–south axis, 29% in the Pentagon), which reflects the rich cultural life of the city centre.

The city centre thus remains a major employment hub, relatively diversified in terms of sectors and the economic base of activities. One may find both local activities, such as commercial services and activities requiring more extensive recruitment, benefiting from the centrality of Brussels in terms of employment or associated with the region's cultural or touristic influence.

3.1 What the pedestrian zone may change for business mobility in the city centre

Naturally, the observations and issues associated with the evolution of the living environment mentioned above also largely apply to the working environment of the Pentagon, involving many of Brussels's inhabitants and commuters. This view, however, may be supplemented by elements more directly associated with employment, in particular in terms of home/work mobility or deliveries.

The mobility of active workers in and around the Pentagon, and the ways in which this mobility has changed, have been analysed primarily by two groups of researchers. Ermans and Huynen (2019) processed data from the 2014 and 2017 Company Mobility Plans (CMP) for businesses with more than 100 workers within a 300-metre radius of the pedestrian zone. The MOBI team of the Vrije Universiteit Brussel (VUB) on the other hand, conducted an online survey of 2,406 workers working in the Pentagon (Keserü et al., 2018). Both analyses show that public transport, particularly rail transport, is the dominant mode of transportation

for workers working in and around the pedestrian zone. While the CMP analysis shows a modal share of public transport of approximately 75%, the online survey estimates it to be just under two-thirds. This strong modal share may be explained by the good accessibility of public transport: urban, with STIB underground metros, trams and buses, regional, with De Lijn and TEC bus lines, and national, with the three main train stations of the country, i.e., Brussels North, Brussels Central and Brussels Midi, in the immediate vicinity of the pedestrian zone. Moreover, the strong presence of banking and insurance services, head offices, and public administration bodies means that numerous employees commute from relatively far away.

The data from the CMP show an average commuting distance of approximately 30 kilometres between, which is higher than the regional average in Brussels. The train is the most common mode of transport for these longer distances (Strale, 2019). As a result, few people walk or cycle to work, i.e. approximately 5%, which is less than the regional average. Nevertheless, between one-in-five and one-in-six workers have a parking space at work, and 13 to 15% have a company car, which corresponds to the regional average.

Changes in modal shares are difficult to assess because of the small decrease. Moreover, information on this subject may be contradictory, depending on the sources and methodologies used. The CMP analysis shows a significant decrease in train usage, an increase in the use of STIB's public transport, and an increase in the use of De Lijn and TEC interregional buses. In general, the use of public transport has declined in favour of cars. A possible explanation for this may be the increase in the proportion of workers with a company car, which would affect, in particular, commuters living outside Brussels and travelling by train. It should not be forgotten that the CMP sample is comprised of large businesses. In contrast, the MOBI survey, which was based on individual rather than on company statements, is more optimistic about the evolution of public transport usage. Ermans and Huynen suggest several possible explanations for this divergence: respondents may tend to give positive impressions about their behaviour and to align their responses with current trends. Moreover, with multimodal transport developments, an increase in the use of public transport does not necessarily mean a change in the main transport mode declared by the CMP.

The issue of deliveries is another aspect of business mobility that must be considered (Sotiaux and Strale, 2017). With the exceptions of retail trade and the hospital industry, most businesses directly affected by the pedestrianization of the city centre fall within the office sector. Their supply primarily depends on road mobility. Vans are the most frequently used mode of transport, although these businesses frequently receive a not-negligible number of heavy-duty vehicles. This modal breakdown is primarily due to the nature of the transport flows: they include deliveries of office equipment, food products, machinery, and also parcels they receive or ship. Although the number of deliveries per worker is much lower than in the

retail trade, the large size of the companies concerned nevertheless leads to a large volume of deliveries in and around the pedestrian zone. Deliveries and shipments consist primarily of cartons, and particular constraints are associated with the value of goods in the banking sector, and with the urgency of shipments and deliveries within the sector in general with regard to parcels. From this perspective, it is evident that the share of unplanned shipments or receipts, which is approximately one third, is higher than in retail trade.

The extension of the pedestrian zone and the constraints it imposes on delivery times have been highlighted as a potential obstacle to these urgent flows, but also to access for technicians involved in urgent infrastructure or office equipment repairs. As far as parking is concerned, the large companies in the sector are distinguished by the frequent presence of parking sites situated outside the road network, but access to these sites is considered problematic by a majority of stakeholders surveyed.

Overall, the pedestrianization of the city centre appears to have had minimal impact on the mobility behaviour of people working in the city centre. An aspect that has received scant attention to date is the evolution of employee practices in the middle of the day and after work. In addition to the small number of access difficulties that are likely to be resolved gradually, the impact on the logistics of companies appears to be particularly sensitive to less predictable flows and interventions involving deliveries that fall outside authorized delivery hours. As with the flow-leaving businesses, one must therefore also reflect on logistical issues (as well as technical interventions) that cannot be addressed through a 'simple' definition of delivery schedules. This is not to mention private construction sites, which require lorries for long hours and over longer periods.

4 > THE CITY CENTRE: A COMMERCIAL SPACE

Although the term 'hypercentre' is often used to refer to the commercial function of city centres, it remains largely undefined. It may be used in a very broad sense, corresponding, for instance, to the areas within the city boundaries, or even to an extension of the city, or, on the contrary, in a very narrow sense, reducing the city to its 'main streets'. There are three possible meanings of the term hypercentre, and these fit perfectly together, much like Russian dolls (Grimmeau et al. 2004).

The narrowest possible definition of the term corresponds to the 'main streets' as seen by real estate brokers, where the most ambitious brands are concentrated, those looking for the highest number of occasional shoppers and willing to pay exorbitant rents.

The second, intermediate, definition comprises all the streets with a commercial structure typically found in city centres (clothing, shoes, jewellery, perfumery, leather goods, chocolates, waffles, etc.). This covers a more extensive space than

the former, with ambitious brands pushing similar shops run by self-employed workers, as well as less ambitious brands or those associated with specific segments of the population, to adjacent streets.

Lastly, the broadest definition incorporates specialized neighbourhoods and specialized services, both of which can only exist with the city centre's extensive customer catchment area. In specialized shopping areas, one may find businesses present elsewhere, albeit in lower proportions, for instance restaurants, antique shops, sex shops, etc. Specialized businesses do not necessarily correspond to 'rare' shops but rather to rare specializations of businesses that already exist or to particularly reputable businesses, justifying the need for an extensive catchment area, such as, for instance, a store classified as toy shop but actually specializing in scale models; one classified as a garment manufacturer but specializing in uniforms or other occupational clothing; a footwear shop offering half sizes and different shoe width options; reputable pharmacists, cutlery manufacturers or cheese makers, etc. Specialized shopping areas are thus *not characterized by a strong over-representation of a certain type of business* but rather *by a strong presence of diversified specialized shops*.

A particular characteristic of Brussels is that it has two spaces that attract ambitious brands: the city centre, around Rue Neuve and City II, and the upper part of the city that extends between the Porte de Namur and the Louise area. The two spaces are extended, by a specific commercial offer, from Rue Neuve to Boulevard Adolphe Max, Rue des Fripiers, Le Marché aux Herbes, Agora Gallery and Saint-Hubert; from the top of the city towards Avenue Louise beyond Place Stéphanie, towards Boulevard de Waterloo and Rue de Namur, towards Chaussée de Wavre. Several extensions may stand apart, such as Rue Antoine Dansaert. Specializations in Horeca are primarily concentrated in and around Sainte-Catherine, Saint-Géry, Rue des Bouchers, Marché aux Fromages and, in the upper part of the city, Rue Jourdan and the end of Avenue de la Toison d'Or on the side of Porte de Namur. The neighbourhoods around the Grand-Place are highly oriented toward a touristic clientele.

The Sablon is the area of antique dealers, a specialization that extends towards the Marolles, which, however, is more focused on decoration. The luxury business is also divided into two areas: one is classic, with well-established brands such as Cardin, Vuitton, Ricci, etc. on Boulevard de Waterloo, the other is trendy, with designers better known to the wealthy young people conscious of contemporary fashion trends on Rue Antoine Dansaert.

In the upper part of the city, the beginning of the Chaussée de Wavre, commonly referred to as 'Matonge', is the meeting place for Congolese and other Africans from Belgium and the surrounding area (specialized hairdressers, clothing fabrics, fruits and vegetables, music and videos, travel agencies, etc.). In addition to several bookkeepers, Boulevard Lemonnier concentrates Moroccan cultural businesses (books, music, specific keyboards, religious articles, etc.) and services (Moroccan banks, hairdressers, travel agencies, etc.). This commercial fabric clearly differs

from the businesses closer to neighbourhoods with a strong Moroccan or Turkish presence.

But the retail hypercentre is probably even larger, though it would, in an extension, include more spread out centres which also benefit from Brussels's customer catchment area: bazaar-style shops on Rue de Brabant, prostitution on the nearby Rue d'Aerschot, near the Gare du Nord, Turkish restaurants on the Chaussée de Haecht, etc.

Regarding retail activities, both the Pentagon and the upper part of the city are among the areas at the heart of the Brussels two-pole hypercentre. They are characterized by the diversity and relative specialization they offer, particularly in the areas on the outskirts of the hypercentre, where rents are lower. This also leads to a multitude of customer profiles, who mix in some spaces, but not in all areas of the retail centre, making multiple buyer journeys possible in the city centre.

4.1 What the pedestrian zone changes for retail businesses in the city centre

From 2015, businesses which had a high visibility upon pedestrianized streets had to start dealing with the widening of the pedestrian zone to a broader portion of the Pentagon. Indeed, the pedestrianization of commercial spaces began in the 1970s (including Rue Neuve) and extended to other commercial spaces in the city centre (notably Ilot Sacré). The impact of these transformations on the functioning of businesses has been the subject of many studies focusing on European cities (Mérenne-Schoumaker, 2008). These studies have identified the common features of these developments:

- › faster changes in retail operator;
- › growth in the share of integrated retail and decline in the share of self-employed businesses;
- › decline in the supply of common products and a shift towards semi-common, exceptional and entertainment products;
- › strengthening of a model focused on mass consumption, with high profit margins and a weak presence of luxury businesses;
- › the near-disappearance of activities dependent on direct access by car;
- › development of the Horeca sector, which benefits in particular from the possibility of extending its terraces.

The extension of the pedestrian zone in the Pentagon and the drastic restriction of road access has largely expanded the zones where pedestrians have priority. Never have the latter occupied such a large space since cars first emerged (Figure 3). Although the lack of hindsight prevents us from examining the

evolution of commercial structures, changes in supply within these perimeters are evident, and consistent with the observations associated with the previous wave of pedestrianization, albeit with slight differences. The relative weight of catering services has probably become much greater, because it is both a growing sector in the most central urban areas and one of the major beneficiaries of the increased tourist presence and, more broadly, of changing lifestyles. The expanded pedestrian zone has probably become less exclusive of the food sector as well, although this is likely to be primarily of benefit to organized brands, which are developing new adapted formats. It remains uncertain, however, whether the increase in pedestrian-priority zones will help strengthen textile retail (at least in terms of the number of outlets), which is subject to the double pressure of online commerce and developments at the periphery of the city centre. It will probably be reluctant to increase its number of urban outlets. More broadly, in a context where the demand for commercial real estate is showing signs of weakness nationally (Grimmeau and Wayens, 2016; Wayens et al., 2020), the question remains as to whether the multiplication of upgraded commercial spaces in the city centre will (not) be accompanied in the long term by a difficulty in finding tenants.

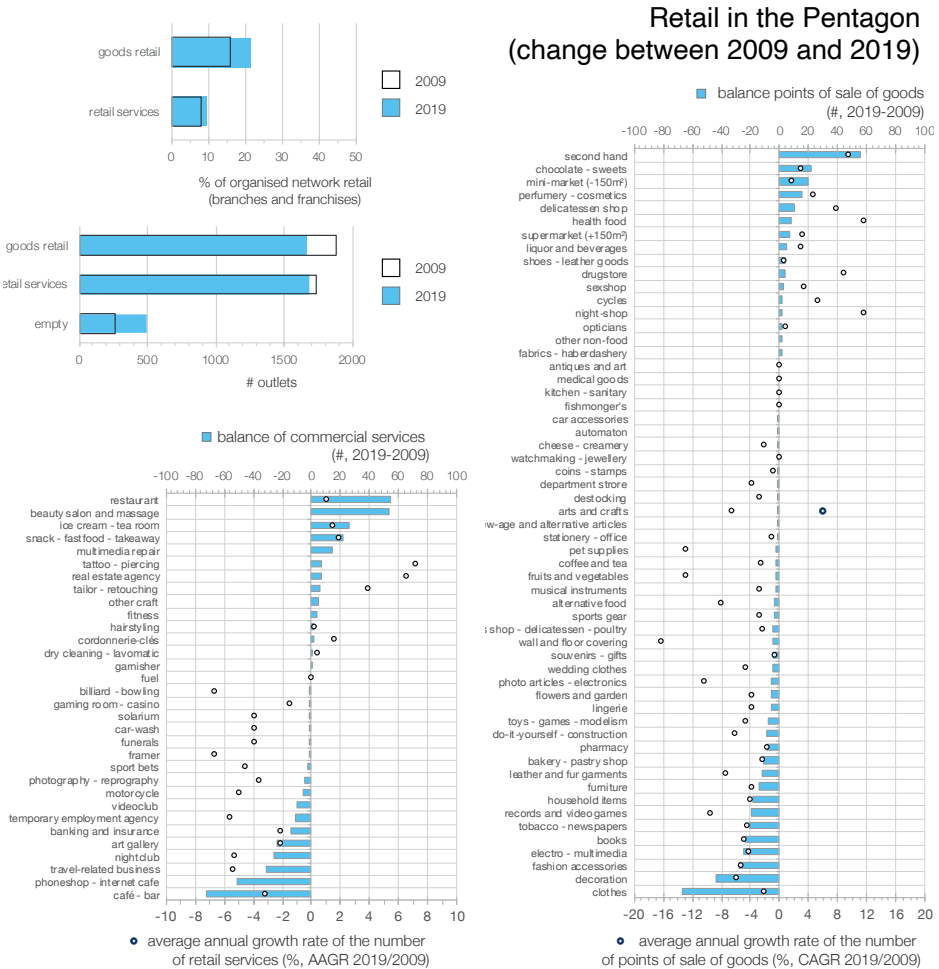
This observation highlights the extent to which a pedestrian zone must be considered within its metropolitan context. An analysis of the scant recent literature shows that the success of this zone is explained in part by the presence of a critical mass of residents (or tourists) in the city centre, the existence of an efficient public transport network, low car dependency in the catchment area, but also the implementation of policies discouraging the development of commercial areas in the region's outskirts (Boussauw, 2016).

Moreover, the development of the central boulevards also reveals the intention of making this part of the city more attractive for tourists. However, the degree of 'touristicity' of a business, i.e. the share of its activity that is directly generated by tourism, varies depending on the business sector (it differs significantly between a souvenir shop and a DIY shop, for example). This impact of tourism on businesses may also vary depending on geographic location, with a possibly higher impact for a larger proportion of the city centre than previously (Wayens and Grimmeau, 2003; Wayens and Grimmeau, 2006).

Regardless of the changes observed in the nature of the businesses present, two elements connected to the extensive pedestrianization of the city centre seem to have already had an impact on the day-to-day operations of businesses.

In terms of deliveries, the logistics of businesses in the city centre is distinguished by the exceedingly high use of vans. Indeed, these light-duty vehicles offer flexibility and frequent transport of small volumes which correspond to the expectations of many independent retailers. These logistics are also highly individualized, because of the difficulty of grouping flows from multiple sources and collaborating between retailers with different and sometimes contradictory expectations. Flows are concentrated at the opening hours of the businesses,

➤ **Figure 3.** Changes in commercial supply in the Pentagon between 2009 and 2019



Source: Calculations by B. Wayens (ULB), based on Locatus field inventories

and this may be a point of conflict with pedestrian traffic, other road traffic, and with the regulations that expect deliveries to take place as early as possible. Integrated retail, i.e. brands and their franchises, revolve around more centralized logistics than sole retailers, and thus require more heavy-duty vehicles; lorries and semi-trailers (Strale et al., 2015). This is an important parameter to consider, because it implies facilities that are adapted to accommodate such vehicles, including in the pedestrian zone. Following the redesigning of the city centre, economic actors' rates of satisfaction regarding their delivery conditions in and around the pedestrian zone remained relatively high, even though they dropped significantly. A final interesting element is the gap between the solutions proposed by the authorities and praised in the scientific literature (deferred deliveries, urban distribution centres, bicycle deliveries) and professionals' lack of interest.

This reveals authorities' difficulties in understanding and managing this issue, which is optimized at the level of the individual merchant, who is able to manage it at both the organizational and financial level (Sotiaux and Strale, 2017).

On a completely different level, many business owners deplore the growing presence of homeless people and the increased levels of begging. The increase in homelessness is widespread in Brussels (Quittelier and Horvat, 2019) and has been reinforced by migrant flows associated with political instability and numerous international conflicts. As long as the care of these people continues to be insufficient and limited to only shelter for the night, the pedestrian zone, which primarily consists of commercial spaces, will remain a refuge for populations that are marginalized in urban space for many reasons: social control, specific urban morphology, availability of cardboard boxes, pedestrian flows, etc. (Malherbe and Rosa, 2017; Rosa et al. 2020). This affects the functioning of businesses in terms of image, but also occasionally practical terms (for instance, difficulties with deliveries in the early morning, extra cleaning, etc.). A primarily safety-oriented response is obviously inadequate given the extent of this social crisis. It is high time to invest massively, jointly with business owners, in a pragmatic and humane management of the issue of marginalization and homelessness in the public space, especially when this space is adjacent to a semi-public space (i.e. one accessible to the public) such as a commercial zone.

5 > THE CITY CENTRE: A TOURIST AREA

The embodying of new practices has led to drastic changes in the patterns of tourism across cities in Europe. For example, greater importance is attached to festive events, nightlife and visits to 'off-the-beaten track' places. At the same time, there has been a surge in the use of alternative forms of accommodation, such as bed and breakfasts, couch-surfing and furnished tourist accommodation rented on platforms such as Airbnb. Despite these developments, the urban tourist space has remained rather limited on the whole (Gravari-Barbas and Fagnoni, 2013).

The Brussels metropolis has not escaped this strong trend. Indeed, a large majority of the attractions, tourist services and visits are concentrated in the Pentagon, especially around Ilot sacré, les Boulevards Centraux and the Mont des Arts. In this sense, the Pentagon is indeed a Central Tourist District, in the sense that it is a 'space of embodied tourist practices, which combines places to visit, stroll through, shop, eat, and, to some extent, reside' (Duhamel and Knafou, 2007: 49). As with other Central Tourist Districts, Brussels asserts its identity less through a specific landscape (such as the office towers of a Central Business District) than through the considerable presence of tourists.

In terms of tourist attractions, several indicators show the predominance of the Pentagon. In tourist brochures, for instance, the Pentagon is present in more than 60% of the pages devoted to the description of places to visit, 64% of the

section 'What to see and do' in the 2010 edition of the *Guide du Routard* dedicated to Brussels, and 75% of the pages of the section 'Discover Brussels through its six major quarters' in the 2007 edition of the *Cartoville Guide* (Gallimard) for Brussels. Similarly, two thirds of the 15 'trendy bars for a relaxed aperitif or rock evening' mentioned by *Le Guide du Routard* are located within the small ring. Lastly, 25 (62%) of Brussels's City Sightseeing Hop On Hop Off bus stops are located in the Pentagon, mainly near Sablon, Parc de Bruxelles, Grand-Place and Place de la Monnaie.

The cultural offer, which targets tourists, visitors and the region's residents in equal measure, also exhibits a high degree of spatial concentration. For instance, almost a third of the museums in Brussels are located within the Pentagon, mostly between the Mont des Arts and the Grand-Place. While this distribution is partly a legacy of the decision that prevailed in the 19th century to place 'national' museums in a central location, it also reflects a contemporary trend. Indeed, the majority of new museums opened in Brussels since 2000 are located within the Pentagon. Moreover, museums found in central locations also attract greater attention from tourist promotion bodies and published guides.

Tourist services are also concentrated within the Pentagon. In 2015, 40% of hotels and bed and breakfasts within the region were established there, particularly on both sides of the North-South axis, between the Bourse building and Place Rogier (Figure 3). While the hotels in the city centre are, on average older than those in the rest of the region, they offer average capacities, reputations and prices that are remarkably similar to them. Similarly, the market share of hotel chains and the occupancy rates do not differ greatly from regional trends.

As with museums, the spatial concentration of hotels results in part from the region's legacy: at the beginning of the 20th century, most of the Brussels hotels mentioned in tourist guides were located within the Pentagon, notably along the central boulevards, between the Bourse building and Place Rogier (Jourdain, 2011). This structure persists even today, with a progressive reduction associated with the emergence of new hotel complexes, first in the Louise neighbourhood then in the European quarter.

More surprisingly, new forms of tourist accommodation, such as furnished tourist accommodation available on booking platforms such as Airbnb, are more numerous in the Pentagon than in other parts of the city, both in absolute (number of properties) and relative (percentage of properties available for rental in relation to the total available accommodation) terms (see Section 1 above).

Although we lack accurate data on the actual number of tourist visits to the different parts of the city, it is now possible to obtain a first impression by analysing geolocated activity on social networks. The location of Tweets that visitors publish from Brussels, and the photos they post on Flickr, reveal a very simple geography. With the exception of the Heysel Plateau, the European Quarter and the Gare

du Midi, tourists almost exclusively visit the Pentagon, with a preference for the axis between the Palais de Justice and the Parliament, the Ilot sacré and the Sainte-Catherine neighbourhood. Museum attendance data confirms the touristic and cultural attractiveness of the city centre. Apart from the Museum of Natural Sciences (Parc Leopold) and the Royal Museums of Art and History (Cinquanteenaire), all museums that receive a significant number of visitors are located in the Pentagon, such as the Royal Museums of Fine Arts and the Belgian Comic Strip Centre.

5.1 What the pedestrian zone changes for tourism in the city centre

The tourism sector plays a crucial role in the city's economic growth and creates jobs that cannot be easily relocated. While it offers new opportunities for the so-called creative industries and for the enhancement of cultural heritage, the local benefits revolve primarily around two sectors of activity: accommodation and retail (restaurants and cafes, alongside the sale of goods and services). *The recreational turn* (Stock, 2007) is now affecting major multifunctional cities in which tourism was, for a long period of time, simply one economic activity among others. Tourism is becoming a more decisive factor of urbanity and attractiveness. In this context, major cities such as Brussels are increasingly witnessing their space become structured by and for tourists.

Commercial activities, which have a strong presence within the pedestrian zone, have played a major role in this restructuring, either passively (by shifting towards offers tailored to the reality) or actively (by transforming commercial activities into a major element of tourist attractiveness and placing them at the same level as the events and major conference, cultural or leisure facilities). Clearly, the pedestrianization of the central boulevards may be interpreted as the city centre's attempt to adapt public spaces to tourists' expectations. And naturally, this (increased) tourism has been a source of worry and protests. People have begun to oppose the reorientation of the use of space in favour of tourists, who, in their view, threaten the viability, functioning and sustainability of the city for its residents and other users (Hubert et al., 2017; Fenton et al., 2020).

The pedestrian zone also offers a space where multiple events may be organized more easily (from the Christmas market to the start of the Tour de France). It is also a particularly unhindered space for tourists, who are essentially pedestrians. There is no doubt that the pedestrian zone contributes to the spread of tourists in the city centre. This reinforces its position as a tourist area, especially when new tourism facilities are still emerging within the pedestrian zone (one naturally thinks of the reallocation of the Bourse building). In the coming years, changes will have to align with the wishes expressed by the Brussels Region, of more evenly distributing tourism across all 19 municipalities.

Tourists appear to strongly appreciate this layout of the city centre as a pedestrian zone. Foreign tourists account for 22% of the people who visited the pedestrian zone in the survey conducted by the Mobi research team of VUB (Keserü et al., 2018). Among those who use the city centre, they view the extension of the pedestrian zone most favourably, with the survey suggesting that 80% of them would support this measure. Indeed, very few foreign tourists visit the city centre by car, and they primarily use the space on an occasional basis and for leisure activities. Although directly concerned, they are hardly involved in the divisions and debates that have taken place around this redevelopment of the city centre.

6 > CONCLUSION: WHEN CARS LEAVE THE CITY CENTRE, DOES ANYTHING REALLY CHANGE?

The city centres of European metropolises are unique spaces that still benefit (or suffer) from the accumulation of long periods of urban history. Our survey of the socio-economic functions that the Brussels Pentagon exhibits highlights an important legacy, i.e. its wide variety of uses. Residential function, administrative, commercial and public service activities, and tourist and leisure facilities coexist. Moreover, there is great diversity within each function: diverse resident profiles, commercial offers, and touristic and cultural opportunities.

This diversity of functions leads to the coexistence of different users within the city centre, notably, but not exclusively, across different timescales. The spatial stratification, which is often more vertical than horizontal, implies that a pattern of specialization by streets or neighbourhoods often needs to be nuanced. A shift from a sectoral to an intersectoral perspective is probably increasingly required. Lastly, it should not be forgotten that while these coexisting functions may receive positive feedback, they may also lead to conflicts in terms of use and competition, particularly reflected in the property market.

According to the public authorities, the pedestrianization of the central boulevards had a two-fold objective: 'To shift from a utilitarian city designed for car transit, to a city shaped for its inhabitants and where it feels good to live'; and 'to revitalize economic activity in the centre'⁷ by targeting visitors (workers, tourists, consumers, culture enthusiasts, etc.) in the main.

The debates around the pedestrian zone have revolved around the extent to which the opposition between 'inhabitants' and 'visitors' has fuelled controversies (Hubert et al., 2017), implying that the two objectives of public authorities would be difficult to reconcile, due to the fact that the zone would prejudice certain categories of actors, namely the inhabitants and/or business owners in the city centre, depending on the views they support.

Comparing our description of the main uses of the city centre with the effects of pedestrianization that are already evident reveals that this somewhat simplistic binary opposition needs to be reformulated. The real question, then, is which inhabitants (those within pedestrian zones or in adjacent streets, which household type or level of wealth) and which retailers (specialists or generalists, Horeca or others, sole retailers or franchises), but probably also which tourists (party goers or families, excursionists, city-trippers or long-term visitors, users of hotels or furnished accommodation), are the winners and losers of the pedestrianization of the city centre? We have chosen to omit the workers and commuters in/of the city centre from this debate, upon whom this new pedestrian zone appears to have a relatively neutral impact (although, admittedly, we know little about possible practices in the middle of the day and after work).

The available empirical evidence suggests that what has been observed is a result of both contemporary developments in city centres and a (direct) effect that may be attributed to the extension of pedestrianization. It should be noted that urban renewal is far from a new phenomenon in the Pentagon (Van Crieckingen, 2013). However, affecting a vast and symbolic space that must be 'justified' insofar as the impacts of this renewal may substantially affect certain actors such as retailers, the pedestrian zone lays bare the tensions between and within the different urban functions (between different types of retail, but also between different types of housing). This highlights the issues associated with functional and social diversity that require the authorities to assume (or at least acknowledge) their responsibilities and arbitration.

Moreover, in several places there appear to exist genuinely different spatial impacts, which strongly suggests that the issue must be considered from beyond the local perspective, taking other scales into account: the pedestrianization of specific streets must be (better?) aligned with a regional vision of the management of public space and the location of activities.

7 > BIBLIOGRAPHY

BEAUJEAN, F., DECLERCK, P., DE VOS, T., HEENE, B., MENDES, G. and BRASSEUR, O. (2016). *Évaluation de l'impact de la nouvelle zone piétonnière dans le centre de Bruxelles sur la qualité de l'air*. Bruxelles-Environnement (IBGE), p.27.

BEAUJEU-GARNIER, J. (1972). Comparaison des centres-villes aux États-Unis et en Europe. *Annales de géographie*, 81 (448), 665-696. <https://doi.org/10.3406/geo.1972.18819>

BOUSSAUW, K. (2016). Lokale economische aspecten van voetgangersgebieden: Een beknopt literatuuroverzicht. BSI BCO - Brussels centre observatory. <http://bco.bsi-brussels.be/lokale-economische-aspecten-van-voetgangersgebieden-een-beknopt-literatuuroverzicht/>

- CARTER, H. (1981). *The study of urban geography*. Edward Arnold.
- CHESNEAU, I. and RONCAYOLO, M. (2011). *Abécédaire de Marcel Roncayolo. Entretiens*. Infolio.
- CLERVAL, A., COLOMB, C. and VAN CRIEKINGEN, M. (2011). La gentrification des métropoles européennes. In D. PUMAIN and M. MATTEI (eds.), *Données urbaines 6* (p. 151-165). *Economica Anthropos*. <https://halshs.archives-ouvertes.fr/halshs-00768821>
- COCOLA-GANT, A. (2016). Holiday Rentals: The New Gentrification Battlefront. *Sociological Research Online*, 21. <https://doi.org/10.5153/sro.4071>
- CROZET, Y. and MERCIER, A. (2016). *Induction et évaporation de trafic : revue de la littérature et études de cas*. Laboratoire Aménagement Économie Transports – LAET (UMR 5593), Métropole de Lyon, Hôtel de la Métropole, 20 rue du Lac, 69003 Lyon. <https://halshs.archives-ouvertes.fr/halshs-01480663>
- DUHAMEL, P. and KNAFOU, R. (2007). Le tourisme dans la centralité parisienne. In T. SAINT-JULIEN and R. LE GOIX (eds.), *La métropole parisienne. Centralité, inégalités, proximité*. Belin.
- ERMANS, T. and HUYNEN, P. (2019). Caractéristiques et modes de déplacement dans la zone du nouveau piétonnier du centre-ville illeentre-vtransversale et longitudinale des Plans de déplacements d'entreprise. *BSI BCO – Brussels centre observatory*. <http://bco.bsi-brussels.be/caracteristiques-et-modes-de-deplacement-dans-la-zone-du-nouveau-pietonnier-du-centre-ville-analyses-transversale-et-longitudinale-des-plans-de-deplacements-dentreprise/>
- FENTON, G., GLORIEUX, A., LETESSON, Q. and MINNEN, J. (2020). *Centre-ville, piétonnisation et modes de vie* (p. 180). BSI-Brussels Centre Observatory and Forum Vies Mobiles.
- GRAVARI-BARBAS, M. and FAGNONI, E. (2013). *Métropolisation et tourisme. Comment le tourisme redessine Paris*. Belin.
- GRIMMEAU, J.-P., SEGERS, N. and WAYENS, B. (2004). L'impact des travaux publics sur le commerce de détail Bruxellois. In *Commerce et requalification des espaces sensibles* (p. 90-103). Groupe de travail « Géographie commerciale » du Comité National Français de Géographie.
- GRIMMEAU, J.-P. and WAYENS, B. (2016). Les causes de la disparition des petits commerces (1945-2015). *Courrier hebdomadaire du CRISP*, 2301-2302, 5-114.
- HUBERT, M., CORIJN, E., NEUWELS, J., HARDY, M., VERMEULEN, S. and VAESEN, J. (2020). From pedestrian area to urban and metropolitan project: assets and challenges for the centre of Brussels. In S. VERMEULEN, A. MEZOUEB and J.-P. De VISSCHER, *Towards a Metropolitan City-centre for Brussels*. Brussels: EUB and VUBPRESS.
- HUBERT, M., CORIJN, E., NEUWELS, J., HARDY, M., VERMEULEN, S. and VAESEN, J. (2017). Du « grand piétonnier » au projet urbain : atouts et défis pour le centre-ville de Bruxelles. Note de synthèse BSI. *Brussels Studies*. <https://doi.org/10.4000/brussels.1551>
- JOURDAIN, V. (2011). *L'hôtellerie bruxelloise 1880-1940. Acteurs, structures et logiques spatiales d'un secteur multiforme*. Thèse en vue de l'obtention du grade académique de Docteur en Histoire, art et archéologie. Université Libre de Bruxelles, Faculté de Philosophie et lettres, section Histoire, en cotutelle avec l'Université de Neuchâtel (Suisse).
- KESERÛ, I., WIEGMANN, M., VERMEULEN, S., TE BOVELDT, G., HEYNDEL, E. and MACHARIS, C. (2018). The Impact of the Extension of the Pedestrian Zone in the Centre of Brussels on Mobility, Accessibility and Public Space. *BSI BCO – Brussels centre observatory*. <http://bco.bsi-brussels.be/the-impact-of-the-extension-of-the-pedestrian-zone-in-the-centre-of-brussels-on-mobility-accessibility-and-public-space/>
- LÉVY, J. (1986). Centre-ville : Toutes directions. *Espace Temps*, 33(1), 50-58. <https://doi.org/10.3406/espac.1986.3323>
- MALHERBE, A. and ROSA, E. (2017). Sans-abrisme et projet urbain : Inconciliable ? *BSI BCO – Brussels centre observatory*. <http://bco.bsi-brussels.be/sans-abrisme-et-projet-urbain-inconciliable%e2%80%89/>
- MÉRENNE-SCHOUMAKER, B. (2008). *Géographie des services et des commerces*. Rennes : Presses Universitaires de Rennes.

MEZOUE, A., LETESSON, Q., FENTON, G. and CRETEN, A. (2020). The Walkability of the metropolitan city centre as lever for Brussels' mobility transition. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER, *Towards a Metropolitan City-centre for Brussels*. Brussels : EUB and VUBPRESS.

NOËL, C., RODRÍGUEZ LOUREIRO L., GADEYNE, S., VANROELEN, C. and CASAS, L. (2020), *Environmental Injustice in Outdoor Air Pollution - Green and Quiet Brussels Project*. <http://greenandquiet.be/>

QUITTELIER, B. and HORVAT, N. (2019). Personnes sans-abri et mal logées en Région Bruxelles-Capitale. *Brussels Studies*. <http://journals.openedition.org/brussels/3944>

ROSA, E., DONNEN, A., HOULSTAN, R., LAKI, G., LEDENT, G. and SALEMBIER, C. (2020). Right(s) to Brussels' city centre and the urban project. What possibilities for future transformations? In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER, *Towards a Metropolitan City-centre for Brussels*. Brussels : EUB and VUBPRESS.

SOTIAUX, A. and STRALE, M. (2017). Enjeux logistiques du piétonnier et des réaménagements connexes. Synthèse des résultats d'une enquête auprès des professionnels. *BSI BCO – Brussels centre observatory*. <http://bco.bsi-brussels.be/enjeux-logistiques-du-pietonnier-et-des-reamenagements-connexes-synthese-des-resultats-dune-enquete-aupres-des-professionnels/>

STOCK, M. (2007). European Cities : Towards a Recreational Turn? *Hagar. Studies in Culture, Polity and Identities*, 7(1), 115-134.

STRALE, M. (2019). Les déplacements entre Bruxelles et sa périphérie : des situations contrastées. *Brussels Studies*. <https://doi.org/10.4000/brussels.2831>

STRALE, M., LEBEAU, P., WAYENS, B., HUBERT, M. and MACHARIS, C. (2015). *Le transport de marchandises et la logistique à Bruxelles : état des lieux et perspectives*. Bruxelles, Bruxelles Mobilité - Service public régional de Bruxelles. <https://mobilite-mobiliteit.brussels/fr/observatoire-de-la-mobilite>

VAN CRIEKINGEN, M. (2013) La gentrification mise en politiques. De la revitalisation urbaine à Bruxelles. *Métropoles*, 13, <https://doi.org/10.4000/metropoles.4753>

VAN HAMME, G., GRIPPA, T. and VAN CRIEKINGEN, M. (2016). Mouvements migratoires et dynamiques des quartiers à Bruxelles. *Brussels Studies*. <https://doi.org/10.4000/brussels.1331>

VANDERMOTTEN, C., VERMOESEN, F., DE LANNOY, W. and DE CORTE, S. (1999). Villes d'Europe. Cartographie comparative. *Bulletin du Crédit Communal*, 53(207-208), 1-408.

VANDERMOTTEN, C. and WAYENS, B. (2009). Une géographie des bureaux bruxellois et de leurs employés. In M. DE BEULE and C. DESSOUROUX (ed.), *Bruxelles, ses bureaux, ses employés* (p. 43-57). Ministère de la Région de Bruxelles-Capitale.

WAYENS, B., GODART, P., STRALE, M., ISTAZ, D. and MAY, X. (2020). *Une décennie d'évolution du commerce « brick and mortar » en Belgique. Exploration des inventaires de terrain Locatus*. Institut de Gestion de l'Environnement et d'Aménagement du Territoire de l'Université libre de Bruxelles. <http://hdl.handle.net/2013/ULB-DIPOT:oai:dipot.ulb.ac.be:2013/301468>

WAYENS, B. and GRIMMEAU, J.-P. (2003). L'influence du tourisme sur la géographie du commerce de détail en Belgique. *Belgeo*, 3, 289-302.

WAYENS, B. and GRIMMEAU, J.-P. (2006). Tourisme et commerce à Bruxelles. *Les Cahiers de La Fonderie*, 34, 48-53.

RIGHT(S) TO BRUSSELS'S CITY CENTRE AND THE URBAN PROJECT: WHAT POSSIBILITIES EXIST FOR FUTURE TRANSFORMATIONS?



Elisabetta ROSA¹, Alexandre DONNEN²,
Rafaella HOULSTAN-HASAERTS³, Giulietta LAKI⁴,
Gérald LEDENT¹, Chloé SALEMBIER¹

> Abstract

In this text, the right to the city is used as a prism to analyse the transformations of Brussels's city centre, notably in relation to the pedestrianization of the central boulevards. Drawing on four case studies that analyse this development plan from different perspectives—the participatory process, the experience of homeless people, the representations and practices on the edges of the gay district, the interactions between public spaces and residential spaces—the aim is to cross-reference their respective contributions with the concept of the right to the city and its specific articulations in this context.

- 1 Faculty of Architecture, Architectural Engineering and Urban Planning, LOCI, UCLouvain
- 2 Faculty of Philosophy and Social Sciences, Atelier Genre(s) et Sexualité(s), Université libre de Bruxelles
- 3 Faculty of Architecture La Cambre Horta, Université libre de Bruxelles
- 4 Faculty of Philosophy and Social Sciences, Université libre de Bruxelles

By taking all of these analyses together, it is possible to show the complex interactions in the city centre of Brussels between centrality and marginality, and the coexistence of dynamics of inclusion and exclusion, attractiveness and eviction. What emerges above all is that the composition of these dynamics is not set in stone, but (still) remains fluid. This is the challenge-opportunity that must be addressed by decision makers: making the right to the city a fundamental lever for future transformations.

1 > INTRODUCTION

In this text, the right to the city is used as a prism to analyse the transformations of Brussels's city centre, notably in relation to the pedestrianization of the central boulevards. Drawing on four case studies⁵ that analyse this development plan from different aspects – the participatory process, the experience of homeless people, the representations and practices on the edges of the gay district, and the interactions between public spaces and residential areas – the aim is to cross-reference their respective contributions with the concept of the right to the city and its specific articulations in this context.

Since the development of the theory and the publication of the work dedicated to it (Lefebvre, 1968), the notion of 'the right to the city' has continued to nourish research and scientific debates around the 'urban question' (Castel, 1995), the various forms of socio-spatial inequalities and the process of marginalization and segmentation that characterize contemporary cities, along with movements and practices of resistance (Mitchell, 2003; Harvey, 2008; Marcuse, 2009). At the crossroads of sociology, geography, urbanism, architecture and political science, this vast scientific debate accounts for the contemporaneity of the subject, as well as its interdisciplinary nature, essential for studying urban existence in its complexity.

Lefebvre does not propose a unique and unequivocal definition of the *right to the city*. The notion remains relatively vague in his writing. Nevertheless, three aspects appear to be particularly important with regard to the context of this article. First of all, the right to the city 'signifies the right of citizens and city dwellers,⁶ and of the groups they [...] constitute, to appear on all the networks and circuits of communication, information and exchange' (Lefebvre, 1996 [1968]: 194-5). Secondly, it 'manifests itself as a superior form of rights: right to freedom, to individualization in socialization, to habit and to inhabit' (Lefebvre, 1996 [1968]:

5 These four case studies have been developed within the framework of research projects independent from one another.

6 Lefebvre uses the combination citizen-city-dweller to indicate someone who is not only a member of the national community and enjoys the rights that come from that membership (citizen), but who is also fully participating in urban life, with all the benefits that brings. According to Lefebvre, the true essence of contemporary citizenship is not so much to be a citizen through formal citizenship guaranteed at a national level, but to be a city-dweller and to participate in a life that is fully urban.

174). Lastly, the search for the right to the city legitimizes opposition to exclusion from urban life and segregation: Lefebvre strongly expresses the need ‘for a re-appropriation of the urban space by citizens as a starting point for the democratic transformation of society’ (Costes, 2010:181, our translation).

From a spatial point of view, *centrality* is, for Lefebvre, an essential characteristic of the urban: the city brings together and attracts a ‘whole’ that is born elsewhere. In doing so, the city creates a situation that allows different things (people, ideas) to come into contact with each other, while maintaining their differences. Alongside centrality, which manifests itself in space and through space, Lefebvre introduces a temporal dimension that would be a characteristic of urbanity, the idea of *simultaneity*: the city is cumulative in space and time, it is the special place and time for meetings, convergence, encounters and differences (Lefebvre, 1968). These conditions are, however, challenged by the economic logic, which makes urban space a tradable good to be exploited, to the detriment of the usage value related to the daily practices and experiences of inhabitants. The result is a discriminative and segregating urban organization that reduces differences by marginalizing practices and people who do not correspond to these economic logics. To this end, it is important to mention the criticism made by Lefebvre about the functionalist planning approach, reduced to technocratic functions subservient to economic powers: space is instrumentalized and acquires a strategic role which allows – indeed produces, as a result of planning – a generalized segregation of places, practices and people. In light of these dynamics, the right to the city is primarily a right to meet and gather, targeting needs that are often misunderstood; ‘the need for social life and a centre, the need and the function of play, the symbolic function of space [...] above classified functions and needs, which cannot be objectified as such [...]’ (Lefebvre, 1996 [1968]: 195).

This brief overview of Lefebvre’s thinking allows us to introduce the concept that guides our approach, which is twofold. On the one hand, we will examine the pedestrianization project as a specific feature of Brussels’s urban project and its capacity to affect the reality that it transforms, by, among other things, drawing attention to the process of exclusion or even marginalization of spaces, people and practices that it produces. On the other, we will explore the different kinds and practices of spatial appropriation, the contestations and resistances to marginalization, and how and whether they can be interpreted as an expression of a claim for a more inhabitable city. To do this, our approach is inspired by pragmatism and focuses on the ‘doing with space’ of individuals (Lussault and Stock, 2010): how they live in the city, how they embed themselves into it, how they act in – as well as on – space, how they assign meaning and appropriate it. Consequently, analysing *spatial agency* (Awan et al., 2002) becomes a central issue, and leads to two hypotheses. Firstly, the transformations produced by the urban project are to be understood not as determining of society, nor as entirely determined by society, but rather as having been created *within* society. This means understanding the urban project as an ongoing process, rather than a completed achievement, an

'already there', whilst also taking into consideration the socio-spatial and temporal context in which it develops in order to understand its effects. Secondly, the urban space is also a social space, meaning it is shaped by the practices and representations of a multitude of actors looking for inhabitable spaces, who re-signify space and are constantly re-appropriating it. What is important is not only to analyse the transformations – both material and symbolic – produced by the urban project, but also to understand how it is affected, updated and modified by the practices and representations of individuals.

Against this background, and in order to examine the transformations currently underway in Brussels's city centre, we will draw on our respective research projects. The first of these focuses on the different ways in which a multitude of actors participate in shaping the future of the city centre, both practically and politically. The results of this analysis show the need for a critical evaluation of the participatory processes put in place by various actors, and warn against the desirability and effectiveness of urban marketing and the developments it engenders. The second research analyses the living habits of homeless people in the public spaces of the city centre, and how they interact with the transformations created by the pedestrianization. In doing this, it highlights the importance for this project of taking into consideration the claim of these people to inhabitable places and recognizing them as inhabitants of the city. The third piece of research looks at Place Fontainas as a border, and examines it through the lens of intersectionality, between practices, discourses and representations. It reveals the entanglement of cohabitation and encounters, and exclusion and invisibility, which appear in opposition but nevertheless coexist. The fourth piece of research analyses the pedestrianization project through the study of the relationship between public spaces and collective housing. It highlights new possibilities for urban projects open to innovation in terms of governance, typology, property status, and of inclusion of the most vulnerable people. Bringing together the findings of the four pieces of research allows us to further explore the right to the city and the specific shapes it takes in the context of Brussels's city centre, to shed new light on the current transformation process, and to suggest new perspectives for future developments.

2 > PARTICIPATION(S) AND THE RIGHT TO THE CITY

Henri Lefebvre makes participation (or more precisely a certain form of 'participatory activity': *l'oeuvre*, the work) one of the central pillars of his conception of the right to the city (Lefebvre, 1996 [1968]). He thus criticizes the *ideological* participation organized by institutions that seek to 'have the acquiescence of interested and concerned people at a small price' (Lefebvre, 1996 [1968]: 144-145). Instead, he advocates for participation in the strong and material sense of the term, where citizens, in particular the working classes, are the main *creators* of the city, through their 'appropriations', their inventions, and the way they take over the space (*ibid.*). To him, this is a key condition for making the city and the urban reality

a collective *work* rather than a *product*. A work open to differences and enriched by them, defined by its ‘use value’ rather than its ‘exchange value’ (*ibid.*).

The tension between, on the one hand, low-intensity participation, limited to institutional information and consultation procedures, and known to have limited beneficial effects for citizens, and, on the other, stronger forms of participation, where creative citizen self-management leaves its mark on the atmosphere and the very materiality of the city, is still lively in contemporary debates surrounding urban participation (Blondiaux 2007; Bacqué and Gauthier, 2011; IEB, 2012). It is even more relevant today, as participation is increasingly being considered a necessity, not only by more radical movements but also within public policies, including the most neoliberal ones (Charles, 2016).

The project to turn Brussels’s central boulevards into a pedestrian area is a particularly interesting case by which to explore this tension. This section looks at the history of the pedestrianization process, and, more specifically, at the various forms of participation: those on the basis of which it was built and those it gave rise to. The idea of participation is considered here in its broadest sense and refers to a variety of situations. The corpus⁷ used for the research shows both attempts by the authorities to encourage participation or to include citizens in the pedestrianization project, and attempts by citizens, inhabitants, users or shop owners to participate spontaneously (Houlstan-Hasaerts, 2019). Moreover, these situations reflect certain modes of action that arise not only from public debates or critical/oppositional claims but also from forms of appropriation, occupation and use of the pedestrian area, insofar as we consider the latter as ‘contributions’ to public space, understood as a material form of public sphere (Laki, 2018; 2019). The City of Brussels had been tackling the project of pedestrianizing the central boulevards since the end of the 1990s. Despite several feasibility studies and many discussions within municipal bodies, no consensus was achieved (Vanhellemont and Vermeulen, 2016). In 2012, a series of citizen-led mobilizations and initiatives revived the idea of limiting traffic on these boulevards as a possible and desirable project. At the time, the philosopher Philippe Van Parijs published an open invitation for citizens to picnic in the street as an act of civil disobedience. This invitation was widely reported in the press and on social media.⁸ On Sunday, 10 June 2012, more than 2,000 people occupied Boulevard Anspach, without authorization, sitting on blankets on the tarmac and sharing their picnics. These events were repeated over the following months and even years, condoned by the authorities. Both professionals

7 This corpus has been gathered through a study of archives, a review of media sources, interviews and in situ observations, including participatory observations carried out with the action-research collective Urban Species, as part of the research project “p-lab. Identifying and amplifying new forms of urban participation. The pedestrianized city centre as a laboratory”, funded by Innoviris in the framework of the 2018-2021 Anticipate program.

8 Philippe Van Parijs, “Picnic the streets!”, *Le Soir*, 24 May 2012, pp. 14-15 ; <https://www.facebook.com/PicnicTheStreet/>

and amateurs responded to the call for ideas 'Parc Anspach Park'⁹ launched by the urban citizens' movement Bral.¹⁰ Around 15 proposals were put forward, with most focusing on non-motorized usage and the greening of the areas.

In 2013 Yvan Mayeur (PS) became Mayor of the City of Brussels. With the support of parts of civil society, he made the pedestrianization of the central boulevards the flagship project of his mandate and worked to obtain the approval of the council. He succeeded only through compromise (Vermeulen and Hardy, 2016): the central boulevards were to be pedestrianized provided that the city centre remained accessible to motorized transport. Despite these ambiguities, the new mayor wanted to move fast. Too fast, according to several stakeholders we interviewed: residents, citizens' associations such as Arau or Bral, and even civil servants from the City of Brussels. Once approved, the pedestrianization project was sharply criticized, mostly for the absence of – or at least a deficiency in terms of – citizen participation. Although a series of public meetings and participative workshops had been organized during the pre-project preparation,¹¹ they were judged insufficient in terms of content, number and duration, as well as in terms of the representativeness of the attendees. It is important to note that these criticisms were also made by people who were in favour of the pedestrianization project.¹² Moreover, some of the critiques addressed the way the project was presented and debated during the legally-required information and discussion process,¹³ especially the impossibility of addressing the design questions together with the mobility plan.

These deficits were nevertheless followed by an increase in participation, in the broadest sense of the term, including what is commonly understood as *citizens' mobilizations*. For instance, it gave rise to the *Platform Pentagone*¹⁴, which brought together a vast range of stakeholders with differing concerns in a fairly unusual alliance (between residents and shopkeepers, for example). Using various media and a series of actions, this platform highlighted the troubles and the risks the project entailed for daily activities (noise pollution, slower sales, reduced accessibility, etc.), as well as its deep contradictions and wider implications. Under the slogan 'No Mini-Ring, No Parking, No Bling-Bling', the environmental virtues of the project were questioned, as were the dynamics of 'festivalization' and the use of the public space for performances to enhance the commercial value of the area (IEB, 2015). The pedestrianization project was the subject of much debate, including on social media. A debate that included comments and issues of all sorts, made by a

9 www.parcanspach.be

10 Bral (Brusselse raad voor het leefmilieu) is an urban citizens' movement active in the Brussels Region.

11 Interview with Constantin Lazarou, Bruxelles-Participation, 15 March 2019.

12 Pierre Vassart, "Le projet de piétonnier au centre-ville sous la loupe critique d'une association", *Le Soir*, 5 May 2014; Nicolas De Decker, "Le piétonnier à Bruxelles : le "oui, mais non" de 1500 riverains", *RTBF*, 7 June 2015.

13 According to the opinion of citizens expressed during the Public Discussion on 28 April 2017, which we attended.

14 <http://www.platfoumplatformpentagone.be/>

very diverse range of city-centre users, with different language registers (Berger et al., 2016; Houlstan-Hasaerts, 2015).

In terms of institutional participation, once the works began, the local and regional authorities tried to engage citizens in the project and its challenges through a series of initiatives that we also consider to be within the wider definition of participation. Among these, we can mention the creation of a permanent point of contact through a fictional and personalized alias of the city (julien.mille@brucity.be). Julien is the first name of the Manneken Pis, Mille stands for the post code (1000). This alias was created in order to answer to questions and concerns of inhabitants and users of the pedestrian area. The purpose of the Julien Mille figure was to centralize all questions relating to the central boulevards and redirect them to the appropriate department. Besides, a team of local stewards, the Bruciteam, was created to inform and guide users of the pedestrianized area and prevent conflicts or report any problems. More broadly, the City of Brussels and its department for participation worked to enhance the relationships between the city and its citizens. In the years that followed the beginning of the construction works, and even more so with the election of a new municipal council, a series of existing tools were improved, reworked and/or made more visible, while new ones were put in place under the *FaireBXL*Samen slogan.¹⁵ These measures were not limited to public debates, but also allowed for other forms of expression and imagination: social innovation labs, workshops and participative budgets were added to the traditional neighbourhood councils.

The measures taken by the authorities to improve citizens' support for the project were also visible in the street. The City tried to limit the damage, and temper the disruption, caused by the redevelopment. The omnipresence of construction barriers, for example, was the focus of much criticism on social media.¹⁶ From the summer of 2018, these structures were thus progressively covered with tarpaulin hoardings featuring renders of the future refurbished urban landscape. These also spread the contact details (of 'Julien Mille') for further information, and occasionally provided more specific information: some were used to explain a technical challenge of the construction works, to show the latest archaeological findings, or to raise awareness about women's rights.

These vast canvasses also proved to be the ideal site for other voices seeking to make themselves heard, upon what we suggest should be understood as a physical and material public sphere, where passers-by contribute through the objects and traces that they place or abandon on it (Laki, 2018; 2019). Graffiti and critical messages appeared on the clean and smooth surfaces, sometimes reacting on the original message that they displayed (Figure 1). More generally, the urban transformations initiated by the City, as well as the works themselves, became the occasion for

¹⁵ <https://www.fairebruxelles.be/>

¹⁶ <https://www.facebook.com/photo.php?fbid=10213975147351288&set=a.1166513841528&type=3&theater>

informal or marginal practices to settle in the heart of the city centre, primarily as a result of access and control difficulties.¹⁷ For example, fake street signs renamed boulevard Anspach as 'Rue Semira Adamu', Place de la Monnaie was temporarily renamed as 'Place des droits de l'homme' [human rights square] by Amnesty International, and cracks in the walls of *la Bourse* were framed and given a title, creating an open-air museum highlighting details of daily life (Figure 2).

In the wake of Lefebvre, we are interested in these multiple appropriations and uses as the intrinsic components of participatory activities that contribute to making the city a collective work. The car-free streets are not only shaped by shopping facilities and *flâneurs*, but also by the presence and activities of homeless people, beggars, street artists and their audiences, street vendors, charity fundraisers and bicycle couriers waiting for their next delivery. When the weather is good, the pedestrian area is lively and filled with portable loudspeakers, sport mats and a variety of other objects.

However, some of these material contributions and appropriations are only tolerated for a limited or temporary period, or are extremely regulated: street musicians have to undergo an audition with the deputy mayor (*echevin*) in charge of culture in order to obtain their permit;¹⁸ homeless people are woken in the morning by district officers and told to move on (see also Part 2); not only waste but also posters and stickers are removed as quickly as possible, particularly in the areas where the works have been completed.¹⁹ The finished parts are considered 'demonstration zones', meant to testify to the future of a clean and beautiful city. A city project less open to the rough edges and margins that this urban area used to host and that the construction works had allowed to settle. Thus the irregularities and imperfections of public space were smoothed; uses and behaviours deemed to be inconvenient were channelled or punished (Breviglieri, 2013; 2015). Furthermore, these observations from the field correspond to phenomena identified in many other cities, where the authorities attempt to guarantee the urban qualities that are believed to make cities attractive (*Ibid.*), such as safety, cleanliness and beauty. But we need to know to whom this power of attraction is addressed and for what purpose. In Brussels, as elsewhere (Harvey, 1989), one of the aims of urban revitalization is to 'bring consumers to the city',²⁰ to breathe new life into a service economy claimed to be in decline.

We could multiply the to and fro between these very different ways of (making) people participate in the future of the city. For the time being, let us note some areas for reflection. It would appear that we can nuance the opposition established by

17 Hennuy Jean-Claude, "Piétonnier bruxellois : saleté et insécurité ? La question divise", *RTBF*, 8 July 2015.

18 <https://www.bruxelles.be/audition-des-artistes-de-rue>

19 Observation during participation of the Bruciteam tours on 13 September and 10 December 2018.

20 Lowyck Nicolas et Vancampenhout Marine, "Piétonnier de Bruxelles : un premier état des lieux, avant le lockdown", *La Libre Belgique*, 5 May 2016.

- Figure 1. Tarpaulin covering construction site barriers in Brussels city centre promoting the new urban project of the city. On the tarpaulin, graffiti reads 'let's hack Brussels'



Source: Unknown author, Urban Species, 13 September 2018

- Figure 2. Frame put around a crack in a wall of Brussels's Bourse building with the title 'Humpback Whale'



Source: Urban Species, 16 August 2018

Lefebvre between forms of participation mainly driven by economic and political authorities, which would only give shape to their desired model of the city, and more radical versions that would allow citizens, including the most marginalized, to make the city a collective work through their appropriations, occupations and uses. Between ideological or cosmetic participation, on the one hand, and self-management on the other, there is a diversity of modes, which weave complex relations between citizens' initiatives and institutional dynamics (Houlstan-Hasaerts and Pattaroni, 2020). In reality, by looking at the material and spatial conditions of the various ways of (forcing) participation, their implementation and their concrete and practical organization, as Lefebvre himself recommends, one can go beyond a binary vision, and demonstrate the infinite nuances and hybrid formats, however ambiguous they may be. Given the multiple forms of participation that it brings about, allows or catalyses, the pedestrian zone (still) seems to be deeply urban. It is indeed a *centrality* that *simultaneously* welcomes a whole range of difference. The distinction established by Lefebvre between two opposing forms of participatory activity nevertheless allows us to warn against the desirability and also the effectiveness of the politics of attractiveness and its attempts to implement a smoothed and peaceful centrality.

3 > INHABITING THE CITY CENTRE WHEN HOMELESS²¹

Placing the focus on homeless people and questioning how they inhabit the city makes it possible to further develop reflections on the effects of transforming public spaces in terms of pushing the most vulnerable to the margins, or even excluding them. It is notably the right to inhabit which is the crux of the matter here, which we are going to examine from the starting point of the practices homeless people develop in order to make a place for themselves in the city.

According to the *European Typology of Homelessness and Housing Exclusion*, the 'homeless' are those who live in public spaces and spend the night there, or who sleep in emergency shelters, because they do not have a dwelling 'that can be defined as a living place' (FEANTSA, 2007). This definition refers to an interpretation of homelessness that can be found in common representations – broadcast media, in print, political discourse: homeless people are *the* marginal, those that do not inhabit (Breviglieri, 2002). An unsurpassable otherness that disturbs and scares, they embody a threat to the urban order, which justifies their non-acceptability and their eviction from (central) public spaces, in accordance with neoliberal objectives of attractiveness and commodification of the urban space (De Vertueil et al., 2009). The transformations of public space that meet these same objectives also contribute to these dynamics. The ideal of an urban area that is ever smoother, cleaner

²¹ The research leading to this paragraph has been conducted within the framework of the research program "BRUMARG-Brussels through its margins", financed by INNOVIRIS-Brussels Capital Region, *ATTRACT/Brains for Brussels program* (2017-2022).

and safer, an invitation to stroll and to shop, which is privatized to allow terraces and other commercial presences, ... becomes part of the urban project and makes cleanliness and safety a political gesture able to guarantee acceptable behaviours and metropolitan ways of life (Guitard and Millot, 2015; Breviglieri, 2013). And yet, the more smooth, clean and transparent a space is, the more anything that is 'out of place' disturbs, as a result of its increased visibility, and becomes unacceptable, which then leads to subsequent acts of purification (Wright, 1997). That is how homeless people find themselves excluded from the *key* areas of the city.

But is it always like this, everywhere? Our hypothesis is that the ways in which planning policies and projects affect homeless people dwelling within the city depend on the socio-spatial and temporal contexts in which these policies materialize, as well as negotiation and resistance tactics that homeless people develop against marginalization processes. Therefore, it is necessary to see how, and if, the practices of these people in public spaces allow them to *live with* the transformation of these areas and (continue to) inhabit them.

Brussels city centre is a particularly suitable place for studying these dynamics for two main reasons: Firstly, in the city centre there are numerous services for homeless people, which partly explains the considerable presence of people living on the streets (Mondelaers, 2017). Secondly, the census of homeless people performed by La Strada²² suggests that there is a progressive dispersion of these people towards the edges of the *Pentagone* (the heart of the city centre) (*ibid.*). We therefore felt it was relevant to see if and how a major urban transformation such as the pedestrianization of a central boulevard affected the inhabitability of public spaces and the urban practices of homeless people, and to analyse the consequences in terms of geographies of appropriations and ways of inhabiting the city. More particularly, our aim was to explore how the daily life of homeless people is assembled within the city centre and to look at how public spaces are used and become/are inhabitable, in relation to the transformations produced by spatial planning.

The analysis used an ethnographic approach, with extensive and repeated observations in the areas of the city centre inhabited by homeless people. Non-directive interviews were also carried out, notably with three women, a man and two families living on the streets, who we met and followed on a number of occasions between July 2017 and March 2019. We started the fieldwork on Boulevard Anspach, then enlarged the perimeter following the movements of these people and the changing geographies of the places in which they spend the night. This ethnographic immersion revealed a variety of forms of occupation of spaces along a spectrum of more to less visible and temporary, with a multiplicity of areas inhabited as well as a wide range of people (families, men, young couples, single women). What clearly emerges is the materialization, via the pedestrianization project, of a desire to remove certain practices through *spatial* transformations: the installation of benches limited to certain parts of the boulevard reduces the

22 La Strada – Support centre for organizations in Brussels working to assist homeless people.

possibility of sitting and resting; the elimination of awnings diminishes the areas that protect from the rain; the removal of the (few remaining) public urinals further increases the exclusion of those (male and female) who are unable to access a café. Thus, Place De Brouckère became a huge esplanade with (just) six benches around its perimeter; the front of the Brico DIY store was cleaned, meaning V. and her companion who lived in front of the entrance protected by a large awning, had to leave. Similarly, the urinals on Place Fontainas were removed, which made life harder for G. (female, in her sixties), who used them every day despite their not being designed for women.

Other practices are, however, encouraged by this *smoothing* of the space: strolling, moving about, showcasing oneself, shopping. Possibilities for encounter—a significant encounter with the other—remain limited to areas of consumption: the terraces of cafés, shopping centres, multiplex cinemas. And yet, if we look more closely at both spaces and practices, we realize that this binary reading of the intentions and effects of the project (removal of the marginalized vs. commodification of space) must be nuanced.

┌ July 2018. I meet J.-M. [Male, in his forties] on a bench on Boulevard Anspach, in front of a closed casino; he has been sleeping here under the arches since the street was pedestrianized. He tells me, 'It's nicer now, no cars, less noise, lots of people ... security guards? They're OK, I just have to respect the timing, I come here after 10 pm and I leave before the sun rises. (Taken from the author's field notes) ┘

As J.-M. explains, the smoother and cleaner pedestrianized area is more inhabitable *for him* than before, thanks to the absence of cars, noise and exhaust fumes, the relative invisibility afforded by the presence of large crowds, the reassuring lighting (Figure 3). The security guards allow him to remain overnight, and the benches, although few in number, allow him to lie down thanks to their material (wood) and their length. In the eyes of J.-M, all of this contributes to making the boulevard more liveable than before. At the same time, his description provides us with information about the limits imposed on his presence and his visibility: he can stay overnight but he must *disappear* as soon as the day breaks.

> Figure 3. J.-M's place



Source: Elisabetta Rosa, 22 August 2018

Similar dynamics occur with a Romanian family, a dozen or so people who set up camp each evening at the entrance to a shopping centre in a pedestrianized street just off the main boulevard. They wait with their suitcases until the shops close and the crowds disperse, then start the process of creating their shelter, a wall made from piled-up cardboard boxes. This is packaging thrown out by shopkeepers and residents that members of the family have gathered throughout the day. The wall is assembled taking advantage of the awning that protects the entrance to the shopping centre and leaning against the columns that support it. The process can take more or less time²³ according to how much effort the various members put in. The newly built shelter must be dismantled the next morning: they have to '*dégager dégager*' ('go away, go away')²⁴ before day breaks, as the street-cleaning trucks start to circulate, their revolving orange lights and beeping noises acting as an alarm. This process of setting up and dismantling is repeated every evening and every morning, thus inscribing the way of living of the homeless people in the daily routine of the city. Although this street does not belong to the strict perimeter of the current pedestrianization project, it is littered with small building works, the barriers of

which can be used for protection, to strengthen the cardboard structure, and to dry bedding and clothing when the rain is not too heavy.

The arcades where J.-M slept were demolished during summer 2019, and the closed casino was replaced by a Burger King. These changes were what convinced J.-M to move:

┌ *October 2018. I saw J.-M again, in front of the entrance to a shop in the street leading to the railway station. 'I was sick of the boulevard,' he told me, 'the bad smells, the urine, the partygoers ... I have moved ... it's cleaner here, people live here. (Extract from the author's field notebook)* ┘

However, J.-M often returns to that part of the boulevard to spend the day, sit on the benches and see his friends.

The Romanian family also had to find another place to spend the night, as the awning that protected them was renovated, and the scaffolding and the alarm system took the family's place.

These stories, examples selected from among others, are used here to underline the importance of a pragmatist approach, which focuses on the micro-practices these people develop on a daily basis, and show how they succeed in making the space inhabitable, transforming it and inhabiting it. Thus, the routines and the movements of homeless people in the city do not only depend on the geographies of the services they are offered, or the effects of distancing produced by the urban developments, but also on a practical and tactical knowledge of the micro-architecture of the city, its rhythms and its temporalities. Drawing attention to these practices highlights both the search for inhabitable spaces and the 'ability to inhabit' of these people, which partially contradicts the idea of 'an absence of inhabiting' (Breviglieri, 2002), that is often associated with homeless people. Following this interpretation, it becomes possible to recognize homeless people as citizens, due to their knowledge of the urban space, their involvement in the dynamics of transformation, and their anchorage. The question that is raised – and further research on this is urgently needed – is one of how to understand the way these developments and projects (in Brussels and elsewhere) could take into consideration not only the presence of these people in the public spaces of the city, but also, more pressingly, their claim and ability to inhabit.

4 > PLACE FONTAINAS: A BORDER SPACE ON THE EDGE OF THE 'GAY' DISTRICT

Place Fontainas lies a stone's throw from the Bourse, at the crossroads between Boulevard Anspach and Boulevard Maurice Lemonnier. The first (or last, depending on the point of view) section of the pedestrianization plan for the city

centre boulevards, this square is located between two emblematic districts, or at least two neighbourhoods that echo in the imagination of Brussels's residents. On the one side, lying on the edge of the touristic city centre, the Rue du Marché au Charbon is the starting point for the 'gay' district, where associations, bars, clubs, saunas and other businesses targeting the LGBTI population, and particularly homosexual males, are located. On the other side, after crossing Place Fontainas, Boulevard Maurice Lemonnier marks the end of the pedestrianization plan and the start of the Anneessens District, a poorer neighbourhood often described as 'working class', and a significant hub for immigration, where incomes are among the lowest in the Region of Brussels.²⁵ Often maligned both by the media and in social discourse, Place Fontainas has frequently been described as 'dangerous', 'violent' and 'homophobic'.²⁶ In addition, as the neighbourhood surrounding it is widely associated in the collective imagination with Muslim populations, these categorizations help to reinforce associations – discursive, of thinking – between a specific area, a specific population and certain devalued social characteristics, such as homophobia. As a result, the square has often formed a backdrop for the opposing discourses of the groups and the spaces that it neighbours. However, although it is often seen as an interruption – topographic, social, functional – between the neighbourhoods in the heart of Brussels's city centre and those bordering the *Pentagone*, the square has recently been the focus of renewed public interest, notably seeking to link the neighbourhoods that it separates and encourage encounters between populations judged to be different. To this end, there has been substantial work undertaken on the square,²⁷ combined with certain political interventions seeking, at least in their rhetoric, to reduce the (homophobic) violence that occurs there. This is the case with the most recent 'Interfederal action plan against discrimination and violence towards LGBTI people' [*Plan d'action interfédéral contre la discrimination et la violence à l'égard des personnes LGBTI*] drawn up by the former Federal Secretary of State for equal opportunities (Zuhail Demir, N-VA). However, rather than gathering, bringing together and aligning the various 'differences' (Lefebvre, 1996 [1968]), this plan seems to be constructed around nationalist logics of stigmatization and binary confrontation. It notably states that 'Muslim people have a more negative attitude towards homosexual people than Christian people'²⁸ even though a number of studies demonstrate the socially broad and protean character of homophobia (Borrillo, 2001; Tin, 2003). Identifying the latter as a

25 Taken from 'Monitoring des quartiers de la Région de Bruxelles-Capitale', 2015.

26 Examples include the RTBF website headline on 24 March 2015: "Agression place Fontainas: le parquet reconnaît le caractère homophobe". (attack in Place Fontainas: the prosecutor recognises the homophobic nature) More recently, the headline on the BX1 website on 21 May 2018: "Un groupe de jeunes victimes dimanche soir d'une agression homophobe près de la place Fontainas". (A group of young people were victims on Sunday night of a homophobic attack at Place Fontainas)

27 In addition to the pedestrianization work, the square and its surroundings are also undergoing work relating to the building of housing, sports facilities and green spaces.

28 Extract taken from "Plan d'action Interfédéral contre la discrimination et la violence à l'égard des personnes LGBTI", p. 10.

religious characteristic (often assimilated with a characterization of race and even of class), this plan seeks to reaffirm certain supposed oppositions (notably between the 'Arab World' and LGBTI people). It thus suggests a security-based approach to the management of public space and expresses an egalitarian political rhetoric for the – binary – categorization of vulnerable people and dangerous populations; safe spaces and risky spaces. In light of these dichotomous representations, it would seem, in contrast, that these worlds that we tend to oppose are fluid, heterogeneous, hierarchical and interlinked, in the same way that the gay district and the Anneessens neighbourhood are littered with overlapping 'hierarchizations' and internal boundaries. Via a study carried out between September 2017 and June 2018, we felt it was pertinent to observe if, and to what extent, these categorizations emerged – in practices, populations, use of the space – and circulated in discourses and representations. More precisely, starting from repeated observations made in and around Place Fontainas and semi-structured interviews with residents and users of the gay businesses in the neighbourhood, the aim was to understand how spaces are built through the usages, practices, discourses and representations of a variety of actors who invest time and money in these spaces. In order to nuance the above-mentioned categorizations, we propose here to examine Place Fontainas through the notion of *border* and approach this area from an *intersectional* analysis which will make it possible to understand the experiences of oppression and domination specific to the people situated at the crossroads of multiple power relationships (Crenshaw, 1989). The notion of border and the intersectional prism allow a breaking away from the binary analysis of socio-spatial relations and greater understanding of, in a finer and more nuanced way, the manner in which occupations play out (socially, spatially and discursively) and conjugate with the dynamics of limitation and the invisibilization of certain categories of a population. Over this section of the chapter, the analysis of four axes of differentiation will be developed: sexuality, social class, ethnicity and gender.

An area of sociability and socialization that is often a constituent feature of the urban experience of its users, the gay district is a community area, a spatial reference that is often essential for the construction of identity, notably for the 'coming out'. Strengthened by the presence of gay monuments, associations and institutions, the community area of the district allows for a more free expression of certain practices and certain behaviours (such as visible homosexual seduction) which is normally forbidden in public spaces (or seen as risky). Its central and visible character means that the district offers a certain right to the city to certain segments of the homosexual populations (Leroy, 2009). However, it would be inadequate to state that the gay district is a homosexual area: it is a multifunctional space that is not only dedicated to homosexual sociabilities, there is a large minority of lesbians, it is a very masculinized area (and is frequented by a certain type of man, as we will see later), self-identified heterosexual people visit its socializing spaces, and some of them have homosexual relationships there. In addition, this right to the city, which occurs in a trusted space, is geographically situated and is consistent with the representation of other areas seen as dangerous. This extract

from an interview from May 2018 with Aurélien,²⁹ a user of the gay businesses in the neighbourhood, is particularly illustrative:

┌ Aurélien: *'With some mates, we sometimes come dressed in drag or we wear rather provocative clothes, but when we come here [Rue du Marché au Charbon] we always go via the Grand-Place or we take a taxi.'*

Author: *'You never go via Anspach, Fontainas or Lemonnier?'*

Aurélien: *'You are crazy, not dressed like that anyway [laughs].'* ┐

The representation of a non-heteronormative³⁰ trusted space is thus intimately linked to the representation of other heteronormative spaces. On the edges of the gay district and its representations, the Anneessens neighbourhood, often associated with an area where homosexual exposure is seen to be risky, acts as a parapet for practices, behaviours and self-representations that are not heteronormative. To this end, Place Fontainas is seen as one of the boundaries of the gay district.

But sexuality is not the only element that contributes to the construction of this boundary; other axes of differentiation seem to be involved. Mainly occupied by a white, well-off population, the Rue du Marché au Charbon falls within commercial and residential gentrification dynamics (Van Crieelingen and Fleury, 2006), which contrast with Boulevard Maurice Lemonnier, where the built environment is more run-down and inhabited by a population that is poorer (in terms of income) (and with a North African or sub-Saharan immigration background (or represented as such)). Frequently seen as the potential perpetrators of homophobic acts, these populations living alongside the gay district are partially excluded from it, feeding the construction of a border based on aspects of class and race. Far from being hermetic, borders do not divide areas that are socially closed, but rather they leave room for the relatively fluid circulation of people, symbols and practices. But the borders are primarily discourses, representations nourished by the perceived contrasts which can stoke certain forms of tension.

┌ *It's really a cut-throat area, I avoid it as much as possible. You got scum and dealers everywhere [...] There are a lot of attacks on gays. For gays it is very dangerous.*

(Mathias, 2018) ┐

┌ *That part of it [Place Fontainas] is much poorer, more working class, and it's quite ambivalent really because it is a district that is both gay and also potentially very Arab. For me it really is the border between the two and I think there is a lot of violence there. Between Muslims, on the one hand, and Gays on the other, I think things must be quite tense.*

(Émilie, 2018) ┐

The interviews reveal that the supposed characteristics of class and race are essential elements for maintaining a feeling of insecurity and the construction and designation of dangerous areas. For this reason, the recurrent figures of *poor* (notably homeless), *young* and *foreigner* often maintain this representation of danger. In addition, both the interviews and the above-mentioned media and political discourses illustrate the tendency for certain figures to be largely omitted from collective representations, such as the gay Arab, the lesbian Arab, the black lesbian, etc. Under-represented within the visible and central gay district, these populations are the subject of specific intersectional oppression (notably by these forms of discursive invisibility) and are often partially excluded, spatially invisible. And although it is understood that homosexuality does not have a class, race or gender, and that racialized homosexuals exist and frequent the gay district, they are generally reduced to being an object of desire or curiosity (Huysentruyt et al., 2017) or relegated to less visible areas, such as the sauna or the Stamm bar. Often considered outside of its social environment and the power relations that cross through it, the gay district is the subject of its own appropriations, is crossed by boundaries and internal hierarchies, such as those between class and ethnicity, and tends to be predominantly peopled by white, middle-class males.

Despite the different spatial occupations, the Rue du Marché du Charbon, Place Fontainas and Boulevard Maurice Lemonnier are continually dominated by the masculine occupation of space, rendering women invisible in each of the areas. Invisibility is not synonymous with totally absent, and women are indeed present in each of these spaces, but their access to them is limited and requires strategies and forms of negotiation. In the Rue du Marché de Charbon, this invisibility relates to a feeling of illegitimacy caused by the homosexualized image of a space associated with masculine gay sociability.

┌ *I am not gay; I don't know what I would do there.*
(Émilie, 2018)

For Lesbians, there is 'Mothers and Daughters' or occasional events, but they are generally outside of the gay district.
(Sophie, 2018)

└

In addition, certain businesses explicitly forbid access to women, such as a gay sauna or a cruising club.³¹ In Boulevard Lemonnier, the invisibility of women relates to a feeling of insecurity often associated with the district, generating certain strategies of adaptation and spatial avoidance: taking certain routes or forms of transport rather than others, being accompanied, avoiding wearing certain clothes, etc.

┌ *I avoid Anneessens at night, I go round it or I take a taxi [...] It's true that, in the evening, I try to be the least visible possible. But it has become so much a part of my normal life that I hardly notice it anymore.*
(Amandine, 2018) └

These various strategies are constitutive of the invisibilization of women in these spaces and reveal the asymmetric relationships between genders which seem to take shape both outside of and through these spaces.

Here as elsewhere, we observe that public space is marked by unequal access and by the domination of certain behaviours, practices and specific populations. Often presented as a melting pot (Devleeshouwer et al., 2015), Brussels (and its city centre in particular) is a combination of socially varied areas, resulting in cohabitation and encounters, but also forms of tension, exclusion and invisibility. When seen as a city that is being transformed, the quest for a right to the city and the understanding of the aforementioned problems with cohabitation have become central in the reflections on the urban developments (Costes, 2010) as well as on egalitarian public policies. To this end, certain measures aim to reduce violence and forms of exclusion, bringing people together and having them coexist in their differences. At the junction between the gay district and the district of Anneessens, Place Fontainas, a spatial area with contrasting perceptions, is sometimes judged to be too dangerous or too homophobic, and is a prime example of this type of reflection. However, dissident logics often combine with these measures – this may be the commodification of urban areas (see Part 2) or, as here, nationalistic logics of confrontation and stigmatization. And yet, as the study shows, the groups and spaces cannot be understood in a binary mode, pitting categories of vulnerable populations against categories of dangerous populations; safe areas and risky areas. In contrast, and even if the notion of dangerousness (of spaces, populations, practices) is still present in the representations, they are interspersed with boundaries and internal hierarchies that regulate access to spaces. Essentially occupied by a masculine population that is often white and well-off, the gay district is in fact governed by a number of limits to access and generates dynamics that invisibilize people located at the crossroads of numerous power relationships, such as lesbians or racialized (homosexual) people. Like other spaces, the gay district is a social area marked by power relationships and produced by populations, practices and discourses that forge the appropriations. Although rarely conceived as such, it is the focus of measures which, as well as opposing and stigmatizing, cultivate categories of ‘undesirable’ users (Belina, 2003) and fail to take into account other socio-urban problems hindering the right to the city, notably those relating to the free movement of women in the public space.

5 > PEDESTRIANIZATION BETWEEN PUBLIC SPACES AND RESIDENTIAL SPACES, WHAT PROJECTS FOR AN INHABITED CITY CENTRE?

5.1 The right to housing as an insufficient but primary condition of the right to the city?

In 1968, when Lefebvre wrote *The Right To The City*, this work appeared as a manifesto criticizing mass production housing and the way in which the urban fabric is too often reserved for specialized technicians, a state bureaucracy and real estate promoters who care little about the aspirations of inhabitants and who reduce dwellings to a product defined by its 'exchange value' (Lefebvre, 1996 [1968]). Between the lines, the author promoted the creation of spaces that respond to the aspirations of residents, areas of difference and not of repetition, and a permanent intervention of dwellers in the shaping of the spaces they inhabit (Busquet, 2012). The right to housing occupies a key position in these demands and this urban project.

In Belgium, from a legal perspective, the right to the city does not exist. The right to housing does, however, appear in the texts of numerous laws. At an international level, since 1948, Article 25 of the Universal Declaration of Human Rights refers to the 'right to housing for all' (art. 25). At the national level, Article 23 of the Belgian Constitution guarantees the right of all to live a life in accordance with human dignity. This right notably includes 'the right to decent housing'. At the regional level, the Brussels Housing Code (*Code du logement bruxellois*) is the instrument used to implement Article 23 of the Constitution. Herein, Article 3 sets out the right to decent housing. The authorities must be able to create the necessary conditions for achieving this basic right. This article refers more to the technical and material aspects of housing, without taking into account the aspirations as developed by Lefebvre through the notion of a right to the city. In addition, the Brussels-Capital Region has difficulties in guaranteeing the right to housing and has been experiencing a housing crisis for the last twenty years, as a result of various elements, such as the demographic increase, the ageing built environment, the rising price of housing, etc.³² Some authors also criticize the lack of public regulation in the housing sector, which has been totally surrendered to market forces (Bernard, 2008). In 2018, according to the SLRB (the Brussels-Capital regional housing company – *Société du Logement de la Région de Bruxelles-Capitale*), 45,478 households were on waiting lists for social housing, whereas SLRB built just 150 homes per year in the period from 2003 to 2011 (Romainville, 2015).

³² Brussels demonstration for the right to housing "La crise du logement à Bruxelles" – see: <http://www.rbdh-bbrow.be/spip.php?article1957>.

The pedestrianized area studied in this work represents a regional exception in terms of the proportion of public housing it includes (housing belonging to the city housing authority – *Régie foncière* – and the CPAS). This unusual situation offers substantial potential in terms of property and could become a lever for imagining new forms of governance, conceiving new forms of housing in line with the transformation of our societies and encouraging new forms of urban living. Furthermore, the 2018–2024 municipal plan, which governs this area, announced ‘an ambitious housing policy in accordance with Article 23 of the Belgian Constitution which spells out the right to housing. Above all, decent housing allows universal needs to be met, such as sleeping, forming a family, having an active life, studying or working.’³³

The following historical analysis and field study³⁴ will reveal how this regional exception and the ambition of the City of Brussels could be combined so that the pedestrianization of the boulevards is accompanied by a genuine project of housing for all.

5.2 Observations. The central Grand Boulevards: a project in between collective dwellings and public spaces

Between 1867 and 1871, work to clean up the centre of Brussels by modifying the flow of the Senne River led to the creation of the Grands Boulevards. This was an ambitious urban project led by the City and designed by the architect Léon Suys (1823–1867). This project included ‘the development along the amended riverbed of a monumental boulevard interspersed by two squares, and with facilities designed to embellish the public area: a Commemorative Fountain, a Bourse and the Central Market Halls’ (Brauman et al, 1982:7, our translation). It was the first time in Brussels that a project to build collective dwellings was carried out on such a large scale in these areas. This transformation was the response to centralization of the economic, administrative and cultural functions in the lower city, in line with the aspirations of the new liberal bourgeoisie of the time. Nevertheless, in contrast to other cities such as Paris (the Haussmann plan) and Barcelona (the Cerda plan), where the blocks were completely rebuilt, in Brussels the new was grafted onto the old, as only a part of the old urban tissue was expropriated to build the new-built facade of the Boulevards. The expropriation and the construction of new buildings only concerned the built facade of the boulevard.

Initially, a private British financial company, the Belgian Public Works Company, signed a contract with the city to carry out certain works over the course of three

³³ https://www.bruxelles.be/sites/default/files/bxl/Accord_de_majorite_Ville_de_Bruxelles_2018-2024.pdf.

³⁴ Data gathering is mainly based on in situ research to identify housing in the pedestrianized area in order to calculate the percentage of public housing in this area, and on semi-directive interviews with representatives of municipal authorities in the City of Brussels.

years in exchange for the transfer of the land bordering the Boulevard. But the British company went bankrupt and the land was bought in 1871 by the City and given to a French building firm, Mosnier. During this second stage, Mosnier built 62 investment properties. At the end of the work, only seven buildings had found a buyer. Due to a lack of enthusiasts and following the bankruptcy of the company,³⁵ the City bought the entire portfolio of unsold properties. To date, the city of Brussels, via its housing management department (*Régie foncière*), is still the owner of some of the buildings that form the inhabited façade of the new pedestrianized district.

Given the limited area acquired through the expropriation, the buildings were constructed along a narrow strip on the rich side of the Boulevards, with limited outdoor areas (courtyards, patios) and small apartments (in the eyes of the bourgeoisie, who were used to larger homes). The buildings along the Boulevard are therefore characterized by courtyards that merely catch light, the lack of a passage between the courtyard and the street, virtually no areas offering contact between neighbouring houses, and the contact between public areas and dwellings consisting only of a door opening onto the street. As a result of the construction of the Boulevards, the buildings of the older residential areas also lost certain qualities of habitability (scale disruptions, loss of brightness, reduction of the interior of the blocks, etc.).

In 2014, the project to pedestrianize the central Boulevards highlighted the City's desire to drastically change its centre by creating a new public pedestrianized area. In contrast with Léon Suys' project, where housing was integrated into the design of the boulevards, the pedestrianization project exclusively focused on the creation of public spaces. At this scale, new challenges appeared in terms of mobility, commercial possibilities, urban co-presence, events organization, attractiveness for tourists, etc. But consideration of housing along the pedestrianized area remained secondary. Yet, this issue encapsulates a series of spatial and social challenges such as the balance between tourist accommodation (and the transformation of homes into Airbnb rentals³⁶), residential housing, gentrification, the threshold between the various functions³⁷ and accessibility to housing for the poorest (Bernard,

³⁵ At the time, the bourgeois classes did not wish to live in the city centre, preferring their town houses in the outer layer of the city.

³⁶ The 2018-2024 majority agreement plans to put in place measures to avoid entire houses and apartment blocks being rented out via Airbnb. These coercive measures would be a way of avoiding it becoming impossible to rent a residential property other than via these platforms in certain neighbourhoods. (Majority agreement, p. 92)

³⁷ With regard to the importance of linkages between public and private spaces, Salignon's research shows that: "Any articulation has value only if it allows to maintain the unity of the whole where it has meaning or from where it draws meaning. [...] The fact that we are increasingly seeing a breakdown in functions, content, living habits, clearly shows the loss of meaning that this unity should maintain. This maintenance does not suggest an idea of enclosure, on the contrary with what is implied in this question of articulation: something that opens possibilities." (Salignon, 1992)

2008), amongst others. This topic is even more strategic because, as a result of the City purchasing the unsold buildings in the 19th century operation, 317 of the 1493 dwellings (some 21%) listed in this zone belong to the City's housing department³⁸ (Figure 4).

Furthermore, according to the Monitoring des Quartiers (2020) report, the west of the Boulevards has a higher population density, lower average incomes, smaller dwellings and, above all, a lower mobility of inhabitants towards the rest of the Region (Figure 5). Consequently, this pedestrianized zone simultaneously exists as a central area for the Region and as a border area between two different socio-economic parts. This area contains a whole series of spatial and social challenges that make it possible to imagine a reconciliation between the right to the city and the right to housing.

5.3 Levers for a project combining residential spaces with public spaces

The City of Brussels municipal plan for 2018–2024 is not short on ambition for enabling the multi-functionality and the liveability of the city centre. Section 3 of this document presents housing as the second most important concern after unemployment for this legislative period, to be addressed via a programme focused on the following points:

- › ‘accelerating the renovation of social housing via the establishment of inventive mechanisms, partnerships and financing schemes, encouraging temporary occupation, integrating green technologies, etc.;
- › developing the public and private housing offer via innovative financial packages, combatting the issue of unoccupied properties, developing public housing reserve funds, transforming the upper floors of commercial premises into housing, etc.;
- › fighting for the dignity of all by making emergency housing available, through “housing first” projects, etc.;
- › giving priority to good governance and collaboration via transparency in the allocation of social housing, the creation of a one-stop shop, strengthening social care, supporting citizens’ initiatives, etc.’

(City of Brussels, 2018; our translation).

The City of Brussels has control over a series of levers influencing the definition of housing on the edge of the pedestrianized area, either due to the fact that it is the direct owner of the properties (via the Régie Foncière or the CPAS) or because its urban planning decisions influence them.

- > **Figure 4.** Buildings along the boulevard (UrbAdm 2019), Buildings with housing units (survey 2019), Buildings with housing units belonging to City's real estate department (data from the City real estate department)



Source: Gérald Ledent, Chloé Salembier

From the point of view of the housing management department firstly, Olivier Verstraete, director of the cabinet for Khalid Zian, deputy mayor in charge of housing and public heritage for the City of Brussels, explicitly states that ‘the housing management department considers this exceptional situation as a true lever to avoid the so-called “gentrification” in this area. Rents have not risen (following the pedestrianization) and this has helped to stabilize populations and avoid a situation where the majority of citizens are inhabitants with high incomes.’³⁹

From an urbanism perspective, Ans Persons,⁴⁰ deputy mayor in charge of urbanism, intends to influence the transformation of the city centre and take into account a form of egalitarianism between the richest and the poorest using two fundamental levers. One is urbanism permits, in order to ensure a functional and typological mix in future residential projects. The other involves using a controlling unit to limit the development of Airbnb rentals in the area and regulate urban development breaches that are not in line with the project of a city centre accessible to everybody as a public space and to its inhabitants as a living space.

The central position of the City, as the owner and manager of the public spaces and of certain residential spaces of the pedestrianized area, could make it possible to coordinate both an urban space and good quality domestic spaces in a single project.

In parallel, the City could partially and innovatively respond to the housing crisis that the Brussels Region has experienced for two decades. For example, in terms of governance, co-housing projects⁴¹ could develop in these areas as a result of citizens’ initiatives supported by the authorities. In terms of housing status, the creation of Trusts via foundations and housing cooperatives⁴² could also be considered,

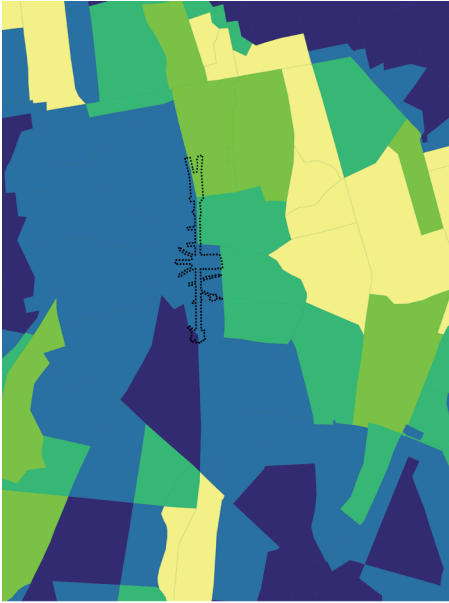
39 Interview with Olivier Verstraeten, director of the cabinet for Khalid Zian, deputy mayor for housing and public heritage for the City of Brussels since 1 January 2019, with the authors on 25 November 2019.

40 Interview with Ans Persons, deputy mayor for urbanism for the City of Brussels since 1 January 2019, by the authors on 17 December 2019.

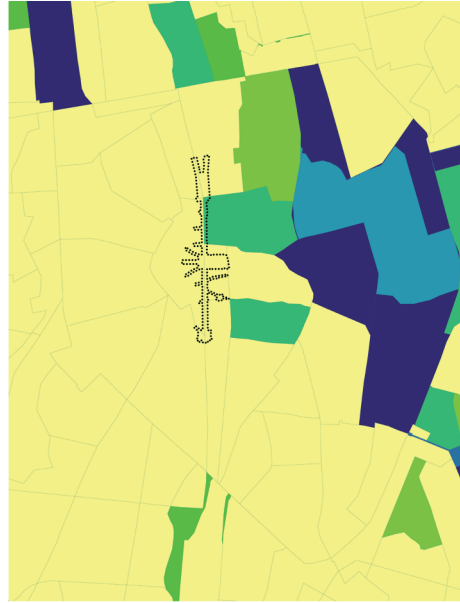
41 Co-housing, sometimes termed ‘collective housing’ corresponds to innovative forms of housing where future residents are stakeholders throughout the process of designing and managing the future living spaces. The resident is no longer considered to be a simple consumer of these living spaces, but an active participant in their habitat (Lenel, Demonty & Schaut, 2020).

42 The housing cooperative is a cooperative that buys and manages a property operating along the premise that an individual has one voice in the decision-making process, regardless of the size of their holding in the company. This legal structure implies the collective ownership of a property, as well as its shared management to ensure its longevity.

> **Figure 5.** Population density, Average income per declaration, Average housing size per inhabitant, Mobility rate of residents towards the rest of the Region



Population density
(StatBel2019)



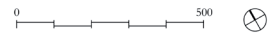
Average income per declaration
(StatBel2017)



Average housing size per inhabitant
(Census2001)



Mobility rate of residents towards the rest of the region
(StatBel2006)



notably the Community Land Trust.⁴³ In terms of typology, apartments could be transformed to offer multipurpose spaces and encourage the pooling of certain services (laundry, cooking, party halls, guest rooms, etc.) as is already the case in certain innovative housing programmes in Belgium and elsewhere. Lastly, in terms of inclusion, residential spaces on the edges of the pedestrianized area could offer forms of solidarity housing,⁴⁴ with drop-in and emergency centres to meet the needs of the most vulnerable people.

By doing this, the project would meet the recommendations set out by Lefebvre for achieving the right to the city by including the right to housing. Indeed, Lefebvre believes three fundamental levers make it possible to transform capitalist society through the transformation of its spaces: the collective ownership and management of spaces; the permanent intervention of inhabitants in the production of living spaces; and the creation of spaces of difference and interchangeability. Redefining the Grand Boulevards as a public pedestrianized area represents an opportunity unprecedented since the plans of Léon Suys in the 19th century to rethink the residential and urban project in an integrated manner. The City of Brussels now has control over a series of levers to achieve this.

6 > PUTTING THINGS INTO PERSPECTIVE. ENSURING THAT THE RIGHT(S) TO THE CITY IS/ARE TAKEN INTO ACCOUNT IN FUTURE TRANSFORMATIONS

In this text, the right to the city is used as a prism to examine the transformations of Brussels's city centre caused by the pedestrianization of the central boulevards. The four pieces of research which form the basis of this analysis allow us to demonstrate the complex relationship, in the given context, between the multiple dimensions that make up the right to the city – participating, inhabiting, appropriating and using the public spaces and housing.

In particular, our analysis of the multiple forms of participation that accompanied the pedestrianization project and its implementation has shown that, while

⁴³ “A Community Land Trust is a ‘non-profit-making organization [...] tasked with purchasing and managing built or non-built property in the Brussels-Capital Region, with the aim of creating housing accessible to socially disadvantaged households as well as facilities for collective usage. [...] The community land trust remains the owner of the land, but transfers ownership of the buildings to the households via rights in rem with the attributes of ownership separated. It determines the resale conditions for the buildings which must allow them to remain accessible to low-income families’. (RBC, 2013; our translation).

⁴⁴ The Brussels Housing Code (2013) defines solidarity housing in these terms: a dwelling that is underpinned by a solidarity project, which may or may not be initiated by an institution but which is organized in a written document and where at least one inhabitant is experiencing financial and social difficulties. Each resident has one or more private spaces for their exclusive use, and there is at least one communal living space.

(inciting) participation in the future of the city remains an essential condition for exercising the right to the city, special attention should be paid to *who* participates and *how*. This would seem to be an imperative if the city centre is to (continue to) remain a space able to welcome and enable the cohabitation of a multitude of differences. Paying attention to the homeless people living in the public spaces of the city centre allows these considerations to be developed further. The practices adopted by these people in inhabiting these spaces can be seen as much as a quest for inhabitable spaces as a capacity to inhabit. The right to the city can be seen here as the right to inhabit, and not only for the most disadvantaged. Indeed, the manner in which the presence of homeless people in public spaces is managed, including via physical transformations, becomes a prism through which to question the public nature of these spaces, the acceptability of uses and differences, the possibilities of encounters. It also represents an opportunity for rethinking the urban project and the desire for coexistence that it embodies. These interrogations are an echo of those developed in the third part of the text. Here, the analysis carried out highlights the fact that the power relationships inherent to the space are the product of practices, discourses and representations of a variety of actors *all* of whom contribute to the production of powerful mechanisms of exclusion, hierarchization and stigmatization. A detailed exploration of these dynamics highlights issues that were either unknown or underestimated in the context of Brussels's city centre, notably the use and accessibility of the public space for women.

The last part of the text adopts a broader point of view in order to address the tension between the right to the city and the right to housing. This issue is examined through the study of the relationship between the residential space project and the public spaces project. To achieve this, the analysis concentrated on the historical, typo-morphological, political and legal dimensions of the urban mutations that have transformed the city centre and central boulevards. This approach expands the considerations developed throughout the text, and highlights a series of levers that the pedestrianization project could seize upon in order to render the city centre more liveable, including for the most vulnerable.

The question which is raised, therefore, is if – and how – future transformations will be able to produce a city '*for the many, not for the few*' (Amin et al., 2000). Any intervention affecting space, whether in the form of material or strategic operations, has a social impact that cannot be neglected. Although the pedestrianization work on the central boulevards will soon be at an end, other transformations, concerning both material aspects (use of spaces that are currently empty, notably the public housing stock) and immaterial aspects (organization of events, recreational activities, combining uses and practices according to differing temporalities, etc.), are still ongoing. There is potential for the pedestrianization project – and all those in charge of decisions relating to it – to address these questions by taking seriously the challenges raised by the right to the city in its multiple dimensions.

7 > BIBLIOGRAPHY

- AWAN, N., SCHNEIDER, T. and TILL, J. (2011). *Spatial Agency. Other Ways Of Doing Architecture*. New York: Routledge.
- AMIN, A., MASSEY, D. and THRIFT, N. (2000). *Cities for the Many not the Few*. Bristol: Policy Press.
- BACQUÉ, M.-H. and GAUTHIER, M. (2011). Participation, urbanisme et études urbaines : Quatre décennies de débats et d'expériences depuis "A ladder of citizen participation" de S. R. Arnstein. *Participations*, 1 (1), 36-66.
- BELINA, B. (2003). Evicting the undesirables. The idealism of public space and the materialism of the bourgeois State. *Belgeo*, 1, 47-62.
- BERNARD, N. (2008). Les mutations du logement en région bruxelloise. *Courrier hebdomadaire du CRISP*, 1993 (8), 7-49.
- BERGER, M. and GENARD, J.-L. (2016). L'architecture des débats : Les imaginaires mobilisés. In L. VANHELLEMONT, E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN, M. HARDY (eds.). *Portfolio#1 : Cadrages—Kader, Ouvertures—Aanzet, Focus*. Brussels: BSI-BCO, pp. 63-76.
- BLONDIAUX, L. (2007). La démocratie participative, sous conditions et malgré tout : Un plaidoyer paradoxal en faveur de l'innovation démocratique. *Mouvements*, 50 (2), 118-129.
- BORRILLO, D. (2001). *L'homophobie*. Paris: PUF.
- BRAUMAN, A., et alii (1982). *L'Immeuble et la parcelle : les immeubles à appartements comme éléments constitutifs du tissu urbain : le cas de Bruxelles, 1870 - 1980*. Editions des Archives d'Architecture Moderne.
- BREVIGLIERI, M. (2015). L'enfant des villes. Considérations sur la place du jeu et la créativité de l'architecte face à l'émergence de la ville garantie. *Ambiances* [En ligne], Varia. Retrieved from <http://journals.openedition.org/ambiances/509>.
- BREVIGLIERI, M. (2013). Une brèche critique dans la ville garantie ? Espaces intercalaires et architecture d'usage. In E. COGATO LANZA, L. PATTARONI, M. PIRAUD and B. TIRONE (eds.). *De la différence urbaine : Le quartier des Grottes/Genève* (pp. 213-236). Geneva: Métis Press.
- BREVIGLIERI, M. (2002). L'horizon de ne plus habiter et l'absence du maintien de soi en public. In D. CEFALAI and I. JOSEPH (eds.). *L'héritage du pragmatisme. Conflits d'urbanité et épreuves de civisme* (pp. 319-336). Ed. de l'Aube.
- BUTLER, J. (2005). *Trouble dans le genre. Le féminisme et la subversion de l'identité*. Paris: La Découverte.
- BUSQUET, G. (2012). L'espace politique chez Henri Lefebvre : l'idéologie et l'utopie. *Utopie et justice spatiale*, 5. Retrieved from <https://halshs.archives-ouvertes.fr/halshs-01518765/document>
- CASTEL, R. (1995). *Les Métamorphoses de la question sociale. Une chronique du salariat*. Paris : Fayard.
- COSTES, L. (2010). Le Droit à la ville de Henri Lefebvre : quel héritage politique et scientifique ? *Espaces et sociétés*, 140-141 (1), 177-191.
- CHARLES, J. (2016). *La participation en actes : Entreprise, ville, association*. Paris: Desclée De Brouwer.
- CRENSHAW, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory, and Antiracist Politics. *University of Chicago Legal Forum*, 1, 139-167.
- DE KEERSMAECKER, M.-L. (2017). *Observatoire des Loyers*. Brussels: SLRB Retrieved from <http://www.slr.be/sites/website/files/pages/slr-obsloyer-enquete2017-fr-web.pdf>
- DEVLEESHOUWER, P., SACCO, M. and TORREKENS, C. (eds.) (2015). *Bruxelles, ville mosaïque. Entre espaces, diversités et politiques*. Brussels: Éditions de l'Université de Bruxelles.
- DE VERTUEIL, G., MAY, J. and VON MAHS, J. (2009). Complexity not collapse : recasting the geographies of homelessness in a 'punitive' age. *Progress in Human Geography*, 33 (5), 1563-1580.

- GARNIER, J.-P. (2011). Du droit au logement au droit à la ville : de quel(s) droit(s) parle-t-on ? *L'homme et la société*, 4 (182), 197-217.
- GUITARD, E. and MILLOT, V. (2015). Propreté, Saleté, Urbanité. *Ethnologie Française*, XLV (3), 405-410.
- HARVEY, D. (2008). The right to the city. *New Left Review*, 53, 23-40.
- HARVEY, D. (1989). From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism. *Geografiska Annaler. Series B, Human Geography*, 71 (1), 3-17.
- HOULSTAN-HASAERTS, R. (2015). L'espace public en débats. Un piétonnier controversé. Présenté à la Formation Pyblik, session "Les études préalables", Brussels.
- HOULSTAN-HASAERTS, R. (2019). *Le tournant esthétique de la participation urbaine à l'épreuve de la société civile. Une recherche en terrains bruxellois* (thèse de doctorat). Université libre de Bruxelles, Brussels.
- HOULSTAN-HASAERTS, R. and PATTARONI, L. (2020, à paraître). Persistence et actualité d'une critique de la ville par les marges. Enquêtes en terrains bruxellois sur les possibilités de différer dans la ville contemporaine. *Revue de l'Institut de Sociologie*, numéro spécial : Sociologie des nouvelles marges urbaines.
- HUYSENTRUYT, H., MEIER, P. and DEWAELE, A. (2015). Inclusions and Exclusions in the Brussels Gay Neighbourhood: An Intersectional Analysis. *DiGeSt*, 2 (1-2), 157-171.
- IEB (2012). *Le droit à la ville, Bruxelles en mouvements*, (259-260).
- IEB (2015). *Piétonnier pour qui ? No parking, no mini-ring, no bling bling, Bruxelles en mouvements*, (275).
- LAKI, G. (2018). *Les choses de la rue et leurs publics. Pour une connaissance ambulatoire de l'espace public objectal à Bruxelles* (thèse de doctorat). Université libre de Bruxelles, Bruxelles.
- LAKI, G. (2019). Le public dans les choses ou comment les rues d'une ville viennent retravailler la théorie politique. *Pragmata*, 2, 538-585.
- LEFEBVRE, H. (1972). *Espace et politique*. Paris: Anthropos.
- LEFEBVRE, H. (1996 [1968]). *Writings on Cities*, edited and translated by Kofman, E. and Lebas, E. Oxford: Blackwell.
- LENEL, E., DEMONTY, F. and SCHAUT, C. (2020). Les expériences contemporaines de co-habitat en Région de Bruxelles-Capitale. *Brussels Studies* (en ligne), 142.
- LEROY, S. (2009). La possibilité d'une ville. Comprendre les spatialités homosexuelles en milieu urbain. *Espaces et sociétés*, 139 (4), 159-174.
- LUSSAULT, M. and STOCK M. (2010). 'Doing with space': towards a pragmatism of space. *Social Geography*, 5, 11-19.
- MARCUSE, P. (2009). From critical urban theory to the right to the city. *City*, 13, 185-197.
- MITCHELL, D. (2003). *The Right to the City*. New York: Guilford Press.
- MONDELAERS, N. (2017). *Dénombrement des personnes sans abri et mal logées en Région de Bruxelles-Capitale — Novembre 2016/mars 2017*. Brussels: La Strada.
- ROMAINVILLE, A. (2015). *La production capitaliste des logements à Bruxelles. Promotion immobilière et division sociale de l'espace*. Thèse de doctorat en sciences géographiques. Bruxelles. Université libre de Bruxelles.
- RBDH (2019). *La crise du logement à Bruxelles*. Retrieved from <http://www.rbdh-bbrow.be/spip.php?article1957>
- RBC, Code bruxellois du Logement (2013).
- SALIGNON, B. (2010). *Qu'est-ce qu'habiter ? Penser l'espace*. Paris: Editions de la Villette.
- TIN, L-G. (Ed.). (2003). *Dictionnaire de l'homophobie*. Paris: PUF.

VAN CRIEKINGEN, M. and FLEURY, A. (2006). La ville branchée : gentrification et dynamiques commerciales à Bruxelles et à Paris. *Belgeo*, 2 (1). Retrieved from <https://journals.openedition.org/belgeo/10950>.

VANHELLEMONT, L. and VERMEULEN, S. (2016). De aanleg van de voetgangerszone in het Brusselse stadscentrum (2012-...). Een analyse van (het discours van) het procesverloop. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.). *Portfolio#1 : Cadrages—Kader, Ouvertures—Aanzet, Focus*. Brussels: BSI-BCO, pp. 43-62.

VERMEULEN, S. and HARDY, M. (2016). Communication et participation dans le cadre de grands projets urbains. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.). *Portfolio#1 : Cadrages—Kader, Ouvertures—Aanzet, Focus*. Brussels: BSI-BCO, pp. 121-132.

VILLE DE BRUXELLES (2018). *Accord de majorité 2018-2024 : une ville internationale, apaisée et solidaire*. Retrieved from: https://www.bruxelles.be/sites/default/files/bxl/Accord_de_majorite_Ville_de_Bruxelles_2018-2024.pdf

WRIGHT, T. (1997). *Out of place. Homeless Mobilizations, Subcities, and Contested Landscape*. Albany: State University of New York Press.

A HISTORICAL PERSPECTIVE ON THE CENTRAL BOULEVARDS IN BRUSSELS'S CITY CENTRE¹



Serge JAUMAIN²

> Abstract

The new pedestrian zone has emerged as one of the main paths to soft mobility in Brussels. Proposing a pleasant walk in the heart of the city, it also provides—if one pays attention—an awe-inspiring view enlivened by numerous representative façades of Belgian architecture from the second half of the 19th century. Passers-by discovering Brussels by strolling around the Bourse building may wonder about the origin of this broad straight line or its beautiful facades that are, at the most, flustered by two recent buildings that adjoin the Place De Brouckère. They may also wonder why the new space is not greener. Would several large trees not help make it look less inanimate?

These legitimate questions are partially answered by the fact that this major north–south axis emerged from the desire to hide a small river, the Senne, and that the cobblestones on the pedestrian zone were not laid on loose soil, but on an impressive work of art undertaken in the middle of the 19th century to hide the river by channelling it into tunnels. In other words, understanding the layout and the actual organization of this new ‘pedestrian boulevard’ requires one to go back to the middle of the 19th century, to when the decision to vault the Senne was taken, generating major spatial and socio-economic changes in the lower part of the city. It is therefore understandable that a row of large trees in the middle of the pedestrian zone would have ruined a carefully thought-out view, hidden some beautiful facades, and, above all, would have been impossible from a material perspective, because the pedestrian zone overlays a major pipeline.

- ¹ The author would like to express his heartfelt gratitude to his colleague and friend Christophe Loir for his valuable input, which has helped improve some of the issues developed here.
- ² History Department, Université libre de Bruxelles, President of the Brussels Studies Institute

Others will question why the river was hidden from the public, pondering over whether walking along a small stream in the heart of the city might be somewhat enchanting.

These various reflections are especially coherent since, during the development of the pedestrian zone, even its designers couldn't ignore the logic that had prevailed when the central boulevards were built. In other words, a perfect understanding of this new path to soft mobility, as well as the configuration of the city centre, requires a glance into the past.

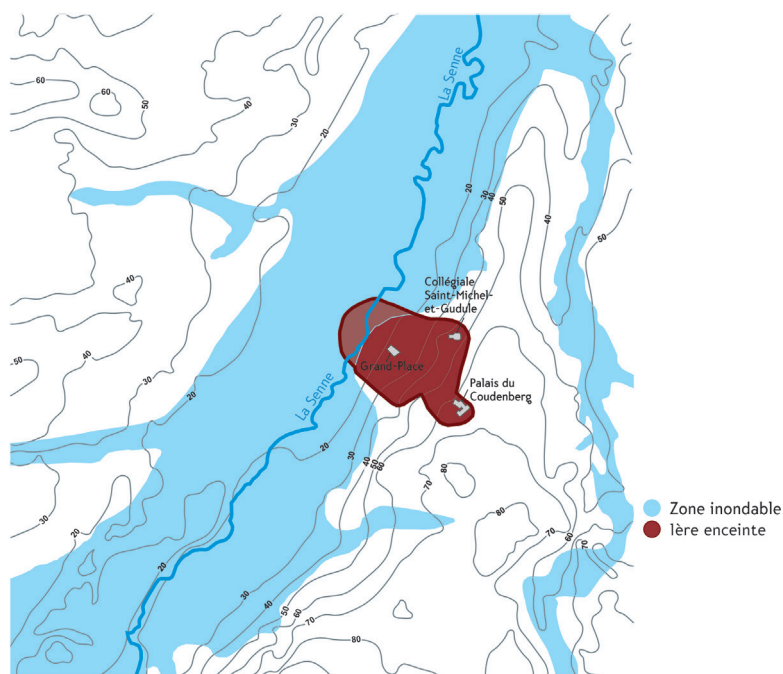
1 > THE SENNE RIVER AT THE HEART OF THE SPATIAL ORGANIZATION OF THE CITY

No longer visible in the centre of Brussels, the small river which – until the middle of the 19th century – flowed through the heart of the city was actually the reason for Brussels's origins. The Senne, whose source is near the town of Soignies, flows slowly from south to north, over one hundred kilometres, before joining the Dyle River, then the Rupel, before finally reaching Antwerp via the Scheldt. The first records of Brussels in the 11th century are associated with navigation on this river. They mentioned a 'portus' where the foodstuffs produced in the surrounding countryside were received and transported to the north. Taking advantage of this 'transshipment hub', housing – which was initially very sparse – developed along the banks of the river.

The Senne remained essential to Brussels's economy for many years because, in addition to transport, it provided the water necessary for the activities of several small businesses: mills to ensure the grinding of cereals or the pressing of oil, tanneries, laundries, breweries, etc. (Deligne, 2003).

A quick glance at a topographic map (Figure 1) makes it immediately possible to understand how the city was organized. The enclosed structure of the river upstream of the Brussels-Capital Region, its fairly slow course and the asymmetrical profile of its banks explain the presence of wetlands and regularly flooded zones to the west of the valley. Here, for a long time, the slowly rising bank had several marshy areas. As a result, urbanization was slower in this region, with these zones offering tremendous agricultural (market gardening) and pastoral potential.

➤ **Figure 1.** Relief, hydrography and location of the first medieval enclosure of Brussels



Source: Société royale belge de géographie

This side of the river also had an ideal layout for the digging, from 1551, of the Willebroek canal which, by connecting Brussels to Antwerp via the Rupel and the Scheldt rivers, facilitated riverine communications with the North Sea. This economic dimension was extended in 1832 by the Charleroi canal, which connected the capital to the major industrial zones located in the south of the country. Naturally, the first rail bypass was established on this side of the river because its slopes were less steep. The close presence of these communication infrastructures and of large undeveloped areas influenced the industrial vocation of the west of the city. It is therefore no coincidence that, from the second half of the 19th century, an increasing number of major industries chose to settle there, and the town of Molenbeek gained the nickname of 'little Manchester'.

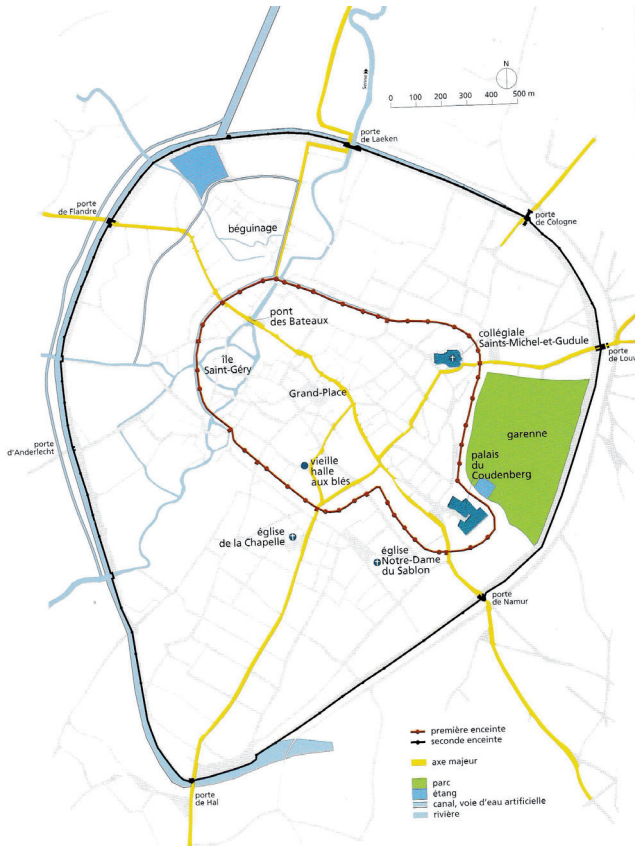
The east bank of the Senne, however, had a completely different layout. Steep and crisscrossed by a network of small streams which supplied drinking water and facilitated good drainage, it had the characteristics ideal for hosting the main symbols of political and religious power (ducal palace, collegiate, etc.) as well as the dwellings of wealthier classes who preferred to live away from manufacturing areas. Aristocratic hotels were thus built in the upper part of the city, while the hilly and

wooded landscapes of the east and south-east of Brussels gradually attracted the urban elites who chose to settle there.

Brussels's distinct topography therefore had a decisive impact on the spatial establishment of the different social classes. It created a clear east-west division between, on the one hand, the wealthy neighbourhoods which were settled uptown and, on the other, poorer populations and more industry-related sectors which were to be found immediately adjacent to the Senne.

The first fortification built at the beginning of the 13th century illustrates this typical structure (Figure 2). It was built to protect the strategic components of the small city: the ducal palace and the collegiate on the upper part of the eastern bank and the market place and the junction between the Senne and the terrestrial communication routes in the lower part of the city.

> **Figure 2.** The first enclosure built at the beginning of the 13th century, based on the De Deventer map, 1550



Source: Billen and Duvosquel, 2000

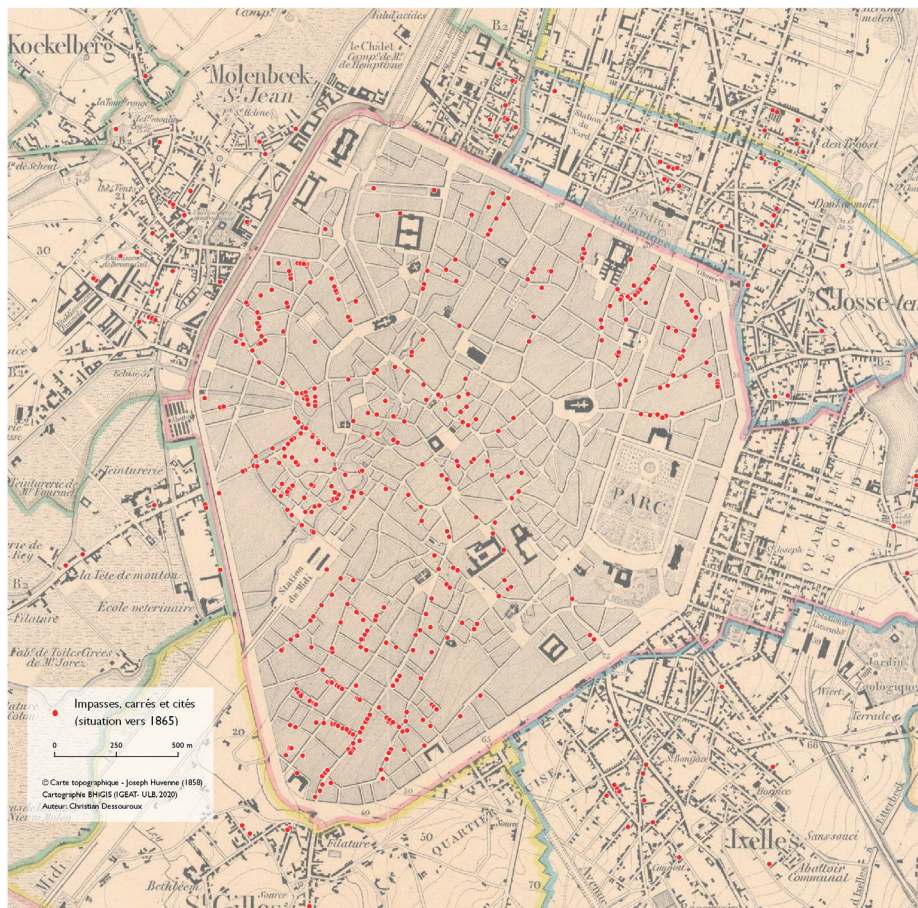
This first wall soon proved to be too narrow to protect the rapidly growing urban activity. At the end of the 14th century, a new enclosure was constructed. Encircling an area which was three times larger, and enclosing areas that were not yet fully urbanized, it primarily encompassed the new neighbourhoods which had emerged beside the gates of the old town. This second enclosure gave Brussels its distinctive pentagonal shape, which is still clearly visible today along the boulevards of the small belt.

Taking advantage of its strategic position at the crossroads of waterways and roads, from the 12th century Brussels also established, close to its river, a market which would become the economic heart of the city and the future Grand-Place, where municipal power would gradually be established. An imposing city hall was built there in the 15th century, bordered by guild houses, which thus asserted their power and their desire to participate in urban management. Even the bombing by the French army in 1695 failed to fundamentally alter this urban layout. Indeed, in less than two years, most of the guild houses had been rebuilt on the same plots, but were now richly decorated to underscore the wealth and importance of these corporations of the Old Regime.

Urban authorities took an early interest in road infrastructures both within and outside the city: from the middle of the 13th century, they began work on the paved road leading to Forest (Charruadas, 2008: 31). Thanks to its strategic position at the crossroad of waterways (the Senne, and subsequently the canal) and roads, Brussels was at the centre of an important communication network. Roads (referred to as 'chaussées' and paved at the beginning of the 18th century) connected it to major Belgian cities, via a diamond-shaped conurbation, and beyond, to the major European road networks. As mentioned earlier, the Senne (and subsequently the canal) ensured a connection with the Scheldt and Antwerp. Much later, the railway line placed Brussels at the heart of a very dense network of railways, further strengthening its leading role in communications.

Despite these important developments, until the 19th century Brussels retained the appearance of an old medieval city, with its tangle of small narrow winding streets and countless dead-ends where the poorest populations were crowded together (Figure 3). Within the city, the old 'Steenweg' long remained the most important road. This 'causeway' connected the Rhineland to Flanders, cutting across the city from east to west, and from the top of the city to the markets near the Senne.

> **Figure 3.** Map showing the dead ends of Brussels (around 1865)



Source: Dessouroux, 2020

2 > VAULTING TO MODERNIZE

By the middle of the 19th century, the little city had become the capital of a new state, which made every effort to receive international recognition. It had also continued its economic and commercial development and would soon establish itself as the leading industrial city in the new country. In this context, the local and national elites wanted the city to be viewed with greater prominence and to showcase the dynamism of the young state. The city, whose structure was still strongly marked by its medieval past, was therefore expected to take on the appearance of a great European capital, and become the symbol of a modern and enterprising Belgium.

To achieve this objective, it had to be modernized, 'beautified', and transformed into a place where the local and European bourgeoisie could meet, a place where the elites would enjoy living, and a place which could compare favourably with the major cities of the continent. Specifically, this meant: removing several industrial activities from the city centre; rooting out the areas of misery and insalubrity; and fundamentally rethinking the urban planning inherited from the Middle Ages. Under the guise of ensuring public health, the vaulting of the Senne provided a unique opportunity to meet these objectives.

In the middle of the 19th century, the slow and winding river which had been at the origin of Brussels still cut across the city centre. However, far from offering a bucolic setting favourable to walking, it resembled an open sewer from which a pungent smell escaped in summer and which frequently overflowed its banks at the end of winter. Photographs from the period show a small, unattractive stream which, as it passes behind houses and workshops, is far from romantic. In 1866, a cholera epidemic underscored the urgency of undertaking sanitation works on the small river whose primary function was to drain the city's polluted water.

The fate of the Senne was therefore placed on the agenda of the municipal authorities. After various proposals aimed at cleaning it up, the decision to vault it, supported by the young liberal mayor, Jules Anspach, was eventually selected. Prepared by the architect Léon Suys, the project was adopted by the Municipal Council in October 1865, and its realization entrusted to an English company, the Belgian Public Work Company Ltd. It required immense and expensive construction works in the heart of the city, but these works also made it possible to undertake, in parallel, a vast operation of urban renewal. This project was therefore expected to simultaneously 'clean up', modernize and 'beautify' the lower part of the city by destroying several old working-class neighbourhoods. The pipeline would be covered by a prestigious boulevard inspired by the works of Baron Haussmann, giving it a somewhat Parisian cachet that pleased the Brussels authorities. In addition to resolving public health issues, the objective was therefore to improve the image of Brussels by enhancing the value of a city centre that had been deserted by the elites. These new boulevards were expected to encourage a wealthier population, confined to the upper part of the city, and beyond, in the eastern suburbs of the Pentagon, to reinvest in the lower section of Brussels.

The gigantic project (1867–1871) was facilitated by the adoption of new laws (1858 and 1867) which allowed expropriations of certain neighbourhoods for the sake of public utility. Put differently, it became possible to expropriate the buildings lying directly upon the areas in which the construction works were being undertaken, as well as the surrounding areas. Officially adopted to improve the sanitation of entire neighbourhoods and thus the housing conditions of their inhabitants, in Brussels, this legislation primarily served to destroy old segments of the city without offering a real alternative to the displaced populations. This had the effect of upsetting the entire social composition and economic activity in the areas concerned.

The decision to vault the river, which was made without consulting the inhabitants, led to the demolition of one thousand houses, the destruction of old neighbourhoods, and the displacement of nearly 8,000 people, primarily members of the working class. Naturally, those evicted had been promised relocation, but the promises were not kept. They were unable to access the new constructions erected along and around the boulevards, and the evictees were left with no choice but to join other poor neighbourhoods, notably, outside the Pentagon in the Molenbeek neighbourhood, where many industries had already established themselves.

Anne Van Loo stresses ‘the distance which separates the discourse from the project and the project from its execution’ (Van Loo, 1994: 40). Indeed, the decision had been hasty, and there had been no precise assessment of the means required. Ultimately, ballooning costs led to sharp cutbacks on the monumental project (in particular the cancellation of a large fountain to the south of the Bourse building), forcing the English company to go into liquidation in February 1871 and the city to take over the responsibility for the completion of the work. Moreover, while the organization of the new boulevards attracted Brussels’s elite, who were interested in benefitting from the multiple services and activities proposed, few chose to settle in the region, dashing the hopes of the promoters of this grand project.

In terms of traffic, the vaulting of the river transformed the urban dynamics of the city. Indeed, by creating a direct and rapid connection between Brussels’s two main train stations, it replaced the long route across Rue Neuve, Rue des Fripiers, Rue du Midi and Avenue du Midi, and thus created a major north-south axis which competed against the old east-west axis of the ‘Steenweg’.

The new boulevards transformed the old working-class neighbourhoods into places intended for commerce (cafes, boutiques, department stores), business (the Bourse building), entertainment (*Théâtre Royal de la Monnaie*) and tourism (Grand-Place, new hotels).

3 > DEVELOPING THE CENTRAL BOULEVARDS TO RESTRUCTURE THE URBAN LANDSCAPE

Highly attentive to the image of Brussels, the local authorities were greatly concerned with the finishing of the buildings along the boulevards. After taking over the management of the project in 1871, they therefore launched an architectural competition to encourage owners to take the most imaginative approach to this, by calling on the best architects. The initiative proved to be a success: the absence of an overall plan was largely compensated by the diversity and originality of the new buildings. Far from the rigour that characterized the architecture of major Parisian boulevards, in Brussels ‘flourished an almost complete repertoire of contemporary styles where the double neoclassical and Flemish tradition of Brussels’s architecture predominated’ (Van Loo, 1994: 44). The jury was spoiled for choice, with twenty

buildings receiving awards. The first prize was awarded to the *Hier ist in den kater en de kat* building designed by the architect Henri Beyaert, whose style bore little resemblance to the Haussmannian style, but rather distinguished itself through the architect's Flemish neo-Renaissance style. Despite, or perhaps thanks to, this diversity of styles, the objective to beautify the lower part of the city was indeed achieved. However, most of the award-winning buildings had been commissioned by private companies and were therefore not intended for housing. This was somewhat disappointing for the local authorities who, as mentioned earlier, had hoped that, as in Paris, a section of the bourgeoisie would settle along the new boulevards.

> **Figure 4. The Central Halls**



Source: Collection Guides Badeaux of Thierry Demey. Photo originale conservée aux Archives de la ville de Bruxelles (C 1530–1531)

Alongside private buildings, particular attention was also paid to the aesthetic quality of public buildings. The most majestic was undoubtedly *La Bourse* (The Stock Exchange), designed by the architect Léon Suys, and partially inspired by the *Opéra Garnier* under construction in Paris at the time. Inaugurated in 1872 in a space that had been cleared (square and artery providing a monumental perspective) in order to increase its value, it would become emblematic of the urban landscape because of its size, its eclectic style and its rich decoration, in which the French sculptor, Auguste Rodin, had participated. According to Thierry Demey, 'Undoubtedly, no other monument in 19th century Brussels was as decorated as

this one. Surrounded by cherubs with multiple allegorical figures, it flowed with decorative motifs and was almost repulsive' (Demey, 1990: 74). Its position and its highly sought-after architecture expressed both the triumph of Belgian capitalism and its importance for the new state.

Located a little further on, the Halles Centrales (Figure 4), which had also been designed by Léon Suys, drawing on the model of the halls Victor Baltard had built twenty years earlier in Paris, perfectly illustrated the cast-iron architecture of the time. Unfortunately, they were destroyed in 1956 to make way for *Parking 58*.

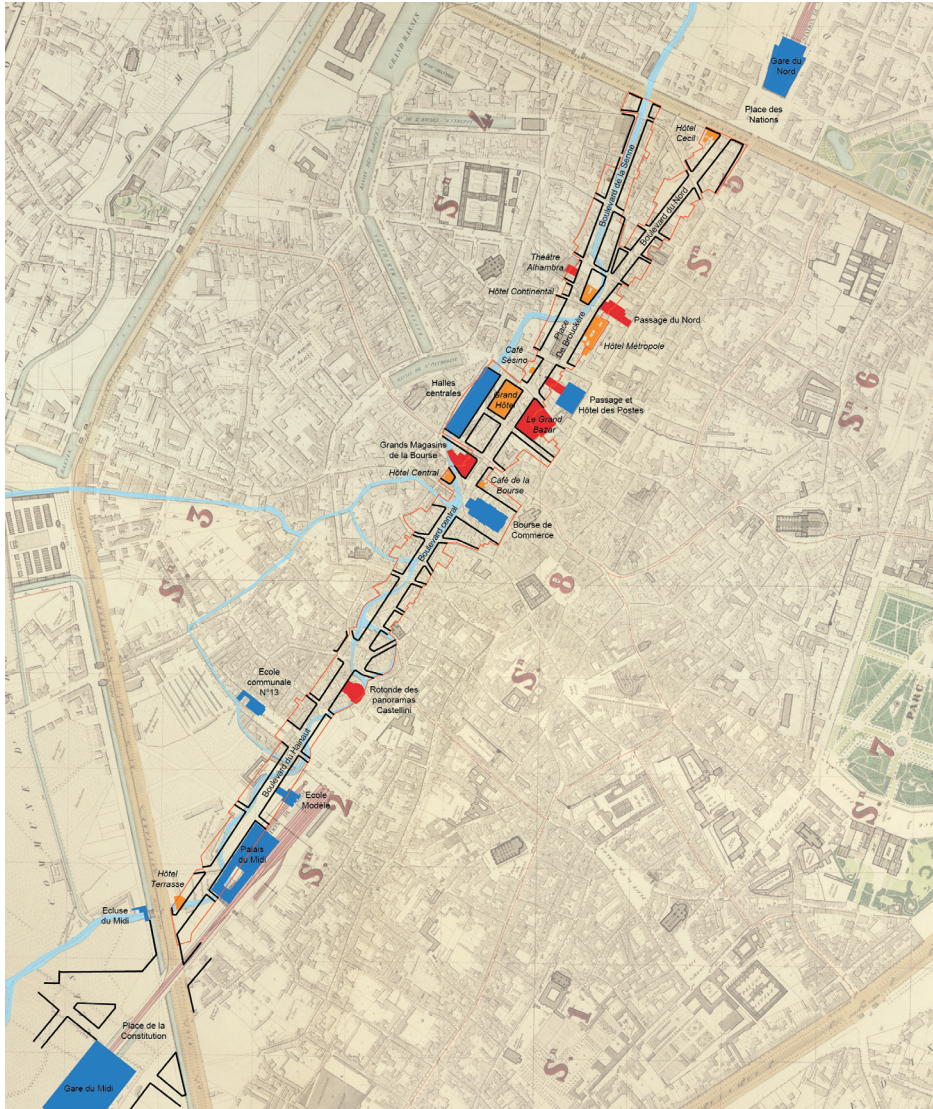
Further south, the vast Palais du Midi, designed by the architect Wynand Janssens and built between 1875 and 1880 by the Compagnie Générale des Marchés, aimed to enhance commercial activities in this section of the boulevard, which had been neglected after the abandoning of the monumental fountain project. Figure 5 clearly illustrates the emergence of these imposing public and private buildings and, especially, their high concentration between the Bourse building and the Place de Brouckère, which helped transform this part of the city, in close proximity to the Grand-Place, into the new prestigious heart of Brussels.

When the construction of the central boulevards was finalized, the broader view offered to passers-by crossing the boulevards from south to north was somewhat devalued by the heavy facade of the Augustinian temple. The opinions revolving around its architectural quality greatly varied or were even forthrightly critical. Jules Anspach, for instance, spoke of 'a shapeless hovel'. At the end of the 19th century, the neo-baroque Brabançon style no longer resonated with the general public and was little conducive to the architectural efforts that had been undertaken along the boulevards. Moreover, the building, which no longer fulfilled a liturgical function, was an obstacle to traffic and, as the result of an error by Léon Suys, was not located upon the axis of the boulevard artery. After receiving significant criticism, the temple which blocked off the view was demolished in 1893, with its facade being completely reassembled on Rue du Bailli, next to the Ixelles and Saint-Gilles neighbourhoods, becoming the Holy Trinity church. This destruction was an important milestone, because it partially changed the structure of the boulevards: it cleared the Place de Brouckère and revealed the beautiful facade and eclectic style of the 1874 Continental Hotel. The view was therefore more open and better-aligned with the general architecture of the boulevards.




This new layout gave pedestrians a vast central square, i.e., the beautiful Place de Brouckère, which was decorated with a few plants and public benches. In 1897, a large obelisk-shaped fountain surmounted by a statue of Saint Michael and dedicated to Jules Anspach, the promoter of the vaulting of the Senne project, was erected there. Dismantled in 1973 because of the construction of the premetro, it was placed in the bassin, situated at the end of the Quai aux Briques, in 1981.

The map presented above (Figure 5) perfectly illustrates the disruption caused by this long straight line overhanging the Senne between the Gare du Midi and the




➤ Figure 5. Central Boulevards' constructions



Plan of the central Boulevards

- Former course of the Senne river 
- Expropriated area (plan by Léon-Pierre Suys, 1865) 
- Layout of the new streets 

Remarkable buildings built between 1870 and 1890

- Public facilities 
- Department stores and theatres 
- Hotels, restaurants and cafés 

Map background: Geometrical plan of the City of Brussels (W. B. Craan, 1848)

Source: Dessouroux, 2008



Place de Brouckère, where the boulevard splits into a 'Y', of which the left arm followed the course of the river while the right led directly to the Gare du Nord. We understand that, although this eased traffic circulation, the boulevards were a genuine scar in the heart of the old medieval city: their rectilinear character contrasted with the many small and winding streets that gave old Brussels its charm.

However, Christophe Loir and Virginie Jourdain rightly point out that 'the central boulevards [...] were designed as urban systems in which all the elements (buildings, roads, plants, urban furniture, uses) formed a coherent whole' (Jourdain and Loir, 2016: 134). They had ambitious objectives: to facilitate communications, improve the image of Brussels, and help boost the economic activity of the lower part of the city. With regard to these different points, the project was a success: the prospects offered, the organization of the causeway and the quality of the buildings, with the new shops and cafes attracting a growing crowd, especially between the Bourse and the Place de Brouckère.

4 > THE AFFIRMATION OF THE TERTIARY VOCATION OF THE LOWER PART OF THE CITY

An analysis of films and tourist guides shows that, in addition to the inhabitants of Brussels, the new urban developments attracted an increasing number of tourists (Jourdain and Loir, 2016). At a time when the train had become the preferred means of transportation, many of these tourists disembarked at the Gare du Nord or the Gare du Midi, and were drawn to the impressive boulevard that lay before them. The printed tourist guides did not lie. Until the 1870s, the 'must see attractions in Brussels were situated at the heart of the first enclosure, along the east – west axis (Vandermotten, 2014: 130). The guides therefore primarily featured the upper part the city as well as the Grand-Place and Manneken-pis. After the construction of the central boulevards, the view changed radically: the area around the boulevards became the area most often recommended, because it was the most dynamic and the most diversified. It was even proposed as the place to visit for travellers who had very little time to devote to the Belgian capital: 'Those who want to see Brussels quickly will take the main artery that cuts across the entire city from North to South as their main route', wrote the Castaigne guide in 1905.³

The tourist appeal of the Grand Boulevards was further enhanced by the construction of prestigious hotels that offered numerous stops for travellers. In their own way, they helped reinforce the image of a large, modern and international capital. Thus, the *Grand Hotel*, whose name echoed the famous establishment built in 1862 by the Pereire brothers in the new Parisian Opéra neighbourhood, 'illustrated the arrival in the Belgian capital of hotel models that had been designed and developed

3 *Guide Castaigne. La Belgique à vol d'oiseau. Guide de l'excursionniste*, Brussels, Maison d'édition Alfred Castaigne, 1905, p. 132 (cited in Jourdain and Loir, 2016: 139).

within the last few years in other large cities of the Continent, Paris, London or fashionable tourist resorts' (Jourdain, 2012: 285). A little further, on Place De Brouckère, another lavishly decorated palace was inaugurated in 1894: the *Métropole* hotel also sought to 'embody the most advanced progress of its time [...] or even compete with the major competitors in the European hotel industry' (Jourdain, 2008: 43).

The central boulevards helped define the tertiary vocation of the lower part of the city: hotels, cafes, restaurants and commerce in general replaced crafts and small-scale industries. Thus, in a very short time, boutiques and department stores proliferated, especially in the northern section: near the *Grands Magasins de la Bourse* and the *Grande Maison de Blanc*, the *Grand Bazar du Boulevard Anspach* opened and, on the Rue Neuve, the *À L'Innovation* department store was built close to the *Bon Marché* (Jaumain, 2003).

This part of the city stood out as the perfect place for strolling. In addition to the impressive view that was offered to the walker, they could also appreciate the facades which testified to Belgian architectural know-how, before stopping at a café where they could chance upon employees of the Stock Exchange or the *Théâtre royal de la Monnaie*. Their attention would then be drawn to the imposing architecture of department stores designed to lead passers-by to the many windows in the public space. From the end of the 19th century, 'window shopping' became a greatly valued component of strolling through the city centre: new shops paid particular attention to how they presented their products. Designed by real promotion artists, windows soon benefitted from night lighting which, even after the shops closed, continued to offer small attractive shows to passers-by (Jaumain, 2006).

From the outset, the boulevards were also designed to accommodate public transport, private vehicles and pedestrians simultaneously. The bustling central boulevards meant, naturally, that they would be the centre of the tram network: 'A double-track tramway was placed in the centre of the road. The central boulevards were one of the first arteries developed from the outset to accommodate a railway. A traffic corridor was planned on either side of the central rails for the other vehicles' (Jourdain and Loir, 2016: 135).

Parking was initially prohibited (only temporary stops were allowed) and all attention was focused on pedestrians. They were provided with wide pavements, as well as covered passages (such as the Passage du Nord or the Passage des Postes, which has since ceased to exist), encouraging strolling in front of the shop windows while sheltered from bad weather. An analysis of photographs of the boulevards from before the First World War reflects this omnipresence of pedestrians. They were everywhere: on the pavements, naturally, on the vast Place de Brouckère, but also on the roads where traffic had not yet driven them away. Admittedly, the first cinematographic depictions of Brussels show that, for a long time, the cars using the boulevards were driven at particularly slow speeds. It was not until 1936 that a

strict segregation of transport modes was imposed, forcing pedestrians to circulate on pavements (Jourdain and Loir, 2016).

The success of the boulevards also had an impact on the public transport network, with the square in front of the Stock Exchange becoming one of the city's central points: a large parking area for public transport vehicles was built there, making it possible to reach different parts of the city. This evolution further reinforced the accessibility and attractiveness of this part of Brussels.

After the term of Jules Anspach (1863–1879), the arrival of Charles Buls as mayor (1881–1899) briefly altered the outlook. Highly attached to the preservation of the historical heritage, he pursued an urban policy at odds with that of Anspach. The monumental construction sites which disfigured the city were halted temporarily, and a particular focus was placed on the remnants of the medieval city. This, however, also helped increase the attractiveness of the lower part of the city because Mayor Buls undertook the vast project of the restoration of the Grand-Place, notably the reconstruction of the Maison du Roi. An urban planning dispute (his opposition to Léopold II's project for constructing the Mont des Arts) stopped him from seeking a new mandate.

5 > REINFORCING THE NORTH-SOUTH AXIS WHILE ISOLATING THE PENTAGON

In radical opposition to the traditional east–west traffic axis of the 'Steenweg', the boulevards of the city centre gave new impetus to urban traffic. They stood out as the main route for those seeking to pass through Brussels.

The north–south axis was also chosen for navigation when, as mentioned earlier, the old Willebroek Canal was extended by the Charleroi Canal, which ran along the west side of the Pentagon. This direct connection between Brussels and the industrial and mining areas of Hainaut became a strategic traffic route. It facilitated the development of large manufacturing industries in Brussels along the banks of the canal, while accelerating trade with northern Europe.

In the first half of the 20th century, the construction of the North-South Junction further strengthened this north–south dynamic. This 3.8 kilometre-long railway sought to connect the two large terminals (Gare du Nord and Gare du Midi), to facilitate rail traffic in and towards Brussels, and to create a Central Station in the heart of the city and in close proximity to the Grand-Place. Established in the eastern part of the city, where the subsoil was better suited to such construction, the Junction, which lay relatively parallel to the central boulevards, also made a long-lasting imprint on Brussels's landscape. Once again, old neighbourhoods deemed unhealthy were destroyed and their inhabitants evicted, and a wide avenue (which, as certain critics argued, began nowhere and ended nowhere) was built over the junction. However, unlike with the major boulevards, architectural reflection was

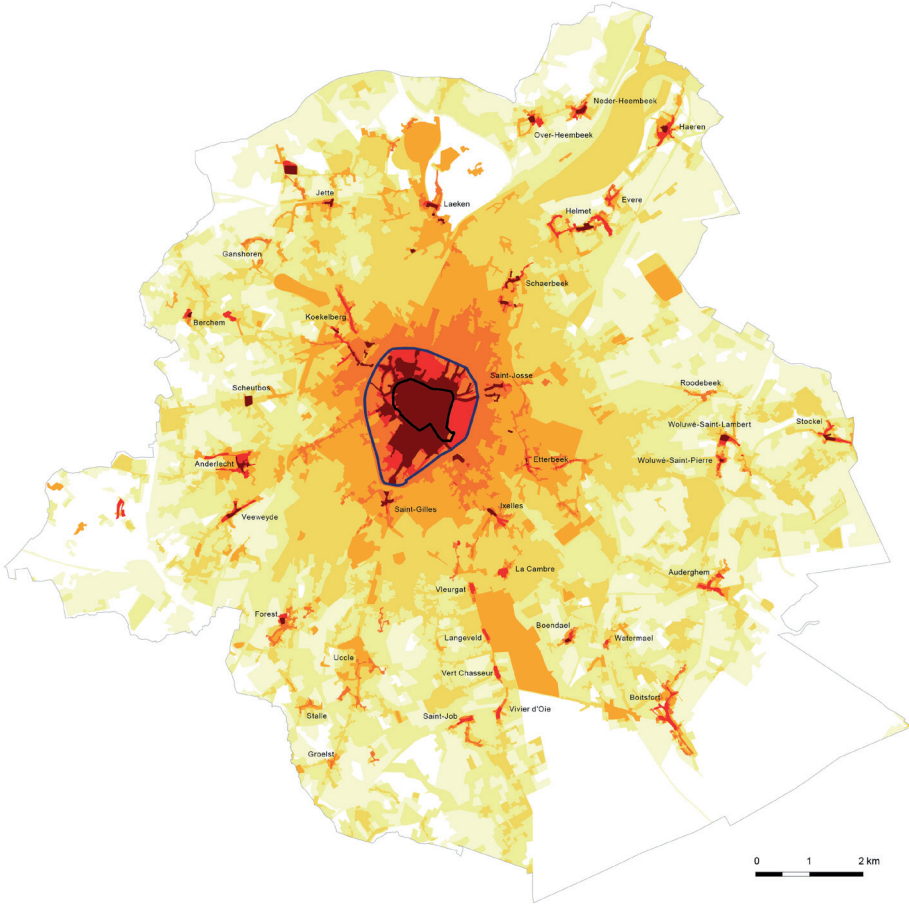
overlooked here: the main avenue was lined with functional but unattractive office buildings, leading to the area being almost deserted in the evenings (Jaumain, 2004).

An additional point clearly distinguishes the junction from the central boulevards: while the junction primarily sought to facilitate the connection with areas outside the city, the major boulevards were not designed to connect to the road network outside Brussels. This is a fundamental difference, and to fully understand it one must not forget that the Pentagon was formed by the layout of the second enclosure, which had long marked the city's borders (and thus those of the central boulevards!). This structure was not conducive to communications with the suburbs. In the wake of Belgium's independence, urbanization was still contained within a wall that was now being destroyed, and the Brussels Region still had undeveloped areas, especially near the gates of Hal and Schaerbeek. The new capital long remained isolated from neighbouring villages, from the small agricultural entities to which it was connected, primarily by old roads, often in poor condition. The improvement of these roads proved to be more difficult than expected, because most of these villages were run by influential local leaders, whose interests differed from those of the neighbouring town.

Following Belgium's independence, Brussels had hoped to expand its territory by incorporating the suburbs which had gradually developed along the walls, near the main gates that gave access to the city. This would have enabled the development of a road policy that would take into account the immediate environment. Nothing came of this, however, and the city remained confined within the Pentagon. The impact of the destruction of the ramparts, which had begun under Napoleon, was limited by the maintenance of an excise duty, a tax applied to all commercial goods entering Brussels and collected at the gates of the city. To prevent these goods from avoiding taxation, a wooden barrier with a ditch was established, running along the entire length of the boulevard situated on the foundations of the second city walls. Despite the disappearance of the ramparts, the city thus found itself enclosed in a narrow brace which prevented the development of continuous urbanization and, above all, a coherent road policy.

It was not until 1860 that the repeal of the tax partially changed the situation. It facilitated the development, in certain suburbs, of small industrial centres and their connection to the city centre. The increase in the population of the municipalities in the first – and subsequently the second – ring contributed to their gradual urbanization (Figure 6). However, they remained small independent entities. Moreover, their scant resources and the absence of a concerted policy involving Brussels had a direct impact on the organization of the road network. As Benedikte Zitouni has shown, agglomerating and building the capital's territory in the absence of an urban unit was far from easy (Zitouni, 2010). Despite the strong will of the national authorities and the blows of Léopold II, who sought to impose a comprehensive plan, the municipal authorities had great difficulty in developing any real

> **Figure 6.** Brussels's gradual urbanization



Legend

- Before 1550
- Between 1550 and 1777
- Between 1777 and 1860
- Between 1860 and 1880
- Between 1880 and 1930
- Between 1930 and 1955
- After 1955
- First enclosure (13th century)
- Second enclosure (14th century)

Source: Dessouroux, 2008

coordination which would have facilitated improved communication between the capital and its immediate periphery.

Brussels continued to demand the incorporation of the suburbs, but without success. From the second half of the 19th century, the city succeeded in gradually expanding its area by accepting the role of financing urban development projects in exchange for modest territorial gains. In 1853, it therefore ensured the extension of the Rue de la Loi and the development of the brand-new Leopold neighbourhood in exchange for the incorporation of the latter into the city. Eleven years later, the development of Avenue Louise allowed the city to incorporate this road, which gave access to the Bois de la Cambre (also acquired by the city and transformed into a landscaped park by the architect Edouard Keilig). In 1907, thanks to the preparation of the 1910 Brussels International Exposition, 62 hectares near the Bois de la Cambre, in the Solbosch neighbourhood, were added to the city (where the *Université libre de Bruxelles* was established after the First World War). In 1897 and 1921, Brussels incorporated other small municipalities along the canal and the outer harbour which it helped develop. Between 1851 and 1913, the area of the capital gradually increased from 415 to 1,046 hectares. This regional growth, which was achieved in spurts, did not instantly resolve all traffic issues, however. This goes some way to explaining the central boulevards' initially design based on the internal reality of the Pentagon, which lacked any real coordination with the road policy of neighbouring suburbs.

6 > FAVOURING THE CAR AT ALL COSTS

During the 19th century, Brussels emerged as the administrative, political, and economic capital of Belgium, but also as its largest industrial centre. The population working in Brussels increased steadily, forcing the city to constantly rethink its communications network. A growing number of inhabitants from the suburbs and beyond needed to access the city centre on a daily basis for work-related purposes and also to shop, enjoy cultural activities or simply enjoy the dynamic atmosphere at the heart of Brussels. The city therefore constantly sought to improve its public transport network and to develop important infrastructure such as the above-mentioned North-South Junction.

However, from the middle of the 20th century, the exponential growth of car parks changed things somewhat. Thanks to the 'Car as King' paradigm, everyone would be able to quickly reach any part of the city. For the local and national authorities, transforming Brussels into a large modern city capable of competing with other European capitals inevitably involved adapting the city to the car. Henri Hondermarcq, the director of the National Administration of Roads, made no secret of his

intentions: to make Belgium and Brussels 'one of the most important crossroads in the West'.⁴

The Brussels World Fair (Expo '58) was therefore a pivotal moment or, as Michel Hubert states, 'a unique opportunity for road engineers' (Hubert, 2009: 123). The city chose to meet the standards imposed by the reception of several million visitors. In order to leave these visitors with the best impression of Brussels, no effort was spared to facilitate the access of cars to the exhibition and to the centre of the city. The boulevards of the small belt were thus widened, and tunnels were dug on the main crossroads, abruptly transforming this old tree-lined road into a real urban highway. Similarly, Avenue Louise, Avenue de Tervuren and Boulevard Lambertmont were modified to ensure that cars were given as much space as possible. To facilitate rapid access to the Exhibition, an impressive viaduct over the Leopold II and Antwerp boulevards was constructed without paying any attention to the impact this would have on residents. Everywhere, it was necessary to make room for cars: widen avenues; remove anything that hindered cars (including trams!); and construct large parking lots (Parking 58, Ecuyer, Deux Portes, Botanique, Industrie, Carrefour de l'Europe, etc.) to facilitate access to the heart of the city.

Improvements in favour of cars continued well after the end of the Exhibition. For example, a tunnel was constructed at Porte Louise, leading to the destruction of several dozen buildings, and then, later, the Manhattan plan was unveiled, which sought to construct 54 towers at the crossroads of motorways in the Northern Quarter, in close proximity to the central boulevards. The scope of the work required (and especially the destruction) to allow high-speed tracks to transport a flood of cars as close as possible to the city centre was met with fierce protests. The motorway project was eventually abandoned, but this was primarily due to an economic crisis. Nevertheless, the Northern Quarter had been wiped out, and thousands of people expropriated.

All of these developments, especially the increasing space set aside for cars, put further pressure on the city centre and had a major impact on the central boulevards. They became one of the main axes cars used to quickly pass through the heart of the Pentagon and, in particular, their structure was significantly altered: destruction of the Halles centrales (to build Parking 58) and of the Central Post Office building; the construction of the Philips tower (1967–1969); and the construction of the Administrative Centre of the City of Brussels (1967–1971). This was all undertaken with complete disregard for the harmony that had been so carefully considered in the middle of the previous century.

In the two decades that followed Expo '58, the absence of a real town planning policy led to a real destruction of Brussels. In addition to the elements mentioned earlier, the splendid *Maison du Peuple*, designed by Victor Horta, disappeared in

⁴ *Bruxelles, Carrefour de l'Occident*, Bruxelles, ministère des Travaux publics et de la Reconstruction, 1956, p. 8.

1965 to make way for an unattractive tower. Even the elegant Avenue Louise wasn't spared, with, between 1968 and 1971, the building of the dark 102-meter-high ITT tower close to the Jardins de l'Abbaye de la Cambre.

Under the pretext of continuing modernization, opening the city outwards, attracting decision-making centres and facilitating traffic, the public authorities gave free reign to private developers, much to the detriment of the city's heritage and its inhabitants. As the number of offices exploded, poor neighbourhoods and major historical treasures were destroyed by demolition machinery to make way for viaducts, urban highways, office towers (the surface area of these towers increased fivefold between 1949 and 1970 – De Beule and Dessouroux, 2009: 221), destroying the harmony that had reigned in the city centre and giving rise to the word 'bruxellisation'.

In a context where the city's development no longer considered its inhabitants, much of the middle class fled and settled in the periphery, which offered a better quality of life. Between 1947 and 1992, the Belgian population of Brussels was almost halved, with departures only being partially offset by foreign immigration. At the same time, a general impoverishment was observed among the inhabitants of the capital (Puissant, 2008: 101).

In addition to disrupting the sociological composition of the city, this peri-urbanization further increased mobility problems: the number of commuters travelling to work daily in Brussels exploded and the pressure from cars became unbearable. Belgium stood out amongst European countries as having one of the highest ratios of cars to inhabitants (one car per 16 inhabitants in 1956), with this proportion being even higher in Brussels. The congested city centre was suffocating (Hubert, 2009: 117).

7 > RETURNING THE CITY TO ITS INHABITANTS

It is sometimes easy to forget that the gigantic works that revolved around Expo '58 in the city, primarily designed with cars in mind, had already sparked protest movements (Deligne and Billen, 2009), although these were hardly heard. The major projects mentioned above also led to an increase in the number of citizen groups opposed to this functionalist vision of the city, who denounced the fact that they were always overlooked in decision-making processes. One of the highlights of this movement was the well-known 'Battle of the Marolles'. In 1969, this working-class neighbourhood was threatened by a decision to build an extension to the already gigantic *Palais de Justice* (Law Courts). This was the starting point of a movement that rallied the people together against this proposal in such strength that the promoters were forced to abandon it.

Little by little, the resistance organized itself. The desire for a city attentive to the well-being of its citizens led to the emergence of several associations, such as

ARAU (Urban Research and Action Workshop), which developed a completely different vision for the city, one more respectful of its heritage and its inhabitants. In parallel, the number of neighbourhood committees increased, reaching over one hundred between 1970 and 1975 (Criekingen et al. 2001: 11).

In the decades that followed, the new structures implemented within the framework of state reforms (Brussels Agglomeration, the ministry in charge of issues relating to Brussels within the central government, and especially the Brussels-Capital Region, created in 1989) acquired greater power in matters concerning land use planning. They helped establish urban policies that were more coordinated, and also more receptive to involving residents in dialogue. Subsequently, in 1995, the first regional development plan was implemented. This strengthening of Brussels's power created a new type of relationship with the central state, which now became more attentive to the wishes of the region and of its inhabitants.

The institutional development and the increasing importance of neighbourhood committees and other residents' associations gradually put an end to the gigantic road infrastructure projects that had been undertaken for the benefit of commuters alone. In the heart of the city, the outright destruction of historical buildings in favour of office buildings gave way to renovation and rehabilitation measures so as to protect these ancient buildings. For instance, the city of Brussels initiated several projects to enhance its own real estate heritage (the Saint Gery and Grand Hospice neighbourhoods).

From the mid-1990s, this new context prompted the revival of population growth. Between 1999 and 2006, the population of the municipality of Brussels increased from 134,000 to 145,000 inhabitants. For the first time in over a century, growth was observed for five consecutive years (Puissant et al., 2008: 102). As part of this population growth, young, single, wealthy adults settled in the old working-class neighbourhoods of the city centre, leading to the launching of a gentrification movement that helped bring a fresh dynamic to this part of the city, with the support of public authorities. At the same time, public spaces were restructured and a policy favouring soft mobility gradually succeeded in making it understood that, in Brussels, the era of 'Car as King' was truly over.

The development of a pedestrian zone across a large section of the old central boulevards (from Place de Brouckère to Place Fontainas) was therefore one of the outcomes of this new approach, which consisted of reducing the presence of cars in the city centre, improving citizens' quality of life and enabling them to reclaim urban space. This project, under debate since the late 1990s and officially implemented on 29 June 2015, was one of the new major projects in the city centre.

Although much criticism was levelled at the pedestrian zone project as well, notably because of a poor communication policy, the development of this zone is nonetheless symbolic of the developments described in this chapter: a large artery designed to accommodate a multiplicity of forms of mobility that, over time,

had become almost exclusively dedicated to cars, gives back priority to pedestrians and to soft mobility. In an interesting turn of events, the car was banned from the city centre and the inhabitants were asked to reclaim a large space and to transform it into a convivial place open to visitors and tourists. Pedestrians could now once again circulate in the centre of these boulevards without fearing the passage of motorized vehicles, as was the case – as evidenced by old photographs taken shortly before the inauguration of the boulevards – at the time when traffic was smoother and slower.

8 > CONCLUSION

The pedestrianization of the central boulevards has given rise to a considerable number of studies, reflections and actions aimed at better combining this new reality with Brussels's urban space as a whole. Since the vaulting of the Senne, never before has the major axis that cuts through the heart of the city from north to south been the subject of so many questions, and never have so many researchers, from such a large and varied number of disciplines, combined their efforts to propose a new understanding of the city centre, from both the perspective of the authorities and of inhabitants. Although multiple works have been produced, of which this book is a perfect example, little attention has generally been paid to the historical dimension. Indeed, the key objective of most of these studies has been to analyse the current situation in order to reflect on the city centre of tomorrow.

Without referring to all the current issues, this chapter has primarily sought to show how pedestrianization is actually the result of a long historical process whose roots may be found in the middle of the 19th century, with the vaulting of the Senne, and further still because this small river not only lies at the origins of the city, but also its spatial configuration. For instance, it is impossible to explain the structuring of the current city without mentioning the unique relief of the banks of the Senne. Similarly, how can one understand the actual layout of the central boulevards without referring to the Pentagon, i.e., to the second enclosure, as well as to the complex relationships between the city centre and its suburbs? The structure of these boulevards is still directly linked to all traffic changes that occur in the heart of the city where this north-south axis (which is also the axis of the canal and of the North-South Junction) has gradually replaced the old east-west axis linked to the Steenweg.

This overview of the evolution of the boulevards from the moment they were built to their pedestrianization also shows how, for close to a century and a half, these boulevards were both a reflection of Brussels landscape and an essential player in its transformation(s). In the heart of the city, they were marked by the evolution of urban mobility which they themselves had helped to accelerate by gradually transforming into a small urban highway disfigured by the continuous flow of cars. Close to the historic heart of the city, they were the sad witnesses of 'bruxellisation',

with the destruction – occasionally violent – of several buildings erected in the second half of the 19th century that were a part of Brussels’s heritage.

These large boulevards, which had originally been built to encourage part of Brussels’s bourgeoisie to return to the city centre, to offer visitors a straight avenue that, as in Haussmann’s Paris, favoured wide open views and, more generally, to support the commercial development of this part of the city, gradually became the victims of the ‘Car as King’ paradigm.

This chapter therefore shows how pedestrianization provides a unique opportunity to rediscover and renew reflections on an urban space that had been largely forgotten and disfigured. While, from a material perspective, the pedestrianized layout of the zone cannot afford to ignore its past (the vaulting of the Senne brought with it its own set of constraints), from an aesthetic perspective, it revives the original intentions of the designers of this central axis. The transformation of the rhythm and the type of traffic, where pedestrians have now replaced the cars which previously passed as speedily as possible through the heart of the city, drastically changes the perception of this wide road. The gaze of the passers-by, who are now able to stroll at their own pace along the middle of the boulevard, is inevitably drawn by the wide perspectives that have been thought for them. They can now rediscover at leisure the original architecture of buildings which, in the last quarter of the 19th century, were designed to give an authentic charm to this wide urban road. Above all, the pedestrian zone has provided an opportunity to rediscover the soul of boulevards which, before being gradually destroyed by successive developments, actually formed a highly coherent urban system.

9 > BIBLIOGRAPHY

BILLEN, C. and DUVOSQUEL, J.M. (eds.) (2000). *L’esprit des villes d’Europe*. Brussels, Antwerp: Fonds Mercator.

CHARRUADAS, P. (2008). Bruxelles et ses communes, une région, une histoire... In S. JAUMAIN (ed.), *La Région de Bruxelles-Capitale*. Brussels: Racine-Dexia.

CRIEKINGEN, M., DECROLY, J.-M., GUISSSET, C. and VERDIN, F. (2001). *Itinéraire de la rénovation des quartiers anciens à Bruxelles*. Collection Hommes et paysages, no 32. Société Royale Belge de Géographie.

DE BEULE, M. and DESSOUROUX, C. (2009). *Bruxelles et ses bureaux, ses employés*. Ministère de la Région de Bruxelles-Capitale et La Fonderie, Special edition of the Observatoire des bureaux.

DELIGNE, C. (2003). *Bruxelles et sa rivière. Genèse d’un territoire urbain 12e -18e siècles*. Brussels: Brepols.

DELIGNE, C. and BILLEN, C. (2009). La ville de l’Expo 58. Entre modernité, héritages et patrimoines urbains. In C. DELIGNE and S. JAUMAIN, (eds.), *L’Expo 58. Un tournant dans l’histoire de Bruxelles*. Brussels: Le Cri, p.45-68.

DEMEY, T. (1990). *Bruxelles chronique d’une capitale en chantier*. Brussels: Paul Legrain/C.F.C.

DESSOUROUX, C. (2008). *Espaces partagés, espaces disputés. Bruxelles, une capitale et ses habitants*. Bruxelles : Université libre de Bruxelles (CIRHIBRU) and Ministère de la Région de Bruxelles-Capitale.

HUBERT, M. (2009). L'Expo 58 et la mobilité quotidienne à Bruxelles : une influence décisive et durable. In C. DELIGNE and S. JAUMAIN (eds.), *L'Expo 58. Un tournant dans l'histoire de Bruxelles*. Brussels: Le Cri, p.115-143.

JAUMAIN, S. (2003). Heurs et malheurs des grands magasins bruxellois. *Commerce et négoce*, Sprimont, Mardaga, p. 79-101.

JAUMAIN, S. (ed.) (2004). *Bruxelles et la Jonction Nord-Midi. Histoire, architecture et mobilité urbaine*. Brussels: Archives de la Ville de Bruxelles, Collection Studiae Bruxellae.

JAUMAIN, S. (2006). Vitrynes, architecture et distribution. Quelques aspects de la modernisation des grands magasins bruxellois pendant l'entre-deux-guerres. In S. JAUMAIN and P-A. LINTEAU (eds.), *Vivre en ville : Bruxelles et Montréal aux XIXe et XXe siècles, Actes du colloque de Bruxelles*. Bruxelles : P.I.E Peter Lang S.A., collection ("Études canadiennes"), p.287-303.

JAUMAIN, S. (ed.) (2013). *Dictionnaire d'Histoire de Bruxelles*. Brussels: Prosopon.

JOURDAIN, V. (2008). *Hôtel Métropole*. Brussels: Luc Pire.

JOURDAIN, V. (2012). *L'hôtellerie bruxelloise 1880-1940. Acteurs, structures et logiques spatiales d'un secteur multiforme*, Thèse de doctorat en Histoire, Université libre de Bruxelles — Université de Neuchâtel.

JOURDAIN, V. and LOIR, C. (2016). Le régime de mobilité et les modalités d'usages de l'espace public sur les boulevards centraux à la fin du 19e siècle. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN, and M. HARDY (eds.), *Portfolio#1: Cadrages — Kader, Ouvertures — Aanzet, Focus*. Brussels: BSI-BCO, pp. 133-144.

COLLECTIF (1995). *Le Patrimoine monumental de la Belgique. Bruxelles*, (1989-1994). Vol. 1, Tomes A-C. Liège: Mardaga.

PUISSANT, J., CHARRUADAS, P., MAJERUS, B., DESSOUROUX, C. and VANDERMOTTEN, C. (2008). Bruxelles. in S. JAUMAIN (ed.) *La Région de Bruxelles-Capitale*. Brussels: Racine-Dexia, coll. Histoire et patrimoine des communes de Belgique.

VANDERMOTTEN, C. (2014). *Bruxelles une lecture de la ville*. Brussels: Éditions de l'Université de Bruxelles.

VAN LOO, A. (1994). L'haussmannisation de Bruxelles : la construction des boulevards du centre, 1865-1880, *Revue de l'Art*, n° 106, 39-49.

ZITOUNI, B. (2010). *Agglomérer : une anatomie de l'extension bruxelloise (1828-1915)*. Cahiers urbains, volume 3. Brussels: VUBPRESS.

THE INTERNATIONAL CLIMATE FOOTPRINT OF A COSMOPOLITAN CITY: MAGNITUDE AND TRENDS OF BRUSSELS'S AIR TRAVEL BURDEN



Kobe BOUSSAUW¹, Jean-Michel DECROLY²

> Abstract

In its recent publications, the Brussels Centre Observatory attached particular importance to the way in which daily mobility is organized in and towards Brussels's hypercentre. However, to date no attention has been paid to the impact of international mobility that is generated by the Brussels-Capital Region, i.e. travelling for business and leisure. Nevertheless, many activities that develop in the hypercentre have a strong international character, and the climate impact of long-distance travel cannot be underestimated.

In the Spring of 2019, Brussels was startled by the manifestations of Youth for Climate, the student movement that is campaigning for more vigorous climate policies. Youth for Climate's actions were quickly joined by numerous related initiatives, all of which are committed to drastically shrinking the climate footprint of our societies, in particular in the Global North.

In the present chapter we argue that it is not by chance that these types of actions concentrate in a strongly internationally networked city such as Brussels. Within Europe, Brussels offers a highly suitable forum for internationally relevant political debates. Being a European centre of decision making, Brussels could be seen as part of the solution to the climate problem. The other side of the coin, however, is that holding an important internationally networked position goes hand in hand with a strong dependence on international mobility, which results in impressive volumes of air transport and the associated consumption of large quantities of fossil fuel.

- 1 Cosmopolis Centre for Urban Research. Department of Geography. Vrije Universiteit Brussel
- 2 Institut de Gestion de l'Environnement et d'Aménagement du Territoire (IGEAT). Université libre de Bruxelles

At the same time, aviation is strikingly often left off the hook in the climate debate. The climate impact of international air transport is only partly included in the official national and regional reporting schemes towards the UN and the EU, or in other words: it is not territorialized. If we look specifically at the Brussels-Capital Region, we can even say that the regional climate registry externalizes the vast majority of climate emissions for which Brussels's economy is responsible. Officially, the Brussels-Capital Region is accountable for 3.7 megatonnes of CO₂ equivalent (Mtonne CO₂eq) per year (in 2017), which represents just 3.2% of the total Belgian greenhouse gas emissions. These numbers compel us to look outside the box.

In this chapter we explore the knowledge gap with respect to the climate impact of international travel (by car, bus, train or air) towards the Brussels-Capital Region. Based on existing data on the origin of trips and the means of transport used by tourists and business overnight visitors heading to Brussels, we arrive at a number of striking observations. In 2018, the total estimated climate impact induced by the journeys studied was 2.7 Mtonne CO₂eq, which equals about three quarters of the impact of the official emissions of all other territorial activities (including heating of buildings, local traffic, industrial production, etc.) in the Brussels-Capital Region together. What is even more worrying is that this figure seems to grow continuously by around 4% per year, which means that the climate impact of Brussels-bound long-distance travel will very soon exceed the official, territorial emissions.

We conclude that the long-distance journeys to Brussels make an underestimated but very important and problematic contribution to climate change. Nevertheless, Brussels is particularly strongly networked within Europe, and therefore generates fewer air kilometres than comparable European cities such as Zurich or Seville that either have more intercontinental relationships or are less centrally located in Europe.

1 > CLIMATE WARMING ON THE POLITICAL AGENDA: WORLDWIDE, BUT CERTAINLY IN BRUSSELS

In the Spring of 2019, a global wave of high school student protests placed the issue of global warming at the top of (at least some) political agendas. The impetus for this was given by the then-fifteen-year-old Swedish student Greta Thunberg, who, on 20 August 2018, refused to continue attending school as long as inaction continued (Marris, 2019). Her individual demonstration did not pass unnoticed, partly because she was granted the opportunity to deliver a fiery speech at the UN Climate Change Conference in Katowice and at the World Economic Forum, both in December 2018.

On Thursday 10 January, Belgian students Anuna De Wever and Kyra Gantois, later accompanied by Adelaïde Charlier, started the first actions of 'Belgian Youth for Climate' in Brussels (De Wever et al., 2019). Inspired by the Swedish example, the Belgian campaigns also took the form of school strikes. The actions were repeated weekly and were unexpectedly successful. The third day of action, 24 January, saw around 35,000 demonstrators participate. On Sunday 27 January, a national climate rally gathered around 70,000 people (BBC News, 2019).

The Belgian movement could count on large amounts of sympathy from, among others, the rectors of five universities and the nation's king. At the end of January, the Belgian Panel for Climate and Sustainability was founded by Leo Van Broeck, the official Flemish government architect, and Jean-Pascal Van Ypersele, climate expert at the Université catholique de Louvain. The panel was intended to offer scientific support to Belgian Youth for Climate. Anticipating the regional, federal and European elections, on 14 May 2019 the panel's findings were presented to Belgian policymakers at various levels in the form of a memorandum.

Parallel to the actions of Belgian Youth for Climate and the Belgian Panel for Climate and Sustainability, two enthusiastic entrepreneurs started the 'Sign for my Future' campaign, based on the idea that the engagement of a number of industry leaders would aid the mainstreaming of climate action, and would encourage the government to organize the required mitigation efforts in an equitable manner.

Although the rise of climate demonstrations in Brussels was not of the same order of magnitude as the legendary anti-missile demonstration of 23 October 1983 (around 400,000 participants), or the White March of 20 October 1996 (around 300,000 participants), its persistent and structural nature was remarkable, with 21 climate marches being held from January to September 2019, according to Schoolstaking voor het Klimaat – Wikipedia, 2020, even from the perspective of historical manifestations in Belgium. The actions of Youth for Climate were widely picked up by foreign media, and were replicated outside of Belgium. Nevertheless, the climate school strike campaign of 24 January 2019 remains one of the largest of its kind.

It is no coincidence that some of the largest climate actions have been conducted in Brussels. The presence of the European institutions, lobbies, NGOs and international media, the geographically central position in Europe, and the cosmopolitan character of the city make Brussels a forum perfect for international societal debate (Vandermotten, 2013; Van Parijs and Van Parys, 2010). It was not a coincidence either that in February 2019 Greta Thunberg travelled to Brussels by train, not only to support Belgian Youth for Climate, but also to meet Jean-Claude Juncker, the then-president of the European Commission.

Optimists will see the cosmopolitan nature of Brussels, which facilitates internationally oriented social and political debate, as part of the solution. But at the same time, it is hard to deny that the internationalization of society, from which a city like Brussels is reaping the economic benefits, has become an important part of the climate burden itself. To keep their ecological footprint as low as possible, Greta Thunberg and her fellow campaigners travel by train and sailing ship, but they are exceptions. A significant share of international visitors to Brussels arrives by plane, which is the least climate-friendly option (Borken-Kleefeld et al., 2013).

2 > THE PITFALL OF A TERRITORIAL APPROACH TO EMISSIONS REGISTRIES

However, the 'climate footprint' of international mobility, which goes hand-in-hand with internationalization, is not particularly prominent within the debate on global warming. In the national greenhouse gas registries, which must be maintained by every industrialized country (i.e. 'Annex I country') under the Kyoto Protocol, neither international air traffic nor international sea shipping needs to be included according to current agreements (emissions related to domestic traffic, however, are reported). The current logic applies the assumption that these emissions should not be allocated to individual countries.

In addition, emissions related to the production at distance of imported goods, so-called embedded emissions, are not included in the national greenhouse gas registries either. These embedded emissions include the production of finished products (such as clothing, household supplies, or imported food), but also semi-finished products such as steel (Davis and Caldeira, 2010). These emissions are only registered by the countries that produce these goods (if at all), and not by those who consume them.

Such a territorial approach to the allocation of greenhouse gas emissions causes an important bias in the way in which the media reports on climate issues. In reality, emissions from international transport are caused by consumers, citizens or organizations that are established in certain, identifiable, countries, just as consumers that are at least partly responsible for the emissions related to the initial production of imported products.

In fact, the territorial focus of the climate registries ignores the internationalization of production chains, and the structural shift towards service industries (tertiarization) of the economy of the most developed countries. Emissions are viewed as soil-bound affairs, while economic activities are increasingly becoming footloose. Within the theme of embedded emissions, for example, this approach explains why the closure of the last blast furnaces in Wallonia in 2011 has led to a decrease in the industrial emissions registered in Belgium (FPB et al., 2018). In contrast with what appears from the statistics, however, there is no indication that less steel has been consumed in Belgium and, consequently, that emissions associated with steel use have reduced.

With regard to international long-distance transport, the aforementioned bias is at least as problematic. The shift from manufacturing to a service economy is clearly accompanied by a shift of the centre of gravity of emissions, away from geo-localized production processes, and toward the more-or-less 'footloose' sector of long-distance transport. Reductions within national industrial production are clearly visible in the national climate registries. However, increases in international travel associated with the rise of the service industry remain invisible in these

registries. It is nevertheless quite possible that the tertiary sector, which includes the knowledge economy, the tourism industry and logistics services, is almost as carbon-dependent as the traditional manufacturing industry. Discussing the tourism industry specifically, Gössling et al. (2005: 432) already stated that ‘tourism is not necessarily environmentally more beneficial than other economic activities, as claimed by the tourist industry’.

3 > THE CLIMATE FOOTPRINT OF INTERNATIONALIZATION: INVISIBLE, BUT STRUCTURAL

The impact of the territorial approach to emission registration upon debate is also clear from the memorandum of the Belgian Panel for Climate and Sustainability (Van Broeck and Van Ypersele, 2019), which supports the actions of Youth for Climate. It is striking how the emphasis in the memorandum is put on ‘traditional’ mitigation measures such as urban and regional planning, sustainable local and regional mobility, transition in the field of domestic energy use, expansion of natural and forested areas, and developing a more sustainable agricultural and food sector. With regard to international transport, only two measures are proposed, namely (1) ‘Reduce the rampant growth of air traffic’ and (2) ‘Tackle emissions from maritime transport’ (Van Broeck and Van Ypersele, 2019: 77).

Despite the good intentions behind the recommendations on aviation and shipping in the report, the Panel tends to ignore the high degree of complexity that lies behind the continuous growth of international transport and logistics. The tertiarization of the economy of the Global North, and the growth of the knowledge industry in the same part of the world, may be equally dependent on fossil fuels as the manufacturing industry. This is due to the fact that tertiarization is partly driven by the possibility of outsourcing core manufacturing activities to remote low-wage countries. However, the carbon required for this outsourced production is not visible in the national climate registries of the Annex I countries (David and Caldeira, 2010), and neither are the emissions associated with shipping the products. Moreover, part of the production chain, including research and development and commercial activities, often remains located in the importing countries, which means that numerous air trips are made to support this internationally integrated production system.

But aviation does not only support the manufacturing industry. The knowledge industry is also an important consumer of air kilometres, as are international politics, sports, culture, tourism, and all kinds of visits between families and friends across state boundaries. Within the academic sector, Erasmus programmes financially support European students’ studies far away from home, with support increasing parallel to the travel distance. Researchers are encouraged to develop

international networks and are therefore supposed to travel on a regular basis, often by aeroplane. Although Wynes et al. (2019) state that there is no direct link between frequent flying and academic productivity, they do find in their research a link between the level of salary among academic staff and their air travel frequencies (in the specific context of the University of British Columbia, Canada). In a different Canadian case, Arsenault et al. (2019) found that international students emit an average of 3.85 tonnes of CO₂eq per capita per year during their journeys, and professors no less than 10.76 tonnes. Impressive figures, certainly if you put them in the perspective of the official total emissions of the Belgian economy, which for 2017 amounted to 10.1 tonnes of CO₂eq per capita.

But international politics, including the European institutions and the many lobbying organizations present in Brussels, also have their own ecological footprint. Moreover, the relocation of families within which one member is active in the international sector often entails additional journeys, for example by relatives and friends who visit them. This final category of journeys falls under the category of 'tourism', which in the Global North comprises the bulk of all international journeys (Dobruszkes et al., 2019).

The emissions associated with such trips are not presented in the national climate registries. Boussauw and Vanoutrive (2019) calculated that the emissions associated with flights departing from Brussels Airport are equivalent to 5.7% of the total official emissions of Belgium, and almost as high as those of the most important industrial emitter in Belgium (the ArcelorMittal steel manufacturing plant in Ghent). The emissions from international transport are not only absent from the climate registry, but are also underexposed in the climate debate itself. Typical of this situation is the observation that Arnaud Feist, the CEO of Brussels Airport Company, could in 2019 publicly cynically subscribe to the 'Sign for my Future' campaign without much resistance, while the CEOs of the registered major industrial greenhouse gas emitters, including ArcelorMittal, Total and BASF, wisely chose not to engage in this campaign, probably well aware that public opinion might denounce such an act as hypocritical.

4 > BRUSSELS'S CLIMATE FOOTPRINT

In 2017, according to the Belgian greenhouse gas registry, total greenhouse gas emissions amounted to 114.5 Mtonne CO₂eq (FPS Public Health, Food Chain Safety and Environment, 2018), of which only 3.7 Mtonne CO₂eq (3.2%) was attributed to the Brussels-Capital Region (Bruxelles Environnement, 2019). This remarkably modest contribution stands out even more when we consider the fact that in 2017 the Brussels-Capital Region not only housed 10.5% of the Belgian population, but also generated 17.8% of the Belgian gross domestic product (GDP). These figures are grist to the mill of those who claim that city dwellers, by definition, live more sustainably than suburban or rural dwellers, or, as Banister (2008: 73) puts it: 'The

city is the most sustainable urban form'.³ Indeed, the official carbon intensity of the Brussels economy is around 5.5 times smaller than that of the Belgian average.

Nevertheless, the territorial pitfall is once more not far away. The Brussels-Capital Region is an important consumer of food and industrial products, almost none of which are produced upon its own territory. The emissions from traffic located within the boundaries of the region are also rather limited, given its modest surface area. And even if the emissions of planes and ships fuelling in Belgium were to be included in the territorial climate registry in the future, Brussels would still score very well, since no airport is located in the Brussels-Capital Region, likewise seaports.

Just as Belgium is externalizing an important part of the emissions for which the Belgians are responsible to low-wage countries and to all sorts of foreign travel destinations, Brussels is externalizing an even larger part of its emissions to its hinterland.

5 > METHODOLOGY

Mapping the entire, actual climate footprint of the Brussels-Capital Region is beyond the scope of this chapter, although such an endeavour would be of high interest for further enquiry. Rather, what we aim to do in this paper is explore the magnitude and trends of emissions associated with the long-distance travel involved in the international activities that are hosted in Brussels, and which currently lie at the core of Brussels's economy. This concerns all international journeys to and from Brussels, taking into account both inward and outward trips regardless of the purpose of the trip (business, politics, science, education, tourism), and will focus on direct emissions only, which result from combustion in vehicles, not taking into account indirect emissions linked to, for instance, to oilfield exploitation, fuel refining, or the manufacturing of vehicles.

In this way, we subscribe to an existing tradition of research into sustainable tourism. In that context, Peeters and Schouten (2006), for example, already investigated the ecological footprint of tourism to Amsterdam. A similar assessment was recently carried out for Barcelona (Rico et al., 2019). In both cases, the results show that the overwhelming share of tourist visits' climate impact is attributable to travel to the destination, in particular to long-distance air travel.

Various methods have been developed to assess the importance of the climate footprint of tourist trips to specific destinations, which usually and deliberately exclude outward trips made by residents of the city or region in question. Most studies combine data on the number of international overnight visitors (or 'tourists'

³ More recent literature reveals that the daily travel patterns of city dwellers are indeed relatively local, but that the positive environmental effects of it are compensated for by more frequent non-daily trips over long distances, see e.g. Longuar et al, 2010.

according to definition of the World Tourism Organization⁴) with modal split figures that vary according to their origin, trip length, and standardized emission rate per passenger kilometre (for a summary, see Peeters et al., 2007). In what follows, we will use the terms ‘overnight visitor’ and ‘tourist’ as synonyms for one another. When making a distinction between overnight visitors or tourists who are visiting for holiday or business purposes, we will use the concepts of ‘leisure’ versus ‘business’.

Table 1 presents the data used and the processes employed to compute the indicators required for the analysis. Various sources and methods were used to develop two components of our assessment, respectively (1) measuring the climate impact related to international travel to and from Brussels in 2018, and (2) comparing the case of Brussels with a number of other European cities.

➤ **Table 1. Methodology: dimensions, scope, indicators and data sources**

Dimension	Scope	Indicators	Data sources
Number of international tourists	Brussels case study	International tourist arrivals (for at least one night) in registered collective accommodation establishments. Arrivals by purpose of the trip (leisure vs business) and country of residence of the guest.	Statbel : https://statbel.fgov.be/en/themes/enterprises/tourist-accommodations
	Comparison with other European cities	International tourist arrivals (for at least one night) in registered collective accommodation establishments.	Tourmis database : https://www.tourmis.info
Travel mode	Brussels case study	Travel modal split according to country of origin. Based on surveys.	For leisure purpose : Art Cities Research, a survey conducted between April 2017 and April 2018 among 1,400 people staying in Brussels for the purpose of leisure (https://www.toerismevlaanderen.be/sites/toerismevlaanderen.be/files/assets/documents_KENNIS/onderzoeken/Art_citiesresearch_18.pdf). For business purpose : Adaptation of Art Cities Research results taking into account the annual Travel Survey conducted by Statistics Norway (Trips by mode of transport. type of trip and contents : https://www.ssb.no/en/reise)
	Comparison with other European cities	Travel modal split according to country of origin. Based on a logistic model.	Gunter and Wöber (2019) and Tourmis database

4 See the Glossary of Tourism Terms (<https://www.unwto.org/fr/glossary-tourism-terms>).

Distance between origin and destination	Brussels case study	Distance between the centre of Brussels and centroid of each country of origin weighted by the spatial distribution of the population.	Own calculations based on gridded population datasets (https://www.popgrid.org) provided by The Center for International Earth Science Information Network (CIESIN) (http://www.ciesin.org). For air travel, distance between origin and destination was multiplied by a coefficient to take into account the existence of detours (i.e. longer itineraries than the great-circle distance). We used the coefficients computed by Dobruszkes and Peeters (2019): 1.143 for distances less than 1000 km, 1.073 for 1000-4000 km and 1.048 for more than 4000 km.
	Comparison with other European cities	Distance between the centre of Belgium and centroid of each country of origin.	Gunter and Wöber (2019) and Tourmis database.
Greenhouse gas emissions	Brussels case study	Greenhouse gas emissions per passenger kilometre, class of distance and travel mode.	For airplanes: own calculations based on CO ₂ emissions for all the flights to/from Brussels airport in 2018. The data on the provision of regular air services in Brussels Airport have been extracted from the 2018 OAG Schedules Analyser (https://www.oag.com). For each flight, CO ₂ emissions were calculated by using EUROCONTROL small emitters tools (https://www.eurocontrol.int/publication/small-emitters-tool-set-2019). Based on the World airline rankings 2018 (https://www.flightglobal.com), a seat occupancy rate of 80% has been used to estimate the number of passengers for each flight. The calculated emission factors by classes of distance (expressed in kg CO ₂ pkm) are: 0.144 for distances less than 500 km, 0.108 for 500 - 1000 km, 0.090 for 1000 - 1500 km, 0.084 for 1500-2000 km and 0.093 for more than 2000 km. In a second time, according to the literature (DEFRA, 2016), the emission factors were multiplied by 1.9 to convert CO ₂ emissions into CO ₂ eq (climate impact). For car : 0.102 kg CO ₂ pkm (Christensen, 2016). For rail : 0.027 kg CO ₂ pkm (Peeters et al., 2007). For coach : 0.022 kg CO ₂ pkm (Peeters et al., 2007).
	Comparison with other European cities	Greenhouse gas emissions per passenger kilometre, class of distance and travel mode.	Peeters et al. (2007).

Several of the choices made in order to develop the first component need to be outlined. Firstly, we used survey data to estimate the distribution of international arrivals in Brussels by travel mode in 2018 according to the overnight visitors' origins. Although this data relates only to a limited number of origins and does not resolve the complicated question of multi-destination tours in which tourists from distant markets take part, it offers the advantage that it represents real trips instead of a model, an approach taken by Gunter and Wöber (2019), among others.

Secondly, for the computation of the distances between Brussels and the countries of origin of the overnight visitors, we have taken into account the intra-national spatial distribution of the population, which provides the basis of persons that will potentially travel. The measured distance therefore corresponds to the distance between Brussels and the centroid of each country weighted by the spatial distribution of population based on 2015 data, aggregated in a 1 km² rectangular grid. In the case of air travel, we have been paying attention to the fact that in practice,



for various reasons (technical, environmental, political or social), aircraft routes usually do not follow the so-called 'great circle distance', which is the shortest path from a geometrical perspective (Dobruszkes, 2019). So, for each origin-destination pair, we have corrected the 'shortest distance' using the coefficients per distance class as provided by Dobruszkes and Peeters (2019).

Thirdly, we distinguished between modes of transport with respect to emission rates per passenger kilometre travelled. We started from the figures provided by Peeters et al. (2007), a well-cited source that has nevertheless become slightly outdated. Since the published rates were calculated in 2004, they needed to be updated with respect to air and car travel. Indeed, both modes have faced fleet renewal that has led to lower emissions per passenger kilometre during operations. In the case of air transport, we have updated the rates ourselves, based on real aircraft fleet in use for air services at Brussels Airport in 2018 (Table 1 shows more details). Depending on the distance, the obtained rates are 15% to 30% lower than those calculated back in 2004. With respect to car transport, we used the results of a recent study in Denmark (Christensen, 2016), which show that emissions per passenger kilometre were 25% lower in 2015 compared to 2004. Updating was not necessary, however, for emissions from trains and buses, as the current figures are very close to those measured in 2004 (see for example Prussi and Lonza, 2018, for trains, and DEFRA, 2016, for coaches). Finally, in order to estimate the total climate impact of air travel, effects caused by emissions of other gases (e.g. NO_x, water vapour) at high altitude should be added to CO₂ emissions. For this purpose, we have weighted CO₂ emissions through the application of a multiplier of 1.9, as suggested in the literature (DEFRA, 2016), in order to convert CO₂ into CO₂eq. Such a correction pertains to air travel only, and not to other modes of transport.

We can state that our method will result in an underestimation of the climate impact of international travel to and from Brussels for two reasons. Firstly, a portion of international tourist arrivals is not included in our statistics. According to our calculations (see Wayens et al., in this book), based on the AirDNA database, which lists the assets leased on the Airbnb and Home Away platforms, in 2017 nearly 34,000 beds, amounting more or less to the same number of beds in registered accommodation, would be absent from official registries. According to the same study, failing to take into account this vast set of unregistered accommodation would lead to an underestimation of tourist arrivals by around 30%. Furthermore, it should be borne in mind that these figures do not cover informal accommodation such as beds offered by friends and family members. However, this offer is probably important in Brussels, considering the high proportion of foreign residents, particularly those originating from wealthy states such as the European Union, North America and Japan. Additionally, a survey that was carried out in 2018-19 across Brussels's museums showed that one-fifth of all international overnight visitors in Brussels were staying with friends or family members (Decroly and Tihon, 2019).

Another source of underestimation of climate impacts concerns the itineraries of air travellers. Indeed, our calculations do not account for the impact of stopovers in air trips to Brussels. Yet many passengers do not employ direct flights to Brussels, either because their desired connection is simply not offered as a direct flight (e.g., Sydney-Brussels or San Francisco-Brussels), or because an indirect route might be cheaper. This approach causes some bias, since the climate impact of take-off is proportionally higher than that of an aircraft while cruising (Baumeister, 2017).

On the other hand, our calculations attribute the entirety of emissions associated with travel to Europe to the Brussels-Capital Region. Yet, most intercontinental leisure tourists take advantage of the opportunity to visit multiple destinations when travelling to Europe. This is the case for tourists that travel in groups, using the format of the low-cost coach tours that are offered by many non-European tour operators and have become popular among, in particular, Chinese tourists (Arlt, 2013; Bui and Trupp, 2014; Xiang, 2013). This is also a common practice for Japanese, Korean or Chinese tourists travelling independently (Penzialek, 2016). Although less well documented, this phenomenon is probably also common among individual tourists from other distant markets, such as the United States, Canada and Australia.

We decided to maintain this choice for two reasons. Firstly, among intercontinental overnight visitors, almost half of individuals came to Brussels for business reasons. In this case, it is likely that most stays in Europe do not include travel to other cities. Secondly, at present there are no quantitative studies on the distribution of intercontinental tourists coming to Europe in terms of number of cities visited and respective lengths of stay. We therefore have no solid empirical basis that would allow for a redistribution of the emissions related to tourist stays in Europe across several destinations.

For this first part of the analysis, we conclude that some of the choices we made contributed to an underestimation of the climate impact, while another choice leads to a 'maximum' estimation that could be considered an upward bias. Although these contrasting effects partly compensate for each other, it is important to stress again the exploratory nature of our study, and to place the results obtained from our calculations in the right perspective.

For the second part of our analysis, which comprises a comparison with other European cities, we relied exclusively on the data on arrivals and associated CO₂ emissions, as provided by the TourMis database (<https://www.tourmis.info>). These statistics also underestimate the numbers of international arrivals in the cities studied, but overestimate CO₂ emissions, since they are based on higher (outdated) rates of emissions per passenger kilometre. Finally, it should be noted that the emissions measured comprise CO₂ only, since no multiplier has been applied to account for non-CO₂-related climate effects.

6 > A DETAILED ANALYSIS OF THE BRUSSELS CASE IN 2018

In 2018, the Brussels-Capital Region registered around 2.9 million international arrivals in recognized tourist accommodation. As such, Brussels represents an important, although not a major, urban destination in Europe. Its attractiveness remains modest compared to Paris and London (approximately 13 million international arrivals for each city), the two main poles of urban leisure and business tourism in Europe. The same applies when compared to cities that are well established as destinations for tourists from distant markets, both as city-trip destinations and as part of intra-European tours, be it individually visited or as part of a group (Rome, 9.6 million arrivals; Barcelona, 7.4 million; Amsterdam, 6.9 million; Prague, 6.7 million; Vienna, 6.3 million; Madrid, 5.2 million; Berlin, 4.9 million; Lisbon, 4.3 million; Venice, 4.3 million; Budapest, 3.8 million). Even Munich and Copenhagen, which are less well known as international tourist attractions, welcome more international overnight visitors than Brussels. The situation does not change if we account for the size of the city. Indeed, the number of international arrivals per inhabitant is lower in Brussels than in all the cities listed above, with the exception of Budapest.

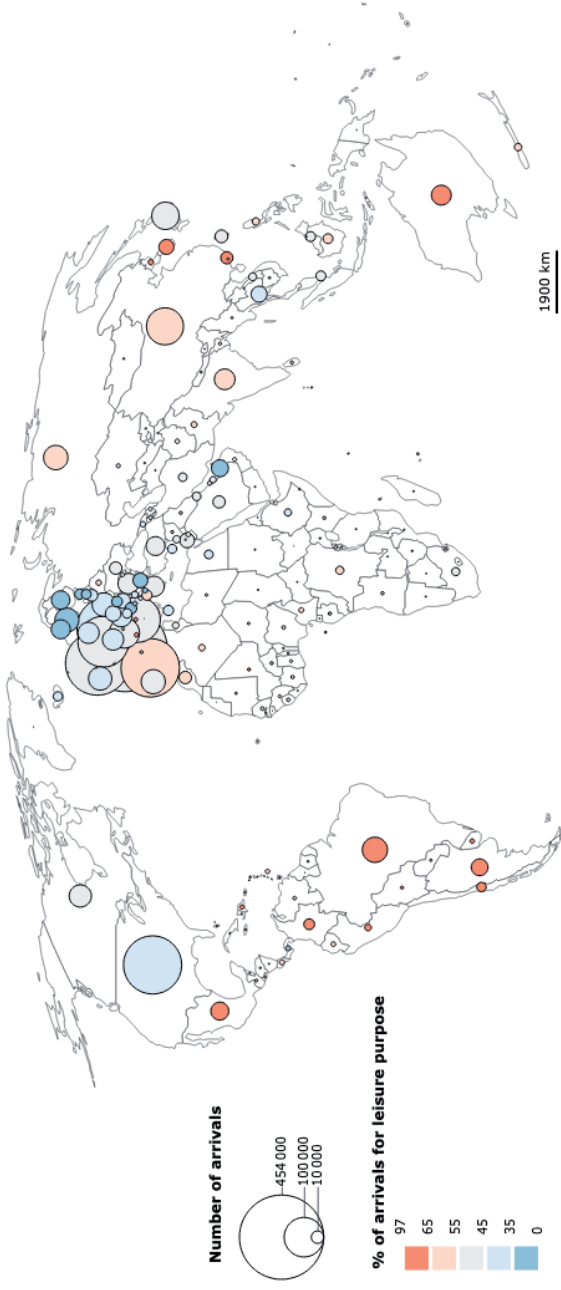
In Brussels, as in other European metropolises, a very large majority of accommodations and overnight stays are located within the city centre. The Pentagon (hypercentre) alone accounts for around 40% of the registered rooms and overnight stays. Taking into account the Louise district, Northern quarter and Leopold districts, the city centre alone accounts for no less than 70 to 80% of the officially registered accommodation capacity and associated overnight stays. Therefore, the overwhelming majority of the carbon footprint linked to tourist travel to Brussels is directly attributable to the use of the city centre.

As shown in Figure 1, the vast majority of international overnight visitors staying in Brussels arrive from a limited number of states, with 70% of arrivals originating from the 12 most important ones. European states (70.5% of arrivals), especially neighbouring countries (41%), are the main source of overnight visitors, whether for leisure or for business purposes. Among the most distant origins, the United States (217,000 arrivals, 7.7% of the total), China (88,000, 3.1%) and, to a lesser extent, Japan (48,000, 1.7%), Brazil (41,000, 1.4%) and Russia (38,000, 1.3%) stand out clearly. The map also highlights not-insignificant volumes of arrivals from Canada (32,000), India (27,000) and Australia (25,000).

Given the important presence of international public bodies and the rather limited attractiveness of Brussels as a leisure destination, the number of arrivals with a leisure purpose has been significantly lower than the number of business trips for many decades. However, since the early 2000s the proportions of the two types of travel have gradually become more balanced. Currently, overall shares are more-or-less equal, although relative importance still depends largely on the country

> **Figure 1.** Number of international arrivals in the Brussels-Capital Region by country of residence and by purpose (2018)

Origin of international tourist arrivals in Brussels Capital Region (2018)



Source: StatBel

of origin (Figure 1). Business overnight visitors arriving from Europe (except for Spain), the United States, Arabian/Persian Gulf countries and Southeast Asia (including Japan) are generally overrepresented, while the reverse is true for arrivals from Latin America, Russia, India, China, Australia and New Zealand.

The geography of the origin of the flows of international overnight visitors staying in Brussels results from the combined effects of distance, the economic and population-based potential of origin countries for generating tourists, and local preferences in terms of destination choice behaviour. In an attempt to disentangle the influence of these different factors, we have broken down international arrivals by distance class (Table 2). The results show that the volume of flows decreases rapidly with distance: nearly 50% of arrivals come from within a radius of less than 1,000 km from Brussels, 20% from a radius between 1,000 and 2,000 km, while barely 2.5% originates from countries located at a distance between 2,000 and 3,000 km. Beyond 3,000 km, the relationship between distance and number of arrivals is adjusted according to variations in population size and per capita income between distance classes. The two distance classes between 7,000 and 9,000 km each produce more international overnight visitors to Brussels than those between 2,000 and 7,000 km, because they respectively include India and the United States (7,000 to 8,000 km) and China and Brazil (8,000 to 9,000 km). The expected negative relationship between distance and number of arrivals is only partly compensated for by the larger population in more remote distance classes, as shown by the number of arrivals in Brussels per 100,000 inhabitants in the origin classes (Table 2). Indeed, if the relative volume of flows to Brussels decreases steadily to a distance of 5,000 km, it increases between 5,000 and 8,000 km, then again between 9,000 and 10,000 km. These variations result in part from differences in per capita income in proportion to number of tourists generated. It is clear that those intermediate distance classes, which are characterized by a lower number of arrivals per 100,000 inhabitants, are generally characterized by a fairly modest per capita GDP (see for example the classes of 4,000 to 6,000 kilometres).

➤ **Table 2. International tourist arrivals and associated climate impact upon the Brussels-Capital Region (2018), by distance class**

Distance class (km)	International tourist arrivals				Greenhouse gases emissions						
	number (x 1,000)	%	per 100,000 inh.	per x10 ⁻⁹ US\$ of GDP in PPP	For all transport modes		By travel mode (% of total GHG emission)				
Total (kT CO ₂ eq)					By tourist arrival (kg CO ₂ eq)	Airplane	Train	Car	Coach	Total	
< 1,000	1,330	47.3	486	96	108	81	2.4	0.6	0.9	0.0	4.0
1,000 - 1,999	639	22.7	179	62	242	378	8.1	0.3	0.5	0.1	8.9
2,000 - 2,999	71	2.5	52	23	61	868	2.3				2.3
3,000 - 3,999	67	2.4	20	10	85	1,265	3.1				3.1
4,000 - 4,999	32	1.1	5	5	54	1,677	2.0				2.0
5,000 - 5,999	30	1.1	6	11	59	1,975	2.2				2.2

6,000 - 6,999	40	1.4	12	15	95	2,372	3.5					3.5
7,000 - 7,999	251	8.9	13	8	680	2,707	25.2					25.2
8,000 - 8,999	155	5.5	8	5	503	3,246	18.6					18.6
9,000 - 9,999	119	4.2	21	10	419	3,523	15.5					15.5
> 10,000	81	2.9	14	8	396	4,911	14.7					14.7
Total	2,814	100.0	37	21	2,701	960	97.6	0.9	1.4	0.1		100.0

Sources: StatBel World Population Prospects (2019), World Development Indicators database (World Bank, 2019), Art Cities Research (2017-18); Peeters et al. (2007); Christensen (2016), own calculations based on OAG data and EUROCONTROL small emitters tools

Then, we also calculated the ratio between tourist arrivals and GDP in PPP⁵ (Table 1). Taking into account GDP in PPP will, in principle, neutralize the effects of population size and per capita income upon the number of tourists generated. The result shows a steady decrease of the relative volume of flows with distance, with a few exceptions. These exceptions result from particularities of the origin countries, such as the absence of the right to paid leave, the right to leave the country for leisure purposes, or the presence of effects of economic or cultural thresholds upon travel. For example, the class of 4,000 to 5,000 kilometres is characterized by a very modest number of tourist arrivals per billion dollars of GDP. In this group we find a number of countries which, while having a high GDP, still send a very low number of tourists (Iran, Nigeria), or clearly favour destinations other than Belgium (Saudi Arabia). Conversely, the 6,000 to 7,000 km class shows a relatively high number of tourists because it includes the Democratic Republic of the Congo, Burundi, Rwanda and Canada. The three African countries mentioned here have privileged links with Belgium that were inherited from the colonial period, while Canada's tendency to generate tourists may be related to relatively strong links between Francophone regions.

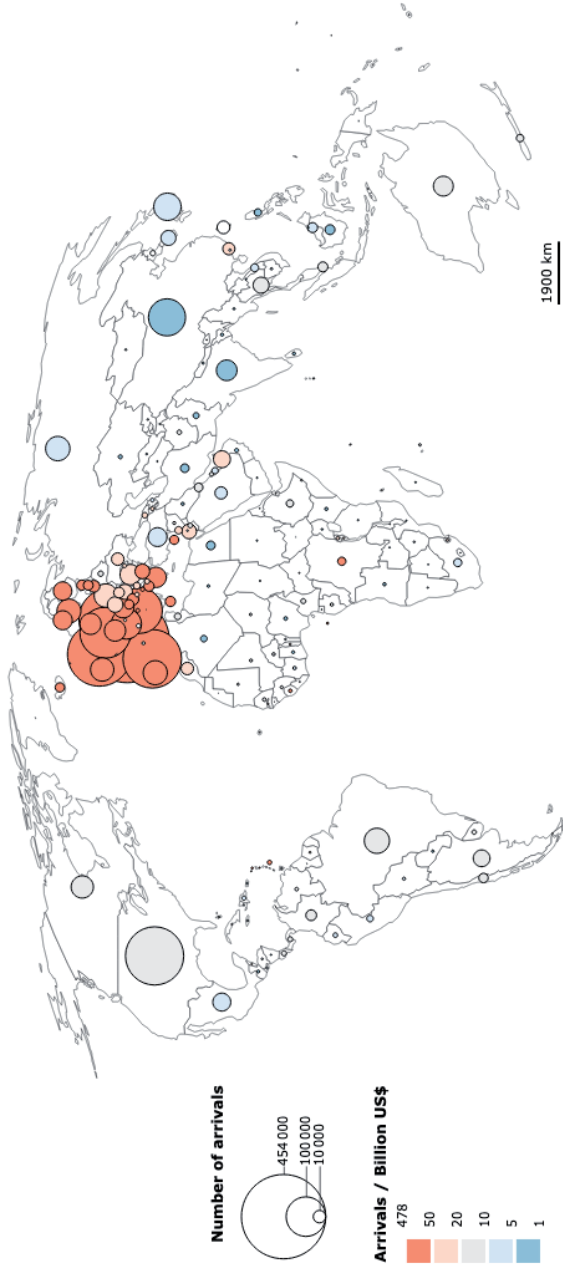
To conclude the current section, in Figure 2 tourist arrivals to Brussels have been correlated with the GDP of origin countries. In the Balkans, Ukraine and Belarus, lower propensities to travel to Brussels can be observed relative to Scandinavia, Greece and the Eastern Mediterranean islands (Cyprus, Malta). The map also shows the unique situations of Israel, the United Arab Emirates, the Democratic Republic of the Congo and Hong Kong, for which the relative volume of arrivals to Brussels is significant, at least in relation to the distance travelled and the respective levels of GDP. The same is true, albeit to a lesser extent, for Brazil and the southern part of Latin America, and for Australia and New Zealand.

According to our calculations, international tourist travel to the Brussels-Capital Region generated a total of 1,452 kilotonnes of CO₂ (or 1,452 Mtonne CO₂) in 2018, when considering both inbound and outbound trips. It should be noted that this estimate is 15% lower than that provided by TourMis database (1,670 kilotonnes of CO₂). The difference is mainly due to the updated coefficients used here to calculate CO₂ emissions per passenger kilometre in air transport. This observation calls

⁵ Gross Domestic Product based on Purchasing Power Parity, used as a standardized metric of a country's wealth.

> **Figure 2.** Number of international tourist arrivals in the Brussels-Capital Region by origin (2018): absolute number, and per billion USD GDP in PPP in the country of residence

Origin of international tourist arrivals in Brussels Capital Region (2018)



Sources: StatBel and World Development Indicators database (World Bank, 2019)

for the regular updating of emission coefficients, in order to take into account the improved energy efficiency of air transport.

After applying the 1.9 multiplier to air trips, the climate impact of all international travel to Brussels in 2018 amounts to around 2,701 kilotonnes of CO₂ equivalent (i.e. 2.70 Mtonne CO₂ eq), or approximately 73% of the entirety of all greenhouse gas emissions (all activities combined, including the residential sector and internal transport, but obviously excluding international travel) that were officially reported by the Brussels-Capital Region in 2018.

Examination of the distribution of tourism-induced climate impacts reveals a geography that is radically different from that of tourist arrivals. In fact, while the number of arrivals sharply decreases with distance, the amount of emissions increases with distance (Table 2). Thus, while overnight visits from Europe account for 70.5% of arrivals, they generate barely 15% of emissions, while arrivals from outside Europe, accounting for less than 30% of tourists (leisure and business combined), are responsible for nearly 85% of emissions.

This striking result can be explained by the specific relationship between air transport and climate impact, which is brought forward by Figure 3, a map linking emissions by origin country to journeys to Brussels. The very significant climate impact of flows from the United States (21% of impact for 7.6% of flows) and China (10% versus 3%) stand out, as do those of Japan (6% versus 1.7%) and Australia (5.5% versus 0.9%). Only one European state is present among the top ten countries in terms of emissions, Spain, which is the only origin country that combines a very large number of overnight visitors to Brussels with a significant share of air travel.

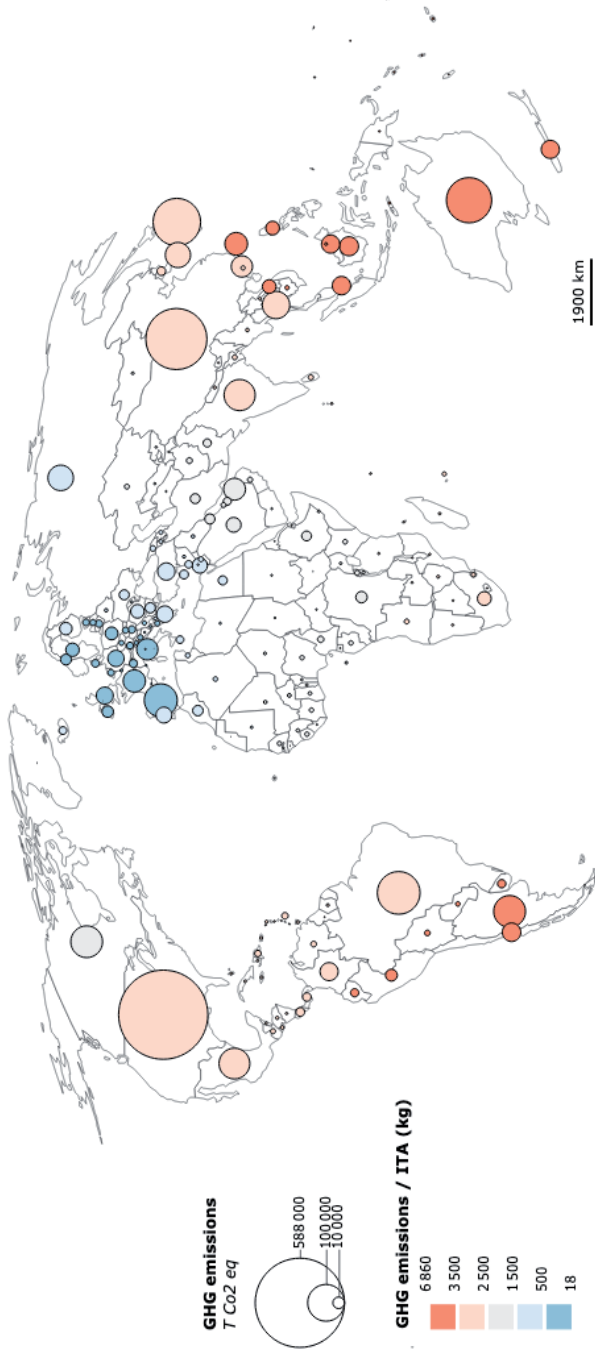
7 > A COMPARISON WITH OTHER EUROPEAN CITIES

In the current section, we use data collected by TourMis to first examine the evolution of CO₂ emissions linked to tourist arrivals in Brussels from 2000 on, and then compare the 2018 figures for Brussels with those observed in other urban destinations in Europe.

In less than twenty years, CO₂ emissions caused by tourist trips to Brussels have more than doubled (Table 3). This strong increase results less from a generalized growth in international arrivals (which only increased by 33%) than from the accretion of tourist flows originating from distant markets, especially from eastern Asia (+66% from South Korea since 2010, +38% from China since 2005) and southern Asia (+374% from India since 2005), but also from Russia (+181% since 2000), Brazil (+99% since 2010) and Argentina (+250% since 2010). At the same time, flows originating from Europe grew only a little (+14%), but with very contrasting trends between origins (since 2000: +61% from France, +97% from Spain, +143% from Poland, but -36% from the United Kingdom and -30% from

> **Figure 3:** Climate impact of international travel towards Brussels-Capital Region (2018), by country of origin: absolute number, and per international tourist arrival

GHG emissions by origin of international tourist arrivals (ITA) in the Brussels Capital Region (2018)



Sources: StatBel Art Cities Research (2017-18); Peeters et al. (2007); Christensen (2016), own calculations based on OAG data and EUROCONTROL small emitters tools

Sweden). These trends are the result of a multitude of factors, the analysis of which is beyond the scope and objectives of the current chapter.

➤ **Table 3.** Development of international tourist arrivals in the Brussels-Capital Region and of CO₂ emissions linked to these arrivals (2000–2018)

	International tourist arrivals in the Brussels-Capital Region						CO ₂ emissions (kT)
	Europe	Asia	America	Africa	Oceania	Total	
2000	1,810	87	195	15	10	2,161	813
2018	2,057	281	357	44	29	2,867	1,677
Growth index	114	323	183	292	295	133	206

Source: TourMis (2019)

While the CO₂ emissions of tourist travel to Brussels have sharply increased since 2000, they remain quite modest compared to those observed for the main urban destinations in Europe (Table 4).⁶ Overall, the observed emission volume in Brussels is 7.9 times less than of Paris, 6.4 times less than of London and 2.0 times less than of Barcelona.

➤ **Table 4.** International tourist arrivals in a number of European urban destinations and volumes of CO₂ emissions associated with these arrivals (2018)

Cities	International tourist arrivals (x 1,000)	CO ₂ emissions	
		Total (kT)	Per international tourist arrival (kg)
Paris	13,217	13,236	1,001
London	13,037	10,866	833
Barcelona	7,408	4,994	674
Amsterdam	6,922	4,908	709
Prague	6,671	4,764	714
Vienna	6,288	4,358	693
Madrid	5,205	5,207	1,000
Lisbon	4,295	3,859	898
Budapest	3,823	2,970	777
Munich	3,758	3,237	861
Brussels	2,867	1,677	585

6 Due to data constraints, this table is limited to CO₂ emissions, to which no multiplier for air transport was applied. Consequently, the climate impact of those cities with an above-average share of air transport (and therefore only a small share of other modes of transport, i.e. train, bus and car) will be underestimated compared to those cities that are less dependent on air transport.

Zurich	2,051	2,062	1,005
Seville	1,722	1,448	841
Hamburg	1,605	849	529
Tallinn	1,463	555	379
Salzburg	1,369	959	701
Warsaw	1,365	828	607
Dubrovnik	1,217	1,274	1,047
Helsinki	1,199	791	660
Zagreb	1,178	1,103	936
Valencia	1,131	766	677

Source: TourMis (2019)

Although this modest impact is partly due to the limited volume of tourist arrivals in Brussels, it is also the result of the relatively low level of CO₂ emissions associated with these arrivals. When comparing twenty destinations, each of which welcomes more than a million international arrivals per year, Brussels is among those cities with the most climate-friendly tourists. In order to explain this peculiar situation, we have examined arrivals by geographical origin in four destinations which have a number of international arrivals comparable to Brussels's figure (i.e. Budapest, Munich, Zurich and Seville) but report much higher climate emissions per arrival (Table 5). Unsurprisingly, the results show that tourist arrivals in Brussels from distant markets are proportionally less numerous. A comparison with Zurich, where CO₂ emissions per arrival are by far the highest, helps clarify this further. While in Brussels the European market provides 70% of arrivals, Europe only represents 49% of arrivals in the economic capital of Switzerland. The opposite situation prevails in distant markets: in Zurich 28.5% and 19.2% of arrivals originate from Asia and America respectively, compared to 9.8% and 12.4% for the Brussels-Capital Region.

➤ **Table 5. International tourist arrivals in 5 European urban destinations and volume of CO₂ emissions associated with these arrivals (2018)**

Origin	International tourist arrivals (2018)									
	Budapest		Munich		Brussels		Zurich		Seville	
	Number (x 1,000)	Share (%)	Number (x 1,000)	Share (%)	Number (x 1,000)	Share (%)	Number (x 1,000)	Share (%)	Number (x 1,000)	Share (%)
Europe	2,551	66.7	2,193	58.4	2,057	71.8	1,008	49.1	1,046	60.7
Asia	712	18.6	764	20.3	281	9.8	584	28.5	145	8.4
of which ...										
China	200	5.2	191	5.1	88	3.1	128	6.2	49	2.8
India	49	1.3	41	1.1	27	1.0	105	5.1	0	0.0
Japan	49	1.3	93	2.5	48	1.7	46	2.3	28	1.6
South Korea	140	3.7	50	1.3	14	0.5	33	1.6	28	1.6
America	478	12.5	660	17.6	357	12.4	394	19.2	362	21.0
of which ...										
United States	341	8.9	496	13.2	217	7.6	304	14.8	192	11.2

Canada	46	1.2	49	1.3	32	1.1	15	0.7	20	1.2
Brazil	26	0.7	47	1.3	41	1.4	33	1.6	25	1.4
Other origins	82	2.2	140	3.7	172	6.0	66	3.2	169	9.8
of which ...		0.0		0.0		0.0		0.0		0.0
Australia	48	1.3	68	1.8	25	0.9	41	2.0	17	1.0
Total	3,823	100.0	3,758	100.0	2,867	100.0	2,051	100.0	1,722	100.0
CO ₂ emissions of international tourist travel to specified destinations. per arrival (kg)	777		861		585		1005		841	

Source: TourMis (2019)

8 > CONCLUSION

Territorializing the international share of Brussels’s climate impact is not an easy task. In our analysis, numerous methodological choices had to be made, and, furthermore, the scarce availability of data imposed additional limitations. In our calculation, we chose to only include the climate impact of overnight visitors with Brussels as a destination, assuming that the climate impact of journeys undertaken by Brussels residents would likewise be allocated to the destination territory. However, we were unable to cover international overnight visitors who stayed in unregistered accommodation, which means that our analysis significantly underestimates the total number of tourists (leisure and business combined) to Brussels. Furthermore, we were not able to redistribute the climate impact of overnight visitors arriving in Brussels among the multiple destinations they often visit as part of a single European trip, which implies that we overestimated the climate impact of a portion of the tourists, notably those arriving from countries that were not specified in the Art Cities Research. We are also aware that the climate impact as calculated by us covers only one, albeit an important, climate aspect of Brussels’s international position. Emissions created in the supply chain of imported products were not calculated, nor was the share of Brussels’s economy in the climate footprint of international sea shipping. Another comment that must be made is the significant degree of uncertainty associated with the multiplier that was used to translate CO₂ emissions of aircraft into overall climate impact (defined as 1.9 in the current study).

Despite all reservations that need to be taken into account, and the exploratory nature of our calculations, we can still report a number of striking findings. The calculated climate impact of international journeys with Brussels as a destination equalled 2.7 Mtonne CO₂eq in the year 2018, which is equivalent to about three quarters of the official total amount of emissions of the Brussels-Capital Region as recorded by the Belgian national climate registry (3.7 Mtonne CO₂eq in 2017).

Moreover, emissions from international journeys are increasing at a rapid pace, with an average growth of more than 4% per year over the past 18 years. If the current growth rate persists, by 2036 the climate impact of international travel to Brussels will be more than double the official amount of greenhouse gas emissions attributed to Brussels, even more if the emission reduction targets in several other sectors are achieved. The problematic nature of this finding is nuanced only to a limited extent by the finding that the climate impact of international journeys to Brussels is smaller, both counted per trip and in total, than that of comparable cities such as Munich, Budapest or Zurich.

Nevertheless, the climate debate itself is shaped only within the framework of the currently existing institutions. This means that conferences and events are organized in central and visible locations worldwide, and that personal interaction between the protagonists of the climate debate is of great importance. The frantic attempts of young climate activists to participate in all of these spatially separated events without boarding a plane has involved multi-day train trips and adventures with transatlantic sailing ships. Since such endeavours are not possible for most official negotiators, the climate debate itself is almost as dependent on fossil fuel as many other international decision-making and knowledge development processes. On the other hand, from a climate perspective, some locations may be better positioned than others to serve as hosts for international discussion forums. Our analysis shows that Brussels is in fact doing remarkably well, since the climate impact of international travel to Brussels is considerably lower than that of other cities with a strong international position. This is partly due to its central location in Europe, which means that the impact of business travel in particular is rather modest. On the other hand, we should not forget that the strong overall score of Brussels compared to cities such as Barcelona, Prague or Amsterdam is largely due to the relatively limited touristic appeal of Brussels in comparison to them.

From a wider perspective, we can conclude that in a rapidly globalizing and – at the same time – warming world, failing to territorialize the climate impact of international transport it is no longer tenable, especially considering such territorial attribution has become common practice for emissions caused by industrial activities, agriculture, buildings and domestic transport. Not including these emissions in climate registries leads to major biases in the climate debate itself. Climate movements such as ‘Youth for Climate’ and ‘Sign for my Future’ argue for adaptations to our Global Northern consumption patterns and production processes. It is becoming increasingly clear, however, that the real threat lies in the increasingly globalized and networked nature of our society. Dependence on long-distance travel not only makes our economy more carbon intensive, but also our education, research, culture and leisure activities, and even our family visits, rely ever more on the consumption of tremendous amounts of kerosene. Long distance travel patterns seem to be increasingly embedded in society, and less and less reversible. At the same time, in the Global South, the rapid growth of international mobility is strongly welcomed and regarded as a strict precondition

for societal development. And even as less-carbon-intensive alternatives such as trains and buses are available for many medium-distance journeys in Europe, an absolute reduction in the number of aircraft kilometres travelled remains an unattractive idea for most citizens, businesses and organizations, for which broad societal support is virtually non-existent. Nevertheless, it is clear that a carbon neutral future must be one in which jet aircraft will no longer play a substantial role.

9 > ACKNOWLEDGEMENTS

The authors would like to thank Taïs Grippa (ULB-IGEAT) for undertaking a number of the calculations that formed the basis of our analysis. Visit Brussels for the valuable data they provided, and the reviewers and editors of the book for their thoughtful comments that led to substantial improvement of the paper.

10 > BIBLIOGRAPHY

ARLT, W. G. (2013). The second wave of Chinese outbound tourism. *Tourism Planning and Development*, 10 (2), 126–133.

ARSENAULT, J., TALBOT, J., BOUSTANI, L., GONZALES, R., and MANAUGH, K. (2019). The environmental footprint of academic and student mobility in a large research-oriented university. *Environmental Research Letters*. 14. 1–9.

BANISTER, D. (2008). The sustainable mobility paradigm. *Transport Policy*. 15 (2). 73–80.

BBC News. (2019). School strike for climate: Protests staged around the world.

BORKEN-KLEEFELD, J., FUGLESTVEDT, J., and BERNTSEN, T. (2013). Mode, load, and specific climate impact from passenger trips. *Environmental Science and Technology*, 47 (14), 7608–7614.

BAUMEISTER, S. (2017). 'Each flight is different': Carbon emissions of selected flights in three geographical markets. *Transportation Research Part D: Transport and Environment*, 57, 1–9.

BOUSSAUW, K., and VANOUTRIVE, T. (2019). Flying green from a carbon neutral airport: the case of Brussels. *Sustainability*, 11 (7), 1–19.

BRUXELLES ENVIRONNEMENT (2019, April 18). Les émissions de gaz à effet de serre en Région de Bruxelles Capitale. Retrieved March 9, 2019, from <https://environnement.brussels/thematiques/air-climat/climat/les-emissions-de-gaz-effet-de-serre-en-region-de-bruxelles-capitale>

BUI, H. T., and TRUPP, A. (2014). The development and diversity of Asian tourism in Europe: The case of Vienna. *International Journal of Tourism Sciences*, 14 (2), 1–17.

CHRISTENSEN, L. (2016). Environmental impact of long-distance travel. In: *6th Transport Research Arena*. Elsevier, 850–859.

DAVIS, S. J., and CALDEIRA, K. (2010). Consumption-based accounting of CO₂ emissions. *Proceedings of the National Academy of Sciences*, 107 (12), 5687–5692.

DECROLY, J.-M., and TIHON, M. (2019). *Enquête sur les visiteurs des musées bruxellois. Rapport global*. visit. brussels : Bruxelles.

DEFRA. (2016). *Government GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors*; Department for Business, Energy, and Industrial Strategy: London. UK.

- DE WEVER, A., GANTOIS, K., and OLYSLAEGERS, J. (2019). *Wij zijn het klimaat: Een brief aan iedereen*. Amsterdam: De Bezige Bij.
- DOBRUSZKES, F. (2019). Why do planes not fly the shortest routes? A review. *Applied Geography*, 109, 102, 033.
- DOBRUSZKES, F., and PEETERS, D. (2019). The magnitude of detours faced by commercial flights: A global assessment. *Journal of Transport Geography*, 79, 102. 465.
- DOBRUSZKES, F., RAMOS-PÉREZ, D., and DECROLY, J.-M. (2019). Reasons for Flying. In GRAHAM, A. and DOBRUSZKES, F. (eds.), *Air Transport: A Tourism Perspective*. (pp. 23–39). Oxford-Cambridge: Elsevier.
- FPB, BISA, IWEPS, and Statistiek Vlaanderen. (2018). *Regionale economische vooruitzichten 2018-2023*. Brussels: Federaal Planbureau.
- FPS Public Health, Food Chain Safety and Environment. (2018). The Belgian Greenhouse Gas Registry. Retrieved May 2, 2019, from <https://www.climateregistry.be/en/home/home.htm>
- GÖSSLING, S., PEETERS, P., CERON, J.-P., DUBOIS, G., PATTERSON, T., and RICHARDSON, R. B. (2005). The eco-efficiency of tourism. *Ecological Economics*, 54 (4), 417–434.
- GUNTER, U., and WÖBER, K. (2019). Estimating CO₂ emissions of European city tourism by source market, travel distance, and transportation mode. Paper presented at the TRC Meeting 2019.
- LONGUAR, Z., NICOLAS, J.-P., and VERRY, D. (2010). Chaque Français émet en moyenne deux tonnes de CO₂ par an pour effectuer ses déplacements. *La Revue du Commissariat général au développement durable — Service de l'observation et des statistiques*, 163–176.
- MARRIS, E. (2019). Why young climate activists have captured the world's attention. *Nature*, 573, 471–472.
- NBTC. Holland Marketing. (2014). Inbound Tourism Survey.
- PEETERS, P., and SCHOUTEN, F. (2006). Reducing the Ecological Footprint of Inbound Tourism and Transport to Amsterdam. *Journal of Sustainable Tourism*, 14 (2).
- PEETERS, P., SZIMBA, E., and DUIJNISVELD, M. (2007). Major environmental impacts of European tourist transport. *Journal of Transport Geography*, 15 (2), 83–93.
- PENDZIALEK, B. (2016). Mainland Chinese Outbound Tourism to Europe: Recent Progress. In: LI, X. R. (ed.). *Chinese Outbound Tourism 2.0*, pp. 189–206. Apple Academic Press.
- PRUSSI, M., and LONZA, L. (2018). Passenger aviation and high-speed rail: A comparison of emissions profiles on selected European routes. *Journal of Advanced Transportation*. vol. 2018, 6,205, 714.
- RICO, A., MARTÍNEZ-BLANCO, J., MONTLLIÓ, M., RODRÍGUEZ, G., TAVARES, N., ARIAS, A., and OLIVER-SOLÀ, J. (2019). Carbon footprint of tourism in Barcelona. *Tourism Management*, 70, 491–504.
- VAN BROECK, L., and VAN YPERSELE, J.-P., (eds.) (2019). *Panel voor klimaat en duurzaamheid: Om klimaatverandering en de ecosysteemcrisis echt aan te pakken is systeemverandering noodzakelijk en urgent*. Brussel: Panel voor Klimaat en Duurzaamheid.
- VAN PARIJS, P., and VAN PARYS, J. (2010). Brussels, capital of Europe: a sustainable choice? *Brussels Studies*, 38, 1–14.
- VANDERMOTTEN, C. (2013). Brussels in the European city network. In CORIJN, E. and VAN DE VEN, J. (eds.). *The Brussels Reader: a small world city to become the capital of Europe* (pp. 28–42). Brussels: VUBPRESS.
- WIKIPEDIA (2020). Schoolstaking voor het Klimaat. https://nl.wikipedia.org/wiki/Schoolstaking_voor_het_klimaat. retrieved 24-2-2020.
- WYNES, S., DONNER, S. D., TANNASON, S., and NABORS, N. (2019). Academic air travel has a limited influence on professional success. *Journal of Cleaner Production*, 226, 959–967.
- XIANG, Y. (2013). The characteristics of independent Chinese outbound tourists. *Tourism Planning and Development*. 10 (2), 134–148.

PART 2



VISION



POLITICS, AESTHETICS, ECONOMICS: IMAGINARIES OF URBAN PUBLIC SPACE AND THEIR RESHAPING THROUGH THE TRANSFORMATION OF THE BRUSSELS CITY CENTRE



Jean-Louis GENARD¹, Mathieu BERGER²

> Abstract

The pedestrian zone has given rise to multiple standpoints and controversies. These have provided an opportunity for debate not only regarding the pedestrian zone but also, more broadly, on views of the city that are defended. They harnessed urban imaginaries, visions made of what each and every one wished for Brussels, its public spaces, its mobility, its inequalities and its economy. This chapter analyses these imaginaries, which emerge as one examines the issues at stake: citizens' sense of ownership of the city, a city that is sustainable, open, safe, cosmopolitan, equitable, economic, attractive, participative, reflexive, well governed, etc. It highlights the three frequently interrelated views of public space that underlie the existing imaginaries, i.e., economic public space, political public space and cultural public space. It is probably in the pedestrian zone's configuration across these three spaces that lies the zone's core challenge.

¹ Faculty of architecture 'La Cambre-Horta', Université libre de Bruxelles

² CriDIS (Centre for interdisciplinary research : Democracy, Institutions, Subjectivity) and Metrolab Brussels, UCLouvain

1 > THE PEDESTRIAN ZONE AS AN 'AFFAIR'

The life of a city, particularly a large city, is punctuated by the emergence of controversies around urban planning issues.³ Some of these controversies are reinforced over time, attract wide media coverage, or get blown out of proportion. They put civil society actors in the spotlight, make citizen voices heard, lead or force players 'in the shadow' to 'come out into the open' or, conversely, force actors accustomed to media exposure to keep a low profile. These controversies require political and economic decision-makers to make public statements. They are transformed into 'affairs' (Boltanski, Claverie, 2007), and thus allow the various stakeholders to shed light upon what we will refer to here as 'urban imaginaries'.

An 'affair' is what the decision taken in 2014 by Yvan Mayeur, then mayor of the city of Brussels, to transform a Haussmann-type central boulevard into a vast pedestrian zone, became. This decision radically transformed the rationale behind the existing pedestrian zone, which was primarily associated with the tourist centre of the city and its configuration inherited from the Middle Ages. The authoritarian manner in which the decision was reached, the lack of preparation, the underestimation of its impact, alongside the strength of its opponents and many other elements would soon transform this decision into an affair, even though it was underpinned by long-standing urban planning projects and demands from civil society. The affair would then rapidly gain momentum, a degree of permanence, and experience several twists and turns. Beyond the 'games' of the urban players involved, we will focus on the 'imaginaries' that were mobilized by this affair.

2 > WHY IMAGINARIES?

The transformation of big cities has often been addressed from the perspective of the emergence of new 'imaginaries'⁴ which begin to compete with old imaginaries (Genard, 2014). The concept of imaginaries seems particularly relevant, because it does not prejudge the forms in which the positions adopted are expressed. Naturally, these imaginaries can be made official in manifestos, reports, discourses, political decisions and development plans. They can also, however, be presented in caricatures, festive gatherings, occupations of space, films, performances and

3 This chapter builds on an initial article on the same subject, written with less hindsight and intended for the general public (Genard, Berger, Van Hellemont, 2016).

4 'Imaginary' is used here in a sense very close to the notion of 'narrative', more frequent in English-language literature. However, the term 'imaginary', derived from French phenomenology, insists on the fact that these 'frames' of the public space are not only made of speech or language (as the notion of 'narrative' would suggest), but also of images and visions.

posters, i.e., in non-argumentative forms in which the aesthetic dimension plays an important role and is meaningful.⁵

Imaginariness are preformative. They guide and drive action, often without clearly defining or justifying it, and thus allow individuals to 'update' them in different ways. As driving forces, they are the object and the backdrop of controversies. Imaginariness may also be descriptive, they may attempt to describe the city. They may be normative when they narrate what the city should – or should not – be. Is Brussels a Flemish, French-speaking or cosmopolitan city? Should it be perceived as a city for its inhabitants, for its residents, or for those who do not live there yet keep it going, i.e., tourists, commuters, politicians, international civil servants? Should Brussels be approached through the perspective of the municipalities, the Region, the metropolis or from the angle of globalization? Should old-style paved roads be used to respect the city's heritage, or should modern surfaces, more suitable for people with reduced mobility, be preferred? These are some of the stakes at play that nourish and are nourished by the imaginaries that continuously inhabit Brussels's controversies, and which also build the city.

While these imaginaries appear as 'visions' of the city, they also affect political decisions and result in highly tangible materializations. They are embodied in events, public policies, development plans and architectural achievements. This has been the case with the imaginary of car mobility after the Second World War – with its highways that penetrated the region, its rings and tunnels – and the current opposing view, with its speed bumps, 30 km/h zones, pedestrian zones, car-free days, etc. Today, there is also the ecological imaginary which supports drastic standards for buildings or tax exemptions for energy savings.

Imaginariness, therefore, participate in the building of the city. In other words, they help shape what it is and what it becomes. Several imaginaries are entrenched, such as the car mobility imaginary that played a major role in shaping the city. Their strong foothold stems from the 'inertia' of their materializations and the habits they shaped. They have thus become obstacles to change. In contrast, other imaginaries are emerging and calling for change. These can appear somewhat utopian because of the firm grip that the ones they oppose have established across the territory. Given that they are not yet fully settled, these new imaginaries are shaped by the controversies around them. They therefore require spokespersons, supporters, protests, alliances and, above all, a place on the political agenda. Transforming the city centre into a pedestrian zone was part of this second configuration.

5 The term '*aesthetic*' here does not refer to the artistic domain alone but rather to its primary meaning of '*aesthesis*', sensibility. Considering the aesthetic dimension of communication makes it possible to envisage urban gatherings both as events organized to defend a cause and also as '*aesthetic communities*'. This enables us to shift away from the study of controversies from a view of public space reduced to its Habermassian definition – i.e., a deliberative space – which analyses controversies only in terms of the sharing of opinions (Genard, 2017; Berger, 2017).

To gain credibility, the promoters of imaginaries must also provide 'proof' (Boltanski and Claverie, 2007) to defend the relevance of their positions or contradict those of their opponents. This evidence must be objective, for instance statistical data or indicators that transform controversies into a 'war of numbers'. But there is also a need for legal proof attesting to the legal (im)possibility of a proposed solution, social proof relating to the wishes of the people and the capacity to mobilize associations, or even political proof revealing the just or unjust nature of a given solution. Controversies therefore feed imaginaries and either strengthen or weaken them.

Imaginaries may have local roots, or their roots may go far beyond the context of Brussels, as is the case with the imaginaries of attractiveness or sustainability, which can only be understood in the context of globalization. The case of Brussels's pedestrian zone is interesting, as it anchored common imaginaries, typical of Brussels's controversies, into concrete standpoints. The pedestrian zone mobilized the ecological imaginary by opposing the 'Car as King' imaginary. The attractiveness imaginary was likely to undermine the imaginary of the primacy of the inhabitant defended by several citizen associations. The economic development imaginary threatened certain existing businesses. The participatory city imaginary appeared to be threatened by authoritarian decision-making. The creative and cultural city imaginary feared that a consumerist project could be hidden behind the entertainment project.

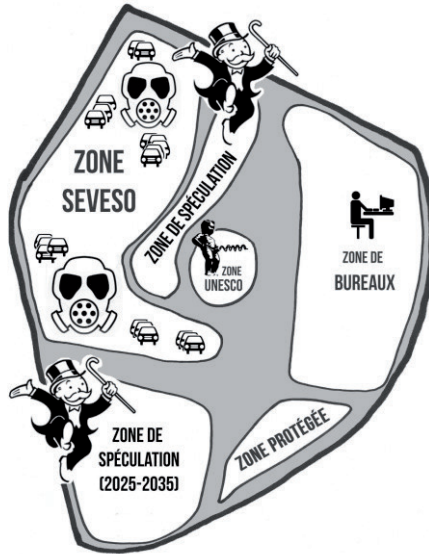
The sections below will attempt to shed light on the visions of the city which underpinned the different arguments used to support or criticize projects. Some arguments may be surprising. For instance, enthused by the project, the traditional defenders of the participative city promoted the ambitious city imaginary as a means to counter the potential criticism of a decision perceived as having lacked public consultation. Another surprising example was when the defenders of the city-dedicated-to-its-inhabitants occasionally found awkward allies in the groups defending cars.

Imaginaries are not mutually exclusive. Rather, they are discursive repertoires that motivate the interlocutors who draw meaning and arguments from them. They meet with unequal degrees of development and are defended with more or less argumentative rigour, good and bad faith, energy and emotion. While these different imaginaries may appear isolated in their most radical and militant forms, they are often related. They often represent compositions on a spectrum of more or less solid, unusual or incongruous, depending on the characteristics and degrees of their compatibility or incompatibility (Boltanski and Thévenot, 1991).

What, then, are these imaginaries, and around which challenges do they revolve?

> **Figure 1.** The pedestrianization zone for dummies

Le piétonnier pour les nuls



Source: Platform Pentagone

3 > AN IDEALISED IMAGINARY OF URBANITY

The pedestrianization of the centre of Brussels is a long-standing issue. It dates back to when the central boulevards were designed in the 19th century (Jourdain and Loir, 2016). The issue was revived by the *Picnic the Streets* protests (Van Hellemont and Vermeulen, 2016) which helped transform it into a ‘public affair’. These protests were organized via social networks, mainly Facebook, but were also relayed in more traditional media. They called for an occupation of the public square outside Brussels’s stock exchange building (the Bourse) – located today within the pedestrian zone – by organizing gatherings on different weekends. Faced with the inaction of political decision-makers in relation to a long-standing project which had already been the subject of studies and plans, these protests were intended to transform the project into reality, to implement it through citizen actions, and to ‘force’ political decision-makers to take action.

Beyond the scope of the pedestrian zone, two dimensions of the imaginary of the city stood out and took shape there, i.e., a participative city and participatory urban policies (see also Rosa et al., 2020 ; in this book). Challenging political inaction, the occupation of the pedestrian zone activated and embodied an imaginary of the transgressive re-appropriation of the city by citizens and social movements. This imaginary has actually been permeating the history of Brussels’s urban struggles since at least the 1960s and the battles of the Marolles and the North Quarter. These

battles were waged against modernist urban projects which, after having already heavily transformed the city, especially in relation to the 1958 World Fair, intended to demolish two working-class neighbourhoods (Carlier, 2016). This imaginary was maintained by a succession of struggles fuelled by the activism of numerous associations⁶ and reactivated once again around 2008–2009 by the *Citizens' Forum of Brussels* (États généraux des Bruxelles).⁷

> **Figure 2.** Poster of the 2015 edition of *Picnic the streets*



Source: *Picnic the streets*

Grounded in the history of urban struggles, *Picnic the Streets* relied, however, on contemporary information technologies. It adopted the ‘urban meetup’ techniques previously employed within other cultural practices popular among young people (improvised evenings at the ‘urban interstices’ such as projects like ‘Gazon’ and ‘Boups’), which contrasted with traditional calls for mobilization, notably those used by traditional social movements. Such practices could make participants feel like they were sharing a secret and contributing to a trick or a ruse against the established power, which added a jubilant and festive aspect to the movement’s vindictive dimension, thereby contributing to the aestheticization of political action (Genard, 2019). It was a matter of reclaiming the city from cars and of doing so at a symbolic location, i.e. opposite the Bourse building, of course, but also on the traditional trajectory for major popular and political marches. The picnic model was, however, privileged over the march model, which asserts a ‘right of way’, by claiming a ‘festive right to occupy’.

6 Brussels is often described as the ‘city of a thousand associations’.

7 Joining civil society and representatives of the universities located in Brussels, the Forum jointly drafted a city project which it submitted to political parties before the upcoming electoral campaign.

The objectives were to transform Brussels into a car-free city and to rediscover a public space whose availability and quality would inevitably become increasingly essential in a world soon forced to assume the errors of growth at all costs, in particular by shrinking private spaces. The protests also sought to draw attention to the importance of the social question, marked in Brussels by a strong social and geographic divide. In short, the principle of dissent lying at the heart of the imaginary of the city-reclaimed-by-its-inhabitants made it possible to bring together citizens committed to different causes, covering the different 'pillars' of sustainability: environmental, economic, social, cultural.

Beyond their different commitments and convictions, participants and initiators were also probably brought together by a participative approach to urban policy as opposed to a form of power monopolized by elites detached from the citizens. This perception was also supported by a broad view of what participation means, and went far beyond the usual arenas and forms of participation, integrating 'spontaneous' and festive occupations, down 'untrodden paths'.

This was the locus of an extension of the forms of urban struggle, which sought to extend the types of citizen participation far beyond the traditional spaces of discussion and deliberation by giving political meaning to daily and festive activities. Moreover, 'a hint of civil disobedience', as Philippe van Parijs wrote in his inaugural *carte blanche*,⁸ and therefore the prospect of short-term imprisonment titillated those who were tempted by the experience of alternative political opposition. These commitments were influenced by situationist activism, but, more importantly, they contributed to the 'new' social movements that combined political denunciation, occupation of public spaces and citizen participation (*Indignés*, *Nuit Debout*, *Gilets Jaunes*, etc.), associating political action with cultural practices.

This reclaiming of the city was therefore drawn from a strong and renewed view of public space (Corijn, Vanderstraeten and Neuwels, 2016). It also rested on a recurring dimension of Brussels's imaginary of cultural and political contestation, which lies, for instance, at the heart of one of Brussels's major cultural events, the *Zinneke Parade*, which dates back to 2000 when Brussels was the European Capital of Culture, and which allows the 'zinodes'⁹ from different – mostly peripheral and socially neglected neighbourhoods – to parade in the city centre during the event (Carlier, 2016). Whilst *Picnic the Streets* was about occupying the city centre, it was also about eating, having fun together and socializing: a conviviality elevated to a form of political dignity. Although the contestation was certainly political in

⁸ Ph. Van Parijs (2012). *Picnic the Street!* In *Le Soir*, 24 May 2012.

⁹ A zinode is a group of people who come together and develop a socio-artistic project integrated into the theme of the *Zinneke Parade*; this project is presented during the parade.

nature, it was played out through a cultural-reactionary vein, merging values of civility and civism.¹⁰

This imaginary perceived the development of the pedestrian zone as a real potential of urbanity. Rather than a 'civil indifference' (Goffman, 1963), the production of a new human landscape instead enabled a public space such as this to highlight and stage the civil bond: an aesthetic of gatherings. Unlike the discursive community specific to Habermas's deliberative democracy, this referred to some form of aesthetic community, an ability to come together, to vibrate, to feel, to have fun together. Not only eating, playing or hanging out together as actors, but also as spectators, enjoying seeing others eating, playing and hanging out together. Whilst such a convivial public space may find one of its preconditions fulfilled in the existing background of ordinary civility, it can itself create a favourable climate for the development of 'ordinary civism' (Pharo, 1985), of a civic life rooted in pre-existing practices and in qualitative and accessible places. It therefore becomes a space of fraternization in which the collective is reassembled and where controversies fall silent, as was the case, for instance, on the pedestrian zone with the demonstrations and expressions of solidarity after the terrorist attacks in March and April 2016. Although this was not apparent in the formative stages of *Picnic the Streets*, the aim was also to create a space of highly symbolic value right in the city centre; a living and public gathering space where Brussels's identity and solidarity could be constructed and reconstructed. This symbolic dimension was backed by the nostalgia expressed for the square *De Brouckère*,¹¹ but was reinforced by the expressions of solidarity following the attacks, as explained in the article '*La Place de la Bourse, ce lieu dont les Bruxellois avaient besoin* (*La Place de la Bourse, the place the residents of Brussels needed*)¹² published in *Le Soir*.

These paragraphs' discussion, devoted to the imaginary of the city claimed by citizens, shed light on certain subsequent controversies. As the mayor of Brussels's decision to create the pedestrian zone appeared to be a response to these grassroots movements, the future manifestation of the zone would then be constantly evaluated primarily against the backdrop of this imaginary of ownership that had been projected onto it.

In the very beginning, the existence of the pedestrian zone, precisely because of the unpreparedness of its implementation, appeared to head in the direction of these promises. The space, now freed from cars, provided real opportunities for citizens to claim ownership of the city during periods of fine weather: table tennis tables, giant chess games and *pétanque* courts were installed, with cultural actors

¹⁰ Since the theoretical studies proposed by Patrick Pharo (1985) on this issue, sociology has sought to empirically document the continuum and the tensions between civility and civism. It has drawn primarily from urban ethnography surveys (Berger et al., 2011, Bidet et al., 2015, Gayet-Viaud et al, 2019).

¹¹ Jacques Brel's famous song 'Bruxelles' was a reference point during the first *Picnic the Streets*.

¹² J.-C. Vantroyen (2016). *La place de la Bourse, ce lieu dont les Bruxellois avaient besoin*. In *Le Soir*, 23 March 2016.

occupying the space. In other words, the pedestrian zone was temporarily transformed into a culturally vibrant space where everything seemed possible, where the utopia driven by *Picnic the Streets* could appear to come to fruition. Given that this first phase helped temporarily materialize the imaginary of the city reclaimed by its inhabitants, the multiple phases which followed produced, among the supporters of this imaginary, a disappointment and a feeling of betrayal that was all the stronger.

4 > THE IMAGINARY OF DEMOCRATIC LEGITIMACY

The controversies around the pedestrian zone also provided an opportunity to confront different nuances of legitimacy in political decision-making and democracy: *autocratic, representative, participatory*.

Although it took place within the continuity of a series of demonstrations – and could therefore appear to be a response to the citizens' expectations – the decision to create the pedestrian zone was taken in an unexpected, uncoordinated and unprepared manner. The actors were therefore faced with what was essentially a form of preformative contradiction. Mayor Yvan Mayeur, who was no novice, had a rather autocratic manner of doing things. He represented an invasive figure for the advocates of the pedestrian zone, who positioned themselves as defenders and actors of participation. The paradox which is constitutive of the story of the emergence of the pedestrian zone stems from here: while the defenders of the pedestrian zone were happy with the essence of the decision, they had every reason to oppose its form.

This was not the only paradox in the structure of the controversies. For example, the city retrospectively declared its support for the implementation of participatory processes to prepare and guide the development of the pedestrian zone. What could have been perceived as a concession to the expectations of associations and an admission of the mistaken manner in which the initial decision had been taken, the legitimacy of these approaches was immediately suspected, despite the fact that an independent actor, *Artgineering*, was called upon. Participatory mechanisms were also invalidated or discredited because they had been organized through a top-down process and because the pedestrian zone's objectives, boundaries and traffic plan had been withdrawn from participatory debate (Van Hellemont and Vermeulen, 2016).

There was another paradox: certain studies and consultancies commissioned by the city, notably the 2009-2011 mobility plan, were used by associations to contest the scenario eventually selected, thereby presenting the mayor with his own contradictions and discrediting his initial autocratic attitude.

Lastly, to deal with the expert logic and the lack of citizen participation, certain associations, notably *Inter Environnement Bruxelles* (IEB), relied on surveys conducted

among local residents affected by the project. The tension between expert knowledge and experiential knowledge was thereby revived (Berger, 2008). IEB perceived the experience of actors in the field as ‘expertise’ more worthy than the distant and abstract knowledge of official experts.

Conversely, the mayor benefited from a democratic legitimacy acquired through the elections and the formation of a majority government, although questions could be raised about his legitimacy as an ‘unelected mayor’ given the few preferential votes he received. Although damaged, his legitimacy was accompanied by an authority which made him the obligatory interlocutor of all of the project’s stakeholders. Divisions emerged between those who saw participatory mechanisms as the only space that allowed them to influence decisions, and those who at best saw them as a compulsory procedure and who negotiated directly with the ‘real’ decision-makers; decision-makers who were also the only ones able to gather the resources necessary for the execution of the project, of mobilizing Beliris¹³ and of ensuring that Proximus, Telenet and Sibelga contributed to the success of the project. They viewed the political will of the mayor as an asset and as a precondition for success in the face of the procrastination that they had frequently criticized among political leaders, or the excessive attention that they gave to participatory mechanisms; an attention which they perceived as responsible for watering down projects or delaying their execution.

5 > OPEN CITY, ORGANIZED CITY OR ‘WARRANTED CITY’

Compared to this imaginary of the city reclaimed by its citizens, the arguments relating to the unpreparedness of the project are interesting insofar as they allow us to further develop our analyses.

First, it should be emphasized that this lack of preparation encountered an imaginary that is strongly rooted in the people of Brussels, and perhaps even more so at the national level. This imaginary perceives Brussels as a city on the edge of institutional chaos – with multiple associated consequences – and one which has difficulties in decision-making, is poorly coordinated because of the division of the Region into 19 municipalities, and where political quarrels proliferate due to the necessary cohabitation of French and Dutch speakers. It sees in Brussels a ‘dirty’, ‘unsafe’ and ‘mismanaged’ city, which is how various international media will often describe it.

In some ways, the decision’s lack of preparation was therefore fully consistent with this imaginary. It thereby provided ‘new ammunition’ for the project’s opponents, some of whom did not fail to exploit it, such as the liberal party (*MR*) which had

¹³ Beliris is a collaboration policy between the Federal State and the Brussels-Capital Region whose objective is to promote Brussels as the capital of Belgium and of Europe.

been relegated to the opposition by Mayor Mayeur during the previous elections. It must be mentioned that soon after his decision to create the pedestrian zone, several ethical scandals had an impact on the City of Brussels's management teams, resulting in the Mayor himself being forced to resign.

In parallel, the significance of this imaginary also found evidence in the extraordinary success of the pedestrian zone when it first opened, and was largely in line with the objectives set out by *Picnic the Streets*. This success caught Brussels's municipal administration by surprise and therefore led to several setbacks, waste accumulation, noise, etc. Although most of the problems were quickly resolved, and a nuisance management plan was implemented the following week, the dominant negative image persisted for several months, therefore somewhat downplaying the success of the opening of the pedestrian zone.

On the one hand, the unpreparedness of the project therefore reinforced the stereotype of bad governance which some considered 'stuck to the skin' of Brussels. On the other, paradoxically, this lack of preparation could be interpreted positively.¹⁴ While several people criticized the project's unpreparedness and disapproved of the likely chaos, others argued that a weak level of organization was one of the attractions of the pedestrian zone, because it left the door open to the adoption of multiple ways of claiming the space. Opposed to 'groomed' public spaces and planning logics, the public space was perceived as a space capable of favouring the unexpected and the improvised, and a space where the city could be experienced without being permanently conditioned. Some therefore viewed the unpreparedness of the project as a real opportunity that allowed citizens to undertake initiatives prohibited by excessively groomed cities. While such urban experiments were accepted – or even encouraged – during the initial testing phase, many feared that they would ultimately be done away with in order to accommodate specific, delineated and functional uses. The other phases of the project proved them right, and there was a proliferation of discourses on disappointment and missed opportunities.

The open city was thus opposed to the 'warranted city' (Breviglieri, 2013), delimited by signposted tourist routes, viewpoints and 'compulsory' visits, prescriptions and safety measures, urban furniture designed to keep away the homeless, subsidiaries of major international chains and many other things¹⁵ (see Rosa et al., 2020).

¹⁴ The so-called Brussels institutional chaos is itself sometimes positively interpreted, the idea being that within this institutional maze, it will always be possible to find interlocutors.

¹⁵ The relationships between the two are not always antagonistic: the warranted city can look favourably upon temporary occupations, experiments, and the artistic works of the artists from the 'open city' as a temporary means of livening up its wastelands, nooks and crannies while awaiting real estate projects, or can even consider them as fleeting moments providing new ideas for future development plans or future real estate projects.

6 > THE IMAGINARY OF SECURITY

The fight against car mobility was also built around claims associated with insecurity. Once the pedestrian zone was created and the risks associated with the presence of cars were done away with,¹⁶ other forms of insecurity quickly appeared, with safety remaining a major issue. In its edition of 15 October 2019, the newspaper *Le Soir* pointed out that 'the majority of offences against pedestrians are on the rise throughout the territory of the zone. Thus, in two years, the number of robberies with violence has increased by 4%, that of pickpocketing by 12%. Nuisances, a generic term grouping noise-related problems, disturbances, fights, drunkenness, illegal dumping, nuisances associated with street drug dealing, violent and abusive behaviour, have risen by 7%. Interventions for people suffering from psychiatric disorders have also increased by 200% between 2010 (329) and 2018 (687). At the same time, six establishments have been closed for drug offences and 15 for disturbing public order.' It is also worth mentioning that the pedestrian zone had become a gathering place for festive events that occasionally got out of control, as was the case in November 2017 following Morocco's qualification for the Football World Cup. What is particularly interesting about the security imaginary is that it commands a shared commitment while at the same time revealing a profound contradiction with the attempts to regulate and manage it. Naturally, the very notion of public space presupposes the safety of those who occupy it. However, the installation of security mechanisms in the pedestrian zone appears to be a clear example of adhesion to this 'warranted city', which contradicts with the conditions of an 'open' public space, conditions which are projected upon this same imaginary. The issue of security therefore unfolds in a context of dual constraints.

Indeed, to some extent, through the pedestrian zone, it is also the image of Brussels, of its city centre, and of its perspectives in terms of tourism, that are played out. For those who have invested in Brussels economically or politically, securing the space is obviously important. Associations have also played an important part in increasing the levels of attention paid to this security imaginary. Feminist groups pointed to the insecurities that women and the LGBT population face. Focus was given both to its temporal dimension (insecurity increases at night) and to its spatial dimension (the urban furniture arrangements were linked to gender issues, the layout of benches for instance was accused of enabling male voyeurism). Significant attention was also paid to the cohabitation between different forms of mobility, first in the 'meeting zones' where cars subjected to speed limits were present and where pedestrians had priority – although things did not always work out exactly as planned – and second, between pedestrians and (other) forms of

¹⁶ The elimination of the risks associated with cars was progressive, and depended on the evolution of the building works which, in certain phases, were linked to the acceptance of cars in certain sections of the pedestrian zone. Moreover, adopting a structural approach, certain buses were authorized to cross the pedestrian zone, as well as taxis and ambulances. At certain times, delivery vehicles or garbage trucks also had access to the zone.

active mobility, which led, for instance, to the introduction of rules to slow down cyclists¹⁷ and delivery vehicles to 6 km/h. Regarding this subject, the Gracq, a group for the defence and promotion of cyclists, regretted that the development of the pedestrian zone had led to the removal of cycle paths, leading cyclists to adopt other longer or more dangerous routes, as they did not intend to comply with this slow speed requirement.

The contradiction – that structurally affects the management of safety on the pedestrian zone – will lead to, and has kept on leading to, the emergence of multiple controversies as each security measure is implemented. Some want more, others find what already exists excessive. This was the case, for instance, with the recent decision by the mayor of Brussels to ban the consumption of alcohol in the pedestrian zone. The Liberal Party and the Flemish Nationalist Party in particular judged the measure to be unrealistic, ineffective, and revealing of the weakness of political decision-makers. Others called for less repressive measures.

The everyday management of security also revealed this contradiction. The interviews conducted as part of the study commissioned by the *Mobile Lives Forum*¹⁸ attest to this. In particular, this is evidenced through the interviews conducted with the neighbourhood policing teams who speak of situations in which they are faced with behaviours bordering on incivility, or even illegality. Both the interviews and field observations show the extent to which these teams are forced to play between repression and understanding, and how they must sometimes combine care with firmness, for example with regard to homeless people, drunk people, beggars who harass passers-by, or drug dealers.

In some ways, the pedestrian zone thus appears as a privileged stage where, behind the formal gathering around an imaginary of the necessary security of space, traditional oppositions formed around ways of living together are played and replayed.

7 > THE SUSTAINABILITY IMAGINARY VERSUS MODERNIST HERITAGE

From the very beginning, the sustainability imaginary has been at the centre of the controversies. This is hardly surprising if we consider that, since the 1990s, Brussels has been a stronghold of the green party (Ecolo), whose results are almost unparalleled in Europe. Moreover, there is a strong presence of environmental associations in the city, and since the green party became part of the Government

¹⁷ <https://www.gracq.org/pietonnier-axe-cyclable-alternatif>

¹⁸ Created in 2011, the Mobile Lives Forum is a research institute that focuses on the mobility that 'prepares the transition to more desired and sustainable lifestyles'. The study commissioned was entitled *The city centre, pedestrianization and lifestyles*. Its results are available on the Forum's website: <https://fr.forumviesmobiles.org/projet/2019/01/17/centre-ville-pietonisation-et-modes-vie-12832>

of the Brussels-Capital Region in 2004, sustainability issues are perceived as political priorities for the Region. They have thus been incorporated into the public action landscape (for instance strict requirements with regard to the energy performance of public and private buildings) and have also helped restructure older schemes (neighbourhood contracts transformed into sustainable neighbourhood contracts).

What is specific to the pedestrian zone case is therefore not so much its justification through the imaginary of sustainability, but rather the types of arguments that were brought forward. Indeed, the intensity with which the different dimensions of sustainability were brought forward differed (Genard and Neuwels, 2016). The de-growth movement argued that there was a need to benefit from ample and hospitable public spaces because the future could only lead to a reduction in the footprints of private housing, and to a compulsory re-densification of city centres. The relationship with nature was also highlighted through the proposal for green public spaces and for the planting of trees.¹⁹ Among the different dimensions of sustainability, the environmental dimension took centre stage, mainly with regard to mobility issues, the dismissing of cars and their effects, the fight against air pollution, and the promotion of alternative mobility. This structural relationship between sustainability and mobility was indeed long-standing, with the existence of the pedestrianization projects on the political agenda having its origins in the mobility plans ordered from *Groupe Planning* in 1998 by H. Simons, municipal councillor (Ecolo Party) of the City of Brussels in charge of urban planning issues (Van Hellemont and Vermeulen, 2016).

In terms of the competition between different forms of mobility, the active forms were thus faced with a dual reality test. On the one hand, this would highlight how and to what extent the city – and the way it is practiced – would be impacted by dedicating a large part of the centre to these forms of transport (walking, cycling, new fun modes of transport, skateboarding, scooters, hoverboards, or even what Philippe Van Parijs refers to as ‘pleasant immobility’²⁰). On the other, it was necessary to organize, in ‘real time’, competition between different forms of mobility and manage the consequences. There was also a need to find alternative solutions for cars, which could no longer pass through the pedestrian zone, and even more so for public transport, notably buses, which provided an alternative to the car and whose routes passed through the pedestrian zone.

These controversies show that, while the sustainability imaginary was mobilized in multiple contexts (pollution control, reduction of noise pollution, return to

¹⁹ The Pentagon Platform association expressed its regret that the zone had never been, and was still insufficiently, green.

²⁰ See, for example, the interview with Ph. Van Parijs in the *Le Soir* newspaper published on 15 October 2015. <https://plus.lesoir.be/9054/article/2015-10-13/oui-le-pietonnier-bruxellois-est-une-grande-avancee>

more natural bodily practices such as walking, etc.), dismissing cars sparked the greatest debate, at least at the very start.

8 > THE CAR DEBATE

While the city imaginary of the 1950s (with its highways that penetrated the region, its *skyline* designed according to traffic networks, and its towers that became a characteristic of the landscape, its ‘small beltway’, its bridges, tunnels and flyovers, its underground car parks, its shopping malls on the outskirts) focused on vehicular mobility (Leloutre and Pelgrims, 2017; Vanhaelen and Leloutre, 2017), the development of the pedestrian zone and the controversies it generated instead brought the refusal of the car to the forefront and explicitly dramatized it.

As mentioned above, the opposition to modernist policies is long-standing and dates back at least as far as the 1960s or 1970s. However, backed by associations which would play an important role in Brussels’s urban policies (ARAU²¹ in particular), opponents focused on the rejection of the ‘Car as King’ paradigm. They also insisted on citizen participation – as opposed to modernism’s common top-down approach to policies – and on the defence of a heritage-driven aesthetic, historically linked to the current of reconstructing the European City in which Brussels played a central role. However, sustainability issues were ignored and it is only recently, in the last 20 years, that they have begun to receive attention.

The modernist city that resulted from the major works undertaken in the 1950s was designed primarily against the backdrop of vehicular mobility. It is worth mentioning, however, that the urban visibility of the car was essentially associated with an aesthetic of speed, especially for car users, for whom modernist architecture, town planning and landscaping were expected to propose the relevant aesthetic qualities (Pelgrims, 2018; 2020). This modernist urban design – targeting both the functionalization and the aestheticization of speed – was combined with a strategy to exclude non-functional car mobility (ring-roads for car traffic that had nothing to do with the city and whose passage through the city would lead to slowdown and an urban nuisance) and to hide car immobility (underground car parks in the city, park and ride, or car parks located around commercial and industrial areas).

Gradually, car mobility policies integrated security concerns through attempts to limit speed (speed bumps, zones limited to 30 km/h, etc.) and the fight against car immobility spread to the entire region (parking charges, residents’ cards, the use of a parking disc, etc.). Beyond slowing cars down or making them invisible, by attempting to reject them completely, the pedestrian zone, drawing on active forms of mobility, revisits the question of an aesthetic and phenomenological relationship to the city which, as mentioned earlier, had a high degree of presence in the modernist project, but also of the hygienist and sanitary relationship to the city.

21 The Urban Research and Action Workshop.

In contrast with the type of urban experience implied when driving a car, in which the aesthetic relationship with the city depends entirely on the tool allowing speed, the forms of mobility enabled by the pedestrian zone were appreciated for providing a first-hand relationship between body and space. The city was now experienced physically and according to the rhythms of the body, rhythms which also guaranteed a healthy expenditure of physical energy. Focus on the physical, phenomenological and sanitary relationship to the city also justified the introduction of the issues of car-induced noise pollution and air quality into the controversies. And where the car traffic boulevard was accused of dividing the city, while the pedestrian zone was 'stitching it back together' and ensuring its continuity and its isomorphism (Corijn, Vanderstraeten and Neuwels, 2016), in some ways, it is once again the idea of a tangible, sensitive and harmonious relationship to the city that was mobilized.

However, the 'good' arguments in favour of the fight against cars were forced to leave their comfort zone when they encountered other arguments where the relevance was directly fuelled by the 'collateral effects' of pedestrianization. The banning of automobile traffic on the pedestrian zone meant that it mechanically shifted to other roads and to other neighbourhoods. There was thus talk of a mini-ring-road to absorb this traffic, but this would cut across primarily working-class neighbourhoods which had until then been peaceful. Social justice issues therefore came to burden the imaginary of sustainability with a hint of social class privilege. It is worth mentioning that one of the *Picnic* sit-ins was organized not to call for pedestrianization – which had been acquired – but to denounce this mini-ring-road and the transfer of nuisances to other spaces.²² This issue led natural defenders of pedestrianization – for instance elected environmentalists – to oppose the project, not in principle, but because of the transfer of nuisances.

Businesses which were dependent on customers with cars feared how this would impact their turnover. Several traders in the fashion industry, who were perceived as important for the image of the city centre, threatened to pack up and leave. What, then, was the link between pedestrianization and economic stakes? Was there a need to expand parking areas in response to this issue? Projects emerged, targeting once again neighbourhoods that are a symbol of urban struggles, notably the Marolles neighbourhood. From a security point of view, aren't cars a guarantee of nocturnal presence? What, then, might this 'pedestrian zone by night' be? And lastly, for whose convenience are cars chased away? Is the objective to ensure tranquillity for residents facing various inconveniences on a daily basis, or to promote the comfort of tourists in a city intended to compete in terms of attractiveness?

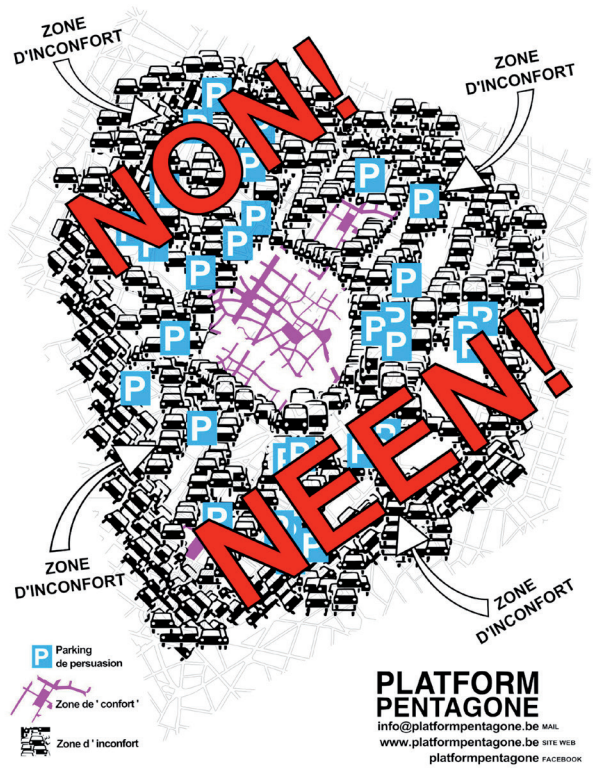
We will now turn our attention to other imaginaries. While some of these imaginaries were used to challenge the project, others sought to give it greater credibility.

²² See, among many other viewpoints, the position supported by ARAU entitled 'Pedestrianization combined with a mini-ring is not the solution' (<https://arau.org/fr/urban/detail/301/la-pietonnisation-alliee-a-un-mini-ring-n-est-pas-la-solution>).

The majority of the imaginaries, however, applied in both directions. As mentioned earlier with regard to the inherent tensions between hospitality and security in the imaginary of the public space, or between the various pillars of the ecological imaginary, the imaginaries encountered were far from univocal, holding ambiguities that would reveal and highlight the ordeals and controversies in which they partook.

> **Figure 3.** This is not a pedestrian zone (criticism of the parking policy)

CECI N'EST PAS UN PIETONNIER



Source: Platform Pentagone

9 > THE IMAGINARY OF THE URBAN COMMUNITY AND ITS STRANGERS

One of the issues relating to urban imaginaries concerns what one may refer to as the beneficiaries of the urban project. Is a city sought for its inhabitants and, if

so, for which inhabitants? Or, rather, is a city sought for its visitors and temporary occupants and, again, for which ones?

In the urban struggles experienced in Brussels in the 1960s, the figure of the inhabitant and the scale of the neighbourhood were central. With the controversies surrounding the pedestrian zone, it is clear that the urban imaginary's scale has broadened, following a more general change in scale, which has revealed itself, for example, within public action mechanisms with the move from neighbourhood contracts to 'priority development zones'. The pedestrian project quickly appeared to be set less against the backdrop of the inhabitants – at least at the neighbourhood level – and more about citizens at the regional level, as was imagined by the shared city imaginary supported by *Picnic the Streets*. The pedestrian zone gave the consumers who had abandoned the city centre a reason to return, and there was an increase in the number of short-term visitors and tourists whose extended stay would be economically beneficial.

The pedestrian affair had clearly put the question of the scale – the scale on which Brussels should be imagined – back on the agenda.

The initial justification for a pedestrian zone, notably with *Picnic the Streets*, was turned towards the Region (rather than a neighbourhood), which had probably been conceived beyond its institutional limits, even though the type of occupation and conviviality expected there resembled the forms of sociability specific to a neighbourhood.

It is nevertheless interesting to see how, over the course of the unfolding of controversies and the development of the zone, the tensions or oppositions between residents and citizens and visitors persisted. Set against the backdrop of 'the inhabitant', the social movements of the 1960s had succeeded in imposing this imaginary in urban planning policies via policy measures designed for the neighbourhood scale. The emergence of the attractiveness imaginary, as well as measures designed on a broader scale, gradually called the neighbourhood scale into question from the 1990s. However, it persisted in Brussels's civil society.

From the outset, the aim to promote conviviality on a regional scale via the pedestrian zone was confronted by the argument that the scale of the pedestrian zone would reduce the conviviality and the social cohesion that existed in these neighbourhoods. This argument was defended, for example, by a group of citizens and associations gathered together as 'Platform Pentagone'. In some ways, one scale of cohesion was pitted against another and sometimes, albeit less explicitly, xenophobia played a background role (Stavo-Debauge, 2017). In these controversies, words occasionally revealed intuitions that would be refuted by arguments, such as when the social networks of the political representatives of the left-wing party, supposedly anti-racist, spoke of 'hordes of Japs' [sic] threatening the city centre.

Gentrification fears also led to the revival of the classic argument of a – somewhat ritualized – opposition to urban renewal projects. Indeed, by improving the image of the neighbourhood and increasing its attractiveness, the real estate values would also increase and therefore lead to the gradual departure of the less wealthy tenant populations in favour of more privileged classes, in this case the middle classes with high cultural capital. Much like urban renewal projects in general, the pedestrian zone was widely criticized in this regard. The criticism, however, downplayed the actual impact of urban renewal projects on improving living conditions in the central districts of Brussels (Berger, 2019).

The reference to inhabitants may either come from a generic set of claims integrated into an urban imaginary based on the figure of the inhabitant, or it may be endorsed by the inhabitants themselves who defend their neighbourhood and refuse the risk of nuisance. The controversy thus revealed a number of arguments held by actors who positioned themselves as potential victims of the project. They feared an increase in car traffic, in noise related to terraces, bars and restaurants, or even a decrease in parking spaces which could be detrimental to their business. The particularity of these arguments was that they had to be handled with care, as they could easily be stigmatized as NIMBY standpoints, verging on selfishness (Trom, 1999). The risk associated with the defence of the neighbourhood appeared even more important, as it proposed to defend private interests against a project involving public space.

Without going into detail about the evolution of the arguments raised around the pedestrian zone, it is clear that this zone, as reflected in its initial projects as well as in the imaginary around *Picnic the Streets*, acted as a lever for the extension of the scale at which the city is imagined. The significance of the project and its growing importance in the debates on the city helped awaken the interest of researchers, notably those associated with the Brussels Studies Institute, which had been founded in the immediate wake of the Citizens' Forum of Brussels (États généraux de Bruxelles). The researchers advised Yvan Mayeur, then still mayor, to set up an observatory of the pedestrian zone. Over the course of its development and with the agreement of the city of Brussels, this observatory was gradually transformed into the Observatory of the City Centre, reflecting the concept of a city centre or a hyper-centre in a metropolitan context.

10 > THE IMAGINARY OF THE FAIR SHARING OF SPACE

As noted, the topic of social justice interfered in the background – and often in the foreground – of the many positions taken. It came to be given its own space, because it emerged as a central issue during the realization of the project: its validity depended on its ability to convince stakeholders that everyone would benefit and that nobody would get a raw deal, especially those who lived there.

Chronologically, the issue of justice may have initially emerged in association with the shifting of vehicular mobility. In the name of social justice, the mini-ring-road was fiercely contested from the outset. Indeed, it was clear that the project could not shift its nuisance to neighbouring spaces, especially when those areas were already associated with socially disadvantaged populations. The very logic of the mini-ring threw political suspicion on the pedestrianization project, which was accused of contributing, once again, to the transformation and gradual calibration of the city, notably its centre, in favour of socially privileged populations.

Two dimensions further strengthened the credibility of this social justice argument. First, it was consistent with a well-established observation on the gradual increase of the inhospitality of the Brussels Region to economically disadvantaged populations (high unemployment rate, increase in housing costs). Second, given the strong socio-economic dualization of the pedestrian space (one of its extremities was located in a poor neighbourhood with a high concentration of immigrant populations), the pedestrianization project somewhat appeared as an instrument aimed at the socio-demographic transformation of the city centre. The usual arguments against urban renewal projects were raised regarding the gentrification risks associated with a potential increase in the value of property and rents. This gentrification was likely to have an important impact on the existing types of businesses, many of which were local, i.e., so-called 'ethnic' businesses.

Against these strong arguments, there was a need to show that there would be no 'victims' and, more positively, that all, or at least many, would benefit. The stakes associated with reviving the city centre were thus put forward, and it was shown that this injection of energy was essential to fighting against the tendency to shift activities to the outskirts, and to attract and extend the stay of visitors whose expenditure would help provide employment and income for residents. In short, a set of arguments that outlined social justice issues as dependent on an economic dynamism, a dynamism which the pedestrian zone would certainly help to induce.

In addition to these arguments framed from a medium- and long-term perspective, it was necessary, in the short term, to respond to the concerns of those whose activities were directly linked to the project: residents, passers-by, business owners, hoteliers, etc. Various improvements were thus made in an attempt to respond to different concerns, in particular those of powerful stakeholders, as was the case with the concession of allowing car access to Hotel Métropole, one of the most prestigious hotels located on the De Brouckère Square in the city centre. Moreover, the testing phase at the start of the project acted as an 'acid test' which proved certain fears right, in particular because of the considerable nuisances due to the scale of the development works or even the security issues mentioned above.

Beyond the issues of social justice, the question of equity was also raised in relation to the sharing of space, both with regard to sharing between different types of mobility within public space and between public space and private appropriations. The primacy, or near-exclusivity, given to pedestrians was clearly entrenched

in the very idea of the pedestrian zone. However, in a break with the tradition of the functional separation of forms of mobility inherited from modernism, the pedestrian zone experimented with the sharing of space. Firstly, space was shared between the different forms of active mobility – walking, biking, scooters, skateboarding – which led to few public controversies but to difficulties which were observed during ethnographic observations and interviews carried out on the pedestrian zone within the framework of the survey commissioned by *Mobile Lives Forum*. The sharing also took place between active forms of mobility, public transport and car traffic, during delivery hours, but also structurally during certain construction phases. The challenges of sharing space called for civil attitudes whose ‘codes’ had to be contextualized in relation to pedestrianization. For example, the presence of cars was viewed as a misuse of space. It placed motorists in the unusual position of illegitimate occupants of space, forcing them to adopt an attitude of restraint, and allowed passers-by to position themselves as the legitimate and priority occupants. Put differently, through the unusual partitions it proposed, the pedestrian space became some sort of inducer for the rules of civility, reshaping the hierarchies of mobility.

Naturally, this sharing of space was not based on the conditions of civility alone. It was also the subject of architectural and urban planning reflections. Ground covers, the positioning of urban furniture, the creation of obstacles or, more explicitly, the installation of shared space signs (different levels, borders, platforms, etc.), would all contribute to a better coexistence of the different forms of mobility.

Another issue of justice in the shared public space was linked to the various privatized occupations, irrespective of whether they were authorized or not. In particular, the extent of occupation by hotel, restaurant and café (Horeca) terraces was occasionally perceived as an illegitimate deviation from the essence of a space initially intended to be public. The fear of seeing the public space privatized by the ‘extensions’ of Horeca businesses was highly anticipated following the controversies relating to Sainte-Catherine Square (a square located close to the pedestrian zone) concerning urban furniture, in particular public benches. These controversies pitted different associations (in particular *Free 54*) that projected onto the square an imaginary similar to the one underpinned by *Picnic the Streets*, against the Horeca industry, which hoped to occupy the space with its terraces. Moreover, the service sector looked unfavourably upon the proliferation of benches, which would allow visitors to eat outdoors, reducing their potential role as clientele, and would also attract people likely to have a negative impact on their activities, for example homeless people. Similarly, questions were raised about the substantial presence of garbage bags which many users complained about, first for aesthetic reasons but also for challenging the legitimacy of these private outgrowths of shops and dwellings onto public space.

11 > THE ATTRACTIVENESS IMAGINARY

Although not always explicitly claimed, the project of the pedestrian zone was strongly linked to the attractiveness imaginary. At the outset, regional policies were considered from a narrower scope. However, in the different regional and municipal strategic plans (Regional Development Plans – RDPs – which have now become Sustainable Regional Development Plans – SRDPs), the attractiveness frame was given further importance as the competition between major cities intensified. Inherent to the concept of attractiveness today is the idea that culture (and the creation of cultural infrastructures), as well as urban atmospheres and events – associated with the quality of public space – should play a central role (Genard, 2014).

The pedestrianization project naturally fell within this context. The importance of improving the attractiveness of the capital of Europe was mentioned on several occasions, particularly in terms of its image and touristic contributions. Although the argument was not central to the discourse of those defending the pedestrianization project, its adversaries viewed it as an outcome of the policy of attractiveness which, since the International Development Plan (IDP) in particular, had increasingly permeated regional and municipal policies.

Beyond the explicit or non-explicit nature of the attractiveness frame, several elements demonstrated its presence and efficiency in the background of the project. Culture, in its different dimensions, is a crucial element in the attractiveness imaginary. This was the case in the pedestrian zone. For example, we can mention the project to transform Brussels's stock (the Bourse) exchange building into a beer museum, associating the idea of a museum with an 'object' that is playful, folklorist, used daily and firmly anchored in Bruxellois and Belgian identity. We can mention the transfer, which is already fairly old, but also the enlargement, of the *Plaisirs d'hiver* (Winter Pleasures) in the pedestrian area, as well as the organization of musical events during regional festivals. Lastly, the investment in urban atmospheres became an increasingly central element in attractiveness policies. Indeed, the entertainment made possible by the pedestrian zone, and the organized or improvised ways in which people were allowed to claim ownership of the city, helped shape urban atmospheres which would be attractive in themselves. One could choose to stroll in the pedestrian zone with no particular reason or aim, certain to find there the atmosphere which made the city vibrant. The pedestrian zone thus provided an opportunity to revive the disputes around this attractiveness imaginary. Defenders of a city dedicated to its citizens first and foremost were pitted against defenders of a city dedicated to its visitors, a primed city designed primarily with tourists, businessmen, politicians, civil servants and lobbyists in mind.

It is also worth mentioning that the attractiveness imaginary was, in some ways, fuelled by the sustainability imaginary. A redesigned, friendly, unpolluted and green space would in itself be a factor of attractiveness for its future users. Moreover, the pedestrian zone project came on top of other politically motivated

decisions seeking sustainability and which had ranked Brussels highly in the rankings of green cities. Sustainability and attractiveness went hand-in-hand.

While neither explicitly announced nor claimed, it is perhaps in its properties as an 'economic magnet' that the frame of reference of attractiveness was most frequently mobilized in controversies, as well as by economic investors. The pedestrian zone attracted investors, i.e., new economic players. Indeed, it quickly became a major stake in large-scale real estate projects. This explained how WeWork, the American start-up and world leader specialized in co-working spaces, 'purchased 16,000m² of the pedestrian zone' (as reported by the *Echo* newspaper on 15 January 2019), taking advantage of the long-term lease of the former Philips Tower (a 17-storey tower that initially housed offices), now the Multi Tower, undertaking grand renovation works to develop a real estate project centred on shared office space. In a similar vein, the Immobel real estate group 'bought almost the entire block [...] (in this case almost all of one side of the De Brouckère Square), and is preparing to develop a megaproject which will mainly provide residential housing', as mentioned in an article in the *Le Soir* newspaper dated 13 June 2019. The renovation projects are subject to strict environmental requirements, thereby strengthening their legitimacy, despite being at odds with the initial ambitions of the project defended by citizen associations. There are many other examples, including, on a more limited scale, for instance, the very rapid emergence, already present during the development works, of new businesses such as bicycle shops, or the – implemented or planned – establishment of new Horeca actors, such as Exki, Paul or Burger King. This was clear proof that these economic players were counting on the economic attractiveness of the pedestrian zone, as well as on a change in its potential clientele.

The attractiveness imaginary was less explicitly defended by the initiators of the pedestrian zone than it was mobilized by its opponents. It was fuelled, however, by the economic dimension, which assumed that public investments, financed by the municipality, the region, and Beliris, would have multiplier effects and attract private investors. There would be ripple and complementarity effects, in line with the rise in the legitimacy of public-private partnerships (PPP) due to the fact that public authorities, in particular in Brussels, could not rely on public investments alone.

Because of both its size and, paradoxically, the radical nature of the decision to create it, the question of the city's grandeur and ambition, as well as the pride of its inhabitants, lay at stake with the pedestrian zone. To a certain extent, the violent manner in which the decision was taken may have helped a break away from the image of indecision and procrastination often associated with political decision-makers. Despite the absence of widespread participation by citizens, the pedestrianization project may have given rise to the image of a city that has plans, that is ambitious and daring, and one that asserts itself. Although the motivations of the actors differed, the pedestrian project gave rise to an imaginary of greatness

and pride. This was clearly reflected in the assertion that the pedestrian zone would be ‘the largest in Europe, after Venice’, as Els Ampe, the deputy mayor for mobility, announced during a press conference. This policy of greatness and success was promoted by actors who defended very different visions of the pedestrian zone. It was also undoubtedly, and politically, promoted by a metropolization imaginary. By turning Brussels’s ambition of greatness into a reality, the pedestrian zone also provided a basis for illustrating and activating this imaginary. It revealed that the social, economic and cultural reality of Brussels spread far beyond its administrative boundaries. This point, which was often timidly supported by political authorities, received explicit backing in the different workshops organized around the issue of the pedestrian zone by representatives of the academic world, as well as by public agencies and associations associated with urban planning issues.²³

12 > THE IMAGINARY OF THE COMMERCIAL AND ENTREPRENEURIAL CITY

Business owners and their local associations often lay at the heart of the controversies. Their arguments were based on different elements. The first revolved around accessibility, notably vehicular accessibility. Naturally, they received the support of important car-related associations (in particular the Touring association). This was the case for both ‘small’ businesses and major local economic players such as the Métropole hotel. These business owners also expressed their fears with regard to the shift to a pedestrian zone, notably concerning the construction phase, which was likely to decrease their profit margin.

The economic impact of the project occupied an important place in the controversies. Beyond temporary difficulties or nuisances, the pedestrian zone was framed as a potential means to ensure the economic revitalization of the city centre. The public authorities never missed a chance to put forward such arguments: reinvestment of private actors in business, shopping centre projects, reinvestment in real estate, etc. They levelled criticism against local business owners who refused to question and modify their way of doing things and who rejected new forms of consumption, for example e-commerce. Critics challenged these arguments, instead claiming that potential investments would be made by economically strong groups at the expense of local business owners. They argued that real estate investment would inevitably drive up prices, and that the arguments for economic development were simply concessions to new forms of experiential consumerism. The *Picnic the Streets* movement had raised similar fears and had organized, in June 2014, a sit-in entitled: ‘No Mini-ring, no bling bling’.

²³ For instance, the workshop organized at the initiative of *Perspective Brussels* in April 2019: <https://perspective.brussels/fr/actualites/workshop-sur-la-planification-spatiale-lechelle-metropolitaine>; the workshop ‘Brussels. The productive metropolis’ organized by *Architecture Workroom*, in June 2016.

In reality, beyond these arguments around functional aspects, the positions defended were far-reaching. Indeed, the view of public space defended by traders' associations was directly linked to the market and to consumer activities. This view was both contemporary and radically at odds with the historical view of public space, which differed from the private sphere to which economic activities were confined (Habermas, 1988). This commercial view of public space was extremely significant in urban planning. It resulted in specific typologies, such as shopping centres (Vanhaelen and Leloutre, 2017) as well as the first pedestrian zones in Brussels; these included pedestrian crossings or zones next to major traffic lanes, for instance the development of the pedestrian zone on the Boulevard de la Toison d'Or and, later, one on Rue Neuve, which was entirely devoted to shops. This has been the case for all the pedestrian zones in the city centre located around the Grand-Place and in the medieval fabric, most of which are occupied by hotels, cafés and restaurants (Pelgrims, 2020). Although rarely explicitly referred to in these terms, what became major factors were the nature of public space and the role of commercial activities in urban dynamics.

Traders were not the only economic actors involved in these controversies. As mentioned earlier, controversies occasionally resulted in splits between 'local' traders and 'external' economic players likely to benefit from the pedestrian zone, the constructors of car parks, commercial investors, and even real estate investors. The question of at which scale the city was to be imagined was revived once again.

Lastly, the short history of the pedestrian zone clearly reveals the sheer magnitude of the mobility among the actors present upon it, who helped shape it and materialize it. While civil society initially played a leading role, political decision-makers eventually took charge. Gradually, economic actors, including extremely powerful actors, emerged, embodying some of the fears that had been expressed from the start regarding the nature and purpose of the pedestrian zone.

13 > THE IMAGINARY OF THE REFLEXIVE CITY

We would like to draw attention to a dimension of which this article is part and parcel. Indeed, multiple urban, sociological and environmental studies have analysed the pedestrian zone. The 'Observatory of the pedestrian zone', several academic studies funded by the research administration of the Brussels-Capital Region, and the Metrolab project, which was funded by the European Regional Development Fund (ERDF), have also focused on this zone. Moreover, multiple masterclasses have taken place, with architecture schools, in relation to or dealing with the project of the pedestrian zone, for instance the 'Zoom in/Zoom out' masterclass which was the locus for in-depth reflection on the transition from the pedestrian zone to the urban project (De Visscher, Mezoued and Vanin, 2018). These studies have all participated in what may be referred to as an imaginary of the reflexive city (Genard, 2007).

Indeed, the reflection around the pedestrian zone revealed, but also helped operate, a shift in the spaces that guide the urbanistic reflection on the city, and also led a shift in the ambitions of economic investment. A return to the past reveals a succession of the spaces around which the reflection on the city has been focused. First were the North and Marolles districts in the 1960s and 1970s, then the European District. More recently, focus has been placed on Place Flagey and on the zone around the canal. Undoubtedly, the development of the pedestrian zone helped shift reflection from the canal area towards the city centre and led to the emergence of new concepts such as the hyper-centre (Vanderstraeten and Corijn, 2017), a concept that had previously been barely applied in Brussels.

The production of knowledge, the initiation of specific research and the publication of academic texts ‘observing’, in real time, the progress of these developments and the controversies they give rise to may also be interpreted against the backdrop of an ‘urban imaginary’ and a specific ‘urban project’. As is the case with other imaginaries, when observing initiatives driven by an increase in the reflexivity of public action, one should pay attention to their performative effects. Concretely, articles *about* urban imaginaries, such as this one, which seek to reduce the complexity of the multiple and varied communications upheld by the actors and interlocutors concerned, establish them in the public sphere – once classified and categorized – as urban imaginaries. These imaginaries may then be adopted as such in the public debate by the different stakeholders involved in each controversial issue.

Assessing the performative effects of these reflexive practices therefore requires one to also focus on how they resonate with, or respond to, citizens’ demands, the voluntary sector, economic actors and public authorities. In this particular case, the City of Brussels quickly found itself in need of reflexive support from universities from the summer of 2015 after the national press published articles about the pedestrian zone written by academics.

University initiatives undertaken for the purpose of creating knowledge about urban phenomena should therefore also be assessed on their interactions, interferences and possible reassembling with the other imaginaries mentioned earlier. For instance, by analysing the heterogeneous public associated with the issue of the pedestrian zone, and by establishing the plurality of imaginaries, the observatory’s endeavour appears to be committed to ‘values’ in line with ideals of a broad governance and a highly stringent concept of democratic legitimacy.

By highlighting the complexity of a public problem such as this one, with its various ins-and-outs, the adoption of reflexive practices inevitably provokes the criticism of specific imaginaries, their self-referential nature and their cognitive or normative limits. This criticism is also levelled against imaginaries that appear to be generally agreed upon within public discourse, such as the imaginaries of sustainability or the claiming of the city by its citizens. Lastly, the fact that the observatory’s initiative responded to a genuine demand from the mayor’s cabinet must be

put into context. Indeed, Yvan Mayeur was caught in the crossfire of criticism from citizens (poor participation) and criticism about his technical and management skills (excessive improvisation in the implementation of the project). A partnership with universities (mainly with the humanities and social sciences) around the ‘meaning’ of public action and the evolution of ongoing actions made it possible to counter this criticism with an ‘autocratic-reflexive’ compromise which, among the combinations of imaginaries considered so far, is particularly worthy of note.

> Figure 4. Microboly (criticism of the speculation around the pedestrian project)



Source: Platform Pentagone

14 > CONCLUSION

The controversies around the pedestrian zone provided an opportunity to highlight a number of city imaginaries. While all these imaginaries are related to particular stakes, and lead to different interpretations and/or result in different ways of doing things, they all also aim to serve the common good. Some were more ‘costly’ to defend, because they upset the dominant imaginaries. Others embraced mainstream values, for instance the attractiveness imaginary. Importantly, the careful analysis of these controversies has shed light upon the complexity of the different positions.

The analyses presented above sought to follow and scrutinize the arguments revealed by the positions held by multiple stakeholders. To conclude this discussion, now may be a good time to take a step back and focus on whether the many issues raised in this chapter may help reveal cross-cutting matters. The brief conclusion below highlights our preliminary thoughts on this.

With regard to the city, a pedestrian zone is undoubtedly a public space above all. It is therefore hardly surprising that the question of what an urban public space is, or should be, was raised either explicitly within, or as a background to, the controversies. These controversies reveal three very different views, which we refer to as the ‘the economic and commercial public space’, ‘the political public space’ and ‘the aesthetic (or cultural) public space’.

The defenders of the *commercial public space* consider that the quality of the pedestrian zone project depends on its ability to ensure the economic revitalization of the city centre, and even of the entire Brussels region. Business is a central concern, and the issues raised involve, for instance, the provision of service areas capable of ensuring accessibility. The challenges associated with property valuation and the ability to attract investors are essential elements which provide a framework upon which to think about and shape the space. The attractiveness of space is judged primarily based on these aspects. This attractiveness notably depends upon a set of guarantees, for instance the security of the neighbourhood. From this perspective, walkers and the act of walking aren’t approached as a bodily experience, but rather as potential customer traffic.

The defenders of the *political public space* consider that the essential challenge lies in the capacity of people to claim ownership of the public space. This ownership is associated with the decision-making sphere, on the one hand, and with the modes of ‘governance’ of public space on the other. It is primarily measured through the participatory mechanisms established to configure the space, the forms of co-management implemented, or even the reflexive processes guiding it. It is also assessed based on the capacity of the space to represent and be hospitable to ‘the political’ and to be favourable to demonstrations, sit-ins and celebrations of togetherness. *Picnic the Streets* and the political demonstrations and commemorations in front of the Bourse building are good illustrations of this. Public space also – and perhaps primarily – draws its richness and its value from this.

Talking about an *aesthetic public space* may seem confusing. Those who defend this vision of public space perceive it as culture and as experience. First and foremost, a public space is viewed as a meeting place, a lively space. It provides an opportunity to experience things (Genard, 2019). Its quality is measured by the number of activities it proposes, its atmosphere and its festive potential. The term ‘aesthetic’ is used here in a broad sense that goes beyond artistic and cultural events. Above all, *aesthesis* is about sensitivity. The quality of life, conviviality, the pleasure of being there and a *joie de vivre* are all important measures. Generating something common from the experiences of being together is one of the essential purposes of

a public space. However, to achieve this, it is necessary that those who come here do so by being available and open to these experiences, which is not necessarily the case if one's presence in the public space is motivated by consumption or commercial purposes. It is undoubtedly in this vision of public space that the sensitive dimension of strolling takes on special meaning. Unlike the car, walking provides a direct physical experience of the city, and its slow rhythm increases the opportunities to meet people. To fully live these experiences, the pedestrian zone must avoid taking on an overly defined shape, .

We believe that the main challenge of the pedestrian zone will depend on how these three spaces interact with one another and must leave room for appropriation by the people.

15 > BIBLIOGRAPHY

BERGER, M. (2008). Répondre en citoyen ordinaire. Pour une étude ethnopragmatique des engagements profanes. *Tracés*, 2 (15), 191-208. Retrieved from <http://www.cairn.info/revue-traces-2008-2-p-191.html>

BERGER, M. (2017). Vers une théorie du pâtir communicationnel. Sensibiliser Habermas. *Cahiers de recherche sociologique, Peirce et les sciences sociales. Une sociologie pragmatiste?*, 62, 69-108.

BERGER, M. (2019). *Le Temps d'une Politique — Chronique des Contrats de quartier bruxellois*. Brussels: CIVA.

BERGER, M., CEFAÏ, D. and GAYET-VIAUD, C. (eds.) (2011). *Du civil au politique. Ethnographies du vivre-ensemble*. Brussels: Peter Lang (Action publique).

BIDET, A., BOUTET, M., CHAVE, F., GAYET-VIAUD, C. and LE MENER, E. (2015). Publicité, sollicitation, intervention. Pistes pour une étude pragmatiste de l'expérience citoyenne. *SociologieS, Pragmatisme et sciences sociales*. Retrieved from <https://journals.openedition.org/sociologies/4941>.

BOLTANSKI, L. and THÉVENOT, L. (1991). *De la justification. Les économies de la grandeur*. Paris: Gallimard.

BOLTANSKI L. and CLAVERIE E. (2007). Du monde social en tant que scène d'un procès. In N. OFFENSTADT and S. VAN DAMME (Eds.). *Affaires, Scandales et Grandes causes* (p. 395-452). Paris: Stock.

BREVIGLIERI, M. (2013). Une brèche critique dans la « ville garantie » ? Espaces intercalaires et architectures d'usage. In E. COGATO-LANZA, L. PATTARONI, M. PIRAUD and B. TIRONE (eds.). *De la différence urbaine : le quartier des Grottes/Genève* (pp. 213-236). Geneva: Métis Press.

CARLIER, L. (2016). *Le cosmopolitisme, de la ville au politique. Enquête sur les mobilisations urbaines à Bruxelles*. Bruxelles, Peter Lang, Coll. 'Action publique'.

CORIJN, E., VANDERSTRAETEN, P. and NEUWELS, J. (2016). Remarques préliminaires concernant le plan d'aménagement du piétonnier. URL: <http://bco.bsi-brussels.be/wp-content/uploads/2016/12/BSI-BCO-P1-Corijn-et-al.pdf>

DE VISSCHER, J.-Ph., MEZOUEDE, A. and VANIN, F. (2016). L'hypercentre de Bruxelles : du piétonnier au projet urbain. Masterclass Zoom In - Zoom Out. <http://bco.bsi-brussels.be/1548/>

GAYET-VIAUD, C., BIDET A. and LE MENER E. (Eds.). (2019). *Le politique au coin de la rue*. Brussels: De Boek (Politix n° 125).

GENARD, J.-L. (2007). Architecture et réflexivité. In *Vivre ensemble au XXIe siècle. Actes du colloque international de l'Institut de sociologie* (pp. 387-403). Brussels: ULB, Institut de sociologie.

GENARD, J.-L. (2014). Pour un imaginaire ambitieux. In E. CORIJN (Ed.). *Où va Bruxelles ? Visions pour la capitale belge et européenne* (pp. 109-140). Brussels: VUB; 'Voor een ambitieuze verbeelding', In E. CORIJN (éd.), *Waarheen met Brussel?* (pp. 115-148), translation of previous.

GENARD, J.-L. (2015). Capacities, expertise, empowerment: rethinking the anthropology of participation. *World political science review*, 11 (2). De Gruyter, Berlin, Boston, 227-244.

GENARD, J.-L. and NEUWELS, J. (2016). Le développement durable comme objet de transactions. *SociologieS*, Dossiers, 'Espaces et transactions sociales'. <http://sociologies.revues.org/5378>

GENARD, J.-L., BERGER, M. and VAN HELLEMONT, L. (2016). 'L'architecture des débats : les imaginaires mobilisés'. In *Portofolio #1, Cadres, Ouvertures, Focus*, BSI.BCO, Brussels. <http://bco.bsi-brussels.be/wp-content/uploads/2016/12/BSI-BCO-P1-Genard-et-al.pdf>

GENARD, J.-L. (2017). La consistance des êtres collectifs. Contribuer avec Peirce à une sociologie de l'engagement. *SociologieS*, Dossiers, 'La consistance des êtres collectifs. Mode(s) d'existence, dilemmes ontologiques et politiques'. <http://journals.openedition.org/sociologies/6545>

GENARD, J.-L. (2019). Le concept de rythme au cœur d'un tournant esthétique de la pensée et des politiques de la ville. *EspacesTemps.net* [En ligne]. <https://www.espacestemp.net/articles/le-concept-de-rythme-au-coeur-dun-tournant-esthetique-de-la-pensee-et-des-politiques-de-la-ville/>

GOFFMAN, E. (1963). *Behavior in Public Places*. Notes on the organization of social gatherings. New York: Free Press.

HABERMAS, J. (1988). *L'espace public*. Paris: Payot.

JOURDAIN, V. and LOIR, C. (2016). *Le régime de mobilité et les modalités d'usages de l'espace public sur les boulevards centraux à la fin du 19^e siècle*. <http://bco.bsi-brussels.be/wp-content/uploads/2016/12/BSI-BCO-P1-Jourdain-Loir.pdf>

LELOUTRE, G. and PELGRIMS, C. (2017). Le roadscape bruxellois : le rôle de la route dans la rénovation urbaine ou la coproduction d'une infrastructure paysagère. In T. DEBROUX, Y. VANHAELEN, J. LE MAIRE DE ROMSÉE and C. PELGRIMS (eds.). *L'entrée en ville : aménager, expérimenter, représenter* (p. 43-62). Brussels: Éditions de l'Université de Bruxelles.

NEUWELS, J. (2015). *Architecture, développement et action publique : conjugaison en mutation dans un contexte de recherche de durabilité*, doctoral thesis defense at the faculty of 'La Cambre-Horta' at the Université libre de Bruxelles in fulfilment of the degree of doctor in 'art de bâtir et urbanisme'.

PELGRIMS, C. (2018). Aménager la lenteur. La dimension imaginaire de la piétonisation du centre-ville bruxellois. *Espaces et sociétés*, 4 (175), 143-162.

PELGRIMS, C. (2020). *Tension entre imaginaires de la vitesse et de la lenteur dans l'évolution des aménagements urbains de mobilité*, doctoral thesis defense at the Université libre de Bruxelles in fulfilment of the degree of doctor in 'art de bâtir et urbanisme'.

PHARO, P. (1985). *Le civisme ordinaire*. Paris : Méridiens.

STAVO-DEBAUGE, J. (2012). Le concept de "hantises" de Derrida à Ricoeur (et retour)». *Etudes ricoeuriennes*, 3 (2). <http://ricoeur.pitt.edu/ojs/index.php/ricoeur/article/viewFile/132/72>

STAVO-DEBAUGE, J. (2017). *Qu'est-ce que l'hospitalité ? Recevoir l'étranger à la communauté*. Montréal: éditions Liber.

TROM, D. (1999). De la réfutation de l'effet NIMBY considérée comme une pratique militante. Notes pour une approche pragmatique de l'activité revendicative. *Revue française de science politique*, 49 (1), 31-50.

VAN HELLEMONT, L. and VERMEULEN, S. (2016). De aanleg van de voetgangerszone in het Brussels stadscentrum (2012-...). Een analyse van (het discours van) het procesverloop. <http://bco.bsi-brussels.be/wp-content/uploads/2016/12/BSI-BCO-P1-Vanhellemont-Vermeulen.pdf>

VANDERSTRAETEN, P. and CORIJN, E. (2017). Le piétonnier, l'hypercentre et les multiples centralités de Bruxelles. <http://bco.bsi-brussels.be/le-pietonnier-lhypercentre-et-les-multiples-centralites-de-bruxelles/>

TRANSITION PATHWAYS TOWARDS THE STRONG SUSTAINABILITY OF THE BRUSSELS METROPOLITAN CITY CENTRE: A PLEA FOR AN ECOSYSTEMIC APPROACH



Pierre VANDERSTRAETEN¹, Roselyne DE LESTRANGE¹,
Aniss M. MEZOUE²

> Abstract

This contribution reflects on the potential for strong sustainability resulting from the construction of the large pedestrian zone in the Brussels city centre. This so-called strong sustainability differs from weak sustainability by integrating the economic and social spheres into the environmental sphere. Evaluating whether the large pedestrian zone acts as a lever and a stimulant for such a transition first requires identifying the impacts of the transformation of public spaces on the practices of residents and users. This then invites us to examine how these forms of reconquering public space can induce new expectations and aspirations for public spaces in the city centre. This present reflection is based on feedback from some contemporary experiences in Brussels and other European city centres, as well as on foresight elements fed by methods from the fields of systems theory and ecology.

¹ Faculty of architecture, architectural engineering and urban planning, LOCI, UCLouvain
² Brussels Studies Institute – Brussels Centre Observatory

1 > INTRODUCTION

Among the many imaginaries (see Chapter 6, Genard and Berger, 2020), desires and ambitions that the project of the large pedestrian zone inspired, that of sustainability particularly attracts our attention. It is indeed intrinsically the bearer of a multidimensionality, capable of bringing about radical transformations in the Brussels city centre. It also includes a potential support for the paradigm shift announced by the project's leaders, and hoped for by researchers, urban professionals and civil society activists alike. Sustainability is also present in numerous ad hoc initiatives and at different scales of the territory, and is carried out by a great diversity of actors. However, it does not yet seem to be sufficiently considered from a perspective of strong sustainability, in other words through the prism of the integration of the economic and social spheres within the environmental sphere.

In this text, we propose an exploration of the possibilities and conditions for the Brussels metropolitan city centre to enter into such a dynamic of transition. First, we hypothesize that an ecosystemic approach is required to understand both the urban phenomena and the transition dynamics. We then recall the geographic contours of the Brussels metropolitan city centre, henceforth 'the city centre', and establish what makes it unique and what defines the nature of its centrality. Finally, based on the work of Sybrand Tjallingii (1995), we offer critical and prospective ways of interpreting the dynamics at work in the city centre. For each of the three areas that Tjallingii defines – the responsible city, the living city and the participating city – and in light of experiences in other cities, we try to question the conditions for a sustainable transition.

This contribution is above all an intellectual positioning that draws both from scientific literature and from the reading of realities in the field. It is an opening and a way of debating concepts and approaches in order to help define an analytical framework.

2 > FOR AN ECOSYSTEMIC APPROACH OF THE TERRITORY AND ITS PROJECT

Before tackling the ecosystemic approach, it is necessary to define what we mean by 'transition'. In its most common sense, transition indicates a change of state or the passage from one state to another. In this sense, it has, in recent years, become used increasingly often to express optimistic projects for the transformation or the replacement of technologies, modes of production or consumption in different areas: energy transition, alimentary transition, mobility transition or even more generally the ecological transition. These approaches are part of the long history of the evolution of our societies, more or less visible and noisy, more or less rapid and intense, more or less destructuring and producing inequalities. Thus,

transitions are here to be considered in the face of the lengthy historic period and the evolution of socio-technical systems, that is, the network of actors gathered around economic, cultural, ethnic and social ties (Calatrío, 2015). On the one hand, transition constitutes a pivot between two essentially stable periods – the new being an improvement of the old – and, on the other, it is a normal, steady state, a continuous process of transformations.

Within the transition approach, a socio-technical perspective is often advocated, because the socio-technical system in which we operate is seen as being locked upon a given, often unsustainable, trajectory. To initiate changes, a systemic approach to the phenomena is therefore necessary. In this context, the literature often takes a multilevel perspective (MLP) (Schot and Geels 2008, Geels 2011), ‘which considers that transitions occur when changes in the cultural, political or economic context (landscape level) create possibilities for the development and spreading of innovations (niche level). This leads to the replacement of the dominant system (regime level) with a new system’ (Calatrío, 2015). Besides this perspective, more recently the issue of transition management that values continuous transformations and the process of change over the long term has arisen. This involves new governance and instruments for collective, inclusive and participatory learning and experimentation (Calatrío, 2015). This last point is particularly reflected in Rob Hopkins’s initiatives and the movement of towns and villages in transition. For around a decade, this initiative has aimed toward strong sustainability, particularly through promotion of the mobilization of citizens through virtuous and collaborative local commitments. These are processes that encourage innovation and niches, embedded in sharing facilities and bottom-up governance.

The systemic approach to transition takes the opposite view of the urban fabric’s sectorial approaches. It addresses the issues in a transversal, interdisciplinary, or even transdisciplinary, manner, seeking answers regardless of possible sectoral considerations. It pays primary attention to the relationships between variables that can be both tangible and intangible (numerical, or textual for example). However, a hierarchy is often established between the variables, relegating aspects related to all living things to the background. However, environmental issues, like the preservation of environments, biotopes, biodiversity, etc. lie at the heart of the conditions for strong sustainability. It is in this sense that the ecosystemic approach provides an added value by integrating natural variables and all living things in general, addressing them in a non-hierarchical manner and from a perspective of equilibrium (de Lestrangé, 2016, p.25). The ecosystemic approach of the territory and its project takes a holistic stance and proceeds based on the interdependence of things. Basically, it poses change, living things and the taking into account of emerging properties,³ as the starting conditions of the project. Consequently, the

³ A property of a system is called emergent when its parts do not exhibit such a property on their own, but it originates from their interaction within the system as a whole: <https://en.wikipedia.org/wiki/Emergence>.

ecosystemic project aims, as mentioned above, to contribute to a strong transition through the advent of a co-existence between the 'natural' and the socio-technical dimensions of the environment – between biosphere and ecumene.

In such a perspective, a territory cannot be defined via exclusively anthropogenic criteria – functional as the hinterland or morphological as the built fabric – nor exclusively through environmental ones – ecotopes or drainage areas. The territory therefore must be considered a socio-environmental reality, perceived as an extension with fluctuating margins, defined by interrelated anthropogenic and natural, material and immaterial, eco-landscaped and socio-political characteristics. In other words, it is considered a bioregion. A variety of definitions of this concept can be found in the literature, more or less naturalistic (placing the emphasis on natural systems) or culturalist (placing it on the importance of anthropogenic factors). Their synthesis designates it as a unit defined – beyond the logic of political boundaries – by a specific integration between human and non-human systems, at the middle scale of the landscape unit (de Lestrangle, 2017).

As recalled by Metrolab.Brussels,⁴ during its 'Designing Brussels Ecosystems' conference in October 2018:

┌ *The concept of urban ecosystem emerged in Brussels over forty years ago, in the context of studies conducted by the interdisciplinary team of Paul Duvigneaud. The goal of Duvigneaud's work was to provide a broad perspective of the interdependencies that exist between the human and nonhuman worlds (Duvigneaud, 1980). While the positivist project of offering a global ecosystem science was eventually abandoned, the same ecosystemic concerns are still at the heart of research and innovation in a number of areas of natural sciences, social sciences, engineering, living space studies and the humanities. Each of them includes the concept of ecosystem into its field of study, in order to develop specific methods. Beyond the increasing weight of environmental issues, the ubiquity of the notion of ecosystem is contributing to an epistemological transition (...)*⁵ ┘

In 2015, the studies preceding the Metropolitan Landscapes international consultation identified four Brussels ecologies: the infrastructure valley, the built landscape, the park system and the wetland landscape (Loeckx et al., 2015). Although this typology corresponds to geographical and morphological characteristics, it also shows a multi-perspective understanding of the ecology (Guattari, 1989), which exceeds the original crucible of Environmental Sciences and mobilizes the different registers of ecology as resources for reflecting on the interdependence of urban components. These theoretical and historical preliminaries imply that one

⁴ Metrolab Brussels (MLB) is a trans-disciplinary and inter-university laboratory for applied and critical urban research, funded by the Brussels Capital Region through its ERDF program.

⁵ Designing Brussels Ecosystems, Conference Introduction, 18 October 2018.

cannot consider downtown Brussels exclusively in a hierarchical relationship with the *bruxellian*⁶ (bio) region, but also as the locus – the environment – characterized by an intensity of socio-natural connections, from which emerging properties manifest themselves across the whole territorial ecosystem.

> Figure 1. Comité Alhambra



Source: Gérald Ledent

3 > BRUSSELS CITY CENTRE

At the crossroads of highways and waterways, Brussels was gradually built up over the centuries, based on walkable distances, while the pedestrian metric (see Chapters 4 and 7) followed a radio-concentric spatial structure. The major expansion of the 19th century developed the first urban centre. It created the first contours of a central area, serviced and structured by public rail transport and by the channel, in which the main stations – South, North, Luxembourg and West – as well as the quays of the port of Brussels would play a major role in terms of accessibility.

The topographic constraints of the railway lines and the canals came to generate a spatial frame that entered a dialogue with the system of valleys, which today

6 With reference to the geological layer of the bruxellian sands, a name which allows a non-hierarchical relationship to be established between the city centre and the territories of the metropolitan city (de Lestrangé, 2017).

provides the primary support for the natural green and blue network. This accessibility came to be structured around the original walkable road network of the city centre, organizing multiple pedestrian areas around internal nuclei, which, while certainly making the wider city centre territory walkable in its entirety, led to its but partial utilization. We conceptualize walkability in its strongest sense, meaning that the entire road surface was used by pedestrians, which was normal before the booming of cars, and which has once again become increasingly permissible through pedestrianized, meeting and residential areas; we will come back to this later.

The current densification of the Brussels Region is destined to be structured around and based on a polycentric⁷ framework wherein the area between the stations and the central harbour quays represents the main centre, and which plays a symbolic role in view of this position.

In addition to its pronounced patrimonial character, the city centre – which has long been a privileged place of convergence of routes – has become the core of a network of interconnections on many scales. It is distinguished through the large, even hyper, diversity of its activities, uses and attendances (see in this book Wayens et al. 2020; Rosa et al., 2020). If this structural diversity and the multiple exchanges between the activities that it constitutes may have been threatened and ignored at certain times and in certain places, like in the North District, the Administrative Centre or the European quarter, today it has again become the transformation's claimed objective. This underlines the specific urban vitality of the city centre.

If we accept that one of the factors of an area's resilience is its ability to be composed of a variety of elements (material and immaterial; living and non-living) and a fabric of interconnections that binds them together,⁸ then the city centre will be able to amplify its resilience potential by consolidating its consistency through the development of these multiple interconnections. So, right from the start, with respect to the urban plan, we can argue that it would be advisable to think more systematically in terms of interdependencies and synergies between activities and uses. This implies going beyond the timid notion of compatibility between assignments, regularly called upon in the Brussels Regional Development Plan, which only aims to guarantee an acceptable level of coexistence between activities. Shared public spaces, or third places, for example, are meeting and informal exchange areas, open to all, where work, services and relaxation intertwine, and which present, in an emblematic manner, spatial facilities capable of accommodating these developments.

⁷ Cf. Regional Plan for Sustainable Development of the Brussels-Capital Region.

⁸ Lietaer, B. and Kennedy, M. (2008). *Monnaies régionales; de nouvelles voies vers une prospérité durable*. Charles Léopold Mayer.

4 > THREE DOMAINS TO REFLECT ON REGARDING BRUSSELS CITY CENTRE'S ECOSYSTEMIC TRANSITION

Understanding the fabric of interdependencies that constitute the urban realities, essential to an ecosystemic approach, requires the definition of an analytical framework, or a reading grid, which allows the understanding and highlighting of the complexity of the phenomena at work. To do this, we propose to structure the remainder of this chapter based on three domains that were originally proposed by Sybrand Tjallingii (1995): the responsible city, which reduces resource consumption as well as waste and pollution, the living city, which takes care of the habitat of human beings, the fauna and flora, and finally the participating city, which structurally involves the inhabitants in its political, economic, social and cultural development. These domains constitute as many gateways and paths that allow the specific identification and illumination of these fabrics of interdependencies. Above all, they offer the opportunity to explore the city centre in a differentiated and complementary way. For the sake of simplification, for analytical purposes, some of these domains are subdivided into a series of themes, without, however, losing sight of the links between them.

On the basis of this, we will try to identify the tracks of a transition towards strong sustainability for each of these domains and themes. For this, we position our analytical focus on niches of innovation at different scales of the territory and involving a diversity of actors and fields of action. Where they do not apply to Brussels, arguments will be based on examples from other cities.

4.1 Responsible city

The pathway towards strong sustainability for Brussels's city centre crosses the design of a more responsible operating plan for the city, which can be structured around 3 interrelated objectives. First, the disproportionate dependence on material, energy, food and water resources coming from increasingly distant regions, as well as on increasingly distant waste reception and absorption environments, needs to be reduced.⁹ Second, actions concerning the urban metabolism of inflows and outflows will benefit from integrating the issues of managing and maintaining stocks (Bortolotti, 2019), with 'maintaining' to be literally understood as 'holding in between', in this case between the incoming and outgoing flows. Third, local products and their distribution, as supported by a circular economy policy, should be boosted in order to make the products more visible, and to increase awareness among inhabitants as to the impacts of their consumption patterns. We will

⁹ BATIr (ULB), Ecores, ICEDD, (2015). *Métabolisme de la Région de Bruxelles-Capitale: identification des flux, acteurs et activités économiques sur le territoire et pistes de réflexion pour l'optimisation des ressources*. Bruxelles Environnement.

successively discuss transport and mobility, energy and materials, water, and finally food.

4.1.1 Transport and mobility

The ambition for the development of sustainable mobility – given its current high energy impact – has taken a decisive new turn with the pedestrianization of the central boulevards. The expansion of the walkable area, in the heart of the city centre, having metropolitan consequences, should incite us today to exceed both the limits of the project and its exclusively mobility-inspired character. The challenge we are faced by, however, consists of being able to overstep a critical threshold beyond which the priority given to pedestrians, cyclists and public and shared transport, structurally transforms the city centre's mode of operation, through the modes of living, working, consuming and distributing (see Vanin et al., 2020, in this book).

To move from a central pedestrian zone, predominantly commercial and recreational, touristically attractive, to an entire inhabited city centre area, a majority of the public spaces of which are at least shared, and whose mobility is organized in strong articulation with the regional and metropolitan sustainable transport network, represents a major opportunity for change. The challenge of the extension of the central boulevards project, as developed in several contributions in this book (Wayens et al. 2020; Mezoued et al., 2020; Vanin et al., 2020), is therefore indeed about overstepping a critical threshold beyond which a change in size becomes a change in nature.

Today, numerous cities demonstrate the positive effects of the development dynamics carried by projects of strong walkability, such as Ghent, Bordeaux, Oslo, and Pontevedra in Spain. These cities, whose public areas in the city centre have been redeveloped into pedestrian zones and meeting areas, duly illustrate these transformations and materialize Jane Jacobs's (1995) premonitory thought regarding the city's need to provoke the attrition of automobiles instead of its erosion by automobiles. She had already begun to draw attention to the risk that the development of pedestrian areas would lead, without other measures, to a mere shift in traffic patterns, without reducing levels. In this respect, the fortune of Brussels is that it is able to count on a strong framework of public transport, whose articulation with the city centre should continue to be improved as much as possible.

However, before serving effectively as a lever for future extensions and potential systemic transformation, there is probably a need to clarify and further improve what is in place today in the large pedestrian project. Hence, the project for the city, as communicated today, lies, if one refers to the rules of the Highway Code, between the pedestrian zone and the residential and meeting areas. It does not meet the definition of a pedestrian zone, since it allows access to vehicles for the disabled and infirm living in the zone, as well as for users involved in various organized events. Likewise, it does not meet the definition of a residential or meeting

area, which authorizes access to all vehicles without restrictions, rather involving measures to dissuade transit traffic, limiting the number of parking places and, where appropriate, introducing time-differentiated sharing measures.

That said, the City has expressed the wish to revise the Highway Code, which is inadequately named as there are, strictly speaking, no highways in the city¹⁰. Concretely, today, certain sections of the central boulevards and adjacent streets are redeveloped as a pedestrian area and others as a residential or meeting area. In the latter, one cannot fail to note there are bollards and other longitudinal delimitation devices that deviate from the ministerial recommendations¹¹ and blur the readability and comprehension of the orders of priority, as well as the maintenance of segregated profiles that, although they display an 'urban' aspect (paving, furniture), cannot mask their road-inspired nature based on the structuring of public spaces into dedicated, single-use sites.

4.1.2 Energy, materials and use of buildings

The general policy statement of the new regional government (presented on 18 July 2019) integrates, among other things, a number of objectives pertaining to the circular economy and building renovation, energy efficiency and renewable energy. To respond to this, the vision for the city centre requires, because of its high heritage value, developments specifically around actions to enhance and optimize the existing, to mutualize, maintain, recover, reuse and recycle. Indeed, many existing buildings, offices, shops and services are lightly occupied, with the upper floors even remaining unoccupied in many instances. Above all, such buildings would require an optimization of their occupation and allocations, and debate exists as to the transformation of unoccupied office space into housing, schools, etc. to meet the demographic needs of the Region.

These approaches require a culture of attention, care, invention and collective intelligence, which interestingly, also corresponds to what is recommended for the design of shared public spaces.¹² In redesigning public space in view of better-shaping its adoption, the opportunity to encourage individual or concerted initiatives to improve the built environment and surrounding areas should be further amplified. Whether this be through the development of ground floors of buildings, the renovation of facades, the renovation of grouped buildings,¹³ or the installation of shared technical networks.

¹⁰ Given the complex role they play in the city, highways are designated as streets, avenues, boulevards, etc.

¹¹ Regional circular relating to residential areas and meeting areas of 09/09/2013 - Brussels-Capital Region.

¹² Guide to the Brussels public space – www.publicspace.brussels

¹³ Cf. the BRAL initiative: *Collectief Isolé*

4.1.3 Water

In his thesis, Christian Nolf (2013) establishes a typology of Belgian cities based on their relation to the water (gate between land and sea, edge beachfront, *confluence*, *terminal* at the end of a plain, *bridge*, *water mill* and *finally ridge towns*). Brussels is a city – *terminal*, since its small river, the Senne, was only navigable downstream in the medieval period. The tenuous, but dense, network of its tributaries is inseparable from the fabric of the capital's territory (Deligne, 2003), generating and then serving its growth, despite a flood pattern with which the city was able to cope for a while. Like most of their congeners, Brussels's brooks and rivers have been exploited, modified, polluted and then buried. The city continued to grow, forgetting rather quickly that these living roots continued to run under its increasingly condensed base – a trend that its status as a City-Region has strengthened.

At the face-off between climate upheaval and changing rainfall patterns on one side, and the crux of Brussels's urban struggles on the other, a rehabilitation movement around the watercourses in the city has grown remarkably in recent years. Between micro-local niche situations like *Ilot d'eau*¹⁴ citizens projects for the rehabilitation of water as urban commons like the States General of the Water in Brussels,¹⁵ innovative projects from public authorities to meet supra-territorial policies (European Directives on water, biodiversity, habitats) or at the crossroads of these logics,¹⁶ the dynamics of reconnection between the city and its rivers bears witness to a transition in the relationship between Brussels and the water.

In a 'natural' register, the city centre is criss-crossed by waterways that are still active deep below it (besides the Senne, there are also the Maelbeek, the Molenbeek, and their respective tributaries). Despite recurrent flooding due to their overload during periods of heavy raining, opening them up is not possible everywhere, nor is it justifiable, even from an environmental perspective. In contrast, the provision of space for rainwater in the built fabric and in the frame of open spaces is particularly crucial in a territory that lies in the hollow of a valley and that is so unabsorbing. It is corollary of a paradigm shift that sees it as a resource or an amenity. The *Escaut sans frontières*' initiative¹⁷ – supported by Brussels Environment – wanting to *nature*, not *renature* the channel, meaning that this technical artefact would be turned into an ecological corridor, is an example of this.

In an anthropogenic register, the city centre has a duty to set an example in this dynamic of reintegration of living water into the city, and the pedestrian zone

¹⁴ *Ilot d'Eau le retour* is a project developed by the Latitude office and the La Cambre-Horta Faculty of Architecture of the ULB, to explore the challenges around a common and shared management of water at the scale of the urban block.

¹⁵ <https://www.egeb-sgwb.be/>

¹⁶ See the Brusseau project, which invites residents to develop, with researchers and stakeholders, diagnosis and development proposals to reduce the risk of flooding in Brussels, with the support of Innoviris. <http://brusseau.be/projets/>

¹⁷ <https://gs-esf.be/fr/publications/dossiers/corridorecologique.php>

can be a powerful lever in this regard. The symbolic importance of this historic neighbourhood in the territorial identity, along with its popularity, indeed gives it a valuable education and awareness-raising potential. The change of rhythm and the gaining of space provided by the pedestrianization, but also the very readable harbour history in the urban landscape, provide many opportunities to invent new urban rivers (Mahaut, 2009) and, like the dynamics of a hydrographic network, to spread this sensitivity to the water beyond the central area along the paths of those who trace the citizen initiatives¹⁸

The transversality of the large pedestrian zone's 'extended' vision and, in particular, the contribution of the Brussels Centre Observatory are therefore definitely to be considered assets. In contrast, the incredible complexity of the system of actors that have to be mobilized in order to overcome socio-technical blockages – of territorial, regulatory and political nature – that hinder a radical change in the relationship between city and the water, is worrying.

The implications of this change – water management at parcel level and its architectural corollaries, network separation and the consequent upheaval of the water management doctrine, reversal of the impermeability of the soil and 'de-paving' – are of course monumental undertakings, but a wait-and-see policy is no longer possible, even if only in terms of environmental justice.

4.1.4 Food

From this perspective, the responsible city in general, and Brussels in particular, faces a stumbling block which could paradoxically be the sole cornerstone of a strong transition: the food system. A few months ago, *The Lancet*, a leading medical journal, published a report denouncing the central role of the globalized food system and its agricultural techniques in regard to both climate change and the global malnutrition and obesity pandemic (Swinburn et al., 2019). Among the centrality dimensions (Monnet, 2000), there is the political space where urban strategies are born and debated. From this point of view, the centre of the metropolis can claim to be the initiator of a dynamic of strong transition: the Good Food Strategy.

This 5-year program started in 2015, and is organized around two axes: better production practices, mainly through an increase in local sustainable food production, which adds a dimension of the productive city that is not commonly considered, and eating well. To achieve these objectives, Brussels supports research and operational projects, and supports collaborations between sectors, but also, and above all, with its hinterland.¹⁹

¹⁸ In particular the States General of the Water in Brussels, <https://www.egeb-sgwb.be/>
¹⁹ Stratégie GoodFood, Bilan à mi-Parcours, Synthèse, 2018.

> **Figure 2.** Comité Alhambra



Source: Comité Alhambra, 2015

> **Figure 3.** Comité Alhambra



Source: Comité Alhambra, 2015

GoodFood generates many innovative projects—and as many emanate from it—such as BoerenBruxselPaysans²⁰ or the garden network, the *Bruxelles Environnement/Leefmilieu Brussel* initiative. Only through an ecosystemic approach to the Brussels transition can these local, sustainable and affordable production initiatives, often fragile and relatively isolated from one another, be transformed into a structured and structuring (eco)system in the food sector. Such an achievement would contribute to reducing the food basin of the metropolis to a more ethically and ecologically sustainable territorial footprint. Tentative studies of GoodFood report that about 1600 ha²¹, which can be mobilized in the useful horticultural area of the 2 Brabants, would suffice to supply 30% of the needs of the Capital Region in terms of fruits and vegetables.

However, is the food autonomy of cities, at the time the horizon of agrarian urbanism (Waldheim, 2010), seriously possible? According to our calculations,²² even when counting on an evolution in eating habits, reduction in water, soil and energy resource consumption,²³ when taking into account the age structure of the population (Statbel, 2018) and the potential agricultural surface²⁴ of the metropolitan area, this would only cover 10% of the needs of its population, based on unconventional crop yields.²⁵ So the Brussels food autonomy still is utopian. The transition of the entire system remains supralocal in scope. This does not question the need to relocate a maximum of production, in order to switch to a territorial agriculture, or, in other words a deeply socio-environmentally rooted agriculture.

Nor does this observation question the importance of production within the dense city. Its socio-cultural and ecological role is well established (GoodFood, *op.cit.*) and is crucial to changing dietary habits. In terms of nutrition, it contributes to

20 As a flagship project of the GoodFood strategy and of the Feder programme for 2015-2020, this project, which brings together two public partners and two associative partners, aims to support the ecological transition of existing farms and the installation of new farmers in the Capital Region. Concretely the project offers a test space of about 2.5 ha and the renovation of an adjoining farm, technical support, as well as help in the search for land. It also develops sustainable urban and peri-urban agricultural models, and supports the development of a new local transformation sector.

21 Stratégie GoodFood, bilan à mi-parcours, synthèse, 2018 p.4.

22 The Bruxellian bioregion between phenomenon and project: the agro-ecological horizon in *Bioregional Planning and Design. Perspectives on a transitional century*, David Fanfani and Alberto Matarán Ruiz Dir., Springer 2020.

23 Less animal protein in favour of vegetable protein, as recommended by TYFA studies (Poux, X., Aubert, P.-M. Iddri-AScA, Study N°09/18, Paris (2018). *Une Europe agroécologique en 2050 : une agriculture multifonctionnelle pour une alimentation saine*, AFTERRES (Solagro, (2016). *Le scénario Afterres 2050*), WWF (WWF, ECO2Initiative (2017). *Vers une alimentation bas carbone, saine et abordable.*)

24 Useful agricultural surface + de facto cultivated surface according to CAP declarations.

25 Based on an estimate of a yield specific to this context and to the unconventional practices: «Évaluation de la production agricole primaire professionnelle en Région de Bruxelles Capitale et sa périphérie», Laboratoire d'agro écologie, Université libre de Bruxelles, 2018; études Afterres 2050, TYFA et WWF, *op.cit.*

the need for horticultural products and even small-scale farming products. But the main nutritional energy contributions are supplied by cereals and other carbohydrate-rich foodstuffs, which require surfaces that cannot be provided in city centres, whatever the type of agricultural practice employed.

In order to strengthen and consolidate a network of metropolitan agriculture, the ecosystemic approach allows us to take into account both public and private spaces' having a nutritious potential compatible with their urban use. In this regard, the *Continuous Productive Urban Landscapes* strategies developed in other European cities (London, The Hague, Berlin) are quite inspiring (Viljoen, Bohn and Howe, 2005). They consist of networks of nourishing landscapes, in more-or-less continuous urban spaces. On a micro-scale, they unfold as vegetable gardens in public parks, as cultivated interior gardens or open spaces of public or corporate land, or as above-ground ecological agricultural projects (thus depending on living and non-inert energy). At the meso-scale, landscape elements (rivers, forests, metropolitan parks) welcome more ambitious programs, such as farms and agricultural parks. Combining, at the design stage of the projects, the aesthetic with the agricultural technical requirements, and working with the private and public domain, the CPUL's strategies use an ecosystemic and co-design method to integrate agriculture in the urban space in a coherent and structured way. The foundations of such an approach are widely present in the city centre: a CPUL project would deserve serious consideration here.

Apart from the spatial question, another resource of the city centre resides in a less open manner in every household: organic waste. There was a time, not so long ago, when cities' 'sludge' and 'green' waste fertilized the land of their food basin (Rosenthal and SOA 2018). A recent study, at the crossing of GoodFood and the PREC²⁶, identifies the potential of garden waste from the Brussels-Capital Region and offers local solutions for its enhancement into compost according to the type of urban fabric (Bortolotti, 2019). In this scenario, the dense city centre, although not very green, is not outdone, mainly thanks to the catering industry, including the many office, school and association canteens. Why not imagine structuring these dynamics and complementary resources not only in the centre, but throughout the metropolitan territory? The combination of networks adapted to local and technical logics would ensure a certain variety of production at the metropolitan level.

It is in this perspective that, within the Metrolab.Brussels framework, the idea of a 'yellow network' (de Lestrage, 2019) was developed. This 'mesh' would connect isolated and scattered unconventional agricultural practices across the territory, by making use of the niche situation created by the social importance of the food issue. This agro-landscaped network serves nutritional, as well as ecological and socio-cultural, functions, and has project potential both at the scale of the isolated

²⁶ PREC (Regional Program in Circular Economy), adopted by the Government on 10 March 2016.

practices and at the scale of the bioregion where it finds its ecosystemic consistency. It generates a multiscale geography, which interrelates the districts of the dense city with the spatial, ecological and agronomic resources of the bio-region, the forms of which have been conceived in a spirit of reconciliation between urban and rural areas (de Lestrangle, 2019).

The coming together of the immense resource that organic waste constitutes (in 2018, 50% of white bag waste was organic, according to Bruxelles Propreté/Net Brussel), the agro-ecological dynamics that are expanding through the metropolitan territory, combined with the ambitions of the Brussels-Capital Region and those of Flanders²⁷, make this project possible.

4.2 A living city

The development of a living city invites us to think about the quality of the living environment for people and all living organisms. The city's attractiveness will depend on the one hand on the ability and quality of reception of a diverse population, their needs and their aspirations (see Chapter 3), and of the animal and plant species on the other. Here, we will explore some answers based on approaches of urban nature and, secondly, on considerations about the built and developed environment.

4.2.1 Urban natures

A nourishing basin, relocated if possible and offering healthy and affordable nourishment, where water regains its right to the city, is key to becoming a living city. The ecosystemic approach and its mesological basis designate the latter as an environment where the conditions for the care of the living, in all its forms, are fulfilled. In the living city, the urban natures of the three orders²⁸ co-exist, even symbiotically. This requires the attainment of the spatio-environmental and socio-technical conditions so that they can 'nature' with, in, on, by the city – i.e. in its anthropic artefacts as much as in its dedicated spaces. Living buildings, development of/caring for agro-eco-landscape networks, regulatory possibilities to generate hybrid, multifunctional and heterogeneous landscapes guaranteeing the resilience of socio-ecosystems are some of the conditions for the transition of the dualistic city, which separates nature and culture, city and countryside, centre and periphery, or dimensions of the living, towards the living city.

²⁷ Within the Flemish Strategic Plan for Organic Agriculture, the Brussel Lust initiative aims to encourage farmers around Brussels, hitherto predominantly conventional, to supply the capital with organic products.

²⁸ The concept of the three natures is proposed by John Dixon Hunt, landscape historian; he defines the first nature: wild; the second nature: domesticated, the cultivated countryside; and the third nature: the garden. Hunt, John Dixon, *L'Art du jardin et son histoire*, Paris : Éditions Odile Jacob, coll. 'Travaux du Collège de France', 1996.

We find the theoretical foundations of this current in the critical urbanism of the Inversion Movement, generated by the works of Geddes (*Cities in Evolution*, 1915), Olmsted (*Public Parks and the Enlargement of Towns*, 1870), MacHarg (*Design with Nature*, 1969), Mumford (*The Decline of the cities or the Search for a new urbanism*, 1956), etc. Depending on the region, this movement resulted in the theories of Ecological urbanism, Landscape urbanism or territorialism, with inversion today being characterized by a prevalence of agro- and eco-landscape problems and resources.

▮ *Starting from an anthropo-biocentric ethics which translates the values of co-presence and co-evolution, [it] methodologically shifts the primary attention of urban planning from land use to neo-ecosystemics, from territorial objects to their relationships, and from planning to caring. Thinking the relationship between city and countryside as an ontology, it places open spaces, local practices [and third-party dynamics] that activate them at the heart of the territories' production. The ecosystemic approach of the project that this posture is committed to, acts on the nodes, connecting the natural and anthropogenic variables of the territorial systems to strengthen their co-evolution. It tends to organize spatially at the scale of the bioregion a fine-grained territory, structured by [agro-] eco-landscape continuities. This configuration, optimal for the natural environment, allows to rediscover the human measure of the living and the balance between the logics of local and long networks.*

(de Lestrangle, 2016, p. 395)

└

The sharp transition of the centre of the Brussels bioregion, i. e. its landing, its reconnection with its environment's socio-natural resources, can only be considered if this transposition from a dualistic to a third regime can flourish. This has undoubtedly gained momentum in Brussels over the past decade. The development of green and blue networks or of the vegetable network, the Metropolitan Landscapes consultation (op.cit.) and the BKP²⁹ testify to this within the landscape project's register. Its technical conditions include (without pretending that this is exhaustive) tools such like the ecopotential, the CBS and the CBS+,³⁰ the guide to sustainable construction, or the Urban Agriculture facilitators³¹. The centre of Brussels in particular is a pool of dynamic third parties (micro-projects of urban agriculture, temporary occupations, third party places of work or art), which are situation-niches of that regime change (Schot & Geels, 2008; Geels, 2011). They share the (re-)discovery of the value of sharing, the richness of heterogeneity, and the prospect of a common good territory. The basis of the latter being, without

²⁹ Beeldkwaliteitsplan, landscape and urban quality plan for the Canal territory.

³⁰ Biotope coefficient per Area, see *Bruxelles Environnement* and *écorce, Bâti et biodiversité*, 2018.

³¹ At the initiative of *Bruxelles Environnement*; an interdisciplinary information and support service for the development of projects in urban agriculture.

question, the recognition of ecosystemic resources, starting with the living soil as a common good.³² In terms of governance, the challenge of transforming such a utopia into an eutopia is considerable – but there are many avenues, such as the concept of transpropiation³³ brought forward by François Ost (The environment, a hybrid object that eludes the public-private distinction in *Public Privé*, 1995) taken over by Donadieu (*Paysages en Commun*, 2014) and of which the Community Land Trust is, among others, a form of experiment in the city centre.

4.2.2 Habitat

The built morphology of the city centre forms a palimpsest developed over the centuries. Its vitality produced by the intermingling of its different phases of urbanization (see Jaumain, 2020) and edification feeds the inspiration for future transformations. This patrimonial building process, to be understood in the broad sense, has experienced re-structuring³⁴ episodes of mutation on an incremental basis. Let us remember, as cited previously, the piercing of the boulevards, the creation of the Northern Quarter, the Administrative City, the building of the railway junction or the Béco area. Nowadays, the city centre is subject to new pressures linked to population growth and the subsequent densification.

We will not come back to the difficulties of developing a coherent planning at the scale of the metropolitan area, which would make it possible to reduce these pressures. However, it seems important to valorise the reasoned densification opportunities such as optimizing the occupations of existing buildings, or, more specifically, the occupation of uninhabited floors,³⁵ the slight elevations of buildings, the time-sharing of convenience and service spaces, as well as the new forms of transient occupations or mixed working-living purposes. These perspectives deserve to be integrated into the public debate on vertical densification by the construction of apartment towers whose global eco-socio-results³⁶ today are a long way off achieving the desirable and necessary sustainability performances. This enables us to put the benefits of vertical densification into perspective and to bring forward new ways of thinking about the production of the habitat: cooperative, cohousing

³² The common goods differs from the public goods (non-rivalrous) by their strong rivalry, and from the private goods (excludable) by their low excludability. [https://fr.wikipedia.org › wiki › Biens_communs](https://fr.wikipedia.org/wiki/Biens_communs)

³³ The transpropiation would subordinate the rights of the owner of a property to constraints related to the defence of the general interest.

³⁴ We would like to clarify that these are transformations affecting the scale of the urban structure, beyond those of the single building or collection of buildings.

³⁵ Cf. On the one hand, the remarkable work of the social real estate agencies and, on the other, the research and the achievements of reoccupying the floors of shops often poorly used for storage, or the Saint Vide, Brussels 20th district action. (<https://www.leegbeek.brussels>).

³⁶ In terms of energy and resources, there are not only structural difficulties in achieving a sufficient level of performance in the operating consumptions, but also in reducing the quantities of materials and grey energy per m² of habitable space.

initiatives, Community Land Trust, etc. These urban models are more resilient, and allow both the desired densification and a commitment to the path of transition.

In parallel with this densification opportunity, it is also necessary to integrate as firmly as possible in the development of public spaces what should be termed the 'living function': the 'liveability', as a neologism echoing 'walkability'. The life between the buildings, in reference to the eponymous works of Jan Ghel (1971), constitutes a major stake of the densification and more generally of the living city. Each square metre of public space is – and continues to be – increasingly valuable from the moment that the inhabitants and occupants of the city centre, who have too few private or common outdoor spaces, begin to grow in number.³⁷ This increase in the number of inhabitants is desired by the city, which clearly aims to maintain and develop an inhabited city centre, and is likely to produce and amplify a diversity of social atmospheres at the very heart of the city centre. The mingling of populations configures multiple forms of temporary social life between inhabitants, regular and occasional users, visitors, tourists, etc., each of them able to claim equality in the appropriation³⁸ of public spaces. These prospects for intermingling or social mixing, specific to city centres, demonstrate a need for the implementation of a set of measures for land management and for the development of public housing for the less fortunate populations in the different parts of the enlarged city centre (see Chapter 3), or, in other words, an avoidance of the uncontrolled phenomena of gentrification, which accelerate and reinforce exclusion and marginalization.

These temporary forms of social life take on more depth and meaning when they stand out from other modes of appropriation of public spaces expressing the more sustainable and regular presence of inhabitants and occupants, as well as a kind of attention and attachment to the place. It would therefore be appropriate, depending on numbers of residents and users, to better organize the liveability in between the buildings. In terms of layout, this can take the form of intermediate spaces, or of thresholds between, or even penetrating into, the buildings and public spaces. Whether they are terraces, stalls, benches, plants, bicycle storage facilities or other installations, these sub-spaces allow various appropriations and better coexistences between uses. In the parts of the city centre where housing dominates, their thresholds, alongside the facade, could offer a privileged support for forms of neighbourhood sociability and micro-game opportunities for children. These interspaces should, in most cases, be part of the public space, respecting the depth limits set by public authorities to ensure the passage of pedestrians. The excessive invasion of certain public places by café and restaurant terraces, supported in the beginning to ensure animation and social control, is questionable, given the effect of privatization and exclusion that they generate.

³⁷ It is undoubtedly useful to recall here how 'space-eating' the individual car is – the average surface of the public space used by a passenger compared to the other users; in particular, the parking – this qualification being all the more relevant when the public space of a busy city centre is limited.

³⁸ Appropriation in the sense of finding the right suitability and not of seeking to possess.

Remember that when the first sidewalks appeared in our cities at the end of the 18th century, pedestrians could continue to use the road surface. When in 1936, some 150 years later, traffic laws prohibited pedestrians from using the road and obliged them to use the pavements,³⁹ these took on a completely different meaning. Their exclusive assignment as passageways induced the progressive annihilation of the living and service functions they previously bore. What could be described as a denaturing of the pavement has been maintained until today, and is illustrated by the Brussels Regional Planning Regulations which defines the pavement as:

┌ *a part of the public road, whether or not alongside the road, which is specifically designed for pedestrian traffic, covered with hard material and whose separation from the other parts of the public road is clearly identifiable by all users. The fact that the sidewalk crosses the road does not affect its use.*⁴⁰ └

In such a view the sidewalk does not include living and service functions. However, some good practices elsewhere, especially from Dutch cities, allow us to imagine and conceive a change in practices and uses of public spaces, based on these forms of resident appropriations, without physical modifications to their profiles. Thus, pedestrians are in some way invited to 'borrow' and share the road because of the occupation of the sidewalks by the locals. They peacefully reclaim the entire base of public space. Cars parked lengthways are still permitted there, by means of a discreet marking of the parking spaces. This is, for example, the case in the city of Delft. In lieu of financial means to redevelop public spaces in the city centre, it would in some way be like returning to the regime that prevailed in Brussels between 1776, when the first sidewalks appeared, and 1936, when the first law was passed prohibiting pedestrians from using the roads. Let's not forget that meeting areas, just like residential areas, already (re-)permit pedestrians' use of the entire width of the road.

4.3 Participating city

As emphatically demonstrated by the movement of cities and villages in transition, a co-design and co-production of the city involving all actors and stakeholders concerned offers the best chances for its suitability and appropriation. Studies on the residents' and users' degree of involvement at different stages and at different scales of urban projects are a regular subject of discussion. We thought it to be interesting to explore and initiate some reflections upon two generally less-developed domains: first, the domain of collaboration with the research community

³⁹ Loir, C. (2016). *De l'espace partagé à la ségrégation modale: le long processus de transformation de l'espace public (1775-1936)*. Cahiers de l'observatoire de la mobilité, number 5, pp.13-29.

⁴⁰ RRU (Regional Planning Regulations), Titre VII, *La voirie, ses accès et ses abords*, p.7.

– and, more specifically, the action research community – and second, the domain of relationships between the design of the urban environment and citizen initiatives.

4.3.1 Co-design

The paths delineated so far share one important condition: the epistemological renewal of the disciplines of spatial design and management. In this respect, Brussels and Belgium have a founding document at their disposal: the manifesto of the *Société des Urbanistes Belges*,⁴¹ which did not aim for durable, sustainable or resilient development, but rather ‘a sensitive harmony with the environment’. It anticipates, by almost a century, Edgar Morin’s plea (*La tête bien faite. Repenser la réforme, réformer la pensée*, 1999) for a break from the ‘paradigm of disjunction of knowledge’. Therefore we must consider the knowledge, our knowledge, as a suitable connecting thought, according to the disciplines of spatial transformation, for describing the sites, discovering their conditions of consonance and, within them, unveiling the co-presence of the appropriation forms. In short, we must (re-)learn how to act *for, with* and *by* the inhabitants of Brussels, including non-humans.

For a decade, initiatives of such a kind have been widespread throughout Brussels – a fact probably related to the historical tradition of urban struggles (see Chapter 6). They are particularly active on the territory of the centre, which is subjected to the greatest pressures and dynamics of transformation, and whose inhabitants often feel dispossessed. However, it would be impossible to list all platforms, participatory research actions, operational dynamics in co-creation, citizens’ states-general and other collectives here. For this reason, and to allow the reader better knowledge of this topic, we would like to elaborate on one of the initiatives attempting to break out of this justly denounced disjunction of knowledge: the MasterClass Designing Brussels Ecosystemics organized by Metrolab in January 2019, centred on the territory of the Canal.⁴²

Based on identified paradoxes in public policy, and niche situations corresponding to four key themes for the Brussels transition (agro-urbanity, circular building economy, transitory urbanism and third places of the social economy), the master class brought together researchers and field workers with different disciplinary⁴³ and geographic backgrounds. It produced both a descriptive atlas of innovative projects and niche situations in Brussels and a scenario and proposals for strengthening them in the sense of radical ecology (Arnsperger and Bourg, 2017). The experience made it possible to identify four tactics: (1) grounding and scaling;

41 Manifeste de la Société des Urbanistes Belges, pp. 37-40 in *La Cité; urbanisme: architecture, art public*, no. 3, Sept 1919, Ed° Techne.

42 <http://metrolab.brussels/news/metrolab-organise-the-masterclass-designing-brussels-eco-systems>

43 Sociologists, anthropologists, architects, town planners, landscapers, ecologists, political scientists, economists, entrepreneurs, farmers, artists, civil servants ...

(2) maintaining transdisciplinarity and interculturality at the heart of thinking processes, fabric, or transformation of the territory; (3) life-size and in-situ collective experimentation; and finally, what seems a truism, but is too often forgotten, (4) the requirement to plan not *on* or *for*, but *with* the environment – including the non-human living (without considering it as a legal person). This is in line with the axes of Philippe Clergeau's *Manifeste pour la Ville biodiversitaire* (2015), insisting on the systematic integration of the 'professions of the living' (namely ecologists and anthropologists) in the management of the urban project. It also seems urgent to reconsider the role of research, both involved and critical, as an active agent in the production of the territory, crossing formal and informal knowledge. This is the game that the city centre lends itself to, where participatory research-action experiments are multiplying – in particular those carried out by the Brussels Centre Observatory and mentioned in Chapters 6, 10, 11 and 12 of this book.

The city centre is therefore fertile ground for this co-creative process, this 'planning with ...' But its ability to shift the gaze, to consider itself not as a central piece, but as an element of a non-hierarchical system which crosses it, surpasses it, conditions it and feeds on it, is proof of its potential to implement such a transition. In this perspective, the initiatives of observatories, permanent transdisciplinary and civic inquiry mechanisms, should be utilized to perpetuate and multiply around connecting and ecosystemic issues such as the landscape.

4.3.2 Taking part in everyday life

If the question of participation obviously arises at the level of governance and management, it also arises at the level of the daily experience of public spaces and the living together for which they provide the support. These two levels feed each other and interact in different ways in everyday life. The capabilities⁴⁴ of individuals or their abilities to master and sufficiently appropriate their living environment determine the chances of residents' involvement in participatory processes.

In this regard, if the potential for appropriation of intermediate spaces is worth considering, it is also necessary to take into account the possibilities of appropriation for all users through the function of living. One of the fundamental characteristics of the public space is its ability to accommodate the widest range of public life activities whose unpredictability, although relative, must be one of its characteristics. The least deterministic forms of programming and planning represent an essential stake in this respect, particularly in city centres with the least public space per inhabitant and/or user.

A discussion about the evolution of the use and meaning of the concept of the 'event' can be enlightening in this regard. In fact, etymologically, 'event' literally refers to something happening (*unexpectedly*) and is likely to question and challenge a certain established order. But the increasingly dominant meaning today, when

⁴⁴ A concept proposed by Amartya Sen.

it comes to evoking urban life, refers first and foremost to the organization of exceptional activities in an increasingly controlled manner and formatted upon a prefabricated canvas to avoid and anticipate any form of nuisance. As a result, urban events that determine the city centre's rhythm today tend to trivialize forms of privatization of public space, even increasingly charging fees for access to it. This is supported by the unprecedented development of the mobility of information (social networks, applications, and similar). This trend, together with the disproportionate invasion of public spaces by pavement cafés described above, contradicts one of the fundamental achievements of public spaces, namely their free (of charge) access and use for everyone. On the other hand, it is also important to ensure fair distribution of events across the whole of the territory of the city centre and beyond, in order to avoid saturation of certain epicentral spaces in which tensions linked to exclusive forms of appropriation thrive today. This is yet another example of how interesting it could be to extend the current scope of the pedestrian area to a larger shared city centre, rich in open space resources.

Finally, if the participating city is built on several facets, there is one – belonging to the economic sphere – which arouses interest and debates and whose aim cannot leave us indifferent, namely that of a local currency. This undoubtedly has the double advantage of supporting local production of goods and services and of weaving social ties between the various stakeholders, including *consum'actors*, as some like to qualify themselves. It is interesting to note the affinities between these local currency projects and the circular economy development policy, which could induce a particular consistency linked to the specificity of the city centre by raising awareness and involving not only the inhabitants, but also employees, visitors and tourists, for example.

5 > CONCLUSION

In summary, the conceptual framework of the eco-systemic approach posited in this text allows us to outline numerous avenues for a transition to strong sustainability *of*, and *from*, the city centre. Among them, the following trajectories – both dormant and active – seem to be priorities:

The first is, as mentioned throughout this volume, a rethinking of the perimeter of the city centre and its extension beyond the pentagon to the stations. This would make it possible to integrate the diversity of residents and occupying populations and, moreover, to welcome visitors and commuters immediately upon their arrival. Furthermore, this enlargement would do justice to the successive strata that have shaped the history of Brussels, including that of the industrial period – currently at the forefront – to reinvent the productive city, which is essential for reducing its ecological footprint. The corollary of this enlargement is to think of the centre in a non-hierarchical way in its relationship with the rest of the socio-environmental

territory of the bioregion; in this chapter we have highlighted the urgency of a renewal of the city-countryside relationship.

The second trajectory involves giving ourselves the means – planning-wise, regulatory, political – to fully allow co-rejuvenation with the urban natures, including the productive nature. This implies, like in agroecology, the finding – and transposition to the fabric of the city – of the modalities for ‘coping with’ the environment’s resources: transpropriation of the soil seen as a living volume, new urban rivers, strengthening the capacities of local communities in the daily production of resources, etc. This trajectory does, however, bear implications, among which the greatest is the challenge of giving our corporality a central place within the city project.

This is the meaning of the third trajectory: the advent of a walkable city in the strong sense, to which we must add ‘liveability’ as a caveat. By revisiting history, in contrast to ‘Modernity conceptualized from a blank sheet’, the retaking and reinventing of the shared space of the 18th century, or that of before 1936, can be achieved by adapting it to contemporary aspirations and needs – integrating all types of users, including fauna and water! This will require anticipating the change in uses to best guarantee future appropriations, but also the design of spaces not only resilient in the face of climate change, but contributing to limiting it. Many of the ways applied in our territory have been mentioned.

As illustrated by the images offered, a multitude of transitional socio-ecosystems are blossoming in the city centre. However, there is an urgent need to explore them, to understand their driving forces and implications, and to inter-relate them, in order to maximize their potential as structuring vectors of strong sustainability.

6 > BIBLIOGRAPHY

- ARNSPERGER, C. and BOURG, D. (2017). *Écologie intégrale, pour une société permacirculaire*. Paris, PUF.
- BERQUE, A. (1999). *Médiance de milieux en paysages*. Belin.
- BORTOLOTTI, A. (2019). *Questioning Waste Through Urban Metabolism: Technologies, Scales, Practices*. Brussels: Unpublished PhD Dissertation.
- CALATRIO, J. (2015). *Transition*. Paris, Forum vies mobiles.
- CLERGEAU, P. (2015). *Manifeste pour la ville biodiversitaire*. Apogée.
- COLLECTIF (2016). *Strategie Good Food, vers un système alimentaire durable en Région de Bruxelles-Capitale; bilan à mi-parcours*. Bruxelles : Bruxelles Environnement, Bruxelles Economie et Emploi.
- DE LESTRANGE, R. (2016). *Le paysage comme matrice de la fabrique du territoire. Buenos Aires Genève Bruxelles Transposition(s)*. Louvain-La-Neuve : Presses universitaires de Louvain.
- DE LESTRANGE, R. (2017). *Enquête sur une biorégion bruxelloise par le paysage*. Bruxelles : Metrolab Brussels.
- DE LESTRANGE, R. (2019). The Bruxellian bioregion between phenomenon and project: the agro-ecological horizon. Dans D. Fanfani and A. Matarán Ruiz, *Bioregional planning and design*. Springer.

- DE LESTRANGE, R. (2019). Transition agricultures and emerging landscapes. In B. DECLÈVE, G. GRULOIS, R. DE LESTRANGE, A. BORTOLOTTI and C. SANCHEZ TRENADO, *Designing Brussels Ecosystems*. Metrolab Series.
- DECLÈVE, B., GRULOIS, G., DE LESTRANGE, R. and BORTOLOTTI, A. (2020). *Designing Brussels Ecosystems*. Bruxelles : Metrolab Series.
- DELIGNE, C. (2003). *Bruxelles et sa rivière : Genèse d'un territoire urbain (12e -18e siècle)*. Brepols.
- DONADIEU, P. (2014). *Paysages en commun, pour une éthique des mondes vécus*. Valenciennes : Presses universitaires de Valenciennes.
- DUVIGNAUD, P. (1980). *La synthèse écologique*. Paris: Doin.
- GUATTARI, F. (1989). *Les trois écologies*. Galilée.
- JACOBS, J. (1991). *Déclin et survie des grandes villes américaines*. Liège: Mardaga.
- LOECKX, A., CORIJN, E., PERSYN, F., AVISSAR, I., SMETS, B., MABILDE, J. and VANEMPTEN, E. (2015). *Metropolitan landscapes. Espace ouvert, base de développement urbain*. Vlaamse overheid, be. brussels.
- MAHAUT, V. (2009). *L'eau et la ville, le temps de la réconciliation. Jardins d'orage et nouvelles rivières urbaines*. Louvain-La-Neuve: PUL.
- MONNET, J. (2000). Les dimensions symboliques de la centralité. *Cahiers de Géographie du Québec*, Volume 44, n° 123, pp. 399-418.
- NOLF, C. (2013). *Water Needs space/Space Needs Water Exploring the spatial implications of new water management in urban Flanders*. Leuven: KU Leuven.
- ROSENTHIEL, A., and SOA. (2018). *Capital Agricole, chantiers pour une ville cultivée*. Paris : Pavillon de l'Arsenal.
- SWINBURN, B. A. et al. (2019, January 27). *The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report*. Retrieved from <https://www.thelancet.com>: [http://dx.doi.org/10.1016/S0140-6736\(18\)32822-8](http://dx.doi.org/10.1016/S0140-6736(18)32822-8)
- TJALLINGII, S. (1995). *Ecopolis, strategies for ecologically sound urban development*. Leiden: Backhuys Publishers.
- VILJOEN, A., BOHN, K. and HOWE, J. (2005). *Continuous productive urban landscapes: designing urban agriculture for sustainable cities*. Oxford: Elsevier.
- WALDHEIM, C. (2010). *Notes towards a history of agrarian urbanism*. Retrieved from Places Journal: <https://placesjournal.org/article/history-of-agrarian-urbanism/>

THE WALKABILITY OF THE METROPOLITAN CITY CENTRE AS LEVER FOR BRUSSELS'S MOBILITY TRANSITION



Aniss M. MEZOUED¹, Quentin LETESSON¹,
Gabrielle FENTON¹, Alexis CRETEN²

> Abstract

Drawing on the studies undertaken by several interdisciplinary teams from the BSI-Brussels Centre Observatory (BSI-BCO), this chapter seeks to contribute to reflections on the development of a walkable city and its capacity to promote the mobility transition of Brussels. Specifically, it will focus on the metropolitan area of Brussels and lay emphasis on the multi-scalar dynamics of the entire metropolitan area. It is based on two assumptions. The first posits that the perimeter of the metropolitan area, as defined by the BSI-BCO, is large enough to develop a walkability that could span throughout Brussels. The second suggests that although the dynamics at work across the region support this potential, they require a systemic articulation. In other words, a multi-scalar approach to the city's dynamics, integrating the different dimensions involved (political, economic, social, etc.), linking the different actors who help shape the walkability concept. In conclusion, this chapter calls for the creation of the socio-technical system necessary to the realization of a walkable city.

¹ Brussels Studies Institute – Brussels Centre Observatory
² Institut de recherche santé et société (IRSS), UCLouvain

1 > INTRODUCTION

From the pedestrian zones around the central boulevards to the development of *school streets*, without forgetting the redevelopment of Place Jourdan, Place Rogier and Parvis de Saint de Gilles, the metropolitan area of Brussels has been marked by multiple transformations of its public spaces throughout its history. These different projects have all sought to adapt the accessibility of urban spaces to pedestrians' needs and capabilities (Mezoued and Letesson, 2018: 62). This has largely resulted in a reduction in vehicle presence, improved living spaces, and a general adaptation to the pedestrian *metric*.³ In parallel, regional measures involving mobility planning and regulations such as the GoodMove Plan, the Regional Sustainable Development Plan (RSDP), or the drafting of Regional Development Regulations, as well as various civil society initiatives, share similar objectives. These developments, which we set out below, appear to signal a shift in the mobility paradigm, in which the notion of 'Car as King' is called into question, and walking, cycling and public transport become the baseline metrics.

The transformations being undertaken in Brussels are part of a global trend, where criticism is levelled against the city as it was developed in the twentieth century (Jaillet, 2016) and the lifestyles that these developments created (Audikana et al. 2019; Jaillet, 2016). This movement advocates making urban centres and their households car-free (Haden Loh, Leinberger and Chafetz, 2019; Deleuil, Barbey and Sintès, 2017) through increasing the ability to access jobs in the city centre using alternatives to cars or public transport, rethinking cities on a human scale (Gehl, 2010), improvements to services and the quality of life through the encouragement of greater diversity and compactness (Lavadinho, 2011), and introduction of a slower pace of life (Audikana et al., 2019). This results in the promotion of a culture of walking and daily physical activity in a healthy, unpolluted environment. Such a space ceases to be only a matter of spatial planning, and attention is also paid to health and environmental aspects. As a result, the fight against obesity, cardiovascular and respiratory diseases and the sedentary lifestyle of the young (and the not-so-young) are becoming issues that contemporary urban planning must address. Moreover, while in the last century Léon Krier considered that a comfortable walking distance could be situated between 500 and 800 metres (5 to 10 minutes) (Krier, 1977), several contemporary studies have shown the emergence of new daily walking practices that increase walking distances to 5 kilometres (more than an hour) (Christie, 2018), as was the case in the period before cars. Admittedly,

³ Jacques Lévy (2005) defines a metric as the unit of measure of distance relative to each mode of transportation. This is also used to define criteria in urban development. For example, a tram is adjusted in relation to its own metric, and it can be adapted to the pedestrian metric: platforms may be placed at the same level as pavements, shared public spaces may be established, etc. Considering that public transport users are pedestrians who take a break makes it possible to adapt the entire public transport system to this metric.

these are niche practices. However, they have radically transformed preconceptions about the scale and extent of the city's walkability potential.

Alongside these project trends and the evolution of practices, there has been a renewed interest in walking in recent years, in the research undertaken in the fields of urban planning, geography, anthropology and urban sociology. To a certain extent, all these studies borrow from the studies initiated by Kevin Lynch (1969), Jane Jacobs (1961) and Jan Gehl (1971). These authors established a relationship between a city's morphology and its urban and mobility practices, highlighting the importance of pedestrian mobility and perceptions. These pioneering studies, and others undertaken more recently, view the city as 'an iterative encounter between the actor's activated mobility potential and the hospitability of urban spaces to their projects' (Kaufmann, 2014). They lay the foundation for analysing the walkability of cities and the extent to which their spaces are hospitable to pedestrians. More recently, research on the walkability of cities has become associated with environmental issues. The development of walkable areas in cities is viewed as a tool for promoting mobility transition, understood as the transition to a more sustainable mobility centred around the needs of citizens, or even, more broadly, as a tool for sustainability. However, few studies have addressed the contribution of walking in the mobility transition using a systemic approach that takes into account the multi-scalar (local and global) and multi-level (political, economic, cultural, etc.) relationships between the spatial organization of cities, technological innovation and lifestyle transformation (Kaufmann and Mezoued, 2019: 304).

This chapter focuses on the creation of a walkable environment in the centre of Brussels and how this may act as a tool to promote the mobility transition of the entire Brussels region. It is based on two hypotheses:

- 1 The perimeter of the metropolitan area as defined by the BSI-BCO (see Chapter 5) is sufficiently large to enable the development of walkable areas and initiate a mobility transition that could be expanded throughout Brussels.
- 2 While the dynamics at work in Brussels go in this direction, they require the establishment of a systemic articulation.

The first part of this article contextualizes current pedestrianization policies and situates the methodology in relation to the literature associated with the walkability of cities. The second part analyses existing institutional and citizen tools for the development of Brussels's walkability. Based on the results of three multidisciplinary studies, the third part of the article then highlights the challenges and opportunities associated with developing walkability in Brussels. The article concludes with two essential points. First it outlines the characteristics of the metropolitan city centre of Brussels and the extent to which these represent potential levers in the mobility transition at the regional level. Second, to achieve this objective, the article concludes that it is important to adopt an approach that pays attention to the multi-scalar nature of the city as well as to users' experiences and to the diversity of practices and imaginaries.

2 > THE DRIVERS OF THE WALKABLE CITY

2.1 A brief recent history of walking in cities

Before addressing the current challenges facing the aspirations for a walkable city, it seems necessary to present the chronological outline of how pedestrianization policies developed over time. In the post-war years, pedestrian mobility at an urban scale was hardly at the centre of concerns. The zoning approach nevertheless sought to allocate dedicated spaces to pedestrians, for instance through the creation of numerous passages giving them access to the car-linked transport infrastructure which was almost ubiquitously privileged. In the decades that followed, the dynamics triggered by modernist urban planning contributed, in parallel, to an urban exodus and to the 'slow decline' of city centres (Jaillet, 2016). Subsequently, both in Europe and across the Atlantic, projects followed to rehabilitate these centres, leading to the emergence of the first pedestrian zones. These were initially intended as a heritage-oriented approach aimed at preserving the habitat and historical neighbourhoods, but along the way commercial and economic aims were often added (Ferial, 2015). As Jaillet (2016) points out, these initiatives were established following a strong modal segregation rationale: the first developments were exclusively pedestrian.

The same line of reasoning involving the separation of flows and the specialization of routes was pursued more broadly across larger urban areas, especially on the outskirts of city centres. However, the limitations of this approach quickly emerged when the issues specific to intermodal nodes – where the different metrics eventually meet – were addressed (Jaillet, 2016). More recently, it is the rationale of shared public space that has emerged from these situations. These recent experiences in the cohabitation of urban transport modes have two major characteristics. First, priority is generally given to the weakest users, i.e. to pedestrians. Second, unlike previous experiences that were essentially based on layouts specific to the different modes of transport, the sharing of public space now also calls for a change in behaviour alongside infrastructural changes. This attempt at traffic calming may also be linked to a contemporary concern for 'urbanity' (Ferial, 2015; Sieux et al., 2019).

This strong interest in walking – and the desire to make urban areas walkable – can be perceived as a response to a combination of factors – or challenges – characteristic of our contemporary societies. In addition to the saturation of the urban space by vehicles and the desire to decongest the city, growing ecological and climatic concerns (greenhouse gases emissions, dependence on fossil fuels, destruction of ecosystems) affect an increasing number of people and are addressed in the literature related to the collapse of the current socio-technical system (see, for example, Cochet, 2005 and the studies undertaken by the Momentum Institute,⁴ of which

4 See their website : <https://www.institutmomentum.org/> (last viewing on the 06/03/2020)

he is a member, or Urry, 2013). It therefore seems obvious that ‘the promotion of walking meets [...] the new demands for sustainable development’ (Jaillet, 2016). In parallel, the promotion of walking has frequently been associated with public health (Lee and Buchner, 2008), air quality (see, for example, de Schio, de Geus and Bouland, 2018), personal well-being, and quality of life in general. More fundamentally, walking has also occasionally been described as an activity that generates a privileged relationship to the city, matching a desire to reduce the frantic speed that characterizes many aspects of our contemporary lifestyles (Rosa and Chaumont, 2012). Indeed, as Lavadinho (2011) states, walking also means taking part in a different temporality, in a relationship with the city that one could almost qualify as more sensual, more interactive, and even, as the author says, more playful. It is, therefore, not just a mode of transport or a means of circulation; it can also represent a radical stance. Put differently, it is a way of relating to life and to the city, which can set in motion important systemic changes whose repercussions may help redefine certain aspects of our lifestyles. Lifestyle here refers to the sense of ‘a composition – in time and space – of daily activities and experiences that give meaning and form to the life of a person or a group’ (Pattaroni, 2013).

2.2 Defining the walkability of a city

Numerous studies have sought to define the criteria for measuring urban walkability, although often without conceiving their approach in the light of the framework mentioned above (even though they always refer to at least one of the facets comprising the system of aspirations and issues described). While outlining an exhaustive catalogue is beyond the scope of this chapter, two major trends emerge from such studies. The first highlights the criteria relating to the density and diversity of the urban environment, such as the presence of mixed activity zones and amenities, and a high density of residential and commercial areas and jobs. The second trend highlights the characteristics of the built environment, such as the connectivity of the road network, the land use, and the continuity of pavements from origin to destination (for details, see Letesson, 2018: 19–22).

It is worth mentioning that other criteria may also promote walkability. Features of the built environment, such as local topography, the presence of walking and cycling paths, the presence of green spaces and trees, the number of traffic lanes, the width of pavements, the number of parking spots, etc., are certainly important factors. Today, however, it remains difficult to objectively measure their relative importance, even though this may have been assessed intuitively in more or less recent developments or policies that have sought to reallocate certain public spaces. Moreover, qualitative studies, which are attentive to the experience and perceptions of users, are certainly required to fully assess the more complex parameters that should be integrated into policies in favour of walkable urban areas. Consequently, assessing the walkability of a city requires one to go beyond

the criteria of diversity and connectivity, and to develop a more systemic approach that integrates the various technical, social and environmental aspects.

2.3 The socio-technical system of walking

More generally, it also appears crucial to think of the walkability of urban environments in relation to the mobility transition (Kaufmann and Mezoued, 2019). As mentioned above, this means transitioning to a more sustainable mobility that is no longer dependent on petrol. It is clear that such a transition can only occur as a result of reflexively and critically taking into account the associations of actors (Latour, 2006) and the socio-technical system (Markard, Raven, and Truffer, 2012) that have helped maintain and perpetuate the domination of cars (Urry, 2013). However, to consider walking as an integral part of a sustainable and desirable alternative, it is also necessary to seriously address the systemic framework which may support and sustain its development. This attention, as Kaufmann and Mezoued (2019) state, should revolve around ‘three dimensions: (1) the spatial organization of territories in terms of activities and exchanges; (2) innovation and technological transition in terms of transport and communications; (3) the evolution and/or transformation of lifestyles’. This division is relevant as long as the dialectic between space and lifestyles is viewed as ‘necessarily multi-scalar [...] and multi-level’ (Kaufmann and Mezoued, 2019).

The need for a multi-scalar approach is frequently mentioned in connection with the expansion of walking spaces in urban areas. This ‘scales crisis’ has accurately been described by Salat (2011). He underscores that, traditionally, there is a consensus that two, potentially conflicting scales, exist within the city, i.e., the metropolitan scale and neighbourhood scale. While the former is associated with large infrastructures and clear zoning, the latter is related to the close proximity to which many virtues are attributed, although these are difficult to define (Salat, 2011). While modernism affirmed the supremacy of the metropolitan scale over neighbourhood scale, the trends described above were primarily aimed at ‘reconciling the two scales, i.e. local and global, by “connecting” them to each other’ (Salat, 2011). Quite rightly, Salat questions the relevance of such an approach: ‘[...] can we settle for this connection, for this linkage between the two scales? Can the local scale of men and the very large scale of regional development simply be juxtaposed without intermediate elements? Can the city be reduced to its two extreme scales: the globalized global scale and the human local?’ (Salat, 2011). Salat’s response to this question relates to what he defines as the ‘fractal nature of cities’ (Salat, 2011), upon which we may draw to reflect on multi-scalarity. Concretely, reflecting on the city in relation to the issue of mobility implies that one must take into consideration the existence of multiple scales made up of similar structural elements and inter-scalar hierarchical relationships which intricately link the functioning of the whole to that of its separate parts. More fundamentally perhaps, while the city actually contains morphologies and structures that are repeated at

different scales, it inherently contains the seedlings of spatial resources necessary to its requalification in terms of walkability. In other words, while the different scales of the city share similar configurational and morphological characteristics, these characteristics may be mobilized to articulate around the constraints and opportunities specific to neighbourhood, city, and metropolis. This approach can make it possible, for instance, to develop walkable neighbourhoods, as is the case in Melbourne, with its network of 20-minute walkable neighbourhoods.⁵ The initial sketch of a similar approach is now integrated into the measures and guidelines of the Regional Sustainable Development Plan for the Brussels-Capital Region (PRD).

The need for a multi-level approach has also been underscored by authors analysing the factors that drive contemporary pedestrianization processes. For example, Brenac and colleagues (Brenac, Reigner and Hernandez, 2013) highlight the role of pedestrianization projects in interregional competitive processes aimed at pushing cities forward on the tourism stage. After analysing several case studies, they notably conclude that these policies contribute little to sustainable development. Rather, they are part of 'urban marketing strategies of cities engaged in inter-urban competition processes – which increase the value and attractiveness of strategic places in the city and tend to shift problems (and deprived populations) to other parts of the urban territory' (Brenac et al. 2013: 271). Similarly, as emphasized by Sieux and colleagues (2019), Genard and Neuwels (2016) noted in the case of Brussels that 'ecological challenges do not lead to a cultural redefinition of modern society, but rather to a mere regulation of nuisances which is achieved through capitalist technologies and logics'.

These different reasons show that there is a pressing need to focus attention on walking as a socio-technical system that integrates with and acts upon several levels – or dimensions – of the city, rather than on economic or logistical dimensions alone. This requires a level of attentiveness to the existence of a wide variety of lifestyles, in order to facilitate a walkability project that is as fair and inclusive as possible, throughout the city and not only in a few privileged neighbourhoods.

3 > WALKABILITY LEVERS IN BRUSSELS

Faced with the failure of the 'Car as King' (Hubert, 2008) paradigm and the numerous associated consequences, in terms of mobility, the environment and health, the need for alternative mobility has gradually conquered the hearts and minds of the inhabitants of Brussels. Although often too partial and too local to substantially redefine the walkability of the city at the metropolitan scale, various institutional initiatives may help initiate a mobility transition conceived from the pedestrian's metric. The various institutions responsible for the planning and development of the city have thus attributed increased importance to walking within their plans,

⁵ See: <http://theconversation.com/people-love-the-idea-of-20-minute-neighbourhoods-so-why-isnt-it-top-of-the-agenda-131193>, retrieved on 6 March 2020.

and have implemented several initiatives aimed at developing walking practices in Brussels. The issue, however, is not limited to politicians, city planners and other decision-makers. Citizens have taken it up as well, launching a number of initiatives to promote a city centred around its inhabitants and freed from cars. While some actors are involved at the educational level by justifying and drawing attention to the importance of developing a culture of walking, others outline the legal and strategic basis necessary for improving walkability. The paragraphs below outline the most representative examples of these institutional and civic initiatives.

3.1 Institutional drivers

Brussels officially began its transition to walking in 2011. In the same year, the IRIS 2 plan replaced its previous version and proposed a new vision for mobility in Brussels. Indeed, since its creation in 1989, the Brussels-Capital Region (BCR) has been able to make its own decisions concerning its development, particularly in terms of mobility. After the initial plan, a new mobility plan was established, which sought to combat the omnipresence of cars and to promote active modes (walking and cycling) and public transport. To achieve these objectives, it was accompanied by a Pedestrian Plan intended to operationalize the measures outlined with regard to pedestrians. Various tools were identified to promote walking in the BCR, including the annual organization of the Pedestrian Symposium and the creation of a map of walking routes. Following the IRIS 2 plan coming into effect, an inventory of the slow lanes in Brussels was undertaken with a view to publishing an atlas, better known as Stapas⁶. This atlas lists all the lanes in the region that are closed to car traffic, as well as the speed restricted zones that share space with other modes of transport. Based on this work, a pocket atlas for pedestrians was published and a website providing information to pedestrians and cyclists was created. The data was updated in 2016, and a smartphone application was also created (Be walking. Be Brussels⁷). The results were also used to create a publication⁸ intended for political decision-makers in the Brussels area and for professionals involved in the design, planning and management of roads. The objective of this publication was to provide the necessary information and tools, in particular via a list of ‘recipes’, to successfully implement policies in favour of slow routes. It also sought to convince decision-makers of the potential of such zones.

After the IRIS 2 plan, the new Regional Mobility Plan (RMP), better known as GoodMove, further increased the role of active modes of mobility across the region, with a series of new measures being introduced in line with this. Although approved only recently, i.e. in early March 2020, we can nevertheless

⁶ <https://www.stapas.be>

⁷ Online, retrieved on 5 March 2010. <https://play.google.com/store/apps/details?id=be.trage-wegen.brussels&hl=en>

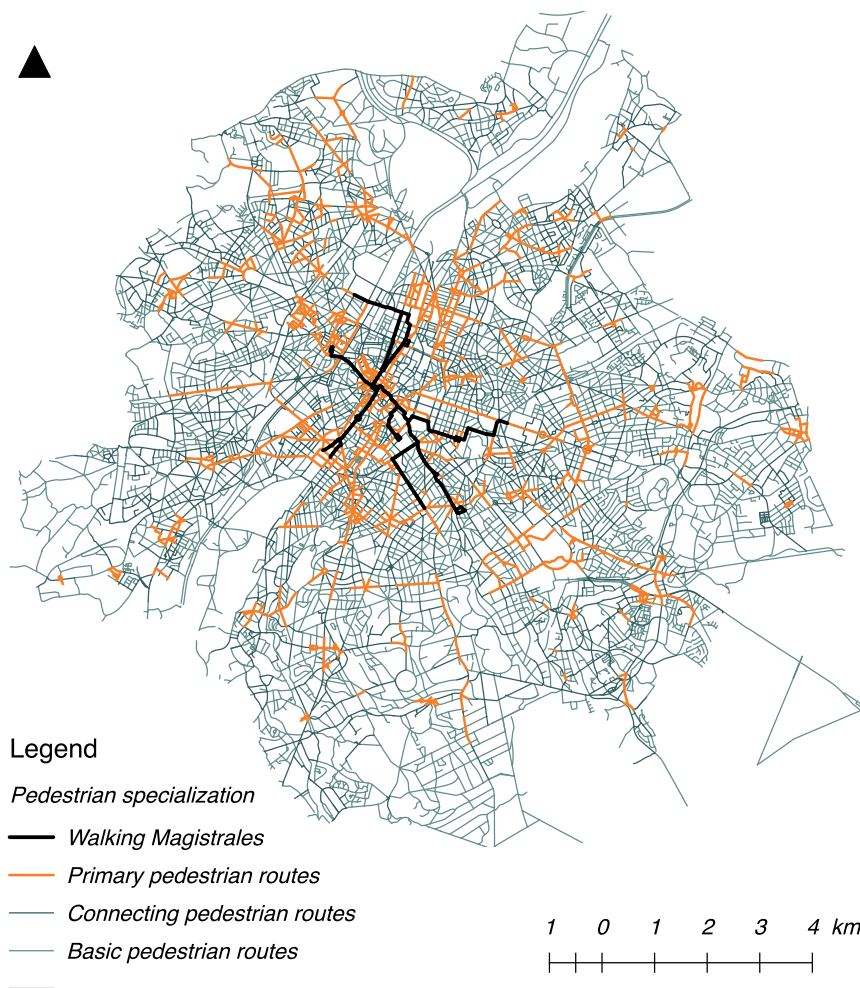
⁸ Bruxelles Mobilité, 2018, *Guide pour la valorisation des voies lentes en Région de Bruxelles-Capitale*, Vade-mecum piétons en Région de Bruxelles-Capitale 6, Brussels: Bruxelles Mobilité.

quote some important measures included in the project. The plan states that the organization of the region was redesigned based on a multitude of centres, in order to transform Brussels into a walkable city where all the services needed on a daily basis are conveniently located within a 5-10 minute walking distance of one another. Through this, the number of trips and the distance of these trips will be reduced, making walking and cycling a more efficient transport option. Mobility is considered from the general principle of 'meshes', or street networks. This refers to a series of zones with a diameter ranging from 1 to 2.5 km around the centre of the neighbourhood, in which car traffic is discouraged to make way for more active mobility and public transport. The stated objective is the creation of 250 km of calmed zones by 2030, and 400 km by 2040, in the form of pedestrian zones, residential areas and contact zones. With the exception of certain major routes, the maximum speed allowed within the BCR will be limited to 30 km/h to allow for a more harmonious coexistence between the different transport modes. The ranking of modes will be carried out according to the STOP principle, which gives priority to pedestrians (*Stappers*), then cyclists (*Trappers*), then users of public transport (*Openbaar vervoer*) and, finally, users of private vehicles (*Personenwagens*).

GoodMove also intends to implement pedestrian *magistrales* (major pedestrian axes, Figure 1). These refer to eight axes that will connect several neighbourhoods outside the Pentagon,⁹ but which lie within the metropolitan area as defined by the BSI-BCO, and which have great potential in terms of walkability. These routes, like those developed in Strasbourg, Buenos Aires, Paris or Rouen following Sonia Lavadinho's concept of a superconnector, may ultimately represent the main structures of a pedestrian network that would ultimately cover the entire region (see Figure 1). In addition to their physical characteristics that add to their walkability, these *magistrales* also display sensory aspects associated with dwelling, aesthetics and recreation (see the recreational city proposed by Lavadinho, 2011). An additional stated objective is the promotion of greater elasticity in the distances people are prepared to walk, focusing on distances from one to three kilometres for which people today still often privilege cars, rather than distances under one kilometre, for which people primarily walk already.

⁹ The heart of Brussels is referred to as the Pentagon because of its morphology, which is delimited by the boulevards of the small beltway and which is also where the second wall surrounding the city formerly stood.

> **Figure 1.** Pedestrian map of the modal specialisation of roads in the GoodMove Plan



Source: Authors' cartography

Data sources : Brussels Mobility, Mobigis 2020

To fully implement the pedestrian network, in 2014 the Brussels-Capital Region launched the development of Roads and Public Spaces Accessibility Plans (PAVES) for each of its 19 municipalities. These schemes, which seek to tangibly address the criteria defined in the Pedestrian Plan, are aimed at universal accessibility. A space is considered as accessible insofar as any person – and in particular persons with reduced mobility – can use it independently.

In addition to the development of the pedestrian network at regional and municipal levels, it should be noted that the strengthening and progressive reorganization of the public transport network by STIB (public transport in Brussels excluding railway trains) and SNCB (the National Railway Company of Belgium) have also

shaped the development of an alternative to cars in which walking is perceived as the benchmark (see for example Lévy, 2008; Lavadinho and Lévy, 2010; Appel-Muller, 2015).

These different institutional initiatives reveal a desire for a change of paradigm in Brussels's mobility. However, as shown by Figure 1, it is regrettable that the network lacks continuity across the different levels. Put differently, the main, connecting and basic routes are not continuous. Hence the multi-scalarity of the network is still insufficiently developed at this stage.

3.2 Civil society's role

Alongside the region's regulatory measures, plans and recommendations, civil society plays an important role in the development of a walking culture in Brussels, similar to its role in increasing the cycling modal share. The issue of air quality recently generated a considerable and organized response from civil society, in particular from parents of students. Indeed, the publication of the Greenpeace report 'My air, my school' in 2018 acted as a trigger and caused many parents to take a stand. The report revealed that out of the 222 Belgian schools where the air quality was measured, the concentration of nitrogen dioxide in the air was above the legal limit in 19 schools. Moreover, the air quality of many of the other schools assessed was also poor, particularly for those located in urban areas (Greenpeace, 2018). Following this report, parents launched the 'Filter Café Filtré' movement in March 2018, in order to campaign for better air quality in all schools, notably by organizing symbolic roadblocks around them¹⁰.

The dismay at the quality of air also led to the emergence of the citizen movement *Bruxsel'air* in 2016, who demanded that politicians implement concrete measures to improve air quality. One of the movement's 12 demands is to 'redistribute public space in favour of active mobility and public transport'.¹¹ In 2019, driven by 'Filter Café Filtré', some of these demands were formalized by passing a law recognizing the status of a 'school street' in the Highway Code.¹² A school street is a street upon which the entrance of a school is located, and which is temporarily closed to car traffic during school entry and exit hours, with limited exceptions (for instance residents leaving the street and public services). This concept had already been in place in Flanders since 2012 to ensure better safety around schools,¹³ but its application was not backed by any legal foundation. A street is granted this status upon the decision of the road manager, and therefore responsibility lies primarily with

¹⁰ Filter Café Filtré, retrieved on the 7th of November 2019. <http://www.filter-cafe.org/>

¹¹ *Bruxsel'air*, retrieved on the 7th on November 2019. <https://www.bruxselair.org/#revendications>

¹² *Paraat voor de schoolstraat*, retrieved on 7 November 2019. <https://www.paraatvoordeschoolstraat.be/wat/>

¹³ City of Ghent, retrieved on the 7th of November 2019. https://stad.gent/sites/default/files/page/documents/20160915_DO_folder%20schoolstraat%20def_o.pdf

the municipalities.¹⁴ In early 2019, the Brussels-Capital Region created a fund of more than one million euros to help municipalities set up school streets and establish other measures to secure the areas surroundings schools. In autumn 2019, the region had six permanent school streets, including one in the city centre, whilst 13 were in the test phase¹⁵.

Similarly, other measures allow citizen pedestrians to take a certain ownership of the streets. This is the case, for instance, of 'living streets', with the first example in the region located in the City of Brussels, on Rue de Saint-Jean Népomucène (see Figure 2). A living street is one closed to traffic for several weeks, during which residents can experiment with new forms of using the public space. The request must be made by the residents of the street themselves or by neighbourhood committees and associations supported by residents. One of the main objectives of these initiatives is to strengthen social ties in the neighbourhood. A budget may be allocated to enable the street's reassignment, whether that is for the use of temporary street furniture, public activities or vegetable gardens.¹⁶ Other similar measures, such as 'streets reserved for games', also exist.

➤ **Figure 2.** Saint-Jean Népomucène street, the first 'living street' in Brussels



Source: Authors' photography

¹⁴ The Police, retrieved on 7 November 2019. <https://www.police.be/5285/actualites/nouveaute-du-code-de-la-route-les-rues-scolaires>

¹⁵ BX1 (2019) 'Treize nouvelles rues scolaires en Région bruxellois', website viewed on 07/11/2019. <https://bx1.be/news/treize-nouvelles-rues-scolaires-en-region-bruxelloise/>

¹⁶ Brussels Mobility (2018) Guide for the promotion of speed restricted zones in the Brussels Capital region: part II, illustrated recipes with examples in the 19 municipalities.

Although isolated and not envisaged as part of a network, school streets, living streets and streets reserved for games are major drivers that encourage the development of a walkable city. Although their key objective is to ensure road safety, improve air quality, or strengthen social ties, they nonetheless make it possible to initiate temporary or permanent car-free places that encourage users to reclaim the public space and reflect on their mobility patterns. They also promote a modal shift in parents, students and residents of the districts concerned. They could thus help unlock imaginaries (Genard and Berger, 2020) and allow people to experiment with other uses of space and other forms of mobility. These experiences therefore provide valuable learning opportunities for understanding the multi-level nature of the mobility transition.

4 > THE FACTORS WHICH DEFINE A WALKABLE ENVIRONMENT IN THE CENTRE OF BRUSSELS

In terms of legal tools, plans and social dynamics, the key drivers of walkability in Brussels appear to be moving in a positive direction. The trends identified above, and the manner in which they are implemented in terms of planning, projects and mobilization, can lead to a genuine change in favour of walking. However, there is still a long way to go before a paradigm shift and a mobility transition occurs at the level of the Brussels-Capital Region, or at least in the city centre. Indeed, the results of the three studies drawn from various disciplines described below reveal three major shortcomings in Brussels's approach to the development of a walking culture that need to be addressed to enable the systemic development of this culture.

The three studies cited below are based on different but complementary methodological mechanisms. They have focused directly or indirectly on diverse topics associated with walking, and have considered multiple scales. The first, 'Brussels Slow Metropolis', is essentially based on spatial analyses of the Brussels-Capital Region. The study mobilizes both geomatic methods and a space syntax analysis. The second, 'The obstacles associated with pedestrian movements in commercial streets', is based on both spatial and morphological analyses, as well as on the analysis of images and of sociological aspects. The study focuses on three important commercial streets in Brussels and the methodology utilized involves interviews and commented walks with target audiences, notably persons with reduced mobility (PRM). The third study, on the lifestyles found within and around the pedestrian area, takes on a more anthropological and sociological approach. It combines qualitative interviews (60 people), in situ observations and travel logs made using a smartphone app installed by a few interviewees. The application tracked the movements of volunteers over several days within and around the pedestrian zone.

4.1 Reflecting on walkability using a multi-scalar approach

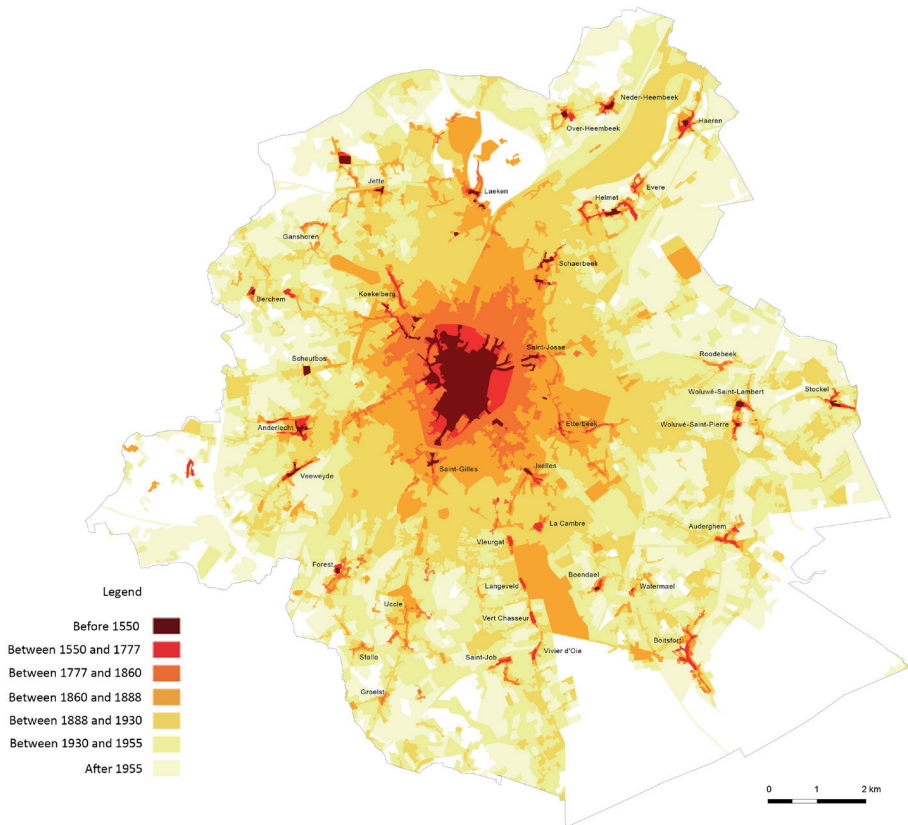
The first observable shortcoming in the mobility transition initiatives adopted by Brussels concerns the connection between the different scales of the walkable city. In order to go beyond the 'scales crisis' provoked by, among other things, modernism and its consequent mobility, i.e. cars (Salat, 2011 : 226), the first priority was to reassess the walkability of public spaces in light of a new relationship to scales and modes of transport. To this end, let's first take the scale of Brussels's metropolitan city centre as defined by the BSI-BCO (see Chapter 2 , Wayens et al, 2020). This space – which fits into a square measuring 5 kilometres along each side – is delimited by the five major stations and the metro, and its boundaries are very similar to those of Brussels before the arrival of the tram; this is highlighted in Figure 3: the city's limits between 1860 and 1888. This area, whose users have historically moved around on foot for the most part, is greater than the usual pedestrian comfort level – which ranges from 500 to 800 metres – and can be a relevant starting point for developing walkability. However, nearly two centuries have passed since this representation of Brussels. In addition to extending even beyond its suburbs, the city has also undergone major structural transformations, first with the train and the North–South junction , then with the 'Car as King' paradigm. The boulevards that shape the Pentagon have been transformed into urban highways and have broken up pedestrian continuity and crossability. Therefore, the first challenge is to restore the natural walkable ties between the Pentagon and these first suburbs, which are now an inherent part of the metropolitan city centre. Today, the inclusion of the small beltway in the metropolitan city centre calls for the reimplementation of its crossability, which necessitates the reconsideration of the role of cars at the scale of the entire city. Moreover, with the inclusion of major train stations, the metro, and major public transportation lines, the accessibility to the metropolitan city centre is one of the highest in the region, allowing for considerable modal shift potential. Indeed, the public transport network has a potential to become a walkability 'expander'. Therefore, the four walkable axes defined by the BSI-BCO (see Chapter 7, Vanin et al. 2020), which are more or less the same as the *magistrales* put forward by the region, require initially radical changes in the layout of the small beltway¹⁷ and the continuity of public spaces hospitable to the pedestrian metric.

Brussels Slow Metropolis, a study carried out at the EPFL Technical University of Lausanne and UCLouvain (Letesson, 2018; Mezoued and Letesson, 2018), resulted in the creation of a map of the walkability of public spaces in the BCR (see Figure 4). The map evaluates, according to the imprint of each mode of transport on roadways, the place or the priority given to pedestrians across the entire road network. It bears some similarities to the evaluation of the S (*Stappen*) in the STOP principle.

¹⁷ In this regard, the research led by Bye Bye Petite Ceinture is of high relevance as it has helped push forward the redevelopment of urban highways on the political agenda and promote a transformation of narratives with regard to the place of cars in the city <http://www.petiteceinture.be/2019/05/08/bienvenue-sur-la-petite-ceinture/>

The colour gradient makes it possible to classify the entire regional road network into four categories, from the least walkable areas (in red) to the most walkable areas (in green). It is clear that the Pentagon is globally hospitable to the pedestrian metric. The exclusively pedestrian zone, as well as squares and gardens, have the highest values and are shaded in dark green on the map. The network's other streets (see Chapter 6 , Vanin et al., 2020) are ranked at a lower level (level 3), but generally remain walkable when this metric is analysed. However, other streets, notably the major routes born, among other things, from the city's developments in the 20th century, are much less suitable for pedestrians. This is the case with the small beltway in particular and of the majority of the streets outside the Pentagon, which are sometimes incredibly hostile to walking (Mezoued and Letesson, 2018). The numerous red lines on the map draw attention not only to the poor walkability along these axes, but also to the obstacle that these represent to any continuity between walkable axes (already existing or projected). Thus, improving their walkability may help reduce divisions and discontinuities.

➤ **Figure 3.** Brussels's urbanization periods: the city's territory before the arrival of the first tram is highlighted in orange



Source: Dessouroux, C. (2008). *Espaces partagés, espaces disputés. Bruxelles, une capitale et ses habitants*. Brussels: ULB and BCR

Suppose that, adopting a radical posture, we desire to make the whole map green at the level of the metropolitan area (or even beyond), i.e. make all the public spaces of this perimeter walkable based on the pedestrian metric, without transforming them into pedestrian zones. In this perspective – which could aim to create a *Walk Oriented Development* – two aspects would emerge as needing more attention.

➤ **Figure 4.** The walkability of public spaces



Source: Brussels Slow Metropolis research; Mezoued et Letesson, 2018

1 Connecting different scales

The first major issue concerns the entanglement of scales and the balance that is required between, on the one hand, an approach centred on proximity and the enhancement of local spaces, and, on the other, a metropolitan approach involving

the expansion of the city centre beyond its limits combined with the development of walkable zones across the entire urban area.

The approach centred on proximity finds an echo in the concept of a city reachable within a 5–10 minute walk that is backed both by the City of Brussels and the region (GoodMove Plan and PRDD with the polycentric city). Moreover, the walkability map shows that, on the regional scale, there are pockets that either exhibit good walkability or at least have a certain potential for it, and which correspond to these central points in Brussels. The challenge of the proximity approach is therefore to improve walkability between different central points.

The challenge encountered by the metropolitan approach is that it must link these central points to each other using walkable spaces capable of overcoming the disconnections generated by infrastructure, and which would help connect the metropolitan city centre to the rest of the region, or even beyond. The emergence of avid walkers¹⁸ and the popularity of sports, especially daily jogging in urban area,¹⁹ reinforce this concept of walkable connections over a large territory. From this perspective, we believe that major pedestrian networks should go beyond the borders of the metropolitan city centre, and act as connectors between the different scales.

Moreover, walkability at the metropolitan level must be associated with a reinforced public transport network. Indeed, the central position of the Pentagon and of its surroundings implies a need for a degree of accessibility that the development of a walkable network, however extensive, cannot meet. In addition, there have also been strong demands for the maintenance of an efficient connection to the car network. However, the studies undertaken by Kevin Lebrun on the accessibility of different neighbourhoods in Brussels (Lebrun, 2018) using public transport show that the metropolitan city centre has a high multimodal accessibility to the entire region, with the exception of a few distant points. If, as Jacques Lévy (2008) suggests, we consider the public transport user as a pedestrian taking a break – or vice versa – the development of walkability as an ‘expander’ of transport systems and as the condition for their articulation with urban space (Appel-Muller, 2015), the idea of the development of the walkable city on the basis of efficient accessibility through public transport is reinforced. There have been considerable efforts around this dimension in Brussels, but they require further improvement, notably in terms of regularity at certain times of the day, comfort and connection schedules (Lebrun, 2018). The case of parking spaces is also particularly representative of the importance of a multi-scalar approach. Indeed, the ratio covered by these spaces is quite disproportionate in the city centre, yet adopting car-free

¹⁸ Although this practice is not well documented in Brussels, it should be perceived as a sign of behaviour change.

¹⁹ On this subject, see the article by Simon Cook ‘Le Jogging pendulaire, un mode de transport en plein essor’ published in 2019 on the Forum Vies Mobiles website: <https://fr.forumvies-mobiles.org/mobilithese/2019/02/07/jogging-pendulaire-mode-transport-en-plein-essor-12852>

places requires better management of car parks across the entire region, including the metropolitan area.

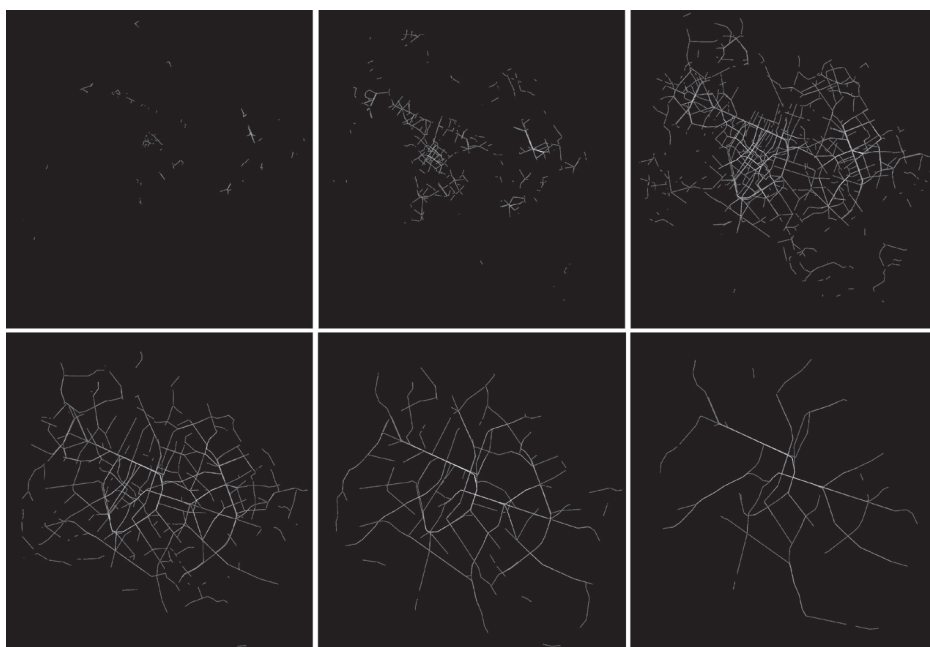
2 The reassignment of public space

The second issue involves the sharing of public space across the different modes. Shading the walkable areas of the map in green does not mean excluding all modes of transport for the benefit of pedestrians. Rather, it implies reorganizing them in order to apply the STOP principle (explained above) and ensuring that this metric takes precedence over others. Such an approach is intrinsically linked to the first issue, i.e. to the connection between the scales. To test the possibilities, and within the framework of the 'Brussels Slow Metropolis' research, we analysed the space syntax and the matter of choice in particular (see Figure 5). We used the Depthmap software, which, on the basis of the topology of the space and the distance of the routes (according to a predetermined radius), makes it possible to identify the streets people tend to choose when moving from one point to another within the region. The analysis focused on six radiuses: 400 m, 800 m, 1,600 m, 3,200 m, 6,400 m and 12,800 m. The starting point was the walking comfort distance, defined as between 400 m and 800 m. The others were multiples that could be combined with other modes of travel: long-distance walking, cycling, public transport and cars. Each radius revealed a road network ranging from the smallest and busiest that repeats endlessly to the least-branched, comprising of longer and fewer axes. The connection across different scales mentioned by Salat (2011) is visible here, at least in part, and it may help support the plugging-in of scales on the one hand, and the reassignment of public space on the other.

Each category of distance can see an additional metric associated to the pedestrian metric, which remains the benchmark in this approach. Thus, the public spaces that do not appear in any of the radiuses – or those that emerge from 400 m and 800 m – may provide a springboard to the locally scaled city. This would be possible by rolling out 'calmed down' streets that are exclusive to pedestrians or possibly shared with cyclists or public transport users when the space allows for it or when it is necessary to ensure a connection with certain other streets. Next are the axes that emerge from the 1,600 m radius analysis and which begin to highlight a continuity beyond the small beltway by covering a large section of the metropolitan area. Here, a plainer sharing of space between bicycles and light public transport may be considered.

Lastly, the axes that emerge from the analyses at 3,200 m and 6,400 m radiuses are spread out over longer distances and reduce in number as the radius increases; there are also fewer bifurcations (the axes are more linear). These two networks of public spaces may be used to support long-distance cycling routes and the over-ground public transport system. Efficient lines with a high service level can be supported by the 6,400 m network or even the 12,800 m one. The latter two may support the car as the final element of the STOP principle.

- > **Figure 5.** Choice analysis (space syntax). From left to right: 400 m, 800 m, 1,600 m, 3,200 m, 6,400 m and 12,800 m radiuses



Source: Letesson, 2018

By rethinking the connection between the scales, based on their articulation and on how the sharing of public space between the metrics is ranked, it is possible to obtain a better understanding of the contours and challenges of the walkable city.

4.2 Acting on the materiality of space while remaining attentive to the most vulnerable users

The walkability of public spaces is strongly linked to its material characteristics, such as the type of land or the presence of obstacles. In this sense, the work initiated by Brussels Mobility and by all of Brussels's municipalities with the Pedestrian Plan and the PAVEs enables us to identify all the shortcomings that could hinder the development of proper routes for pedestrians. However, this substantial work does not take into account all the possible obstacles to pedestrian movement. This is why Brussels Mobility mandated a team from the Université Saint-Louis – Bruxelles (USL-B) and from the Center for Road Research (CRR) to assess all the potential hindrances to pedestrian movements in commercial streets, which are assumed to include many obstacles related to commercial activities. After the initial selection of 20 streets hosting the region's most important commercial strips, three streets located within the metropolitan area were selected for the study: la Chaussée de Gand (with la Rue Dansaert), la Chaussée d'Ixelles (with la Rue de Namur) and la

Chaussée de Waterloo (with la Rue Haute et a section of la Chaussée d'Alseberg). The first two cases will soon be transformed into pedestrian *magistrales*.

This qualitative study made it possible to note the 'degree of obstruction' of certain objects and spatial configurations according to different user profiles. The study combined three methodologies: a spatial and morphological analysis to identify the spatial framework in which the obstacles are found, an analysis of pedestrian flows and behaviours depending on several time frames analysed using cameras installed for each case study, and an analysis of the feelings and experiences of users with reduced mobility (visually impaired people with a cane and guide dog, people in electric wheelchairs, parents with children in prams and elderly people) using commented walks. The combined use of these three approaches allowed the researchers to establish a relationship between the objective aspect of the physical facilities and the use of space, and the subjective experience of users.

A first observation from the commented walks and interviews reveals that users' experiences of obstacles differ depending on several factors. First, they differ depending on the nature of the obstacles and their perceived legitimacy. As a result, while some obstacles are tolerated (terraces, stalls, construction sites or the presence of bicycles on pavements) others are not (mainly scooters, advertising billboards and banners). This variation in tolerance may be explained in part by issues such as aesthetics, public space design and the reasons behind the presence of the obstacle. A billboard may thus be perceived as something that visually impairs the public space, which does not belong there, and which voluntarily causes discomfort to the majority in order to serve private interests.

Obstacles also vary depending on the person concerned and their physical condition. Each category of PRM relates differently to space, depending on their condition. For instance, a curb that is too high at a crossing will not have the same impact on a wheelchair user as on someone who is visually impaired. However, even between these categories, not all people are equal. Whilst a person in a wheelchair or an elderly person using a walker may or may not be able to bend to remove an annoying obstacle, a blind person will move more or less easily depending on their cane technique, and the functionality of a wheelchair or pram will influence how people feel about certain obstacles.

Lastly, the inconvenience caused by an obstacle differs depending on whether an individual is going to an appointment or work, or whether they are window shopping. In the first case, space is used for mobility purposes, and the ease to move around quickly is prioritized. In the second, space is perceived primarily as a promoter of recreational activities where sensory properties are prioritized over functional ones. The irregularity of the space – stalls, terraces, the presence of other people and street furniture – is valued because it provides a lively and pleasant environment despite the fact that it limits walking speeds and is the source of many obstacles. As this last example shows, the removal of all obstacles to create a smooth and sanitized public space is undesired. Between the Chaussée de Gand,

full of people and displays, and the beginning of the Rue Dansaert, with fewer obstacles and less animation, individuals often prefer the former, which evokes, as an elderly participant stated, '[...] memories of holidaying in Italy. It's very colourful. It's very pleasant.' These irregularities, which slow down pathways, are also necessary for traders. Indeed, the latter seek to slow down or even halt movement, in order to attract attention either by architectural mechanisms or through the arrangement of furniture or display signs and shop windows.

Naturally, there is need to reflect upon and take action with regard to the presence of objects and obstacles on pavements (by grouping them, improving their layout, etc.). However, it seems crucial to expand our reflection beyond simply developing spaces dedicated to pedestrians. For example, improving the mobility of people in electrical wheelchairs can also be achieved by developing cycling infrastructure which will be more effective in supporting their movement than infrastructure dedicated to pedestrians. Moreover, it is possible to reduce the presence of bicycles (whether in self-service or not), scooters and bins by promoting a car-free strategy and transforming car parking spaces into 'drop-off' zones for active mobility means and waste and bulky refuse management. These examples show how the pedestrian metric may be developed by expanding it to spheres where it was previously excluded, as well as how a redistribution of public space between the different metrics associated with walking can be undertaken. These interventions at the local level hold great potential for a systemic transformation of walking, a transformation that may address the different dimensions of the city with regard to the development of a culture of walking.

Lastly, while it is undeniable that it is essential to establish development standards that favour all parties involved, space should not be thought of through the prism of one specific category of users alone. Unlike motorists, who all have almost identical mobility, pedestrians are extremely heterogeneous and unequal in terms of their mobility and their relationships with space. Reflecting on the city based on a single category alone (PRM, women, children, the elderly, etc.) means overlooking the needs of other users, or even excluding them from the local space. Drawing on the research results, we can cite, for example, pavement curbs, which act as a reference point for blind people but as an obstacle for anyone using a wheeled object. Spatial planning must therefore be based on the pedestrian metric in the broadest and most inclusive sense possible. Indeed, one of the complexities of setting up a pedestrian system is the ability to consider this great diversity of needs, feelings and perceptions, which, unlike other modes of transport, cannot be addressed exclusively by means of a technical and normative rationale.

4.3 Reflection on practices, lifestyles and the immaterial

As Lavadinho points out, the polysemic concept of walkability is still, in most of the available literature and scientific studies, too easily reduced to the physical factors of the built environment. Yet, many other factors relating to social, sensory and

symbolic aspects help define walkability (Lavadinho and Pini, 2005). Moreover, mobility itself often neglects certain sociological aspects associated with transport modes, in spite of them being highlighted by sociologists analysing the mobility turn (Urry, 2007; Kaufmann, 2014). These studies have shown the importance and the diversity of individuals' life trajectories and needs that coexist in the urban space. Taking this diversity into account is essential in highlighting today's socio-technical system, but also when thinking about the socio-technical system of walking from its different dimensions.

As such, the recent studies undertaken by Pattaroni and colleagues (Pattaroni, Thomas & Kaufmann, 2009) show that understanding the way mobility takes place within a specific environment depends largely on the grips this environment offers to a lifestyle's multiple dimensions. They therefore refer to the 'hosting potential' of a place. This can generally be assessed through the lens of five qualities: the relationship to amenities (concerned with access to services and infrastructures, as well as with their spatial distributions), ease (understood as ontological security), tranquillity, familialism (understood as welcoming more 'vulnerable' populations, children, persons with reduced mobility, etc.) and, lastly, sociability. These qualities are combined and intertwined – oscillating between functional, sensory and social relationships with the environment – in the users' appraisal of the public space and in how they take ownership of this space.

A study undertaken by the BSI-BCO and commissioned by the Mobile Lives Forum focused specifically on the pedestrianization of the Boulevard Anspach based on the aforementioned theoretical framework. Although the final report is currently being drafted, a few comments can be made with regard to this particular case study. The study notably reflects the questions that have been at the heart of debates within the scientific community for several years now and, in particular, those relating to the actual effectiveness of pedestrian facilities in city centres (Brenac et al. 2013). The central question of this research can be summarized as follows: Do the policies aimed at encouraging the development of a culture of walking in the heart of cities promote sustainable development and the creation of a beneficial and inclusive living environment, or, rather, are they aimed at urban marketing and social sorting?

These questions are fundamental, as reflecting on walkability requires a critical reflection as to the consequences of pedestrianization processes. Field observations and interviews conducted as part of this research have clearly shown that the absence of a project clearly and explicitly defined by the authorities, both during the initial pedestrianization processes and whilst building works were in progress (although many sections of the boulevard are now fully developed), has created a state of general uncertainty. As a consequence, there have been multiple conflicting uses, misunderstandings and frustrations as different dynamics (commercial development, real estate development, tourism, social interactions, etc.) play out within the physical and conceptual space.

The pedestrian zone, which one might imagine to have spearheaded walkability policies in Brussels, is actually the theatre, the prism through which aspirations and visions for the city collide (Genard and Berger, 2020; Genard, Berger and Vanhellemont, 2016). It is beyond the scope of this chapter to present the controversies and (dys)functions highlighted by our study in depth. However, it is obvious that the importance of tourism, the development of large commercial brands, the high frequencies of people visiting an area, the logistical requirements of delivery within the perimeter, the phasing of the building works, residents' desire for a calm and good quality environment, the presence of precarious and marginalized populations, the coexistence of active mobility and motorized modes, are all elements that create dents, friction, tension spots and misunderstandings. Moreover, and perhaps more fundamentally, if these are not explicitly circumscribed, they play out in power struggles that do not necessarily contribute to the creation of a hospitable, mixed and sustainable city centre.

Working to increase the walkability of an urban centre therefore inevitably involves changing certain power relations, radically altering habits, and re-prioritizing values. Consequently, if the ambition is to implement this process in an inclusive manner and using a genuinely sustainable development approach, it is essential to pay attention to how different lifestyles are organized in urban areas, and to try to understand how a specific environment can offer varied and multiple grips (reflecting the diversity of users) and, therefore, increase its potential to host a greater variety of people.

5 > BEYOND THE PEDESTRIAN PLAN ... THE WALKABLE CITY AS A SYSTEM TO DEVELOP

The elements developed in this chapter show that the scale of Brussels's metropolitan city centre has the capacity to encourage reflection on and problematization of the walkable city beyond the pedestrianization of its centre framed solely for tourists, commercial attractiveness or to shuffle mechanical mobilities (the car) to the outskirts.

It also shows that the development of walkable areas in Brussels seems to have been initiated both in terms of spatial planning and public policies and planning on the one hand, and in terms of citizens' practices and mobilization in their favour on the other. However, as the results of the three studies presented above show, the real development of the walkable city – that enables both the mobility transition and the development of a sustainable city – requires going beyond a mere change in the layout of public space and its continuities. Connecting mobility and urban planning and taking into account practices and lifestyles are necessary for the systemic development of walking and its culture. Alongside practices and lifestyles, attention must also be paid to imaginaries, or '[the] abstract intention with a performative power capable of guiding and motivating action, but without ever being

able to define it clearly, delimit it, clarify it' (Genard et al., 2016: 64). These are necessary for the establishment of the system of the walkable city. Such a city must be hospitable to pedestrian mobility and be able to host a wide variety of lifestyles, spatial practices and social diversity.

The theoretical contribution of this chapter has highlighted elements drawn from transition studies which emphasize the need for a multi-scalar approach. In the case of Brussels, this approach allows us to reconsider the edges of the city centre, on the one hand, and to rethink the sharing of public space between the different modes of transport and their coordination on the other. The scales must be coordinated not only between the local scale and the city centre scale, but also with the region and the entire metropolitan area. A paradigm shift can occur only if simultaneous action is taken across these scales – even if this seems complicated in the actual Belgian and Bruxellois institutional context – to enforce radical traffic calming (or even a car-free city), a *sine qua non* condition for the mobility transition.

In this context, a multi-scalar approach is inseparable from a multi-level approach. Indeed, there is a need to address transport systems and their organization, but also urban planning, political decision-making, the economy and culture to increase the chances of transforming practices and lifestyles in a more sustainable manner. For example, the rolling-out of a locally scaled city should be accompanied by land policies making it possible to maintain affordable housing and to offset the pressure associated with tourism and commercial attractiveness. This is all the more relevant because succeeding in developing walkable spaces depends on the residential density and the reinvention of a specific form of urbanity associated with these spaces.

All the measures mentioned in this chapter may help shape imaginaries and initiate the transition of the centre of Brussels, or even the entire region, towards a walkable city. The latter is the key to a sustainable mobility system understood as a transition process. This may enable the system to make the most of all possibilities offered by the new forms of mobility, by information and the smart city, by the restructuring of the region and by the development of sustainable lifestyles. The only condition is that walkability must be addressed as systemic, using a multi-scalar and multi-level approach that enables a radical posture with the potential to define an alternative to the car-city system: the pedestrian-city system.

6 > BIBLIOGRAPHY

APPEL-MULLER, M. (2015). Renouveler la figure urbaine du marcheur : une action de l'Institut pour la ville en mouvement. In A. MASBOUNGI (ed.), *Ville et voiture* (pp. 56-59). Marseille : Parenthèses.

AUDIKANA, A., MEZOUE, A., MARTINEZ-CONTRERAS, J., CHRISTIE, D., and RAVALET, E. (2019). Accélération, lenteur et rythmes de vie In V. KAUFMANN and E. RAVALET (eds.), *Modes de vies*. Genève : Metispresses.

BRENAC, T., REIGNER, H., and HERNANDEZ, F. (2013). Centres-villes aménagés pour les piétons : développement durable ou marketing urbain et tri social ? *Recherche Transports Sécurité*, 2013 (04), 271-282

CHRISTIE, D. P. (2018). *Frequent walkers: from healthy individual behaviors to sustainable mobility futures*. 275. doi: 10.5075/epfl-thesis-8506

COCHET, Y. (2005). *Pétrole apocalypse*. Fayard.

COCHOY, F., HAGBERG, J., and CANU, R. (2015). The forgotten role of pedestrian transportation in urban life: Insights from a visual comparative archaeology (Gothenburg and Toulouse, 1875-2011). *Urban Studies*, 52 (12), 2267-2286. doi: doi:10.1177/0042098014544760

DA SCHIO, N., DE GEUS, B. and BOULAND, C. (2018). A brief guide to the air in Brussels. In S. VERMEULEN, M. HARDY, A. MEZOUE, E. CORIJN and M. HUBERT (eds.), *Portfolio #2: Zoom in | Zoom out on the Brussels city centre*. Brussels: BSI-BCO, pp. 117-132.

DELEUIL, J.-M., BARBEY, E., and SINTÈS, A. (2017). Le dévoiturage ou la ville sans (sa) voiture : mobilités plurielles, services numériques et vie de quartier. *Flux*, 2 (108), 80-87.

FERIEL, C. (2015). L'invention du centre-ville européen : La politique durable comme objet de transactions. Les politiques urbaines en région bruxelloise. *SociologieS*.

GEHL, J. (2010). *Cities for people*. Washington: Island Press.

GENARD, J.-L. and BERGER, M., (2016). L'architecture des débats : les imaginaires mobilisés. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadres - Kader, Ouvertures - Aanzet, Focus*. Bruxelles : BSI-BCO, pp. 63-76.

GENARD, J.-L., and NEUWELS, J. (2016). Le développement durable comme objet de transactions. *SociologieS* : [on line] <http://journals.openedition.org/sociologies/5378>

GREENPEACE. (2018). Mon air, mon école : étude sur la pollution dans 222 écoles belges : Greenpeace Belgique ASBL.

HADEN LOH, T., LEINBERGER, C.B. and CHAFETZ, J. (2019) Foot traffic Ahead. Ranking Walkable Urbanism in America's Largest Metros. The George Washington University School of Business and Smart Growth America . https://smartgrowthamerica.org/app/uploads/2019/06/Foot_Traffic_Ahead_FINAL-compressed.pdf

HUBERT, M. (2008). L'Expo 58 et le « tout à l'automobile ». *Brussels Studies*, 22, [en ligne]. doi : 10.4000/brussels.621

JACOBS, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.

JAILLET, M.-C. (2016). Réaménager la ville pour y faire place à la marche « ordinaire ». *Sciences de la société* (97).

KAUFMANN, V. (2014). *Retour sur la ville*. Lausanne: PPUR.

KAUFMANN, V., and MEZOUE, A. (2019). Vers une approche systémique de la transition mobilitaire. In A. VANDENBROUCKE, A. MEZOUE and J. VAESSEN (eds.), *Voitures de société et mobilité durable* (pp. 301-312). Brussels : EUB.

KRIER, L. (1977). The city within the City. *A+U* (spéciale issue), 69-152.

LATOUR, B. (2006). *Changer de société, refaire de la sociologie*. Paris: La Découverte.

- LAVADINHO, S. (2011). Réenchanter la marche, ludifier la ville. Bonnes pratiques et actions innovantes. *Les Cahiers nouveaux* (80), 14-24.
- LAVADINHO, S. and LÉVY, J. (2010). Marcher avec les transports et la ville. *ProSpective*, RATP/EPFL.
- LAVADINHO, S., and PINI, G. (2005). Développement durable, mobilité douce et santé en milieu urbain,
- LEBRUN, K. (2018). Temps de déplacements en transport public à Bruxelles : l'accessibilité des pôles d'activités. *Brussels Studies*(123). <https://doi.org/10.4000/brussels.1652>.
- LÉVY, J. (2008). Ville pédestre, ville rapide. *Urbanisme*, 359, 57, 50.
- LEE, I.M. and BUCHNER, D.M. (2008). The importance of walking to public health. *Medicine and Science in Sports and Exercise*, 40 (7), 512-518.
- LYNCH, K. (1960). *The image of the city*. Cambridge, Mass: MIT Press.
- MARKARD, J., RAVEN, R., and TRUFFER, B. (2012). Sustainability transitions: An emerging field of research and its prospects. *Research Policy*, 41, 955-967.
- MEZOUE, A., and LETESSON, Q. (2018). Repenser le partage de l'espace public pour un hypercentre marchable In S. VERMEULEN, M. HARDY, A. MEZOUE, E. CORIJN and M. HUBERT (eds.), *Portfolio #2 : Zoom in | Zoom out on the Brussels city centre*. Brussels: BSI-BCO, pp. 61-78.
- PATTARONI, L., THOMAS, M.-P., and KAUFMANN, V. (2009). *Habitat urbain durable pour les familles. Enquête sur les arbitrages de localisation résidentielle des familles dans les agglomérations de Berne et Lausanne*. Lausanne : Laboratoire de Sociologie Urbaine, Lasur, EPFL.
- PATTARONI, L. (2013). Mode de vie. Site internet du Forum Vies Mobile. <https://fr.forumviesmobiles.org/reperes/mode-vie-1754>
- ROSA, H., and CHAUMONT, T. (2012). *Aliénation et accélération : vers une théorie critique de la modernité tardive*. Editions La Découverte.
- SALAT, S. (2011). *Les villes et les formes. Sur l'urbanisme durable*. Paris: CSTB.
- SIEUX, F., PELGRIMS, C., GRUOIS, G., and BOUSSAUW, K. (2019). Recherche par le projet : Une approche innovante pour évaluer le potentiel spatial de la transition vers une mobilité durable. In A. VANDENBROUCKE, A. MEZOUE AND J. VAESSEN (eds.), *Voitures de société et mobilité durable* (pp. 153-177). Bruxelles : EUB et VUBPress.
- URRY, J. (2007). *Mobilities*. Cambridge: Polity Press.
- URRY, J. (2013). *Societies Beyond Oil: Oil Dregds and Social Futures*. London: Zed Books.
- VANIN, F., DE VISSCHER, J.-P., MEZOUE, A., and VERMEULEN, S. (2020). A common vision for the Brussels Metropolitan city centre beyond the Pentagon. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPress.
- WAYENS, B., DECROLY, J.-M., STRALE, M., DA SCHIO, N., and KERSERÛ, I. (2020). Pedestrianization of a multifunctional space: challenges and early observations of the Brussels Metropolitan City Centre. In S. VERMEULEN, A. MEZOUE, and, J.-P. DE VISSCHER (eds.) *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPress.

A COMMON VISION FOR THE BRUSSELS METROPOLITAN CITY CENTRE BEYOND THE PENTAGON



Fabio VANIN¹, Jean-Philippe DE VISSCHER²,
Aniss M. MEZOUE³, Sofie VERMEULEN³

> Abstract

This article proposes an open vision for the Brussels metropolitan city centre. It serves as a framework for a working method for developing design initiatives that are project-oriented and focus on testing, evaluating, adapting and implementing such a vision at different scales in the Brussels extended metropolitan centre. It summarizes the results of the international master class 'Zoom in | Zoom out – Brussels hypercentre: from pedestrian area to urban project' organized by the BSI-BCO and perspective.brussels in January and February 2018. The authors propose a detailed interpretation of the metropolitan centre as a hypercentre, based on an ongoing interdisciplinary research process within the BSI-BCO. They also present the working method research-by-design and the results of the project-based research conducted by the participants. This creates a more global vision for the metropolitan centre, based on three strategic guidelines: 1) expanding the perimeter with the circle-shaped metro-loop (line 2), the Brussels Canal Charleroi-Antwerp and the central railway stations; 2) structuring the metropolitan centre around a network of public spaces that are beneficial for soft mobility and ecological system services; 3) developing support programs for a cosmopolitan urban culture. The chapter illustrates possible sustainable scenarios for the spatial and programmatic structuring of the future metropolitan centre, of which the pedestrian zone will be a part.

¹ Cosmopolis Centre for Urban Research, VUB

² Faculty of architecture, Architectural Engineering and Urban Planning, LOCI, UCLouvain

³ Brussels Studies Institute – Brussels Centre Observatory

1 > INTRODUCTION

The lack of regional contextualization of Brussels's pedestrian project (Hubert et al., 2020 [2017]) is one of its greatest weaknesses highlighted by the Brussels Studies Institute-Brussels Centre Observatory (BSI-BCO). This finding led to an overall reflection on the role of the second generation central pedestrian area within the broader spatial structure of the Brussels-Capital Region. It also led to a trajectory called research-by-design (RbD)⁴ that aimed to define a new vision for this central area. This chapter is the result of the work performed in this context, and focuses the discussion surrounding the articulation between the pedestrian project, the broader urban context and the opportunities that exist on a wider, metropolitan scale for re-thinking Brussels's central area.

The pedestrian zone is an important lever for the transition of Brussels to a different urban paradigm. An optimistic reading of the project reveals the presence of seeds that might lead to several ambitious changes, which can be summarized as follows.

First of all, it boosts further development of a soft mobility network. The project gives priority to pedestrians, cyclists and public transport, as opposed to cars. A major aim of the project is to improve the grid of east – west streets and thus support better pedestrian-friendly connections between neighbourhoods (Mezoued and Letesson, 2018).

Secondly, it strengthens the ecological green network. The project helps to reduce pollution caused by car use and to reintroduce nature – albeit to a limited extent – within the city.

Thirdly, the project proposes a prioritization of public spaces as the main drivers for a 'new' cosmopolitan urban culture, being primarily a public space itself and not just an access space for buildings. The terminology used to describe the Brussels pedestrian zone in the plans of SUM emphasizes a culture of citizenship (agora, urban scene, etc.). Moreover, due to its location, the pedestrian zone forms an interface between the eastern and western parts of the city (Corijn et al., 2016).

Finally, the recognition of the special character of the metropolitan centre in a polycentric city vision is embedded in the PRDD (the regional sustainable development plan). It is not directly linked to the pedestrian project, but contributes to further reflection on the future of the city centre beyond its actual limits, along the inner ring road (the Pentagon).

Admittedly, these ambitions have been unclearly formulated by the project holders – designers and public authorities – and have not been planned in detail.

⁴ In French, the term "recherche par le projet" is generally used in which 'projet' refers to design and (urban) project at the same time. English speakers tend to use "research-by-design" – or "research through design". In Dutch, this is usually referred to as "ontwerpend onderzoek".

Ambiguities and less elaborated aspects are based on fear and opposition to the project. Nevertheless, according to the BSI-BCO (Corijn, Vanderstraeten and Neuwels, 2016; Vanderstraeten and Corijn, 2018), the opportunities offered by the project must be recognized, appreciated and enhanced. The pedestrian zone must be seen as a milestone in a broader and more ambitious transformation process of the metropolitan centre.

To explore these possibilities, the BSI-BCO and perspective.brussels jointly organized a one-week master class in January and February 2018. Based on previous work of the BSI-BCO (Vanderstraeten and Corijn, 2018), the aim was to provide a broader view of the city centre through project-based research supporting the public debate and – at the same time – to place the challenges of the pedestrian zone in a wider context. In other words, the ambition of the master class was twofold: to zoom out, moving towards a vision that goes well beyond the implicit promises of the pedestrian zone and that not only re-imagines the city centre but also the city and the territory of Brussels as a whole; and to zoom in, clarifying at the same time the pending challenges and questions related to the pedestrian project: the programming of public space and the adjacent built space, connections between public transport networks and active mobility, and the inclusion in the ecological network.

This chapter summarizes the vision developed by the BSI-BCO and its partners for the metropolitan centre of Brussels. It explains the methodology and the research-by-design process engaged and developed by the BSI-BCO. The first part explains the definition of ‘hypercentre’ on which the definition of the Metropolitan Centre, beyond the Pentagon, is based. The second presents the methodology and results of the first stages of the project-based research carried out during the master class. The final part summarizes the discussions and the outcomes of the master class, which were improved through exhibitions, seminars and roundtables. The conclusion suggests the steps that should next be taken, and presents some of the main aspects of the ongoing project that are explained in more detail in other chapters of this book.

2 > FROM URBAN TO METROPOLITAN CENTRE

European cities have historically developed around and from centres, places of multiple and varied interests, according to different features that can be broken down into three main interrelated and interdependent characteristics: 1) activities and populations, 2) the physical setting, and 3) connectivity (Vanderstraeten and Corijn, 2018). These three features are combined with a higher density and intensity in city centres than in other urban areas (Bourdeau-Lepage et al., 2009).

The first refers to the functional and social mix, which is the main characteristic of city centres (Wayens et al., 2020). They are based on a residential built tissue, and they are attractive mainly due to the concentration of shops, collective facilities or public services (administration, culture), where multiple social activities prevail

especially outside working hours and in the evening. Secondly, the centre's physical supporting palimpsest can be characterized by a high density of the built space and structured by remarkable buildings, landmarks and public spaces that give a symbolic dimension to the centre (Claval, 2000), but also encourage pedestrian use (squares, large sidewalks) creating shared intermediate or transitional spaces on the ground floor level (Remy, 1996). Thirdly, the connection between the centre, its periphery and the other centres is key, and depends on the performance of public transport services and the optimization of intermodality, which can enable the influence and appeal of city centres (Vanderstraeten and Corijn, 2018).

Moreover, according to Lefebvre (1974), an essential characteristic of the urban phenomenon is the attractiveness of cities, which creates a situation that allows different people (and ideas) that come from elsewhere – and which would otherwise languish (Mumford, 1968) – to relate to each other, while maintaining their otherness, and brings them together in a dense and concentrated setting. This creates a centrality (from a spatial point of view) and a simultaneity (from a temporal point of view) of encounters. However, looking at such phenomena through the lens of 'the Right to the City', city centres often emerge as discriminatory and segregating due to market logics, producing marginalization instead of inclusion (Rosa et al., 2020). In this respect, pedestrianization projects often produce a tension between the desire to promote sustainable urban development and the exclusion of part of the population (Bernac et al., 2013).

The issues of inclusiveness and accessibility are thus highly interrelated and are today central to the attempt to imagine the future of European city centres. Actually, the ambition for more sustainable development raises key challenges for urban centres regarding low car dependency, accessibility, the relationship between public transport and the location of activities, the pervasiveness of rail networks, and other issues. Being able to quickly access centres of various scales by public transport, to consequently reach the desired location on foot, is one of the foundations of what can be described as an 'areal network' – from the French concept 'réseau aérolaire' (Remy, 1996), or polycentric urban planning (Frey, 1999). This issue is particularly relevant for Brussels, and has gradually come to the forefront in many cities as they have grown in size and modes of transport have evolved, giving rise to different forms of agglomerations depending on the hierarchical structure of the centres and their geographical distribution (Vanderstraeten and Corijn, 2018). Despite the tension that may arise between the management of different scales (the metropolitan and the neighbourhood scale) in the development of consistent visions for city centres (Salat, 2011), their requirements and the flows that are specific to them (fast and slow) can be organized in coexisting networks within an integrated form of urban development, where slow mobility and the ecological network have a guiding role (Tjallingii, 2012).

From a social point of view, the symbolic power of the centre (Claval, 2000) enables, better than any other place, the bringing together of the population it concerns.

Its scale of influence makes it a privileged territory in which society can gather and express itself against a background of cosmopolitanism. In this respect, an extended Brussels city centre represents a major political issue in the context of an increasing social divide that the metropolis is confronted by (the affluent, upper, eastern part of the city versus the less affluent, lower, western part) and which has deep historical roots.

The level of accessibility of and connection between the centre, its periphery and the other centres, reflects Brussels's polycentric structure, determining the extent of its influence and situating its appeal. The performance of public transport in metropolitan centres and the optimization of intermodality (walking, cycling, public transport, taxis, shared vehicles) are essential conditions for territorial sustainability (Vanderstraeten, 2018). Ideally, a balanced metropolitan centre should be connected by non-automobile territorial networks towards the outskirts and internally structured by pedestrian and ecological networks, accommodating a high density and simultaneity of social and functional differences (Tjallingii, 2012).

3 > DEFINING THE BRUSSELS METROPOLITAN CENTRE: TOWARDS A PARADIGM SHIFT

Over the last few years, the multi-capital of Brussels has been the scene of several renewal and revitalization dynamics, such as the Plan Canal, various Master Development Plans (PAD)⁵ (Loi, Maximilien, Ninove) and neighbourhood contracts (such as the ones of Marollen and Jonction-Midi), street and square renewals (Saintelette square, Chaussée d'Ixelles), iconic projects (such as Kanal Museum) and infrastructural projects (metro loop, projects of Gare du Nord and Gare du Midi). Several real estate developments and public space projects initiated at both the local and regional scale, together with a series of lively debates that recently occurred – such as the ones on the inner ring (Bye-Bye Petite Ceinture), the ones on the productive city (Cities of Making, Croxford et al., 2020), and the ones on air quality (da Schio, 2018) – call for the reconceptualization of the city centre (Van de Wall and Menten, 2020; da Schio and Vandenbroucke, 2020).

In particular, the spatial delimitation of the city centre, historically interpreted as the *Pentagon*, should be questioned. Several development projects, as well as civil society initiatives, offer causes to redefine the limits of the area. On the one hand, there is the completion of the metro loop (lines 2 and 6), that includes the centre of Historic-Molenbeek and extends the perimeter of the city centre to the west flank of the valley. On the other, the Canal Plan redefines the water infrastructure as the backbone of the metropolis (Vermeulen, 2015). Moreover, more recently, a series of workshops organized by the Brussels Academy called 'Bye-Bye Petite Ceinture (R20)' explored the possibility of reinterpreting the inner ring as a public

5 Plan d'aménagement directeur : Master Development Plan

space, rather than a road infrastructure. All the above-mentioned initiatives offer an alternative to the existing geographic definition of the city centre of Brussels as the core of a concentric urban structure made up of a series of ring roads with penetrating transversal roads (Dessouroux, 2009; Hubert, 2020 [2017]). They also suggest the possibility of conceptualizing the centre of Brussels in ways other than that of a mere historical tourist destination. Due to its multi-layered space, the spatial concentration of inhabitants of different backgrounds and a myriad of local and metropolitan activities and services (Wayens et al., 2020), the door is opened to expanding the socio-spatial understanding of the Brussels city centre, resulting in a richer and more complex definition in terms of ecology, mobility, economy, social practices and representations, finally suggesting the figure of a *hypercentre*.

In a general way, a hypercentre encompasses spaces and places with a high density and intensity, both in terms of flows and exchanges, and it is primarily a laboratory of urban cultures, a place where the different dynamics of the city coexist, evolve, transform, influence each other, hybridize, oppose, regenerate (Lefebvre, 1974; Vanderstraeten and Corijn, 2018). It reveals a level of density and vitality that is probably higher than that of the rest of the territory, even when embedded into a polycentric urbanization. In order to determine which part of the territory corresponds to the qualities of a hypercentre and which key elements should be considered in defining its perimeter from a socio-spatial perspective, three basic conditions can be identified (Figure 1).

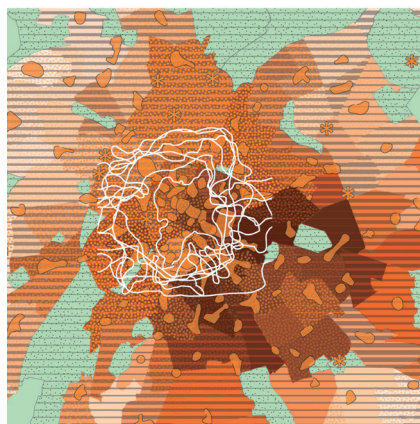
- 1 *Hyper-connectivity*: the hypercentre is an area composed of a dense node of different non-car mobility networks (pedestrian, bicycle, bus, tram, metro, train), occupying a strategic position within the ecological network.
- 2 *Functional hyper-diversity*: the dynamics of the hypercentre are generated by the complementarities and tensions between and the hybridization of a large diversity of uses and functions. The white lines concern overlapping shapes tracing 'density zones' on the base of a wide range of maps describing different socio-spatial features of the BCR, such as the concentration of foreign populations and shops (source: Neighbourhood Monitoring⁶).
- 3 *Socio-cultural hyper-diversity*: the dynamics of the hypercentre are generated by the complementarities and tensions between and the hybridization of high social and cultural diversity that activates and transforms its spaces, combined with a remarkable diversity of users and inhabitants.

According to the above-mentioned key features, there are good reasons for expanding the Brussels central perimeter towards what can be considered the new 'metropolitan centre'.

Firstly, in terms of connectivity and walkability (Figure 1), the structure of the metropolitan centre can be defined by the combination of a series of mobility

6 For the demarcation of the different Brussels neighbourhoods, we refer to the Neighbourhood Monitoring (IBSA-BISA).

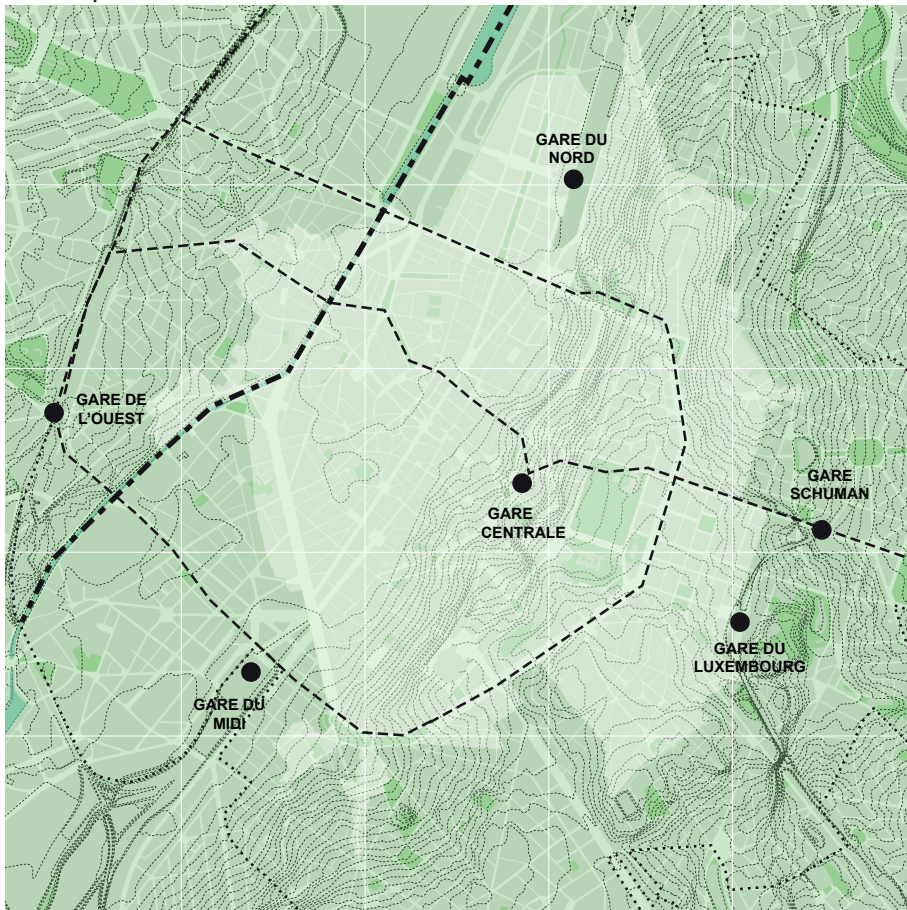
- > **Figure 1.** Graphic reinterpretation of three conditions of the Brussels city centre: Hyper-connectivity, hyper-mixity (mixité) and hyper-diversity. The city centre is highly accessible by public transport (metro and train) (top). Different perimeters of the city centre (shown in white) exist in parallel, depending on their functional dynamics, morphology and social and symbolic meanings. They are shown in relation to the road network (centre) and the retail concentration (bottom)



Source: BSI-BCO, 2018

infrastructures qualifying the *hyper-connectivity*. The canal, the metro, tram, train and bus networks and stations, and the bicycle and pedestrian paths, must all be taken into account in determining the overall density of the network and the degree of accessibility of the various networks, hubs and modes of transport. Their performance is a precondition to starting to consider a reduction of the importance of the car network. The spatial figure that emerges from this analysis clearly exceeds the figure of the Pentagon, including not only the historical limits of the city and the first 'faubourgs' as delineated in the plan of Besme (1866), but also the 'metro loop', the main train stations, the central part of the canal (Figure 2), and the extension of the so-called 'walkable city' (Mezoued et al., 2020).

➤ **Figure 2.** The main mobility networks and hubs (stations) that could define the Brussels's metropolitan city centre, based on the hyper-accessibility by public transport



Definition of the metropolitan centre *Transparent white area: limit of the city formed in 1866*
Black point: train station
Black axial line: axis of the canal
Long black dotted line: metro lines
Short dotted black line: boundaries of the neighborhoods as defined in the 'monitoring of the neighborhoods' affected by the definition of the metropolitan centre

0 0,5 1 km

Secondly, one characteristic that supports the definition of a metropolitan centre is that of *functional diversity*. It is determined by the variety and proximity of the different functions of both the built and the unbuilt space, showing the intensity of the dynamics between a wide variety of uses. In spatially mapping Brussels's structuring economies (Corijn et al., 2009), the high diversity of mixed uses becomes clear in the coexistence of international institutions, the European quarter, business districts, active and declining industrial activities, manufacturing, touristic infrastructures, creative spaces, etc. However, the actual coexistence calls for a better integration of: a) the different central areas along the canal – productive sites, public spaces and metropolitan facilities, urban industry and creative economy (Abattoirs, Ninove, Citroën, Béco, Tour & Taxis); b) the different recreational, cultural and shopping nodes; c) the arrival neighbourhoods (Cureghem, Molenbeek, Matonge) and train station neighbourhoods (South, North); as well as d) the green spaces, meeting places and the ecological network.

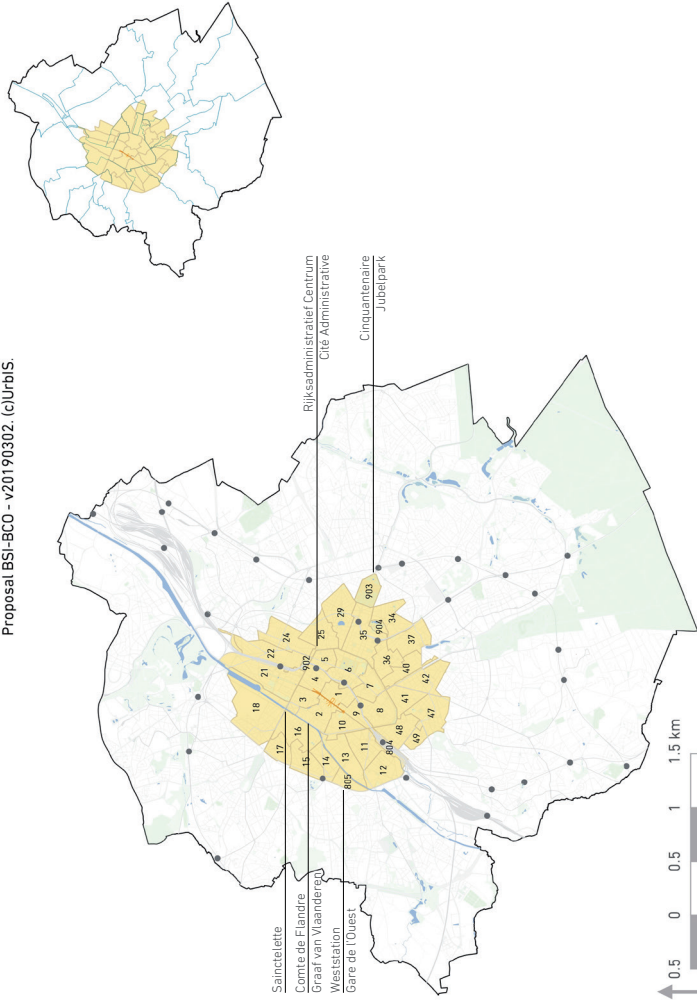
The third of the basic constituents of the definition of a metropolitan centre is that of *hyper-diversity*. Brussels's cosmopolitan character is reflected in the high degree of social diversity that can be found in the central area. This super-diverse population is characterized by an enormous variety of nationalities and cultures, along with a large variety in terms of age, income and education (Corijn et al., 2009). This exceptional social diversity calls for a vision that widens the perimeter of the actual centre in order to fully embrace it in a consistent and unfragmented space. It specifically addresses the need to overcome existing socio-spatial and mental barriers, rethink the joints between the centre of historic Molenbeek, the different neighbourhoods, the districts around the main railway stations, the international institutions and the commercial luxury district at Avenue Louise.

As a result of this analysis, and based on studies by the BSI-BCO and other scholars, a wider area emerges representing the hypercentre, exceeding the rigid contours of the Pentagon and leading to what can be considered as the 'metropolitan centre'. Despite the difficulties in delineating its perimeter, an operational perimeter of this metropolitan centre can be traced (see Figure 3) by combining those 38 neighbourhoods that present the above-mentioned characteristics.

Along with this emerging definition of the Brussels hypercentre, the ongoing process of creating a pedestrian zone in the city core appears as a key opportunity to initiate a profound change in the urban paradigm. One of the most significant projects illustrating this trend is the pedestrianization of the Central Boulevards. Launched in 2015, the 'piétonnier' can be considered one of the most important projects of recent decades in Brussels's city centre, because of its size and complexity (Hubert et al., 2020 [2017]). However, a clear description of how its ambitions relate to the complexity of the ongoing and planned transformations is still lacking, as these interventions result from a political compromise that is supposed to meet mobility-related, as well as environmental, social, economic and cultural, challenges. The challenge that is nowadays becoming clearly tangible, is the urgency to

Figure 3. The proposed perimeter of the Brussels metropolitan city centre, based on the Neighbourhood Monitoring perimeters and data of IBSA-BISA

The Brussels Metropolitan City Centre - Beyond the Pentagon.
 Proposal BSI-BCO - v20190302. (c)UrbIS.



UrbIS	NAAM WIJK - NOM QUARTIER	OPPERVLAKTE SURFACE (100)
1	GRÖTE MARKT / GRAND PLACE	316,193
2	DANSBART	549,275
3	BEGIJHOEF - DIKSHUIDE / BEGUINAGE - DIXMUDE	376,519
4	MARTELAARS / MARTYRS	377,578
5	SOLV. TER SNEEUW / NOTRE-DAME AUX NEIGES	392,074
6	KONINGSWIJK / QUARTIER ROYAL	706,598
7	ZAVEL / SABLON	453,252
8	MAROLLE(N)S	627,372
9	STALINGRAAD	243,596
10	JANNESENS	440,301
11	KUREGEM BAKA / CUREGHEM BAKA	591,432
12	KUREGEM VEEARTSEN / CUREGHEM VETERINAIRE	659,102
13	KUREGEM DAUW / CUREGHEM ROSE	695,192
14	HERTOGNIJ / DUCHESSE	364,539
16	HUSTORICH MOLENBEEK / MOLENBEEK HISTORIQUE	720,419
17	KOEBELBERG	343,685
18	HAVENWIJK / QUARTIER MARITIME (incl. Tour & Trinité) (b)	1741,680
21	NOORDWIJK / QUARTIER NOORD	1308,145
22	BRABANTWIJK / QUARTIER BRABANT	785,404
24	HAACHTSE STVG. / CHEE DE HAECHT	711,128
25	ST-VOOST CENTRUM / ST-JOSEF CENTRE	615,693
29	SOUARES	805,802
34	JOURDAN	557,516
35	EUROPAWIJK / QUARTIER EUROPEEN	961,334
36	MATONGE	487,568
37	FLAGEY - HALBRAN	641,551
40	LOUIZA - LANGERHAAG / LOUISE - LONGUE HAIE	448,371
41	BERCKMANS - MUNTJHOF / BERCKMANS - HOTEL DES HONNAIRES	442,912
42	KASTELENIJ / CHATELAIN	659,863
47	HOOG-ST-GILLIS / HAUT ST-GILLES	766,188
48	HALLEPOORT / PORTE DE HAL	532,401
49	JOSNE	200,389
DUMBEVORTE WIJEN		
15	WESTSTATION / GARE DE L'OUEST (spoorwegstet)	511,519
84	ZUIDSTATION / GARE DU MIDI (spoorwegstet)	244,657
805	INDUSTRIE BRIMMINGHAM (spoorwegstet)	240,251
902	KNUJDTUJN / BOTANIQUE (park)	71,287
903	JUBELPARK / CINQUANTENAIRE (park)	377,021
904	LEOPOLDPARK / PARC LEOPOLD (park)	117,741

Source: © BSI-BCO, 2019

Proposal BSI-BCO - v20190302. (c)UrbIS.

identify which are the possible, desirable and feasible evolutions of the ongoing project within the scope of a larger space, namely the Brussels metropolitan centre.

A reading of the project reveals the start of several ambitious changes.

Firstly, in terms of the *active mobility network*, the project marks a priority given to pedestrians and public transport in relation to the car. In addition, the project intends to upgrade the east–west oriented street axes, supporting better inter-neighbourhood connections (Mezoued and Letesson, 2018).

Secondly, regarding the ecological mesh, the project contributes to reducing pollution related to car traffic, by reintroducing – albeit in a limited way – nature in the city, adding trees, flowerbeds, and other green elements to the newly redesigned pedestrian zone.

Another facet of the project is its introduction of public spaces as a support for a new civic and cosmopolitan urban culture. The project is primarily conceived as a public space, and not just a functional space, the aim of which is to merely serve adjacent buildings. The terminology that is used in the design of SUM to describe the pedestrian space, which is subdivided in 6 consequent parts (such as the 'agora', 'urban scene' and others) enhances the civic culture.

Finally, the new pedestrian arrangement makes it the interface between the city of the east and the city of the west, creating a spatial joint between these two very different urban areas. Such an east–west connection has been historically disadvantaged, privileging the north–south connections.

Admittedly, these ambitions are neither clearly formulated by the project promoters nor firmly planned. Ambiguities and shortcomings justify the fears and oppositions there have been around the project (Hubert et al., 2020 [2017]). Nevertheless, we will argue that the positive opportunities that are opened up by the project must be recognized, valued and strengthened. The pedestrian zone should be seen as a milestone in a wider and *more* ambitious transformation process of the metropolitan centre, where the special character of the latter in the context of a polycentric city project needs to be thoroughly investigated.

4 > FROM PEDESTRIAN PROJECT TO RESEARCH-BY-DESIGN PROCESS

Most of the key principles behind the ongoing pedestrianization process are, however, highly consistent with the definitions of the city centre (Wayens et al., 2020): the ambition of reducing car mobility, the improvement of walkability and the connections with the underground metro-tramway, the enhancement of air quality and green corridors, the focus on public spaces as meeting places.

The positive reading of the *piétonnier* as a visionary pilot project for the future of the centre goes hand-in-hand with the lack of a wider plan for the city centre which concerns multiple aspects, such as the mobility, socio-cultural, economic and ecological dimension (Hubert et al., 2020 [2017]). The changes observed in the profiles of shopkeepers (Strale, 2018; Vanhellemont, 2016), the lack of communication with citizens' associations, the attitude towards homeless people, the lack of plans for public properties (Rosa et al., 2016), all unfold the lack of understanding of the complexity, the differences, and the nuances that are present in the Brussels city centre.

This constituted the starting point for an on-site re-exploration of the existing possibilities for restructuring the Brussels metropolitan centre. After a series of surveys and analyses (Portfolio 1, 2016) and public debates (Brussels Academy, *Nuit du savoir*), the BSI-BCO decided to complement its approach with some prospective work and an RbD process.

Before presenting the RbD trajectory pursued by the BSI-BCO, it is important to briefly explain what we mean by research-by-design as it covers a working definition and how we use it. Research-by-design is a form of research that is practice-based and prospective, and which looks at space as part of the solution. According to the Charter of the European Association for Architectural Education (EAAE), it is 'any form of research in which the design is the essential component of the research process' (Ellefsen, 2015). In research-by-design –, 'the architectural design process is the path along which new insights, knowledge, practices or products emerge. It generates critical research through design work'. Research-by-design usually follows an abductive⁷ path making use of design patterns as 'primary generators' that both define the limits of the problem and suggest the nature of its possible solution. Within the limits of a given scenario and considering the practical limits of the research context, it provides the most promising conjecture, which is then subjected to further testing (Cross, 1982). In the design disciplines, such as (landscape) architecture, urban planning and spatial planning, it is an often used research method for testing various possibilities for socio-spatial issues. The visual way of communicating is seen as an important added value to make abstract and technical ideas about a future situation visible to various parties involved (Nijhuis et al., 2017; Rodgers and Yee, 2014). Following many authors, research-by-design – also helps bridging the gap between humanities and hard sciences (Cross, 1982; Frayling, 1994).

However, as stated by Frayling (1994), the designed solution is not the only outcome of such a research process. In many cases, the major output is rather the

⁷ Abduction is seen as a distinct type of reasoning in which a hypothesis is formulated to explain a surprising phenomenon from which a conclusion is consequently deduced and put to the test. The findings of the experiment may either lead to the formulation of a different hypothesis or to the testing of another conclusion than can be deduced (Hougaard, 2014).

performative power of design to mobilize people and foster collaborations by means of (visual) communication and participation (Vermeulen and Hardy, 2016).

Unfortunately, an insufficient number of research-by-design processes have been rigorously documented to assert its performative power.

In the context of the BSI-BCO, this general definition of RbD was adapted according to three specificities we were confronted with in our work: the scientific and multidisciplinary character of the platform, its independent 'third-actor' position, and its scientific objective of developing a long-term collective learning process beyond short-term problem-solving.

First, the RbD trajectory was based on the rich, diverse and rigorous research provided by the platform. Conversely, the trajectory is used to make the complementarity and contradictions between those various researches more concrete. The aim of research-by-design is not only to bring 'classic' scientists to participate in prospective and prescriptive experimentations, but also to install a scientific monitoring of the process, and to explore the scientific value of analysing such an unpredictable process rather than existing facts.

The second specificity of an RbD process carried out by the BCO is that neither public stakeholders (Serroen and Borret, 2020), nor study offices (commissioned by public stakeholders), activists or citizen's associations are taking the lead. The BCO is an independent research platform that aims to act as a 'third actor' mediating between multiple perspectives and interests (Mezoued, 2017). Therefore, design proposals are meant to objectify questions and possible solutions, not to implement specific (political) agendas. The hypothesis is that visually communicated proposals have a more direct impact than abstract recommendations, and that a prospective and enthusiastic approach helps in bringing the partners into a similar positive and open-minded attitude. However, quality and objectivity of the design is not enough. A key challenge is the trust in the independence and empathy of the mediator. Our experience has shown that scholars are likely to be accepted as mediators when stakeholders have conflicting (or mutually ignoring) agendas – a recurring problem within the institutionally hyper-complex structure of Brussels – thanks to their reputation for rigour and independence. Therefore, a key challenge is to bring together researchers of various ages and different backgrounds, representing different institutions and a wide range of disciplinary backgrounds, and get them to act as a critical peer beyond the limited framework of a short-term research project. From this point of view, nesting the BCO within a wider research platform such as the Brussels Studies Institute is crucial.

The last specificity of RbD at the BCO is the aim of fostering a long-term collective learning process that goes beyond short-term problem-solving. Considering that complex urban issues are generally seen as 'wicked problems' that have no unique solutions, design proposals are mainly carried out as a means to bring together

people and open up new perspectives. More specifically, the aim of the BCO is to connect spatial and programmatic design to partnership development and innovation in governance models.

4.1 Zoom in | Zoom out on the fine network of public spaces

First, in September 2017, the BSI-BCO organized a seminar on ‘centralities’, based on a working paper later published by Vanderstraeten and Corijn (2018), which defined the basis of a vision for the hypercentre, including some methodological principles for the research-by-design process. Then, in January and February 2018, BSI-BCO and perspective.brussels jointly organized a one-week master class, implementing the previously defined project-based research approach, the overall goal of which was to produce support for a public debate aimed at broadening the thinking to the hypercentre level and, in turn, contextualizing pedestrian issues.

In other words, the ambition of the work was twofold: to zoom out and zoom in at the same time. Zooming out was meant to be an action of widening the scope, to provide a new vision for the centre, extending the pedestrian zone’s implicit promises to rethink the metropolitan centre and, indirectly, the entire city and territory of Brussels. This kind of reasoning goes against the idea of a city made up of juxtaposed, individual, mid-sized projects, and moves towards an integrated large scale approach. In turn, zooming in was meant to be an action of better understanding the strategic issues and opportunities and facilitate clarification of some issues that were relevant to the questions the pedestrian project continued to raise, in order to remedy the shortcomings of the current project and find a way to move beyond controversies. The programming of public spaces and adjacent built-up areas, the connections to public transport networks and active mobility, the implementation of the ecological network and the reduction of parking spaces, were just some of the thematic issues discussed during the master class.

In order to define more precisely the new spatial figure of the hypercentre, it was first of all necessary to analyse the structure of the existing road system and the related public spaces structuring the central area of Brussels in greater detail. Closer inspection revealed a grid of spaces formed principally by north-south and east-west axes, which can largely be subdivided into two categories: spaces marking the main layout and spaces marking the capillary network (Figure 4).

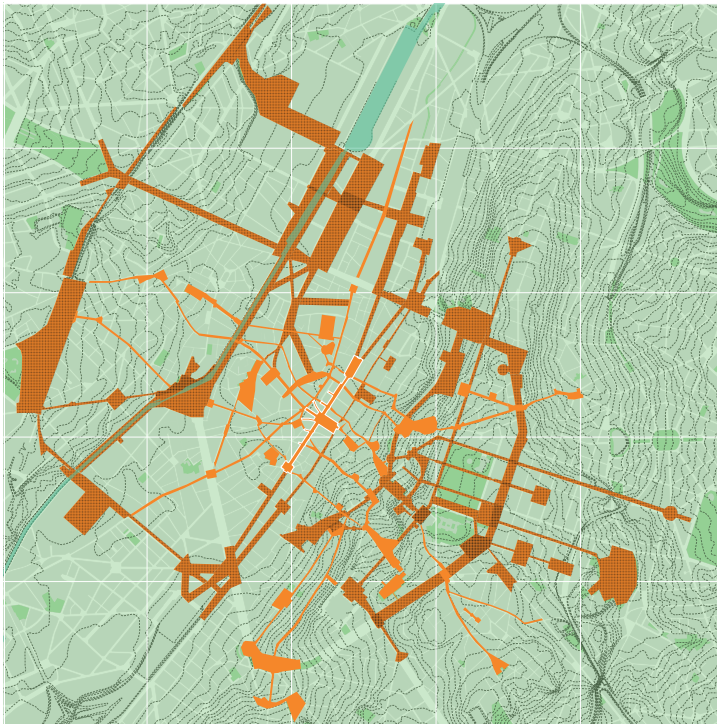
The large public spaces and road infrastructure predominantly have a north-south orientation. They are usually formal, designed and planned. There are five groups of major routes: the royal routes, the junction, the boulevards of the centre, the canal, and, in a prospective vision, the west subway line. Even today, these major routes are the focus of significant strategic actions carried out by the public authorities such as the pedestrian area, the North metro (line 3), the Canal Plan and the Kanal museum.

The capillary network is mainly orientated according to an east-west logic. These streets and spaces often stem from medieval routes and are dominated by the presence of small roads and old passages to the suburbs. The capillary network has a character that is generally more informal and unplanned. It evolves over tactical interventions mainly carried out by private actors. Even today, that road network concentrates a significant portion of the retail activities. Given their secondary importance in terms of transit traffic flows, these spaces are a logical starting point for experimentation with new practices concerning sharing spaces. Given the complexity of the micro-dynamics that shape them, their transformation demands new modes of participatory urban planning. The capillary network is therefore a territorial project that is to be considered just as important as the major routes.

Moreover, the public spaces defining the figure of the metropolitan centre are shaped by the combination of these two categories of spaces. This duality constitutes a richness that allows for a multitude of combinations and interactions capable of contributing to reinforcing the hyper-connectivity, functional hyper-diversity and sociocultural hyper-diversity that make the metropolitan centre a laboratory of urban culture.

- > **Figure 4.** The potential shared spaces network of the hypercentre. The large spaces (brown) and the capillary network (orange)

GRAND TRACÉS <-> MESH



Source: © BSI-BCO, De Visscher, Mezoued and Vanin, 2018, based on UrbIS-Topo

4.2 Unfolding the structuring network of the metropolitan city centre

Mapping the structuring network of public spaces that support the dynamics of the metropolitan centre of which the piétonnier is a key component (zoom out) and identifying the concrete local opportunities and challenges occurring along such a network (zoom in), leads to the identification of a series of main spatial sequences.

Attempting to determine the main walkable network that, supported by public transport, can function as a connection between the social and functional differences present in the Brussels hypercentre, the first move was to look at the axes that structured the city centre before the construction of the train junction, the canal and the central boulevards, and which were dominantly east-west oriented. The main one was the 'Steenweg' (De Visscher, 2020), connecting the harbour district (Saint Géry-Saint Cathérine), the retailing district (Grand Place) and the royal district (Coudenberg, Place Royale), with a secondary axis connecting Sainte-Gudule-Beguinage with Sablon and Nouveau Marché aux Grains. The persistence of these axes in the contemporary city is still visible and it unfolds the relevance of the medieval network presenting potential walkable paths. Moreover, these are highlighted by a space syntax analysis (Mezoued and Letesson, 2018) that identifies the streets that can be chosen when moving away from a particular point on the map within a given perimeter. The 1600-metre radius analysis shows a series of continuous paths crossing the 'petite ceinture', highlighting the continuity of the historical axes beyond the Pentagon for pedestrian displacements (Mezoued et al., 2020). However, as a result of the historical transformations of the city, especially the 'grands traces', some missing links emerge from the analysis, pointing out the need for specific interventions to guarantee such continuity.

Besides the continuity beyond the Pentagon, the key features that have been considered to determine the main E-W spatial sequences are their ecological value (enhancement of the green-blue network, reduction of the heat island effect) and their capacity for bridging socio-functional differences – connecting people from the different neighbourhoods as well as linking different functional zones (industrial, retail, cultural-touristic and office areas), which is in clear opposition with the N-S axis, which connects more homogeneous zones, stressing the importance of public spaces as, for example, the squares on the 'piétonnier' (Fontainas, Bourse, De Brouckère).

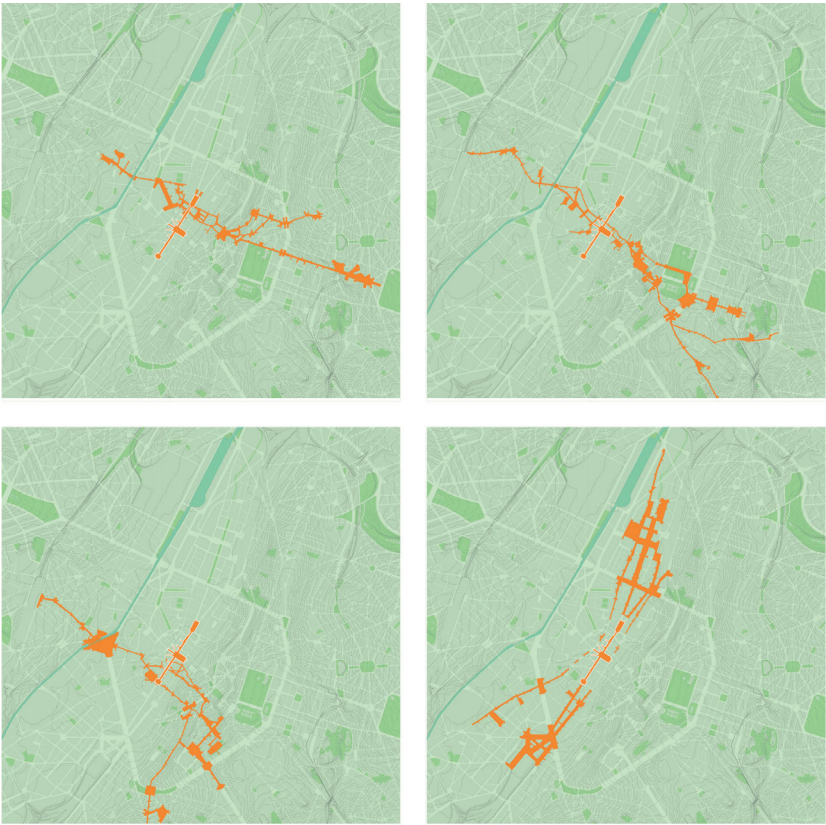
Based on this, four main sequences of roads and public spaces have been identified that are suitable to become future walkable and structuring axes of the hypercentre, which can be extended beyond the Pentagon (Figure 5).

The first sequence starts from Place Saint-Josse in the lower part of Saint-Josse-ten-Node to end at the Comte de Flandres metro-stop in historic Molenbeek, linking the two sides of the canal representing the notorious duality of Brussels. It crosses the petite ceinture at the level of Esplanade Madou to then offer several alternatives.

One is to go towards the canal via the cathedral Saint-Michel-et-Gudule and the streets of the Fossé aux Loups and the Ecuyer, as well as the place Sainte-Catherine; another one is to go through the Notre-Dame-aux-Neiges district to reach the Cité Administrative de l'Etat, the Martyrs' Square and the Béguinage Church. In both configurations, the sequence crosses the pedestrian zone at place De Brouckère.

The second sequence traverses the central tourist zone in downtown Brussels and follows the historical route of the Steenweg (see De Visscher, 2020, in this book). When looking at its course, it seems logical to extend it up to the centre of Ixelles, including the Chaussée d'Ixelles and the Chaussée de Wavre, and down to Molenbeek-Saint-Jean, including the Chaussée de Gand. Throughout this sequence, there is considerable socio-economic and sociocultural diversity, as one crosses the gentrified districts of Ixelles (Saint-Boniface, Chaussée d'Ixelles) and Dansaert, the ethnic districts of Matongé and Historic-Molenbeek, as well as the central tourist zone of Brussels's core. In such a configuration, the Stock Exchange - la Bourse - becomes the knot of articulation between the pedestrian zone and this extended route.

> **Figure 5.** The three east-west and one north-south axes of the hypercentre



Source: © BSI-BCO, De Visscher, Mezoued and Vanin, 2018

The third sequence stretches the limits of the southern part of the Pentagon. The network connects the southern slopes of the Ville de Bruxelles with the eastern slopes of Molenbeek at Gare de l'Ouest. It starts from place Stéphanie to reach place Poelaert (Palais de la Justice), the more affluent Sablon neighbourhood, the popular district of the Marolles, place Fontainas in the Anneessens neighbourhood, Porte de Ninove at the junction of three municipalities and Gare de l'Ouest. The public spaces of this sequence have probably been the least affected by the construction of the large boulevards. As a result, there is a fine network of streets and alleys where highly diverse low-class neighbourhoods and gentrification pockets coexist.

The fourth sequence focuses on the continuity of pedestrian developments around the central boulevards, along a north – south alignment. The Gare du Nord and Gare du Midi become the gateways to this sequence, which includes all the central boulevards (Anspach, Lemonnier, Adolphe Max, Emile Jacqmain), as well as the parallel streets, which are just as important: Rue Neuve, Rue du Midi and Avenue Stalingrad on the one hand, and Rue de Laeken, Rue de la Vierge Noire and Chaussée d'Anderlecht on the other.

The investigation around those imaginary axes – that are, in fact, each composed of a number of different tracks and spaces – aimed to answer some questions regarding, for example, the relationship between the central boulevards and the mesh of public spaces in the hypercentre, or the one between the pedestrian zone and its extensions to the two stations and the three east – west axes.

It also highlighted the need for a clear vision about the future of the N-S and E-W sequences and a reflection on what actions can be taken in the short term, and how these can initiate a long-term transformation processes.

5 > FOUR STRUCTURING AXES

Looking in detail at the methodology and the results of the 'Zoom in, Zoom out' master class is particularly relevant in terms of the definition of the metropolitan centre. The output of the project-based research conducted by the participants is a series of four projects organized along the four main structuring axes (each in fact being a sequence of tracks and spaces) that bypass the limits of the Pentagon. This led to a series of debates after the master class, and allowed the identification of a number of paths worth pursuing.

The overview of the four sequences helps to understand and build a new figure for the Brussels hypercentre. The grid of public spaces that is mainly devoted to soft mobility together with the reversal of the priorities concerning the use of the roads enabled the exceeding of the limits and physical borders of the dominant figure of the Pentagon, which fades in favour of a series of continuous transversal east – west paths alongside a north – south one. The boundary represented by the

canal is also crossed, becoming a hinge, a sort of spine that creates a link, rather than a partition. This new form also helps to network a lot of places, programs and uses, many of which have been divided since the 19th century. Reconnecting them in this way can support and reinforce the dynamics and the diversity of the hypercentre.

5.1 Sequence 1: Place Saint-Josse – Comte de Flandre

The main idea of the proposal is to install a clear continuity and fluidity when proceeding from the Place Saint-Josse to Comte de Flandre and to punctuate this course with a succession of small squares in order to transform the route into a more intuitive path. These spaces can be activated through the programming of weekly markets that can materialize the desired continuity through a programmatic proposal. The streets and alleys between the small squares are released from the presence of cars and from parking lots along the road. A new mobility scenario is being proposed as part of the expected paradigm shift for the hypercentre, transforming the public spaces into areas with reduced car presence, shared by soft transport modes and open to different types of appropriation.

To support the development of the proposed links, the focus is – in the first stage – placed upon the sequence between the Congress Column and the Place des Martyrs. Moreover, special attention is paid to the scars represented by the North-South railway junction and the Cité Administrative de l'Etat, in order to facilitate the spatial-functional continuity and the pedestrian crossings between the upper and lower part of Pachéco Boulevard.

The deployment of the above-described vision across the whole sequence in terms of concrete actions to be performed in the short and long term is condensed here in three main proposals:

First, the redevelopment and reprogramming of the esplanade of the Cité administrative : renew the space, make it more attractive and allow new activities, while facilitating street crossings (Pachéco Boulevard). The Esplanade can also be the subject of a new program in which a weekly market and leisure activities are established.

Second, to enhance the attractiveness of the proposed route between the administrative city and the Place des Martyrs, a new square is to be created at the Rue du Marais. The current building of BNP Paribas, which will soon become unoccupied,

is being demolished⁸ and could be replaced by student housing and a small square, creating a sort of new student district near the Université Saint-Louis – Brussels.

Finally, the redevelopment of the streets into shared spaces, with parking lots being eliminated from the roadside, is one of the main actions of the proposal that can be tried out in the short term, enhancing the spatial quality without the need for significant investments (at least if the sidewalks are preserved).

5.2 Sequence 2: Chaussée de Wavre-Ixelles – Chaussée de Gand

The vision proposed for this axis is to extend the Steenweg to Ixelles and Molenbeek and to include the Chaussée de Gand and the area of Matongé in the continuous sequence of symbolic and iconic places of Brussels (Place de la Bourse, Grand-Place, Mont des Arts, Place Royale, etc.) (Figure 10). This extension and the envisaged unity were initially fostered thanks to the pedestrianization of some missing sections along the sequence. Indeed, the majority of streets along this axis are already pedestrianized. The idea is to complete the missing sections and create a kind of pedestrian east – west path retracing the historic roadway. This implies a heavy redevelopment of the junction of this new road with the petite ceinture (inner ring-road). Moreover, in order to ensure the continuity of the pedestrian route, the two nodal points at Porte de Namur and Porte de Flandre have already been completely redesigned.

In addition to the development of public space to better accommodate slow mobility, less invasive actions are also envisaged, along with exclusively programmatic and immaterial ones:

One is to highlight the path by placing an illuminated plan that puts forward a number of elements related to the local identity of the places.

Secondly, it is suggested that cultural and sports festivals be organized along the axis in order to be allow increased interaction between different groups of people living in different parts of the axis, thus promoting and enhancing social cohesion.

Thirdly, the intention is to create a digital app that can provide instant information on the different cultural and sports events, as well as on places of interest throughout the sequence.

In terms of concrete actions, this sequence proposes key interventions at Porte de Namur and Porte de Flandre. As for the first location, the main question is how to

⁸ We would like to point out that criticism can surely be formulated on parts of this proposal, like on the demolition of a building. The proposal is the result of a co-creative master class, not a purely science-based exercise. A more defensible alternative from an ecological point of view could, for example, involve remodelling the existing building instead of demolishing and rebuilding it.

create spatial and functional continuity of the pedestrian zone between Chaussée de Wavre and Rue de Namur. At this point, the small ring-road becomes a shared space with enhanced pedestrian priority.

Regarding the second focus point, the aim is to create a better continuity of the pedestrian public space between Rue de Flandre and Chaussée de Gand, with a partial covering of the canal between the bridges of the Chaussée de Gand and Rue de Witte de Haelen. Although highly ambitious given the physical constraints, this new public space would make it possible to cross the canal 'barrier' and to construe a meeting place in what is to actually become the heart of the hypercentre.

5.3 Sequence 3: Place Stéphanie – Gare de l'Ouest

In this sequence, located in the southern part of the Pentagon, there is an increased density of schools and institutions for higher education or professional training from both the French and Flemish communities. It is proposed that a network of schools be created that intertwines with a network of inclusive and mainly shared public spaces (Mezoued and Letesson, 2018) that pay special attention to school-children. It strongly focuses on reinforcing the public transport connectivity as a safe and secure alternative that allows the eradication of the dominance of the car and its allocated importance in public space.

Schools are also to be networked through a common urban agriculture program. The roofs of schools, their playgrounds and a number of other public spaces hold the potential to become productive spaces whose production management is shared between schools and whose production can serve to supply the school canteens. The implementation of this project should involve all institutions and stakeholders concerned. As for the schools, these should also comprise the Academy of Fine Arts and the Institute of Arts and Trades, which are located in the neighbourhood. The idea is also to rethink the relationship between schools and public space. The use of some schools' playgrounds or other premises for activities that are open to the general public is one of the core proposals of this project. It is inspired by the Flemish 'Brede School' programs.

Several short-term actions are proposed. They mainly concern the urban agriculture program that is linked to the schools, but also the pacification of public space and its transformation into a child-friendly space.

The first action is the unification of Fontainas square and the adjacent park to make it the heart of a new urban agriculture network that is linked to schools. The park can thus be transformed from a mere urban garden – as it is conceived today within the pedestrian spine – into a productive space. It also has the potential of becoming the centre of a network of large open spaces that is constituted by the sequence of the Egmont park, Fontainas, and the future park at Porte de Ninove. At Fontainas Square, the corner of the ground floor of the Anneessens-Funck

Institute becomes the central place of this joint program, where the coordination is located with an access and contact point for the public. It also becomes a meeting place for schoolchildren from different communities and socio-economic and socio-cultural backgrounds. The project is to become a space and learning program dedicated to Brussels cosmopolitanism.

The second action concerns the appropriation of the rooftop of the Athénée Robert Catteau. This roof, which is located at the same level as Poelaert Square, is currently unused, and offers a large surface that can be exploited. The idea proposed here is that this space be arranged as a visual extension of the square and utilized within an urban agriculture program linked to the nearby school.

The final action concerns the re-appropriation of the public space of the boulevard de l'Empereur and the adjoining Justice square. The central reservation and the sidewalks of the former are redesigned to create a pedestrian continuity and secure road crossings. Sports fields and playgrounds can be incorporated in the redesigned area. The Place de la Justice can be reorganized and the great institution of the National Library could launch a school-related outreach program to animate the square.

5.4 Sequence 4: Gare du Nord – Gare du Midi

For the final sequence, the idea is to strengthen the links of the central boulevards to the Gare du Nord and the Gare du Midi. This proposal will emphasise the actual broadness of the central boulevards including the Rue du Progrès, place Rogier, Rue Neuve, Rue du Midi, Boulevard, Stalingrad and the Esplanade de l'Europe. These streets and squares each have a specific character and a street-life that the proposal aims to integrate into a coherent whole by reinforcing the spatial and programmatic links between them. This vision involves, among other things, the strengthening of the metropolitan character of the entire sequence by enhancing the availability of the metropolitan infrastructure: reprogramming the Continental Hotel at place de Brouckère, opening up the Academy of Arts to the public space, reprogramming the Palais du Midi, and planning and programming the existing spaces under the railways along the esplanade de l'Europe.

In terms of actions, it is proposed that the links between the parallel streets of the sequence be reinforced (Figure 15). An example would be to create a link between Rue Neuve and Boulevard Adolphe Max. The latter road is relatively calm, and could take advantage of the dynamics of the Rue Neuve. To achieve this, a recreational area is created between the two streets in order to attract flows from one space to another.

The second action concerns the reprogramming of the Palais du Midi as a palace devoted to southern cultures. The aim here is to recognize and reinforce the Maghreb cultural character of the area and integrate it in the metropolitan canon. The

redevelopment and reprogramming of the Palais du Midi also presents an opportunity to enhance the passage between the Lemonnier and Stalingrad boulevards.

Finally, one of the project's actions is to create new spaces under the railroad along the Esplanade de l'Europe and to turn these over to new uses. This action aims to reactivate the space between the Gare du Midi and the inner ring road on the one hand, and to reduce the effect of the rupture in the urban fabric, which was caused by the railroad, on the other.

6 > PERSPECTIVES

In 2018, the results of the master class were presented during an exhibition and public debate at Bozar and perspective.brussels. They also served as support for a cycle of meetings between academic experts, public actors and citizens, which confirmed the fundamental principles proposed in this paper and opened up more concrete perspectives and partnerships.

In fact, after the master class, the BSI-BCO set up a program of seminars, workshops, exhibitions and public debates where the model was used as a support for discussion. The first event was an exhibition and public debate with a panel of experts and official representatives from the city of Brussels and the Brussels region, held at the Museum of Fine Arts. Over the next three months, the model was exhibited at perspective.brussels, and was used for thematic workshops on economy and mobility with experts from universities, public administrations, and professionals' and citizens' associations. This led to adaptation and refining of the model according to the consensus that emerged from the debate between the stakeholders that were present. It also led to the production of the outlines of a vision for the Brussels metropolitan city centre,⁹ a vision that describes how to evolve beyond the Pentagon so that Brussels's city centre becomes the cosmopolitan centre of the metropolitan capital of Europe. Along with this vision, five challenges were formulated: 1) the definition of a co-productive and inclusive socio-economic policy by using levers for public land use; 2) the realization of a mobility transition through a paradigm shift; 3) the development of a productive city and logistic ecosystem at multiple scales from a low-carbon perspective; 4) the programming of a multidimensional city, including its public spaces and the built environment (basements, ground floors), as well as the in-between-zones, reducing nuisance for the most fragile neighbourhoods; 5) governance of the metropolitan city centre (beyond the Pentagon). Moreover, it delineates six ideas for research-by-design processes: 1) the testing of alternative solutions for urban freight transport and providing operational support for local merchants to adapt during the transition; 2) elaboration of the pilot project 'a pedestrian-friendly network of schools' with a program of urban agriculture and public spaces along the axis Poelaert-Sablon-Porte de Ninove

⁹ https://issuu.com/bsi-bco/docs/de_pliant_final

(towards the Gare de l'Ouest and the Abattoirs); 3) reinforcing the east – west linkage, ensuring and visualizing a walkable axis along the 'Steenweg' between Porte de Namur and Porte de Flandre, completing and prolonging the missing pedestrian links between Matongé, Chaussée d'Ixelles and lower Molenbeek; 4) reinforcing the walkable axis between Saint-Josse, rue de l'Avenir and Compte de Flandre; 5) reworking the nodes on the north – south axis, rethinking the use and identity of the Esplanade de l'Europe as well as the Palais du Midi, the Hôtel Continental, the future galleries of the Bourse, the 1st floor of the Centre Monnaie; 6) valorisation of the basements of certain buildings to increase the accessibility and supply system of the metropolitan city centre, such as the parking of the Cité Administrative and the Monnaie car park.

7 > DISCUSSING THE VISION

After delineating this vision, the proposed ideas needed adhesion from a larger public and stakeholders on the one hand, and to be detailed and supported by research and a research-by-design process on the other. For this reason, another series of discussions and public debates were organized, while searching at the same time for subsidies to further develop the vision. In partnership with Brussels Academy,¹⁰ a series of lectures and debates with inhabitants and citizens' associations were organized, and, thanks to a partnership with Pyblik,¹¹ a platform providing training in public space design for both professionals and public stakeholders, a workshop was held. From June to November 2018, the proposed model of the Metropolitan Centre was exhibited. In parallel, an alternative model made by the activists of Bye-Bye Petite Ceinture¹² (BBPC) was presented (Figure 6) at the Brussels branch of the International Architecture Biennale of Rotterdam¹³. The model of the new spatial figure of the metropolitan centre proved to be complementary with the work simultaneously carried out by BBPC: while BCO had focused on the spatial structures crossing the petite ceinture, BBPC focused on the fading of the inner ring as a barrier.

The process of communication and collective discussions led to two main observations. The first was a general agreement of the participants with the values expressed by the model: widening the perimeter to include the metro loop, the canal and the stations; structuring the metropolitan centre around a network of public spaces favourable to soft mobility and ecological services; developing support programs for a cosmopolitan urban culture. Clues as to the acceptance by public stakeholders are the adoption of some of the key proposals into planning

¹⁰ <https://brusselsacademy.be/>, accessed 20 November 2019.

¹¹ <http://www.pyblik.brussels/>, accessed 20 November 2019.

¹² Bye- Bye Petite Ceinture is a citizens' association that strives to transform the inner ring-road from an urban highway into a public space. <http://byebye.petiteceinture.be/>, accessed 20-11-2019.

¹³ <http://www.youarehere.brussels/>, accessed 20 November 2019.

policies. In 2018, the Regional Plan for Sustainable Development¹⁴ adopted a decision to extend the perimeter of the city centre in order to include the metro loop, the canal and the historical centre of Molenbeek. The new regional mobility plan¹⁵ also institutionalizes the connection between the Gare du Midi, the pedestrianized boulevard and the Gare du Nord as a main walkable axis (axis O4), along with the historical axis connecting Molenbeek with the upper town (axis O2).

The second observation was the usefulness of the model as a tool through which a collaborative and creative understanding of the concrete challenges and issues could be fostered. The model provides a spatial pattern reframing the usual ways of understanding the challenges and opportunities. On the one hand, it is very concrete and relatively easy to understand thanks to the selection of streets that are highlighted in an aerial picture as strategic spaces for the future. On the other, it is abstract, showing a set of coloured cardboard elements that do not propose detailed spatial solutions. The tension between concreteness and abstractness allows participants to specify their own understanding of the challenges and opportunities through their personal experiences and background. In some cases, original personal interpretations gained collective agreement and led to substantial modification of the model. Improvements to the model were made by adding or removing pieces of cardboard, and discussions on specific challenges and opportunities led to the emergence of new partnerships. Generally speaking, research-by-design proved to be a helpful tool for the development of a multidisciplinary, multi-stakeholder, open and evolving approach. The model realized during the master class has been helpful in getting participants to move beyond their personal point of view, rendering themselves into a common future. It has also helped to ground debates in concrete and easily understandable proposals. In this case, research-by-design proved to be useful in supporting the co-production of an urban project as complex as the metropolitan centre.

However, although significant, the outcome of the process of discussion was limited, both in terms of planning and stakeholder involvement. In terms of planning, the Regional Plan for Sustainable Development (PRDD) and the Regional Mobility Plan (GoodMove) include only fragments of the suggested spatial pattern. In terms of stakeholders, while the BSI-BCO developed close partnerships with the regional administration for territorial development, citizens' associations and activists, no partnerships with economic stakeholders have been developed to date. Additionally, the sharing and co-production of the vision with the Alderman's college of the Brussels municipality happened to be less intense than expected. The reason for this is, according to our interpretation, primarily the result of the municipal elections, which meant that time was required by the new political majority to agree on a new agenda and translate it into planning policies. Prior to

¹⁴ <https://perspective.brussels/fr/plans-reglements-et-guides/plans-strategiques/plan-region-al-de-developpement-prd/prdd>, accessed 20 November 2019.

¹⁵ <https://goodmove.brussels/fr/plan-region-al-de-mobilite/#plan-telechargement>, accessed 18 November 2019.

> **Figure 6.** The final model of the Zoom in | Zoom out research-by-design process (vertical), with the model of Bye-Bye Petite Ceinture (horizontal)



Source: BSI-BCO and Bienvenue sur la petite ceinture

such an agreement within the college, collaboration with external advisers such as the BSI-BCO proved difficult. Conversely, it was difficult for the BSI-BCO to explore how its proposals could integrate with or complement the municipal urban policies. Another (additional) interpretation might be the difficulty of politically managing the complex nature of such a municipality that is both a combination of local neighbourhoods, with each presenting local challenges, and a regional (national and international) pole whose influence goes far beyond the municipal borders. The BSI-BCO hoped that its vision for the metropolitan centre would help bring together the different municipal, regional and federal public stakeholders around shared purposes. However, without being officially commissioned to act as a mediator, the BSI-BCO had limited legitimacy in this respect. It may be the case that the BSI-BCO underestimated the importance of such a legitimacy being built up bit-by-bit, by tackling concrete urban challenges as opportunities to demonstrate the relevance and potential benefits of their analysis, proposals and methodologies for a broad range of urban stakeholders.

8 > TOWARDS PROTOTYPING

Two pieces of research, following the approach described above, have been recently financed and are now entering the operative and test phase of the process, which aims to give account, prove the validity and further develop the proposed vision of the Metropolitan Centre of Brussels. Key goals of the research 'Pentagone Sud' and 'Steenweg' are, on the one hand, to detail the general vision for specific segments of the identified strategic network and, on the other, the realization of pilot projects to produce prototypical results. Prototyping is thus an integral part of the methodology because its goal is to produce test projects that can be reproduced elsewhere (Gehl and Savarre, 2013).

8.1 Southern Pentagon

In 2019, following the design workshops held during the International Architecture Biennale of Rotterdam, a group composed of the BSI-BCO, Architecture Workroom Brussels (the organizers of the biennale in Brussels), BRAL (a Dutch-speaking citizens association) and Atelier Groot-Eiland (a non-profit organization helping marginalized people to gain employment) received funding from the Vlaamse Gemeenschapscommissie (which has competencies for culture, education, well-being and health for Flemings in Brussels) to build a series of productive green pilot projects (i.e. vegetable gardens, fruit trees) in close coordination with the schools located in the south of the Brussels city centre. Instead of proposing only installations within the respective school perimeters, the group has also expressed a willingness to build them in the surrounding public spaces, creating a school network (both French- and Dutch-speaking, from nursery school through to university) with multiple purposes. The aim is to provide safe routes for children,

reduce car dependency and air pollution, and foster the access to qualitative food in neighbourhoods with low average levels of income.

Workshops held in 2019 with inhabitants and school representatives demonstrated a willingness to support the project. A spatial and actor-network analysis identified three strategic sites suitable for testing. In November 2019, in order to discuss the possibility of creating the pilot projects in the public space, a workshop was held with representatives from the urbanism and green spaces departments of the Brussels municipality. The municipality welcomed the proposal, as it met its general objective of improving walkability, green spaces and facilities in proximity to them. One of the topics of discussion was the presumed shift from classic public services towards public-citizen partnerships. As noted by the head of the green spaces department, the choices for vegetation in the public space are usually very limited due to the municipality's limited management capacities. However, having schools and neighbourhood associations stewarding the gardens on an everyday basis opens up much wider possibilities.

From a methodological point of view, structuring the discussions around a spatial issue allows the highlighting of unexpected potential synergies between environmental, social, economic and cultural issues. The complexity of those potential synergies also illustrates why public stakeholders should operate as enablers¹⁶ rather as planners or providers of public facilities (see in this book, Dudal et al., 2020).

8.2 The Steenweg

In 2019, perspective.brussels commissioned a scientific study from the BSI-BCO for the redevelopment of the main historical axis (called the Steenweg) as a pedestrian trajectory connecting the bottom of the valley with the top of the hill (see in this book, De Visscher, 2020). The outcomes of the first surveys and discussions highlighted that the Steenweg can become much more than a mere pedestrian axis. Besides being an important environmental axis connecting the top of the hill with the bottom of the valley, the Steenweg is also a social catalyst, connecting the western poorer neighbourhoods with the eastern richer ones. In addition, it is an economic axis connecting different areas where industrial, retail, cultural and office activities are located. Finally, it is a cultural axis connecting the major heritage sites and museums of the city centre. However, the discussions also revealed that presuming so many stakeholders to collaborate is a major challenge.

¹⁶ LabGov.city. Co-cities Open Book. Transitioning from the Urban Commons to the City as a Commons. (Self-edited, 2019), 8. <http://commoning.city/the-co-cities-open-book/>

9 > CONCLUSION

This chapter proposed an open vision for the Brussels metropolitan city centre that can serve as a framework for developing design initiatives meant to implement such a vision at different scales across Brussels's extended metropolitan centre.

The first outcome of the research-by-design process is the envisioning of potential sustainable scenarios for the spatial and programmatic structuring of the Brussels metropolitan city centre, within which the pedestrian zone retroactively appears as a strong potential starting point. As illustrated in this chapter, making the Brussels central avenues car-free can be seen as the first step towards an expanded network of public spaces where priority is given to pedestrians, cyclists and public transport. An opportunity for expanding this network can be found in the potentialities of the capillary mesh of small roads and public spaces in the city core, mostly inherited from the medieval period. Since many of these streets are not major axes for car flows, they hold greater potential for transformation in the short term. Secondly, they provide east-west connections facilitating crossings of the north-south oriented, large-scale infrastructures and the Pentagon itself. They permit a better connectivity between the variety of spaces, socio-economic dynamics and natural flows in the centre. More specifically, the resulting network provides strategic spatial connections between the Pentagon, the surrounding train and metro stations, the historical suburbs and the other side of the valley. By connecting the (regional and federal) public transport networks, the other mobility flows, and the functional and social diversity, this network allows for a spatial definition of the metropolitan centre that is more consistent with the regional vision sought by the government in the PRDD. On the other hand, reading Brussels as a polycentric city structured by different interconnected centres, the specificity of the metropolitan centre should be reinforced in contrast to the other centres.

The second outcome of the research-by-design process is the envisioning of new governance models, where public stakeholders shift from a role of public service providers towards a role of enabler, fostering partnerships between public stakeholders, private stakeholders, citizens (associations) with the support of experts and universities. The two specific cases of Southern Pentagon and the Steenweg illustrate the necessity and complexity of articulating local challenges and opportunities in relation to a wider vision, and of encouraging synergies between the many stakeholders able to make a positive contribution. The communication and co-design process that followed the master class illustrates a possible methodology for achieving such a goal.

Disseminating, sharing and discussing the new imaginary for the Brussels Metropolitan Centre is essential to both improving the vision of and fostering synergies between stakeholders. In order to reach that goal, it is crucial to continue to invest in three types of actions:

- enabling exhibitions, publications, public debates and workshops, and strengthening collaborations between the different stakeholders;
- promoting the coordination of spatially driven studies in the fields of mobility, ecology, sociology, architecture, economy, public programs and governance, using a transversal, prospective and situated approach to as great an extent as possible;

developing targeted studies (e.g. on prototyping) and pilot projects on particular cases (e.g. exploration of the E-W axis), as a means to test and improve the vision and governance model.

10 > ACKNOWLEDGEMENTS

We would like to thank all participants of the master class. We also thank perspective.brussels, the team of the Brussels bouwmeester (bma), Pyblik and Bozar for their support. Hoping not to forget anyone, we would also like to say thanks to:

Ait Benasser Yousra, Barthel Camille, Billet Adam, Bujoreanu Benjamin, Catsaris Georges, Chaubet Christine, Creten Alexis, Dieryck Maarten, Gandrabur Konstantin, Grekhnoyva Ekaterina, Laki Giulietta, Laureyssens Thomas, Le Fort Barbara, Lhoest Sophie, Malyshev Gavriil, Milosevic Alexandra, Museux Basile, Raynaud Frédéric, Serroen Frédéric, Tehrany Massaude Sayed Azizilah, Tsopze Nina, Zeit Odile ... but also Borret Kristiaan, de Bethune Livia, Onkelinx Jeremy, Sanders Tom, Soil Christophe, Vanderstraeten Pierre and Verstraeten Olivier.

11 > BIBLIOGRAPHY

BOURDEAU-LEPAGE, L., HURIOT, J.-M. and PERREUR, J. (2009). A la recherche de la centralité perdue. *Revue d'Economie Régionale et Urbaine (RERU)*, 3, 549-572.

BRENAC, T., REIGNER, H. and HERNANDEZ, F. (2013). Centres-villes aménagés pour les piétons : développement durable ou marketing urbain et tri social? *Recherche Transports Sécurité*, 2013 (04), 271-282.

CLAVAL, P. (2000). Réflexions sur la centralité. *Cahiers de Géographie du Québec*, 44, 285-301.

CORIJN, E., VANDERSTRAETEN, P. and NEUWELS, J. (2016). Remarques préliminaires concernant le plan d'aménagement du piétonnier. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages — Kader, Ouvertures — Aanzet, Focus*. Bruxelles, BSI-BCO.

CORIJN, E., VANDERMOTTEN, Ch., DECROLY, J.-M. and SWYNGEDOUW, E. (2009). Bruxelles, ville internationale. *Brussels Studies* [online], Notes de synthèse, online on 24-02-2009, accessed 01-10-2020. DOI : <https://doi.org/10.4000/brussels.991>.

CROSS, N. (1982). Designerly ways of knowing. *Design Studies*, 3(4), 221-227. Retrieved 30 October 2018 from [https://doi.org/10.1016/0142-694X\(82\)90040-0](https://doi.org/10.1016/0142-694X(82)90040-0).

CROXFORD, B., DOMENECH, T., HAUSLEITNER, B., HILL, A. V, MEYER, H., ORBAN, A., MUÑOZ SANZ, V., VANIN, F. and WARDEN, J. (2020). *Foundries of the Future: a Guide for 21st Century Cities of Making*. Delft : TU Delft Open.

- DESSOUROUX, C. (2009). *Espaces partagés, espaces disputés Bruxelles, une capitale et ses habitants*. Bruxelles: Université Libre de Bruxelles (CIRHIBRU) & Ministère de la Région de Bruxelles-Capitale.
- DE VISSCHER, J-P, MEZOUEDE, A. and VANIN, F. (2018). L'hypercentre de Bruxelles : du piétonnier au projet urbain Masterclass — Zoom In — Zoom Out. In S. VERMEULEN, M. HARDY, A. MEZOUEDE, E. CORIJN and M. HUBERT (eds.), *Portfolio #2: Zoom in | Zoom out on the Brussels city centre*, pp. 79–91. Brussels: BSI-BCO
- DE VISSCHER, J.-P. (2020). Steenweg. In S. VERMEULEN, A. MEZOUEDE and J.-P. DE VISSCHER (eds.) *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB and VUBPress.
- DUDAL, R., VERHEYDEN, H., CASSIERS, T. MEZOUEDE, A., VERMEULEN, S. and CORIJN, E. (2020). A green-blue walking network in the Southern Pentagon. In S. VERMEULEN, A. MEZOUEDE and J.-P. DE VISSCHER (eds.) *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB and VUBPress.
- ELLEFSSEN, K. O. (2015). *Research by design: EAAE 2015*. Diepenbeek: European Association for Architectural Education.
- FRAYLING, C. (1994). *Research in Art and Design*. Royal College of Art Research Papers, 1(1).
- FREY, H. (1999). *Designing the city: towards a more sustainable urban form*. London: E and FN SPON.
- GEHL, J. and SVARRE, B. (2013). *How to Study Public Life*. Washington DC: Island Press.
- HEYNEN, H. (2014). Ontwerpend Onderzoek. *Karakter. Tijdschrift van Wetenschap.*, 3(45), 14–15.
- HOUGAARD, A. K. (2015). Architectural Practice as Research: Framed by Abduction. In *Research by design: EAAE 2015* (pp. 62–74). Diepenbeek: European Association for Architectural Education, EAAE
- HUBERT, M., CORIJN, E., NEUWELS, J., HARDY, M., VERMEULEN, S. and VAESSEN, J. (2020 [2017]). From pedestrian area to urban and metropolitan project: assets and challenges for the centre of Brussels. In S. VERMEULEN, A. MEZOUEDE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB and VUBPress.
- LEFEBVRE, H. (1974). *La Production de l'espace*. Paris : Anthropos.
- MEZOUEDE, A. (2017). La médiation urbanistique au cœur de la fabrication du lien. In A. MEZOUEDE, C. SIMONNEAU, and B. DECLÈVE (eds.), *Kana nos Kosta. La recherche-action territoriale en questions*. Louvain-la-Neuve : Presses Universitaires de Louvain.
- MEZOUEDE, A. and LETESSON, Q. (2018). Repenser le partage de l'espace public pour un hypercentre marchable. In S. VERMEULEN, M. HARDY, A. MEZOUEDE, E. CORIJN and M. HUBERT (eds.), *Portfolio #2: Zoom in | Zoom out on the Brussels city centre*. Brussels: BSI-BCO.
- MEZOUEDE, A., LETESSON, Q., FENTON, G. and CRETEN, A. (2020). The walkability of the metropolitan city centre as a lever for Brussels' mobility transition. In S. VERMEULEN, A. MEZOUEDE and J.-P. DE VISSCHER (eds.) *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB and VUBPress.
- MUMFORD, L. (1968). *The Urban Prospect*. New York : Harcourt, Brace & World.
- NIJHUIS, S., DE VRIES, J., and NOORTMAN, A. (2017). Ontwerpend onderzoek. In W. SIMONS and D. VAN DORP (eds.), *Praktijkgericht onderzoek in de ruimtelijke planvorming. Methoden voor analyse en visievorming*. (pp. 257–263). Wageningen: Uitgeverij Landwerk.
- REMY, J. (1996). Transformation de l'expérience urbaine : incidence sur les régulations politique et urbanistique. In: *Reflets et perspectives de la vie économique*. 1996. XXXV, n° 4, pp. 425-433.
- RODGERS, P., and YEE, J. (2014). *The Routledge Companion to Design Research*. Routledge.
- ROSA, E., DONNEN, A., HOULSTAN, R., LAKI, G., LEDENT, G. and SALEMBIER C. (2020). Right(s) to Brussels' city centre and the urban project. What possibilities for future transformations? In S. VERMEULEN, A. MEZOUEDE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB and VUBPress.
- SALAT, S. (2011). *Les villes et les formes. Sur l'urbanisme durable*. Paris : CSTB



SERROEN, F. and BORRET, K. (2020). Changer la ville ensemble. Un aperçu de la gouvernance dans le développement urbain bruxellois. In A. MEZOUE, S. VERMEULEN, J.-P. DE VISSCHER (eds.). *Au-Delà du Pentagone. Le centre-ville métropolitain de Bruxelles*. Brussels: EUB and VUBPRESS.

TJALLINGII, S. (2012). Water flows and urban planning. In E. VAN BUEREN, H. VAN BOHEMEN, L. ITARD and H. VISSCHER (eds.), *Sustainable Urban Environments*, pp. 91–111. New York: Springer.

VANDERSTRAETEN, P. and CORIJN, E. (2018). Le piétonnier, l'hypercentre et les multiples centralités de Bruxelles. In S. VERMEULEN, M. HARDY, A. MEZOUE, E. CORIJN and M. HUBERT (eds.), *Portfolio #2: Zoom in | Zoom out on the Brussels city centre*, pp. 51–59. Brussels: BSI-BCO

VANHELLEMONT, L. (2016). *The Power of Imaginaries in Urban Planning Processes*. (Doctoral dissertation, University of Milano-Bicocca).

VERMEULEN, S. (2015). *The Brussels Canal Zone: Negotiating Visions For Urban Planning*. Brussels: VUBPRESS.

VERMEULEN, S. and HARDY, M. (2016). Communication et participation dans le cadre de grands projets urbains. In E. CORIJN, M. HUBERT, J. NEUWELS, S. VERMEULEN and M. HARDY (eds.), *Portfolio#1: Cadrages – Kader, Ouvertures – Aanzet, Focus*. Bruxelles, BSI-BCO.

WAYENS, B., DECROLY, J.-M., STRALE, M., DA SCHIO, N. and KESERÜ, I. (2020). Pedestrianisation of a multifunctional space: challenges and early observations of the Brussels Metropolitan City Centre. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB and VUBPress.

PART 3

ACTION AND PROJECTS

ZOOM ON PROJECT 1: STEENWEG



Jean-Philippe DE VISSCHER

1 > INTRODUCTION

This chapter describes the ongoing research on the future of the historic ‘Steenweg’ road that links Ixelles, Bruxelles-Ville and Molenbeek, passing through both the Porte de Namur and the Porte de Flandre. The Brussels Studies Institute-Brussels Centre Observatory (BSI-BCO) was commissioned by PerspectiveLab¹ to conduct this study as part of the follow-up to the Masterclass ‘From pedestrian area to urban project’ (Vanin et al., 2020) and the ‘*De haut en bas*’ (from Porte de Namur to Porte de Flandre) exhibition organized jointly by PerspectiveLab with the support of BSI-BCO. It was expected that, through this study, BSI-BCO would provide scientific support for the definition, supervision and valorisation of the research-by-design trajectory concerning the future of the Steenweg.

The objective of this chapter is twofold. On the one hand, it seeks to highlight the specific challenges and potentialities of this sequence of strategic urban spaces for the redevelopment of the metropolitan centre. On the other, it questions the general relevance of a methodology based on the identification of spatial structures and their potentialities. Specifically, it is structured around three hypotheses:

- > The spatial approach makes it possible to easily and concretely highlight the links between the different issues and opportunities that coexist within the same space. It puts the possible connections between environmental, social, and economic issues into perspective. It therefore promotes a systemic,

¹ PerspectiveLab is a laboratory created within perspective.brussels, the Brussels regional authority responsible for territorial development. PerspectiveLab aims to be a laboratory in which ideas and discussions are exchanged, a place of ‘project-based research’ and a facilitator of urban development, organizing working sessions that bring together the various stakeholders concerned by specific subjects. For more information, see <https://perspective.brussels/fr/qui-sommes-nous/direction-generale/perspectivelab>

multi-actor and multidisciplinary understanding of the existing issues and opportunities.

- The spatial approach helps identify networks of actors that may be involved in the production, use and management of these spaces, as well as possible needs for new modes of governance. It gives meaning to potentially unprecedented partnerships of the actors. It is therefore a tool that makes it possible to question a city's modes of production and management.
- The spatial approach helps identify the intersections between local potential short-term actions and a more long-term strategic vision. Consequently, it helps shape a collective learning process through pilot projects. Throughout this process, the intersections between spaces, issues, actors and modes of governance may be progressively tested, criticized and possibly established.

2 > CONTEXT

The 'Steenweg', which may be literally translated as 'paved road', denotes the central section of the medieval road network that connects the Porte de Flandre to the Porte de Namur. From its origins until the 19th century, it was the main route connecting the neighbourhood around the harbour, the Grand-Place and the royal palace. It also lay at the heart of the vast road network that connected Brussels to other Belgian and European cities. It was then drastically altered by the major works undertaken in the 19th and 20th centuries: deviation and extension of the canal, creation of the central Boulevards, North-South junction and Mont des Arts, highway upgrades of the central Boulevards and inner ring. Nevertheless, the Steenweg still constitutes the main sequence of urban spaces that connect the west and the east of the city and the low and the high of the valley, parallel to the metro line. It connects a considerable number of hubs: the centre of Old Molenbeek, the Saint-Catherine neighbourhood, Place de la Bourse, Grand-Place, the Central Station, Mont des Arts, Place Royale, Avenue de la Toison d'Or, Matongé and the Chaussée d'Ixelles. In the future, the GoodMove plan² aims to transform the Steenweg into the main 'magistrale piétonne'³ in the east-west direction, and to possibly extend it towards the Chaussées de Gand and Ixelles, allowing an extension of the metropolitan centre beyond the Pentagon, as defended by the BSI-BCO (Corijn and Vanderstraeten, 2018) and officially adopted in the Regional Plan for Sustainable Development (RPSD).⁴

2 For more information, see Bruxelles Mobilité (2019), *Projet de Plan Régional de Mobilité Annexes*, p.85, retrieved from <https://goodmove.brussels/fr/plan-regional-de-mobilite/#-plan-telechargement>

3 The GoodMove plan defines the 'magistrales piétonnes' as core structures of the regional pedestrian network. In addition to its mobility objectives, it seeks to transform these into places of destination and spaces that provide some form of structure in the mind of the inhabitants of Brussels. The concept of 'magistrale piétonne' defined by the GoodMove plan stems from a similar concept developed by the city of Strasbourg as part of its mobility plan.

4 For more information, see Région de Bruxelles-Capitale (2018), *Cartes 01 Armature Spatiale and Vision pour Bruxelles*, in *Regional Plan for Sustainable Development*, retrieved from https://perspective.brussels/sites/default/files/documents/prdd_card_01_180712.pdf

> Figure I. Morphogenesis of the Steenweg 977-2009



Black areas: monuments along the Steenweg
Thick black lines: Steenweg route
Thin black lines: current road and parcel boundaries
White lines: road and plot boundaries that have disappeared
Source: Jean-Philippe De Visscher, 2013

This historical heritage provides an opportunity to transform the Steenweg into one of the key strategic axes for the redevelopment of the metropolitan centre. This hypothesis was put forward by the BSI-BCO during the master class and other events organized in 2018 (Vanin et al., 2020). In 2019, following these reflections, PerspectiveLab entrusted the BSI-BCO with a scientific support mission aimed at establishing a more precise diagnosis, formulating a call for tenders for ‘research-by-design’ missions, and monitoring these studies. The diagnostic phase is currently underway.

Three thematic workshops were organized by PerspectiveLab and the BSI-BCO between May and September 2019. The first workshop revolved around mobility issues. The analysis presented by Aniss Mezoued and Michel Hubert, members of the BSI-BCO, was discussed in the presence of representatives of Bruxelles Mobilité (Brussels-Capital Region administration responsible for equipment, infrastructure and transport), SNCB (National Society of Belgian Railways), STIB (Brussels transport authority), urban.brussels (regional administration responsible for town planning), visit.brussels (regional agency for tourism) and the Monuments and Sites Department.

The second workshop focused on cultural issues and events, and was based on an analysis presented by Eric Corijn, a member of BSI-BCO. Debates were then held with the participation of representatives of Bruxelles Mobilité, STIB, perspective.brussels (regional administration responsible for territorial development) and RAB-BKO (Art network in Brussels – Brussels Kunstenoverleg, associations representing the Brussels cultural sector).

The final workshop was devoted to commercial and housing challenges and was based on an analysis presented by Benjamin Wayens, a member of BSI-BCO, to representatives of hub.brussels (Brussels agency for business support), Unizo (private business support agency) and Bruxelles Mobilité.

Following these workshops, BSI-BCO prepared a synopsis⁵ with the aim of summarizing the general issues discussed during the thematic workshops and relating them to the vision of the metropolitan centre. This note was supplemented by a proposal to define the spatial structure of the Steenweg in order to identify the issues and opportunities and anticipate the ‘research-by-design’ phase.

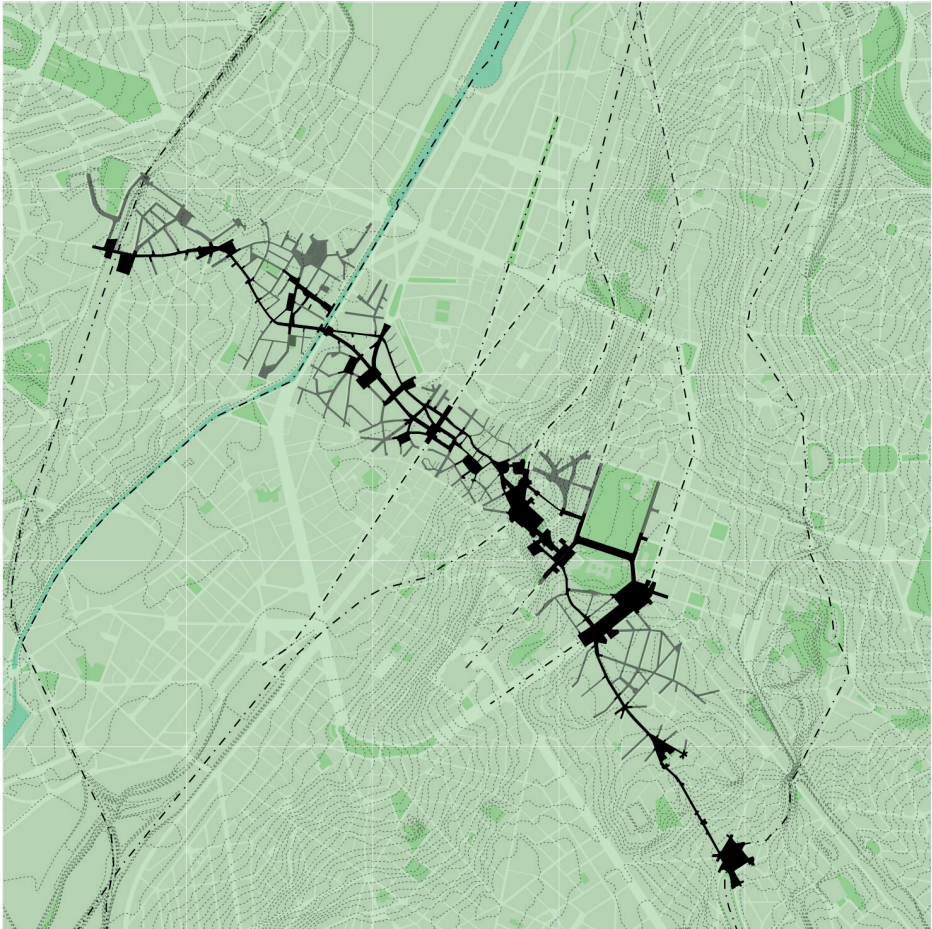
This synopsis was presented to the urban planning services of the municipalities Ixelles and Bruxelles-Ville in June and July 2020. Similar meetings with the local authority of Molenbeek and the department of Bruxelles Mobilité responsible for pedestrian networks are scheduled for September 2020.

5 De Visscher, J.-P., Hubert, M., Corijn, E., Wayens, B., Mezoued, A., Vermeulen, S. (2019), *Steenweg Summary of the diagnosis prior to the definition of an urban planning study mission* (Research Report), Brussels: BSI-BCO.

This chapter will first present the key elements of this synopsis. It will then present an initial critical assessment of this experience and open up avenues for further reflection.

3 > THE SCOPE OF THE STUDY

> **Figure 2.** Steenweg scope of study



Black area: area impacted by the Steenweg as considered in this study
Grey areas: contours of the public spaces of the neighbourhoods shaped by the Steenweg
Axial black lines: major north–south infrastructure axes

Source: BSI-BCO, 2019

The Steenweg is a complex historical route which has undergone numerous modifications and extensions (De Visscher, 2013). Owing to the different discussions as to the length and width of the spatial sequences to be considered, the following definition of the scope of the study was proposed:

- › *Length*: Discussions were undertaken on the sequence of spaces connecting Osseghem (the intersection between Chaussée de Flandre and Ligne Ouest) to Flagey (intersection between Chaussée d'Ixelles and Vallée du Maelbeek) in order to associate the discussions on the centre with discussions on the structuring spaces of the first surrounding urban areas. Within this sequence, special attention was paid to the sequence linking Osseghem to Fernand Coq because this section corresponds to the historic area of the 'walkable' city (Mezoued & Letesson, 2020) of the early 19th century.
- › *Width*: Throughout history, the original route of the Steenweg experienced several splits and expansions, such as: Rue Dansaert/Rue de Flandre; Rue marché aux Herbes/Rue marché au Beurre; Place Agora/Square de la Putterie/Place d'Espagne/Gare Centrale; Mont des Arts/Galleries Ravenstein, Rue de la Montagne de la Cour/Rue du Musée; Porte de Namur/Place du Trône; Chaussée de Wavre/Chaussée d'Ixelles. All these spaces are included in the scope of study.

4 › THE STEENWEG IN THE METROPOLITAN CENTRE

As defended by the BSI-BCO, and officially adopted by the RPSD, the 'metropolitan centre' of Brussels is understood, for our purposes, as a space that extends beyond the limits of the 'Pentagon' to include the metro loop, the canal, the neighbourhoods around the train stations and the neighbourhoods around the city gates. This extension of the scope helps assemble all the spaces that may be perceived as drivers and laboratories of the urban dynamics of Brussels. Indeed, thanks to their high density in terms of exchanges and flows, it is here that urban dynamics evolve, are transformed, become hybridized, oppose each other, are regenerated, etc., with a density and vitality that is greater than across the rest of the territory (Vanin et al., 2020).

In general, this extension of the scope also provides an opportunity to reconsider the metropolitan centre from a perspective of social, economic and environmental sustainability (Vanin et al., 2020):

- › *Mobility* (Mezoued and Letesson, 2020): This new definition of the centre corresponds to the node of non-automobile infrastructure formed by the railways, the canal and the metro. Historically, it corresponds to the perimeter of the city that was established on the basis of walking patterns, before the subsequent introduction of the tram.⁶ Extending this scope therefore allows us to better address the issues arising from the mobility transition and reduced dependence on the car.

⁶ This fact may be observed in the *Plan d'ensemble de l'agglomération bruxelloise* (the general plan for the Brussels agglomeration) produced by Victor Besme in 1866.

> Figure 3. Definition of the metropolitan centre



Transparent white area: limit of the city formed in 1866

Black point: train station

Black axial line: axis of the canal

Long black dotted line: metro lines

Short dotted black line: boundaries of the neighbourhoods as defined in the 'monitoring of the neighbourhoods' affected by the definition of the metropolitan centre

Source: BSI-BCO, 2019

- > *Ecosystems* (Vanderstraeten et al., 2020): The extension of the scope provides an opportunity to include the two sides of the valley and to place the canal in the centre. This configuration therefore makes it possible to accurately consider the challenges of water management, heat islands and ecological continuity.
- > *Right to the city* (Rosa et al., 2020): The extension provides an opportunity to include a wider diversity of populations in the definition of the centre. On the one hand, this allows better coordination of social inclusion policies. On the other, it opens up the possibility of developing new synergies between

dynamics such as the *Perimeter of urban renewal* and the *Stimulated urban economy zones* in the lower part of the city, the *Axes of economic development* along the canal and railway lines and *Priority development poles* such as in the European quarter.⁷

- *Economic transition* (Wayens et al., 2020): The extension of the scope provides an opportunity to include the largest possible diversity of uses, notably the productive functions around the canal, the tertiary and international functions in the neighbourhoods around the train stations, and commercial strips in the areas around the former medieval city's gates and along the medieval road network.⁸ It opens the door to a 'circular' approach to the economy, based on the synergies between these different dynamics, their roots in the urban fabric, and the benefits they actually bring to the residents of Brussels (see the foundational economy concept – Foundational Economy Collective, 2018).
- *Metropolitan imaginary* (Genard & Berger, 2020): The extension of the scope makes it possible to include a greater diversity of places and cultural dynamics that are more in line with the reality and the complexity of Brussels as a 'small world city' (Corijn and Vloeberghs, 2009).

The Steenweg clearly plays a central role in the redefinition of the scope and challenges of the sustainable development of the metropolitan centre. Indeed, it provides numerous opportunities to respond to the challenges mentioned above:

- *Mobility*: The GoodMove plan establishes the Steenweg as the main *magistrale piétonne* (major pedestrian axis) that cuts across the centre from east to west. It is further supported by the metro line, which runs parallel to it.
- *Ecosystems*: The Steenweg forms a 'valley section' (Geddes, 1925) that connects the plateaus, slopes and marshland. By analogy to the concept of *magistrale piétonne*, the Steenweg has the potential to become a *magistrale écologique* (major ecological axis), structuring the regional ecological network by offering a new connection between plateaus, slopes and valley bottoms.
- *Right to the city*: The Steenweg connects the most socially diverse neighbourhoods, from the poorest to the richest, not forgetting the most international neighbourhoods. It has the potential to become a *magistrale inclusive* (major inclusive axis).
- *Economic transition*: The Steenweg connects the economically most diverse neighbourhoods and lies at the heart of the commercial network (Wayens,

7 These different perimeters can be seen in Map 8 'City project' of the *Regional Plan for Sustainable Development* (Plan régional de développement durable). Brussels: Brussels-Capital Region, 2018.

8 This can be seen in Map 3 of the *Plan régional d'affectation du sol* (Regional Land Use Plan). Brussels: Brussels-Capital Region, 2017.

2006). It has the potential to become a *magistrale de transition économique* (major axis of economic transition).

- › *Metropolitan imaginary*: Numerous cultural institutions and heritage sites are concentrated on the Steenweg. It has the potential to become a *magistrale culturelle* (major cultural axis).

The sections below detail the opportunities to develop and the issues to resolve in order to transform the Steenweg into a major pedestrian and cyclist axis, a major ecological and inclusive axis, and a major axis of economic and cultural transition.

5 > CROSS-CUTTING ISSUES

5.1 Towards a major pedestrian and cyclist axis

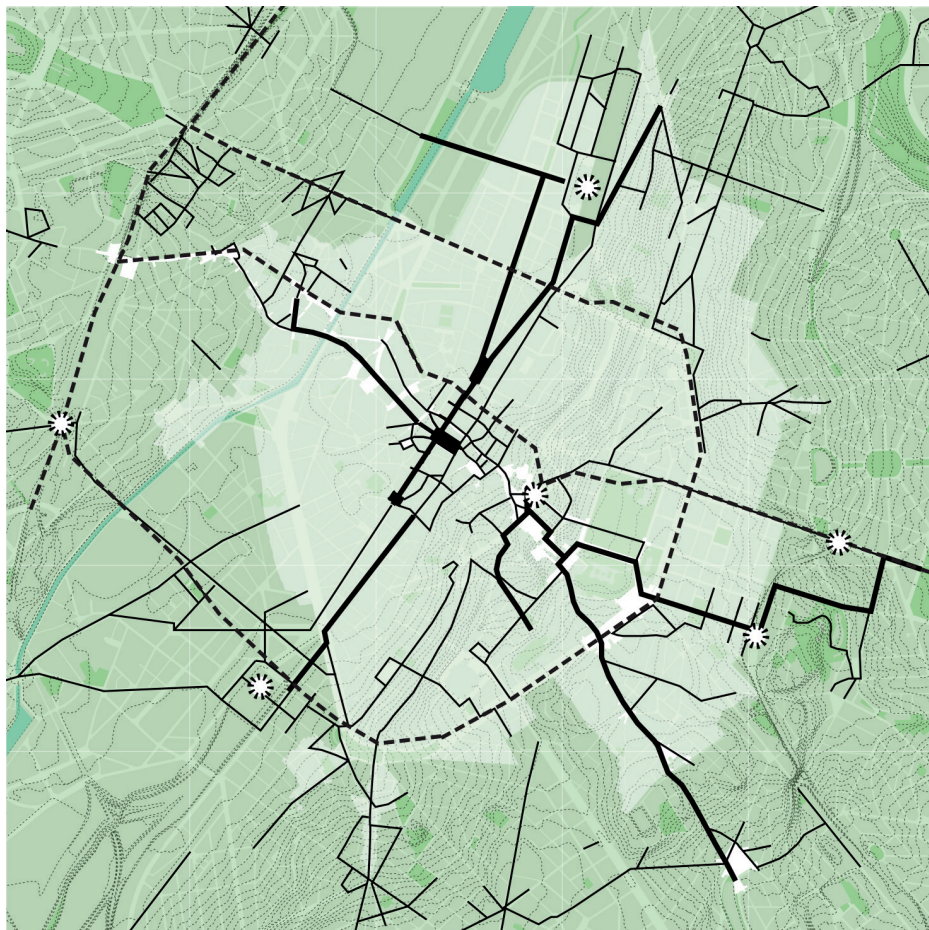
The GoodMove plan establishes the Steenweg as the main ‘pedestrian axis’ cutting across the centre from east to west. More broadly, the Steenweg has considerable advantages that enable it to become a major axis in terms of active mobility:

- › The Steenweg forms the most continuous spatial sequence to cross the metropolitan centre from west to east, and from the lower to the upper part of the city.
- › Several sections have already been pedestrianized (Chaussée d’Ixelles, Mont des Arts, Rue du Marche aux Herbes and Rue du Marché aux Poulets). Transit car flows in the Rue de Namur and Rue de Flandre are significantly lower than those measured, for instance, on Avenue Louise, Rue de la Loi or Rue Belliard.⁹ Therefore, reducing car traffic on the Steenweg will little affect the flow of regional traffic. Bearing this in mind, the recent discussions led by Bruxelles Mobilité about the generalization of 30 km/h zones throughout the region propose that this slowdown should also be applied to the Chaussée de Gand.¹⁰ As part of the COVID-19 crisis, the City of Brussels has also experimented with reducing speed limits to 20 km/h throughout the Pentagon and generalizing shared spaces. The discussions held during the workshops shed light on the fact that the Steenweg has limited logistical needs (safety and maintenance vehicles, retail deliveries, few heavy goods vehicles). Given these varying reasons, new divisions of public space are possible.
- › The Steenweg is intricately connected to the public transport network. It runs parallel to the central section of metro lines 1 and 5, and intersects with

⁹ This may be observed in the *Plan de circulation dans le Pentagone* (Traffic Plan in the Pentagon) established in 2014 by Technum and Flow for the City of Brussels.

¹⁰ This may be observed in the *Projet de Ville 30, a working document*, produced by Bruxelles Mobilité in 2019.

➤ **Figure 4.** Steenweg and structural pedestrian-metro axes



White area: area impacted by the Steenweg as taken into consideration for this study

Transparent white area: the city's borders established in 1866

Black dotted line: metro lines

Thick black line: major pedestrian axis according to GoodMove

Thick black line: 'plus' pedestrian axes according to GoodMove

Source: BSI-BCO, 2019

several tram stops and numerous bus lines. At its centre lies the Central Station.

- The Steenweg is at the heart of the Brussels road network (Vleminckx-Huybens, 2019), which has great potential in terms of a cycling network at the metropolitan level.
- At the socio-demographic level, the profile of the people that currently live around the Steenweg is compatible, on the whole, with reduced car use (very

young population in the west; older population but with few children in the east).¹¹

Nevertheless, the discussions held during the workshops highlighted several problems that must be addressed if the objective of a major pedestrian and cyclist axis is to be achieved.

- Outdoor parking lots and the non-sharing of road spaces leave limited space for walking and cycling. Moreover, many private and employee car parks are located on the urban blocks. Apart from public places, the space dedicated to street activities is thus rather limited.
- The road junctions at Porte de Namur, Place Royale, Cantersteen, Rue des Poissonniers and Porte de Flandre make these areas difficult to traverse.
- The continuity of the entire route is not very user-friendly, nor are the connections to train stations, metro stations, trams and buses.
- The steep slope between the bottom and the top of the city makes the climb physically taxing, especially for cyclists and people with reduced mobility.
- Numerous micro-obstacles lie in the path of pedestrians and cyclists (see Figure 3).
- As it stands, bus 33 does not support the Steenweg. Its course is poorly 'legible' because the two traffic directions do not match around the Sablon (Rue de Namur –Poelaert loop) and in the lower part of the city (Rue du Lombard in one direction and Rue des Bogards in the other). Moreover, it is often affected by traffic congestion in the Rue du Midi, de Namur, de la Régence, Van Artevelde, etc. It follows almost no exclusive lane, and passes no meeting area or pedestrian street, despite the fact that both the Highway Code and its size allow it to do so.¹²
- The viability of certain businesses is linked to the ability of their customers to make car trips (as, for example, is the case with the luxury businesses on Rue de Namur).
- As expressed in pedestrian surveys, it is difficult for small independent traders to organize deliveries outside normal opening hours (increases in their working time and related wage costs).

In summary, below are the main challenges facing the development of soft mobility:

¹¹ Data from <http://monitoringdesquartiers.brussels/>

¹² Article 22(1) of the Highway Code.

- › Adapting the nodes according to the STOP principle¹³ and facilitating east – west continuities.
- › Making public spaces more walking-, cycling- and visit-friendly and improving their ability to host street activities (children's games, foot races, etc.).
- › Improving connections to train stations, metro stations and tram stops. Rethinking bus route 33.
- › Developing a credible logistics alternative for traders and businesses.

5.2 Towards a major ecological axis

A cross-sectional view shows that the Steenweg forms a 'valley section' that cuts across the different topographic/hydrographic conditions that characterize the Brussels landscape. The Chaussée de Gand descends from the Pajottenland plateau to the Senne valley. From the Porte de Flandre, the Steenweg goes up to Coudenberg and the Porte de Namur. The Chaussée d'Ixelles goes up to the top of the hill, to Place Fernand Cocq, before joining the Maelbeek Valley at Flagey. It then extends, under different names, to reach the plateaux of La forêt de Soignes.

This configuration gives the Steenweg a specific ecological potential because of the synergies that may be developed between the different topographic and hydrographic configurations:

- › Water management: the Steenweg makes it possible to implement the principle of 'watershed solidarity' defended by the EGEB citizens' association (Convention of Water in Brussels).¹⁴ This principle involves the integrated management of water from the top to the bottom of the valley to prevent the urban development undertaken at the top of the valley from aggravating the flooding problems at its bottom. In the centre of Brussels, the highly built-up density in the flood-prone areas of the valley floor makes this approach especially necessary.

Heat islands: the Steenweg connects the densely populated neighbourhoods of the valley to the airy spaces at the top of the city and to the wind corridors formed by the large North – South routes (canal, boulevards, junction, royal route, small ring road).

Air quality: because there is a strong potential for reducing the presence of cars on the Steenweg, it may be viewed as a pioneering space for improving air quality in the city.

¹³ The STOP principle, derived from the Dutch *Stappen-Trappen-Openbaar vervoer-Personenwagens* concept, refers to the following hierarchical order: pedestrians > cyclists > public transport > personal cars.

¹⁴ For more information, see <https://www.egeb-sgwb.be/rubrique56.html>

> Figure 5. The Steenweg and flood risk zones



White area: area impacted by the Steenweg as taken into consideration for this study

Light black shaded area: low-risk flood zone

Medium black shaded area: medium-risk flood zone

Dark black shaded area: high-risk flood zone

Source: BSI-BCO, 2019

However, due to its predominantly mineral character, the Steenweg is yet to be integrated into the planned ecological network systems which are primarily based on existing hydrological and green continuities.¹⁵ For the reasons mentioned above, the ecosystem services on the eastern part of the Steenweg must be intensified. To this end, the key challenge is to enable the freeing-up of space by reducing the number of street parking spaces to increase the planting of new trees. This would be beneficial on several levels:

¹⁵ This may be observed in Map 3 'Green and blue network' of the Regional Plan for Sustainable Development for the Brussels-Capital Region (2018).

- › Infiltration/evaporation of run-off waters and contribution to the reduction of the overloading of the sewerage network during storms.
- › Air cooling through tree shade and evapotranspiration.
- › CO₂ absorption.
- › Creation of new ecological corridors.
- › Making public spaces more visit-friendly and improving their capacity to host street activities.
- › Aesthetics and playfulness of public spaces integrating waterways, infiltration or storage areas, possible fountains, etc.

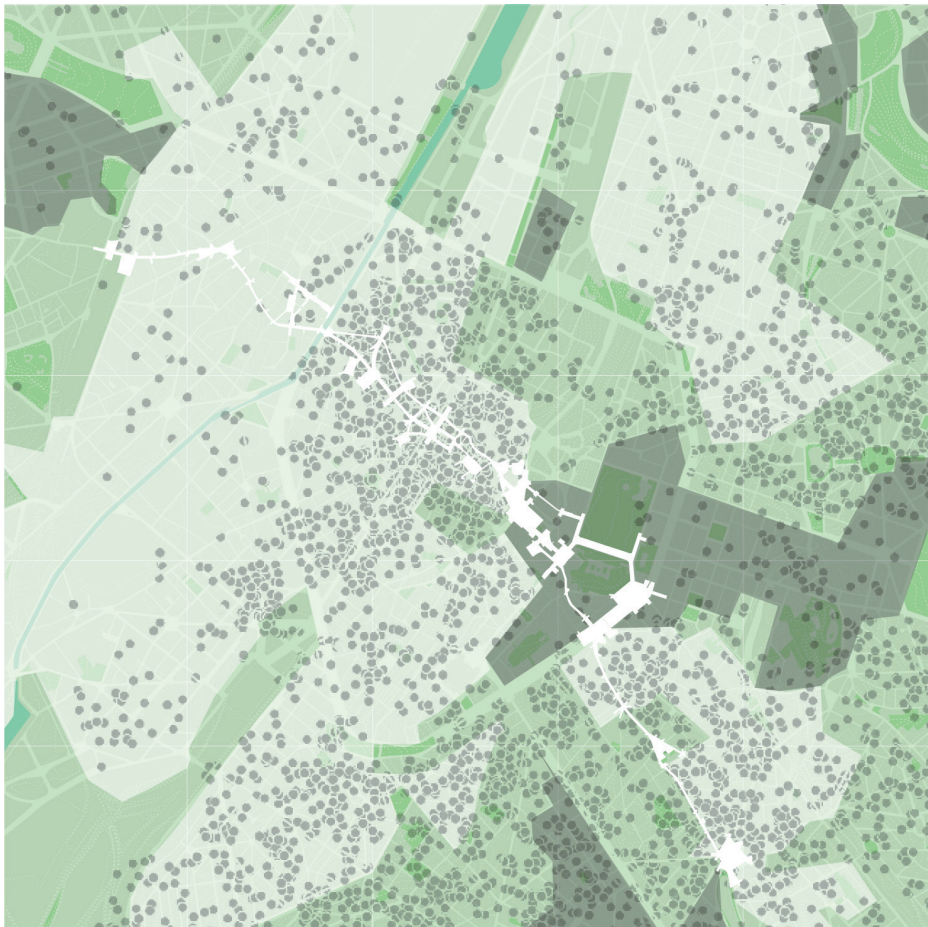
6 › TOWARDS A MAJOR AXIS OF SOCIAL INCLUSION

The RPSD's social policy is based on the 'Right to the City', understood as a vector of 'empowerment' and 'inclusion', thanks to the presence of spaces and facilities open to all. From this point of view, the Steenweg is a strategic space because it directly connects the neighbourhoods in the lower part of the city, where the median income per inhabitant is the lowest, to the numerous facilities and public spaces of the historic centre, and to the neighbourhoods where the average income is higher, such as the European quarter.¹⁶ In addition to the policies pursued within the neighbourhoods included in the 'urban revitalization zone', the redevelopment of the Steenweg paves the way for a social inclusion policy based on synergies, porosities, and inter-neighbourhood mobility.

However, the discussions during the workshops revealed the need to counter the effects of several vectors of social inequality, in order to achieve a major axis of social inclusion.

- › The section lying to the east of the canal concentrates a considerable number of cultural facilities. On the contrary, the section to the west of the canal is far less developed in this regard. High inequalities thus exist in terms of access to equipment.
- › Despite the ease of access via public transport, the study entitled '*Jeunes en ville, Bruxelles à dos?*' (Samarcande et al., 2008) showed that the mobility of adolescents from west to east was rather low. Its authors argue that the distance to the centre's facilities is imaginary and cultural as well as spatial.
- › The increase in rents in the historic centre (Van Hamme et al., 2016) tends to push low-income populations away from the centre.

- › The high concentration of 'Airbnb' housing (Wayens et al., 2020) in the historic centre has created a 'no man's land' for permanent residents and increased the pressure on the real estate market.
- › Most of the inhabitants of the neighbourhoods around the Steenweg are tenants (Roesems et al., 2006). They are therefore extremely sensitive to the effects of this pressure (see 'major axis of economic transition').
- › The reconfiguration of businesses trading in everyday consumer goods into retail chains and franchise networks.
- › **Figure 6. Steenweg, average income per capita and short-term rental accommodation**



White area: area impacted by the Steenweg as considered in this study
 Transparent grey area: median annual income per capita higher than 20,300 euros
 Transparent white area: median annual income per capita lower than 17,100 euros
 Transparent grey dots: short-term rental accommodation such as Airbnb 2018, source insideairbnb
 Source: BSI-BCO, 2019

As a result, the main challenges of an inclusive policy on the Steenweg are:

- Maintaining an affordable housing stock along the entire route in order to combat the negative effects of real estate speculation generated by short-term Airbnb-type rentals.
- Supporting the presence and diversity of services and shops offering everyday goods along the entire route (see ‘major axis of economic transition’).
- Spatially promoting east – west and west – east mobility (see ‘major pedestrian and cyclist axis’).
- Designing the different neighbourhoods and cultural institutions as complementary destinations, open to more diverse audiences and linked by the Steenweg.
- Developing facilities at the metropolitan level on the west side of the city (see ‘major cultural axis’).

6.1 Towards a major axis of economic transition

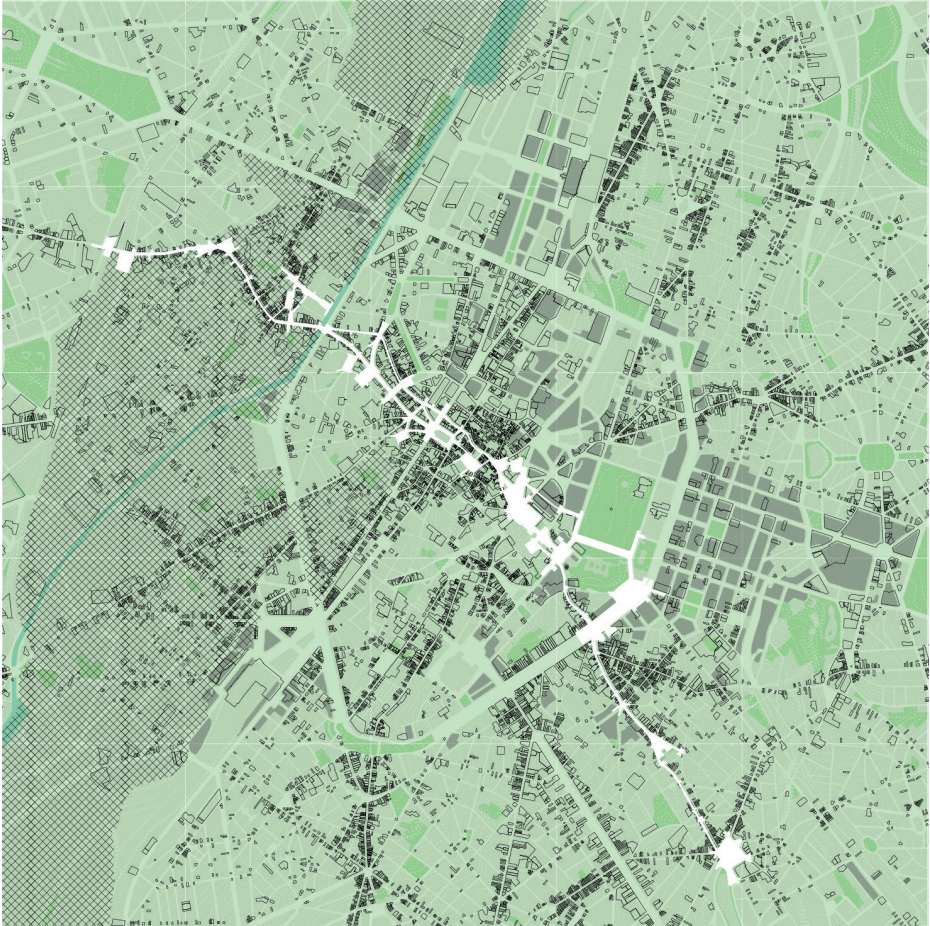
The RPSD expresses the desire to strengthen the complementarities between an ‘endogenous’ or ‘foundational’ economy that revolves around inhabitants’ daily needs and the local fabric of SMEs, and an ‘exogenous’ economy that defines the national and international influence of the city.¹⁷ To this end, there is a clear need for a systemic and ‘circular’ planning capable of promoting positive externalities and of limiting negative externalities between endogenous and exogenous economies.

The Steenweg represents a strategic axis for rethinking these synergies. First, lying at the heart of the road network, it is the point of convergence of the areas where the endogenous Brussels economy is concentrated. Second, along its route, the Steenweg passes through the places where the main exogenous economies are concentrated: industrial activities along the canal; creative economy in the lower part of the city; tourist, recreational and cultural economy around Sainte-Catherine, Grand-Place, and Place Royale; tertiary and administrative sector around the stations and the inner ring.

However, the discussions during the workshops revealed that several challenges must first be addressed in order to achieve this objective:

¹⁷ See *Regional Plan for Sustainable Development* for the Brussels Capital Region (2018), p.18, https://perspective.brussels/sites/default/files/documents/prdd_2018_fr.pdf

➤ **Figure 7.** The Steenweg and economic sectors



White area: area impacted by the Steenweg as considered in this study

Grid area: business zone in an urban environment

Shaded area: office area according to PRAS

Black perimeters: plots with commercial functions

Source: BSI-BCO, 2019

- The various ‘exogenous’ economies are generally concentrated in specialized neighbourhoods. Similarly, the commercial spaces are divided into specialized sections that target very specific audiences (‘classic’ luxury at Porte de Namur-Louise, tourist products in Ilot sacré, ‘avant-garde’ luxury in Rue Dansaert, ‘community’ products in Chaussée de Gand and Matongé). The synergies between these different dynamics are currently weak, or even non-existent (Grimmeau et al., 2004).
- Most business owners have private landlords (Roesems et al., 2006), and are therefore highly sensitive to the effects of pressure on the real estate market (see ‘major axis of social inclusion’).

- The redesigning of public spaces leads to rent increases that only businesses whose turnover increases with the increased pedestrian flow can afford (Roesems et al., 2006). Likewise, loss of income during construction is dangerous for businesses with limited liquidity.
- Commercial surfaces are generally rather small because of the historic plot structure. The correlation between small surfaces and high leases pushes out businesses trading in everyday goods (Roesems et al., 2006).
- The uncontrolled development of Airbnb-type housing has had a negative impact on the residential/endogenous dynamics (Wayens and Decroly, 2020).
- The spatial influence of the tertiary sector is currently volatile, owing in particular to the major restructuring of the banking sector (Vincent, 2012).

In summary, below are the main challenges to making the Steenweg a major axis of economic transition:

- Guaranteeing a balance between exogenous dynamics with a high economic value and endogenous dynamics with a high socio-cultural value (foundational economy), notably through the development of underground commercial spaces (train, metro), plot restructuring and public land policy.
- Strengthening synergies: clarifying/arbitrating commercial identities and complementarities, improving the spatial clarity of inter-neighbourhood continuities, designing shops for more diverse audiences.
- Supporting the new economies emerging from hybridizations and interactions between different social and economic dynamics, in particular via a policy that supports the temporary occupation of unoccupied spaces by activities that are socially and economically innovative, irrespective of whether or not they are commercial.

6.2 Towards a major cultural axis

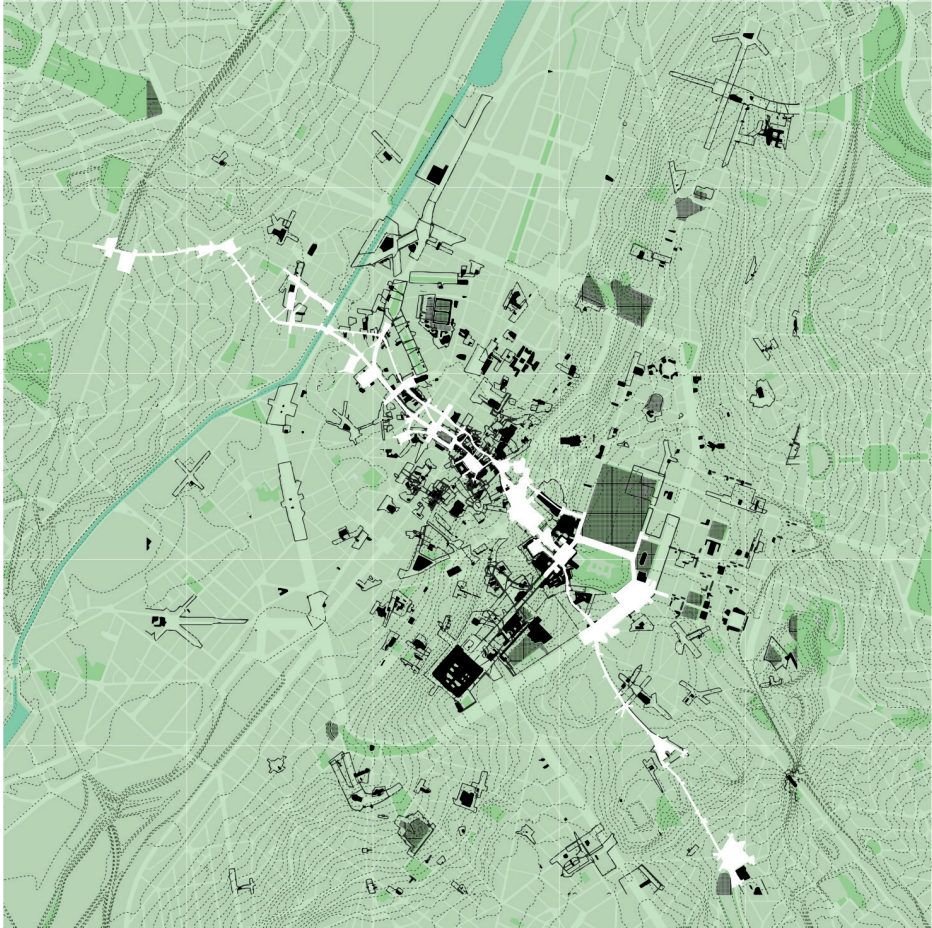
The Steenweg acted as the original link between the structuring poles of Brussels: the productive neighbourhoods around the port, the commercial neighbourhoods around the Grand-Place and the neighbourhoods where seats of power were concentrated on Coudenberg hill. Over time, many symbolic spaces have been established there, such that:

The Steenweg now concentrates a great density and diversity of cultural facilities. Many major events are also held there.

- The Steenweg includes many remarkable heritage buildings built across almost all historical periods that have marked Brussels.

- › The Steenweg is a ‘cultural landscape’ where traces of a rich, long and complex urban history overlap.
- › The Steenweg passes through a considerable diversity of neighbourhoods which, taken as a whole, mirror the cultural richness of Brussels.

› **Figure 8. The Steenweg and heritage**



White area: area impacted by the Steenweg considered in this study
 Grey lines: perimeters of heritage protection
 Black area: classified and protected properties and buildings
 Shaded area: classified and protected sites

Source: BSI-BCO, 2019

All of these reasons explain the Steenweg’s role as a place where a ‘metropolitan imaginary’ may be expressed and experienced in the richest and clearest manner possible. However, the discussions held during the workshops revealed that to achieve this objective, several weaknesses must first be addressed:

- Despite the will of the *Commission Royale des Monuments et Sites* (Royal Commission on Monuments and Sites) to promote a broad approach to heritage based on the notion of a 'historic urban landscape',¹⁸ the current heritage protection tools continue to focus on the protection of remarkable buildings rather than on the interpretation of the urban landscape as a trace of Brussels's history and as a basis for future innovations.
- The programming of cultural and other events has not been sufficiently mobilized as a mechanism that may help respond to urban issues.
- Indoor spaces that are accessible free of charge in public cultural institutions (courtyards, galleries, outside seating areas, etc.) are not valorised as covered elements complementary to the network of outdoor public spaces.
- Major public cultural institutions are not spatially connected to the neighbourhoods where new creative, artistic and manufacturing dynamics emerge.
- At the Mont des Arts level in particular, cultural facilities are disconnected from commercial and leisure spaces.
- There are insufficient metropolitan facilities and events in the western section.

As a result, these are the main challenges that must be addressed before the Steenweg can become a major cultural axis:

- Clearly presenting the Steenweg as a 'cultural landscape' where the richness, complexity and dynamism of the history of Brussels are made visible.
- Transformation of the Steenweg into a laboratory and the symbol of Brussels's metropolitan culture; a 'small world city'.
- Mobilization of cultural actors and players in the events industry to activate and make visible this cultural wealth.
- Integration of cultural institutions into the network of public spaces and development of local synergies with related programmes (shops, HoReCa, centres of creativity, etc.)
- Restoration of the balance between the western and eastern sections in terms of metropolitan cultural facilities and major events.
- A (re-)design of the different neighbourhoods and their cultural institutions as themed destinations, highlighted by a series of thematic routes linked by the Steenweg.

¹⁸ See Memorandum 2019-2024 drafted by CRMS in 2019, p.7. <http://www.crms.irisnet.be/fr/textes-de-la-crms/memorandum>

7 > SPATIAL STRUCTURE

7.1 Importance of the spatial approach

It is clear that these multiple issues are intricately linked. For example, the development of the ecological network depends on the reduction of outdoor parking lots, and this also influences commercial development insofar as it impacts customer mobility practices. However, these mobility practices do not solely depend on the performance of the different means of transport and the availability of parking. They depend on the imaginaries of this potential clientele and on how they perceive the identity of the commercial centres. This perception is strongly influenced by the social, cultural and other events that take place, and by the practices of residents and regular users. Given that these different issues coexist in the same space, they share a complex systemic relationship (Jacobs, 1961; Alexander, 1965).

In the case of the Steenweg, the density and simultaneity of different issues exacerbate this complexity. However, according to Henri Lefebvre (1968), this 'density and simultaneity of differences' is precisely what shapes the particularity and dynamics of an urban centre. Rather than breaking it down and planning it using a sector-based approach, what really matters is the capacity to find the operational means to support it and promote synergies between these different issues. From this point of view, it may be assumed that a spatial approach can enable both the building of a framework capable of integrating all the complexities of these systemic relationships in the long term and also the identification of opportunities for concrete actions in the short term.

Indeed, the Steenweg is a complex spatial structure, produced over a long history during which multiple dynamics have intertwined to give it its current form. It is, however, not just the product of Brussels's history; it has also gradually become a physical environment that shapes the future (De Visscher, 2013). If only because of its scope and the number of structures that materially constitute it, the form of the Steenweg, except in the extreme event of the city's extensive demolition, will always be present in the fabric of Brussels and will continue to condition what is and is not feasible. Faced with the complexity and uncertainty associated with the multiple urban dynamics, the spatial approach therefore helps identify a framework that is shared, guiding and relatively stable in the long term (Gregotti, 1965).

Conversely, the spatial approach helps identify the locations where these multiple dynamics intersect. Indeed, a street can simultaneously be a living space, a mobility infrastructure, an ecological corridor, a commercial space and a culturally symbolic landscape. The spatial approach therefore makes it possible to highlight concrete places where one may question and possibly transform, in the short term, the nature of these intersections.

The real difficulty is posed by the ability to develop a representation of the spatial structure capable of serving as a framework for a learning process that

links short-term local experiments and a long-term global vision, i.e. transition management. This was the objective of the second phase of the diagnosis detailed below, i.e., the proposal of a grid by which to interpret the landscape and thus shed light on the role of the various local projects in relation to the overall structure of the Steenweg.

7.2 General structure

The Steenweg is not a homogeneous space. Rather, it is composed of a sequence of spaces with different landscapes. However, despite their uniqueness, these different spaces may be grouped into two main categories. A plan view shows that the spaces that constitute the Steenweg appear as a succession of *neighbourhoods* and *nodes*. A cross-sectional view reveals that these different neighbourhoods and nodes recompose to form a *valley section*. The paragraphs below detail the different interpretations of the cross-cutting issues according to the specificities and modalities of action inherent in these three concepts.

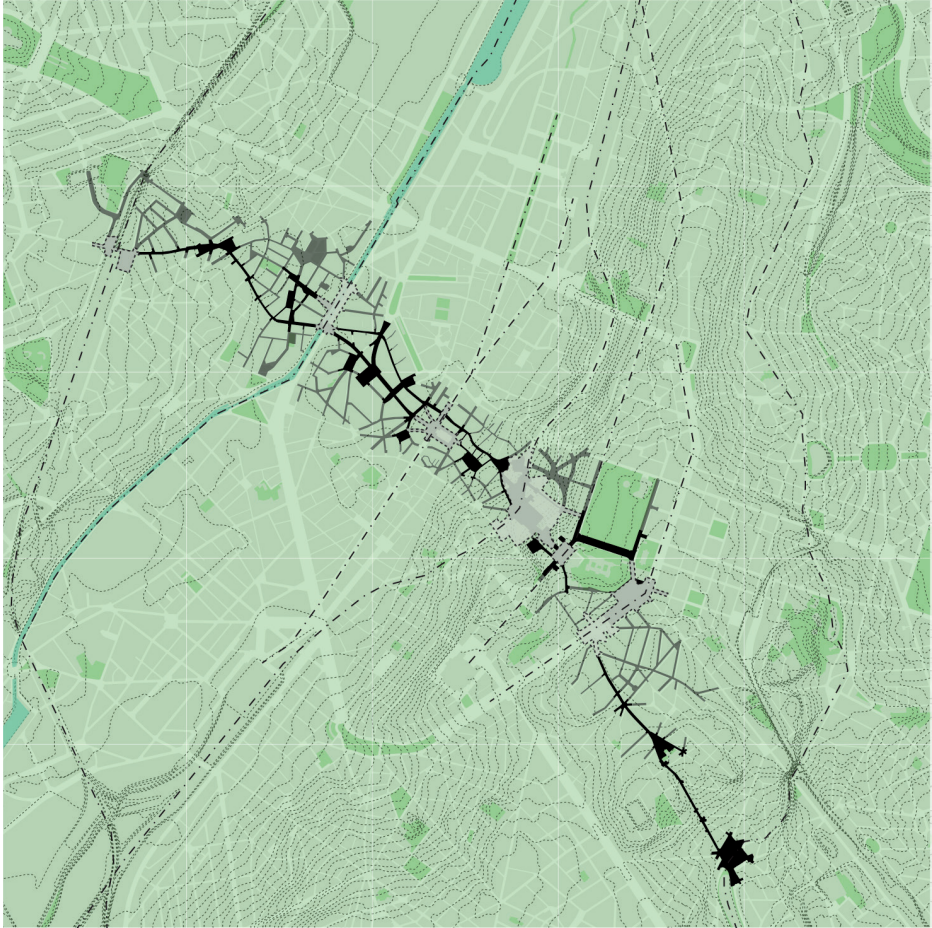
8 > NEIGHBOURHOODS

The neighbourhoods are structured by a network of diversified public spaces with the Steenweg acting as a backbone. These spaces are generally well structured and give a sense of a human scale. Each neighbourhood has a very strong social, cultural and economic identity. In accordance with the terminology used by the *monitoring des quartiers*,¹⁹ (neighbourhood monitoring), the Steenweg passes through the following neighbourhoods: Gare de l'ouest, old Molenbeek, Dansaert, Grand-Place, Quartier royal, Sablon, Matongé, Quartier Européen and Flagey-Malibran.

For the most part, these neighbourhoods are spatially well-established places, already having a very strong identity borne by actors who have close ties with them. In this context, the effectiveness of the response to the different challenges depends primarily on their acceptance, integration and development by the various public, associative and private actors active in each of the neighbourhoods. Put differently, beyond spatial and programmatic planning, the development of neighbourhoods requires the establishment of participatory methods and governance models that favour the co-production and co-management of environmental, social and economic transition. For example, the proposals relating to new ways of sharing public space, protection of the endogenous economy, consolidation of plots, maintenance of accessible housing and the supervision of short-term rental housing can only be achieved if local actors are strongly involved. In order to initiate a collective learning process relating to these new modes of co-production and co-management, pilot actions that can be tested in the short term must be proposed, and their impact on the general issues mentioned previously assessed.

¹⁹ <https://monitoringdesquartiers.brussels/>

> **Figure 9.** Neighbourhoods through which the Steenweg passes

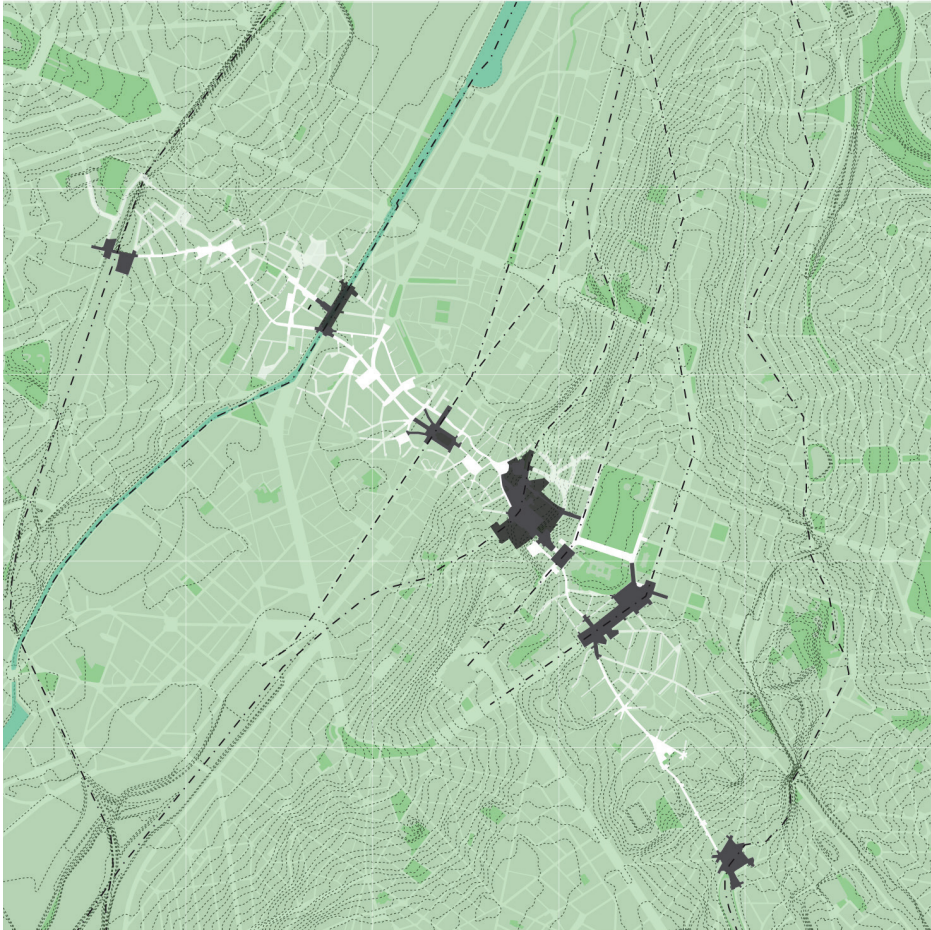


Black areas: influence of the Steenweg in the neighbourhoods
Grey areas: influence of the public spaces in the neighbourhoods structured by the Steenweg
White area: area of influence around the Steenweg at the nodes with the north–south infrastructures
Axial black lines: major north–south infrastructure axes

Source: BSI-BCO, 2019

8.1 Nodes

> **Figure 10.** Nodes that the Steenweg cuts across



Black areas: area of influence around the Steenweg at the nodes with the north–south infrastructures

White areas: influence of the Steenweg in the neighbourhoods

Light grey areas: influence of the public spaces in the neighbourhoods structured by the Steenweg

Axial black lines: major north–south infrastructure axes

Source: BSI-BCO, 2019

The nodes are located at the crossroads between the Steenweg and the major north–south routes. These spaces are strongly marked by the range of infrastructures that pass through them. At present, they are primarily perceived as borders. This feeling has also been objectified by the *monitoring des quartiers*, which systematically considers these spaces as a border between neighbourhoods. However, their relationship to large-scale spaces gives them the potential to become great pieces of urban landscape. In terms of usage, nodes are currently fragmented areas where portions of well-structured spaces with strong functions coexist with

spaces of traffic flows and residual spaces that are rarely used (or even pose safety problems). The various nodes are: Gare de l'ouest, Porte de Flandre, Bourse, Mont des Arts, Porte de Namur, Flagey. It is worth mentioning that some nodes have recently been restructured (Bourse, Flagey), others have been partially redeveloped (Mont des Arts, Porte de Namur), and others are undergoing improvements (Gare de l'Ouest).

Unlike with neighbourhoods, the development of nodes requires strong initiatives driven primarily by public actors. Indeed, reinforcing pedestrian and cyclist continuities in the east – west direction and, conversely, reducing the 'barrier' effect of north – south mobility infrastructures requires significant changes in mobility plans and the development of public spaces. Likewise, giving the nodes a strong identity requires the development of new programmes and invitation of new actors capable of promoting spaces with extremely specific characteristics. For example, the transformation of the Place de la Bourse into an attractive hub has required particularly strong initiatives with regard to three aspects: the mobility plan, development of public spaces, and development of new programs. Consequently, the first step would be to develop a master plan integrating these three aspects. This plan should serve as a basis for the development of partnerships between municipal, regional, federal and mobility operators (STIB, SNCB). For the programmatic component, this plan could also serve as a basis for developing partnerships between public actors, cultural actors, 'niche' actors developing innovative solutions, and universities. Lastly, given the time required to complete such a process, it would be judicious to plan actions that can be carried out in the short term, thus providing an opportunity to partially experiment with the long-term vision.

In terms of mobility, the main challenges are the reduction of the spatial footprint of automobile traffic in the north – south direction, a strengthening of the pedestrian and cyclist continuities in the east – west direction, and the formation of intermodal connections. In ecological terms, wind corridors, masses of air and underground water are resources that can be utilized to fight against heat islands. In social terms, the key issue is the promotion of inter-neighbourhood meetings through the development of new programmes that bring people together in underutilized spaces. Likewise, on an economic level, there is a need to support new hybridization dynamics between the dominant economies in the neighbourhoods and emergent economies in underutilized spaces. More specifically, there is a need to re-establish the continuity of commercial spaces and to enhance the underground spaces (metro stations). At the cultural level, nodes are atypical spaces in which innovative and unifying functions may be developed. Because of their unique relationship to the topography and to the north – south infrastructures, they are places where the urban landscape may be perceived on a large scale and where the metropolitan dimension of Brussels may be promoted.

8.2 Valley section

A cross-sectional view reveals that these different neighbourhoods and nodes re-compose to form a *valley section*. The various topographic inflection points of this valley are marked by the following *nodes*:

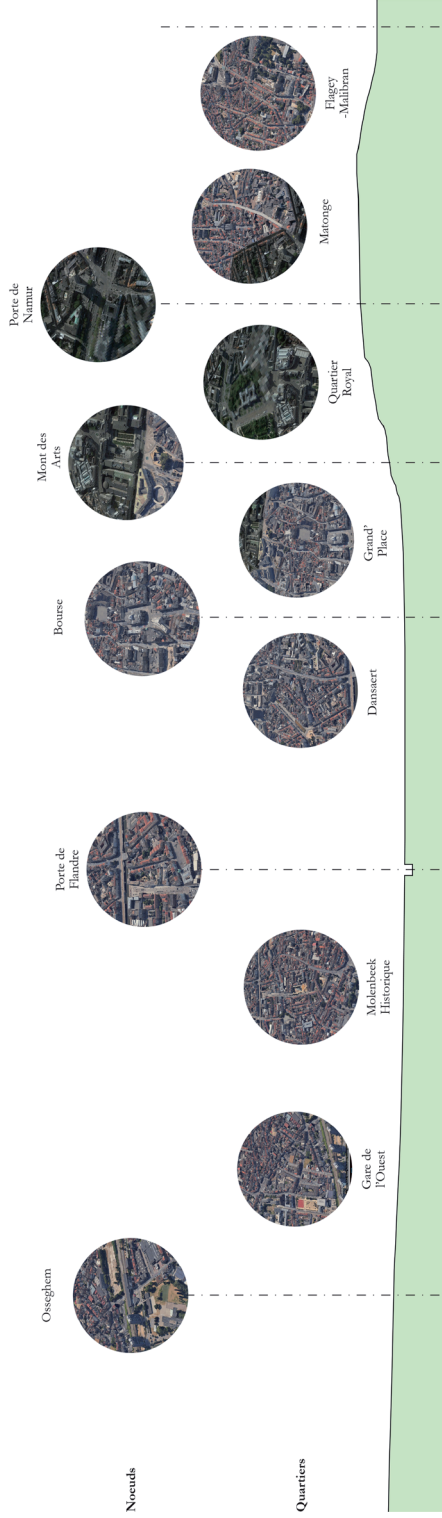
- *Etangs Noirs* marks the boundary between the slope of the western flank and the marsh.
- *Porte de Flandre* lies at the intersection of the canal and the heart of the valley.
- *Bourse* marks the old bed of the Senne and represents the link between the end of the marshland and the first gently sloping sandbanks.
- *Mont des Arts* occupies the steepest slope.
- *Porte de Namur* marks the end of the slope and the start of the horizontal plateau.
- *Fernand Coq* marks the end of the plateau and the start of the descent towards Maelbeek.
- *Flagey* intersects with the Maelbeek valley.

Between these inflection points, the *neighbourhoods* are located at an altitude and on a specific slope that conditions both their nature and their function in the valley ecosystem:

- *Gare de l'Ouest* occupies an intermediate plateau on the western side of the valley.
- *Old Molenbeek* occupies the western part of the old marsh.
- *Dansaert* occupies the eastern part of the old marsh.
- *Grand-Place* occupies the first sandbanks above the marsh, on a slight slope.
- *Quartier royal* occupies the Coudenberg plateau, while the *Sablon* occupies the slope leading to the top of the hill.
- *Matongé* and the *Quartier Européen* occupy the top of the plateau between the Senne and Maelbeek valleys.
- *Flagey and Malibrans* occupy the flanks of the Maelbeek valley.

The notion of a 'valley section' highlights the specific nature of each of the neighbourhoods and nodes that comprise them. Above all, it sheds light on the complementarities and interdependencies between these different components. Managing the coherence of the valley section requires the establishment of a 'guiding plan' and the designation of a 'Steenweg team' responsible for monitoring it. Such a document should be sufficiently clear to provide a frame of reference through

> **Figure 11.** Valley section



Source: BSI+BCO, 2019

which it is possible to make coherent decisions at the node and neighbourhood levels. Conversely, it must be sufficiently flexible and dynamic, i.e. easily adaptable as local experiments are undertaken. The 'Beeldkwaliteitsplan' (Landscape quality plan) for the Canal Area'²⁰ and the manner in which it has been used by the 'Canal Team'²¹ perfectly illustrate such an approach.

9 > PERSPECTIVES

9.1 Next stages

The identification of cross-cutting issues and the analysis of the spatial structure are the first steps of a work that is to be continued. The summary presented in this chapter has been discussed with the City of Brussels, and the municipalities of Molenbeek and Ixelle. The objective WAS to ... to this end. All three expressed their will to support the initiative. The stage is to organize a call for urban planners/designers. They will be expected to translate the general vision into detailed planning principles at the scale of *neighbourhoods* and *nodes*, which will be evaluated at the scale of the *valley section*. Ideally, this second phase of the study will support the development of partnerships for the various local implementations, and the establishment of a steering committee for the entire Steenweg.

9.2 Preliminary assessment

The case of the Steenweg exemplifies the type of projects and challenges required to make the 'metropolitan centre' as supported by the BSI-BCO (Corijn, 2020; Hubert et al., 2020; Vanin et al., 2020) happen. Indeed, the Steenweg route extends beyond the pentagon to join the centres of Molenbeek and Ixelles. It links a broad range of urban dynamics and requires collaboration between multiple actors. On a slightly smaller scale, and therefore one that is easier to understand, this diagnostic phase has made it possible to show the extent to which the Steenweg is as complex as the entire metropolitan centre. From this point of view, it is a strategic case study by which to test the general vision.

In terms of methodology, this first phase made it possible to experiment with an approach focused on the recognition of a historically structuring spatial structure and its potential. Admittedly, it is far too early to undertake a complete assessment of the experience. However, some aspects can already be highlighted.

First, the study has made it possible to highlight, in a simple and concrete way, the intersections between the issues and/or opportunities of varying natures that coexist within the same spaces. During the thematic workshops, the discussions

²⁰ <https://perspective.brussels/fr/projets/territoire-du-canal/beeldkwaliteitsplan>

²¹ <https://canal.brussels/fr/plan-canal/gouvernance>

gradually brought to light the interactions between the issues of mobility, ecology, the Right to the City, economy and culture, which are played out within the same spaces. For example, the discussions on the *nodes* of the Porte de Flandre and the Porte de Namur provided an opportunity to adopt a cross-disciplinary approach to question the hierarchies between vehicular and pedestrian mobility, the combinations of spatial, social and cultural factors which limit inter-neighbourhood mobility, and the potential synergies between the different commercial spaces.

Second, the study helped us experiment with a methodology that allows the incremental development of new multi-stakeholder partnerships. Indeed, the Steenweg is a pedestrian axis of regional importance, extending across the territory of three municipalities and crossing mobility nodes managed by federal authorities. It cuts across economic and touristic centres of international scope, regional commercial centres, and more local inhabited neighbourhoods. The development of these centres is supported politically by different regional or municipal public authorities. Moreover, the multiple private dynamics are unequally represented by professional and citizen associations whose natures vary widely. Faced with this complexity, despite our attempts, it proved practically impossible to come up with a list of all the players that may be involved. Moreover, it proved relatively difficult to mobilize the actors on the ground during the initial phases of the overall diagnosis.

However, over the course of the discussions, possibilities for new partnerships emerged. First, at a general level, a joint desire to redevelop the Steenweg was expressed by perspective.brussels, Bruxelles Mobilité and the Urban Planning Departments of the City of Brussels and the municipality of Ixelles. More surprisingly, within the framework of the ongoing discussions around the place of running in cities, led by perspective.brussels and Ixelles, the idea of placing the Steenweg in the collective imaginary of the residents of Brussels through the organization of running events emerged. Although such events are extremely specific, they nevertheless provide an opportunity to involve sporting and socio-cultural associations, which have been insufficiently involved in the process to date. The City of Brussels has also clearly expressed its interest in the social and architectural mapping of the interior and underground spaces accessible to the public, which the BSI-BCO will begin in September 2020. This initiative will lay the foundations for discussions with the SNCB (train stations), STIB (metro stations), major cultural authorities (museum courtyards and patios), shopping mall managers, etc. By describing strategic spatial structures that fall outside the administrative boundaries, and by describing the intersections between the dynamics that question the sectoral distribution of competences, the methodology will help identify new potential partnerships. At this stage, only the public partners involved in large-scaled planning have been receptive. Nevertheless, the direction the discussions have taken shows receptivity for a panel of more diversified partners. At the very least, the methodology used has proved useful in helping to decompartmentalize certain public authorities, and, to some extent, has helped

initiate modes of collaborative governance better aligned with the complexity of the dynamics specific to a metropolitan centre.

Lastly, the study allowed us to experiment with a collective learning system and made it possible to gradually grasp this complexity in terms of issues and actors. The first specificity of this approach is the choice of the object of study. Choosing to concentrate the process around a historical axis with a history as long, complex and symbolic as the Steenweg is advantageous insofar as it centres the initiative around an object that is both highly stable and open. Indeed, the route of the Steenweg is bordered by a considerable number of structures, all of which are part of a dense historic urban fabric that will not change, or will change very little, over time. Likewise, it passes through a considerable number of historic spaces well known to the inhabitants of Brussels, meaning that it is also firmly embedded in their cultural identity (even though it is rarely perceived in either its entirety or in terms of its continuity). However, the buildings around it, as well as the practices common to them, are highly heterogeneous. At the local level, multiple transformations of the spatial framework and practices are possible and even desirable. Moreover, the Steenweg is an object of study that is very abstract (an urban form represented by a map and a table listing general urban issues) and at the same time very concrete (places where traffic flow issues need to be resolved, for example, represented as perspectives). It calls for strategic thinking on both the long-term development of the metropolitan centre and concrete short-term actions.

The second specificity of the approach is the partnership between PerspectiveLab and the BSI-BCO in leading discussions around the Steenweg. As an academic actor, the BSI-BCO can maintain a certain independence vis-à-vis public authorities and private and citizen actors. As a multidisciplinary platform, it (potentially) opens up a wider sphere than the majority of public or private planning offices. These two specificities are an essential condition that helps guarantee some form of objectivity in the debates and keeps the process open to future questions and new partners. In the same vein, the role of PerspectiveLab is one of enabling other actors to participate in the management of territorial development. PerspectiveLab provides the link between the research process and the concrete operational policies.

10 > SOURCES

Bruxelles Mobilité (2019), *Projet de Plan Régional de Mobilité Annexes*, p85, retrieved from <https://goodmove.brussels/fr/plan-regional-de-mobilite/#plan-telechargement>

Bruxelles Mobilité (2019), *Projet de Ville 30, document de travail*, Brussels: Bruxelles Mobilité

Commission Royale de Monuments et Sites (2019), *Memorandum 2019-2024*, Brussels : CRMS, p.7.

Egeb-sgwb (2017), *Bassin versant et solidarité de bassin versant*, Brussels : Egeb-sgwb. Retrieved from <https://www.egeb-sgwb.be/tubrique56.html>

ORG2, BBS et al. (2019), *BKP Territoire du Canal*, Bruxelles : Perspective. brussels. retrieved from <https://canal.brussels/fr/plan-canal/gouvernance>

Perspective.brussels (2017). *Plan régional d'affectation du sol, carte 3*, Brussels, Région de Bruxelles Capitale.

Région de Bruxelles Capitale (2018). *Plan régional de développement durable, Brussels : Région de Bruxelles Capitale, p18*, retrieved from https://perspective.brussels/sites/default/files/documents/prdd_2018_fr.pdf

Région de Bruxelles Capitale (2018). *Cartes 01 Armature Spatiale et Vision pour Bruxelles*, in *Plan régional de Développement durable*, retrieved from https://perspective.brussels/sites/default/files/documents/prdd_carte_01_180712.pdf

Région de Bruxelles Capitale (2018). *Carte 3, Maillage vert et bleu*, in *Plan régional de développement durable*, Brussels : Région de Bruxelles Capitale.

Région de Bruxelles Capitale (2018). *Carte 8, Projet de ville*, in *Plan régional de développement durable*, Brussels : Région de Bruxelles Capitale.

Technum, Flow (2014). *Plan de Circulation dans le Pentagone*, Brussels : Ville de Bruxelles.

Besme, V. (1866). *Plan d'ensemble de l'agglomération bruxelloise*.

<http://monitoringdesquartiers.brussels/>

11 > BIBLIOGRAPHY

ALEXANDER, C. (1965). A city is not a tree. *Architectural Forum*, Vol 122, No 1, April 1965, pp 58–62

CORIJN, E. and VANDERSTRAETEN, P. (2018). Le piétonnier, l'hypercentre et les multiples centralités de Bruxelles. In E. CORIJN, M. HUBERT, M. HARDY, A. MEZOUE, S. VERMEULEN (eds.), *Portfolio #2 : Zoom in | Zoom out on the Brussels city centre*, Brussels: BSI-BCO.

CORIJN, E. and VLOEBERGHES, E. (2009). *Bruxelles!* Brussels: VUBPRESS.

DE VISSCHER, J.-P., MEZOUE, A. and VANIN, F. (2018). L'hypercentre de Bruxelles : du piétonnier au projet urbain. Masterclass Zoom In – Zoom Out. In E. CORIJN, M. HUBERT, M. HARDY, A. MEZOUE, S. VERMEULEN (eds.), *Portfolio #2: Zoom in | Zoom out on the Brussels city centre*. Brussels: BSI-BCO.

DE VISSCHER, J.-P., HUBERT, M., CORIJN, E., WAYENS, B., MEZOUE, A. and VERMEULEN, S. (2019). Steenweg. Synthèse du diagnostic préalable à la définition d'une mission d'étude urbanistique [Research Report], Brussels : BSI-BCO.

DE VISSCHER, J.-P. (2013). *Indivision* [PhD Dissertation]. Louvain-la-Neuve : Presses universitaires de Louvain.

FOUNDATIONAL ECONOMY COLLECTIVE (2018). *Foundational Economy*. Manchester: Manchester University Press.

GEDDES, P. (1925). The Valley Plan of Civilization. *Survey*, LIV, pp. 288–290

GENARD, J.-L. and BERGER, M. (2020) Politics, aesthetics, economics: imaginaries of urban public space and their reshaping through the transformation of the Brussels city centre. In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

GREGOTTI, V. (ed.) (1965). La forma del territorio, *Edilizia Moderna*, n.87-88.

GRIMMEAU, J.-P., WAYENS, B. and VERHETSEL, A. (2004). *Le commerce dans les grandes villes belges et leur périphérie*. Brussels: Institut de gestion de l'environnement et d'aménagement du territoire de l'Université libre de Bruxelles.

HUBERT, M., CORIJN, E., NEUWELS, J., VERMEULEN, S. and VAESSEN, J. (2020). From pedestrian area to urban and metropolitan project: assets and challenges for the centre of Brussels. In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

JACOBS, J. (1961). *The Death and Life of Great American Cities*. New York: Random House

LEFEBVRE, H. (1968). *Le droit à la ville*. Paris : Editions Anthropos.

MEZOUE, A., LETESSON, Q., FENTON, G. and CRETEN, A. (2020). The walkability of the metropolitan city centre as a lever for Brussels' mobility transition. In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

ROESEMS, T., DE SPIEGELAERE, M., DEBOOSERE P., WAYENS, B., KESTELOOT, C., WILLAERT, D., GADEYNE, S., SLEGGERS, K., VAN CUTSEM, S., MARISSAL, P., VANDERMOTTEN, C. and CHARLES, J. (2006). *Atlas de la santé et du social de Bruxelles-Capitale*. Brussels : Région de Bruxelles Capitale.

ROSA, E, DONNEN, A., HOULSTAN-HASAERTS, R., LAKI, G., LEDANT, G. and SALEMBIER, C. (2020). Right(s) to Brussels' city centre and the urban project. What possibilities for future transformations? In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

SAMARCANDE A.M.O., Inter-Environnement Bruxelles, SOS Jeunes Quartier Libre, CAILLEZ, J., BAILLY, O. (2008). *Jeunes en ville, Bruxelles à dos? L'appropriation de l'espace urbain bruxellois par des jeunes de différents quartiers*. Brussels: Inter-Environnement Bruxelles.

VANDERSTRAETEN, P., DE LESTRANGES, R. and MEZOUE, A. (2020). Transition pathways towards the strong sustainability of the Brussels metropolitan city centre: plea for an ecosystemic approach. In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

VAN HAMME, G., GRIPPA, T. and VAN CRIEKINGEN, M. (2016). Mouvements migratoires et dynamiques des quartiers à Bruxelles. *Brussels Studies* [online], Collection générale, retrieved form : <http://journals.openedition.org/brussels/1331> ; DOI : <https://doi.org/10.4000/brussels.1331>

VANIN, F., DE VISSCHER, J.-P., MEZOUE, A. and VERMEULEN, S. (2020). A common vision for the Brussels Metropolitan city centre beyond the Pentagon. In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

VAZQUEZ PARRAS, J., CUVELIER, L. and WAYENS, B. (2019). *Le commerce bruxellois en chiffres. Structuration du paysage commercial*. Brussels: Région de Bruxelles-Capitale. Observatoire du commerce. Retrieved from <http://perspective.brussels/fr/etudes-observations/economie-urbaine/observatoire-du-commerce>

VINCENT, A. (2012). La recomposition du paysage bancaire belge depuis 2008. *Courrier hebdomadaire du CRISP*, 2158-2159 (33), 7-91.

VLEMINGCKX-HUYBENS, M. (2019). *Defining the potential of the Steenweg in the City*. [Research Report], Brussels: VUB.

WAYENS, B. (2006). *Structure et dynamique du commerce de détail bruxellois*. Bruxelles : Université libre de Bruxelles.

WAYENS, B., DECROLY, J.-M., STRALE, M., DA SCHIO, N., KESERU, I., WIEGLANN, M. and PERILLEUX, H. (2020). Pedestrianization of a multifunctional space: challenges and early observations of the Brussels Pentagon. In S. VERMEULEN, A. MEZOUE, J.-P. DE VISSCHER (eds.), *Towards a Metropolitan City Centre for Brussels*. Brussels: EUB et VUBPRESS.

ZOOM ON PROJECT 2: A GREEN-BLUE WALKING NETWORK IN THE SOUTHERN PENTAGON



Roeland DUDAL¹, Heleen VERHEYDEN¹, Tim CASSIERS², Aniss M. MEZOUE³, Sofie VERMEULEN³, Eric CORIJN⁴

One of the walking networks proposed by the BCO as a spatial figure (see De Visscher et al., 2018; Vanin et al., 2020) that required reinforcement is located in the south of the metropolitan city centre. While the Steenweg still has a clear morphology in today's urban fabric (see De Visscher, 2020), the area between the Gare de l'Ouest and the Place Stéphanie is better described as a finely meshed network than a clear axis. This network of streets connects the pedestrian zone near the Place Fontainas with the upper and the lower city and stretches between the very accessible Gare de l'Ouest in the northwest and the Place Stéphanie, in the heart of the deluxe commercial district *Louise*, in the southeast. The Porte de Ninove and the Place Poelaert traffic junctions near the Small Ring cross this network, posing obstacles to pedestrian traffic.

This network in the Southern Pentagon connects a number of urban residential areas, many of which belong to Brussels's most popular neighbourhoods among immigrants, and which are also the most densely populated and socio-economically vulnerable. As the metropolitan character of the city centre is becoming increasingly visible through, among other things, more mainstream recreational tourist activities, there are many opportunities here to see the (culturally) hyper-diverse character of the residential areas as a quality within the socio-cultural and economic reality.

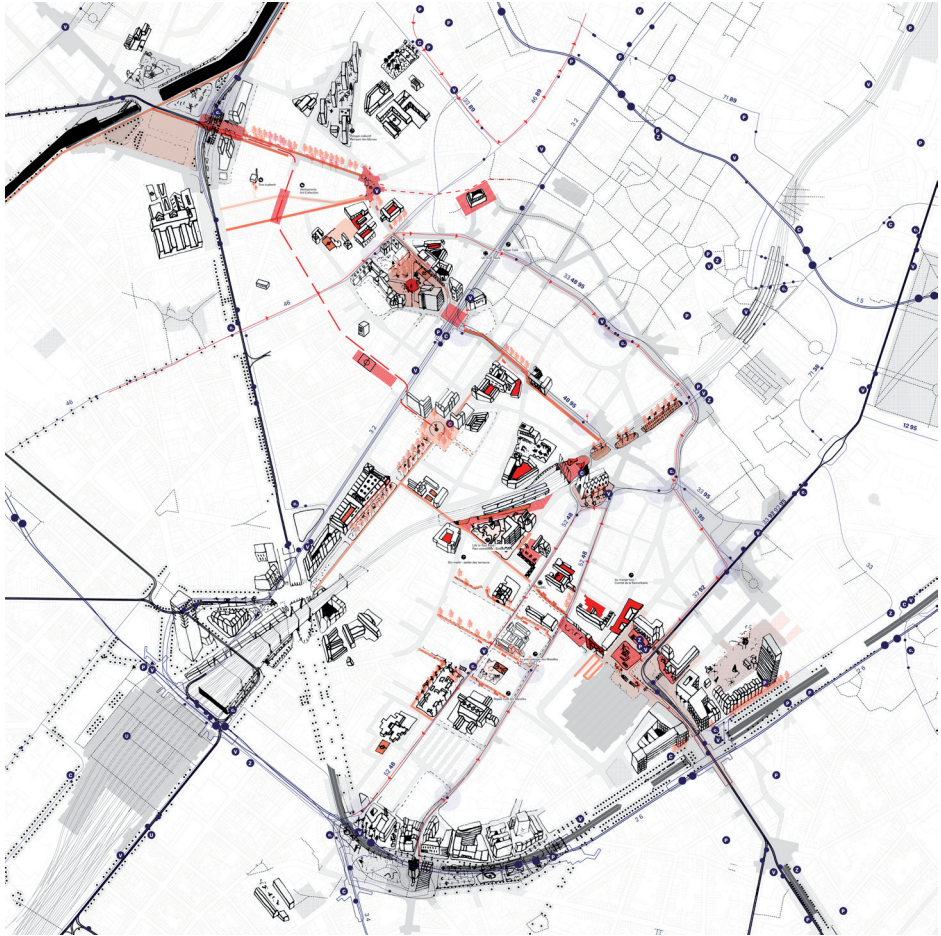
¹ Architecture Workroom Brussels

² BRAL – Citizens Action Brussels

³ Brussels Studies Institute – Brussels Centre Observatory

⁴ Cosmopolis Vrije Universiteit Brussel

> **Figure 1. Guidelines for the Southern Pentagon**



Source: Architecture Workroom Brussels, 2018

When the BCO and its partners wondered how and where they could best test their vision for a pedestrian-friendly metropolitan city centre in the field, it turned out that the southern part of the Pentagon was prime for a number of quickly realizable interventions. The challenges were in fact rather obvious. The southern part of the pedestrian zone had already been planned as an *Promenade Verte*. The Fontainas Park is a green lung in the city, and the densely populated neighbourhoods needed more green and blue (water), and less traffic.⁵ Spatial, social and cartographic exploratory research also showed that, in addition to the spatial possibility ...

- › a rich network of neighbourhood organizations, services and schools is present in these neighbourhoods which form an important bridge between and leverage for the neighbourhood, public space and facilities;
- › many residents' initiatives are thinking about changes to be made in these neighbourhoods;
- › various governmental levels have invested a great deal of public resources in these neighbourhoods. Think of the neighbourhood contracts, school contracts ...

Practical experience and applied urban research show that by linking these projects and initiatives, an important lever for a transversal urban project can emerge. However, partners have highlighted the fact that such projects were not always in line with one another. Moreover, specific knowledge about the area was insufficiently exchanged between and tested with the actors, project partners and researchers involved. This created a risk that the many initiatives and policy instruments within this incubator would have the effect of cancelling-out, rather than complementing, each other, and would thus deprive the city of opportunities to achieve a more sustainable transition. Although the possibilities for action were present, a significant need for greater steering capacity and a transversal framework, to allow this complex urban project to be deployed strategically, existed. In many cities, such processes are controlled by a government. In the Brussels context this is not always the case, with the impetus often coming from civil society, activism or applied urban research. This was also the case for this project.

The first framework for this urban project originated in the course of 2018 through an intense collaboration between BSI-BCO, Bye Bye Petite Ceinture – BBPC⁶ (now Bienvenue sur la Petite Ceinture), Architecture Workroom Brussels – AWB⁷, BRAL⁸

⁵ Highlighted by the participatory workshops and the small survey undertaken by BRAL.

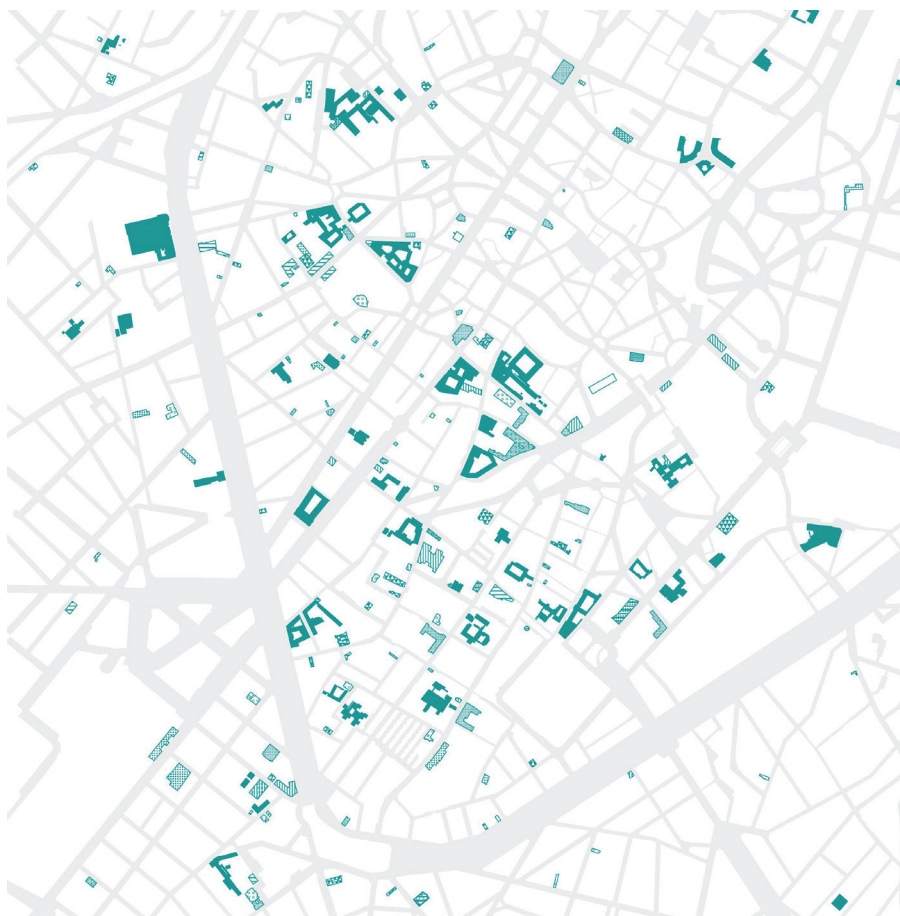
⁶ Bye Bye Petite Ceinture (BBPC) is a civil society initiative critically questioning the transformation of the Brussels small ring (inner ring road) from an urban highway into a multifunctional public space.

⁷ AWB (Architecture Workroom Brussels) is a think tank for urban development and design.

⁸ BRAL (Brusselse Raad voor het Leefmilieu) is a civil society organization which strives towards sustainable urban development in the Brussels Capital-Region.

> **Figure 2.** Map of the local network of neighbourhood organizations, services and schools

Actors overview



and Atelier Groot Eiland – AGE⁹ and a number of other partners. This framework formed the basis for bringing knowledge together to sharpen the vision and challenges, map the actors involved, and develop a supported process of participatory research-by-design or ‘co-design’. The resulting project proposal included four parts:

- › a program for the introduction of productive or edible greenery in public space and in the vicinity of community facilities;
- › a learning path dedicated to local food production and management of public green space;
- › a trajectory regarding social cohesion and community building in which the network of local organizations and facilities is examined as a lever;
- › the setting-up of a process of ‘co-design’, in which the research-by-design is used as a participatory tool to increase support for the desired spatial transformation.

Governments and administrations were invited to participate in the project. While they showed an interest, only a part of the project is currently being realized. More concretely, a number of pilot projects received support from the Flemish Community (VGC) and the City of Brussels. Today, however, we face a number of practical challenges: Which public actors and tools want and can further contribute to this framework? How can the co-design process be further refined and elaborated, and how can it be structurally embedded within the city’s services? How can both the overarching story and the concrete projects find more support from citizens and politicians? And which resources and policy frameworks open doors to the realization of more pilot projects?

This contribution outlines the general challenges, ambitions and shared framework of the ongoing urban project ‘Southern Pentagon’. This is followed by an outline of the current situation, with a clear view of the next steps and possible future paths, along with concrete examples. Finally, a short reflection on how research-by-design and co-design are used in this project and which potential pitfalls deserve additional attention follows. This text is based on the scientific knowledge accumulated as a result of the research carried out within the BSI-BCO, widely described in this book, as well as by the concrete experience in the field which crosses academic knowledge, expert knowledge and non-expert knowledge.

⁹ Atelier Groot Eiland (AGE): is a social economy (not-for-profit) organization that aims to help people to gain work experience, provides training, labour care and job coaching.

1 > THE SOUTHERN PENTAGON – A BREEDING GROUND *PAR EXCELLENCE* FOR SOCIO-SPATIAL TRANSITIONS

In light of the major challenges that society is facing today, many actors, from citizens to policymakers, from entrepreneurs to activists, are looking for space for change in the city. The circular economy harvests raw materials from the urban metabolism and seeks operational spaces in which to establish short chains between production and consumption, water and biodiversity are regaining their place in the heavily paved urban area, local food production is gaining importance in the public space, attention to road safety and air quality is accelerating the transition towards a more shared mobility in which the dominance of car traffic is under pressure ... and so on. The way in which these changes take shape is no longer determined solely by policy and the market; citizens also participate in setting the agenda and searching for solutions. New public-private-civil partnerships are being tested. The city is buzzing with new initiatives.

This is no different in the southern part of the Brussels Pentagon, the heart of Europe's capital. This intricate network of streets and squares contains many – both physical and socio-economic – missing links that can be easily realized in order to create a car-free, safe and pleasant public space in the more vulnerable and youthful districts of the city centre. Some examples:

- > Many schools are present along this route. By expanding the walkability and cyclability around schools, for example through the concept of 'school streets',¹⁰ both an active, soft mobility network and a green (school) environment with healthy air are created.
- > By connecting the Gare de l'Ouest, Cureghem, Fontainas/Anneessens and Marolles districts with the Louise district, a connection is created between the vulnerable and youthful city centre districts in the lower city and the more affluent districts in the upper city. This creates opportunities for greater urban social cohesion between privileged and underprivileged groups.
- > The linking of green spaces to community development and local food production stimulates a healthy eating culture for citizens, and can serve as an example for strengthening a local and circular economy (production and labour), as well as for micro-entrepreneurship and labour care in vulnerable neighbourhoods.

¹⁰ A school street is a street on which is situated an entrance to a school, which can be temporarily closed to motorized traffic for a few hours each day. The concept has recently appeared in Brussels's regulations and has been subsidized by the Region and certain municipalities.

1.1 Both operating capital¹¹ and policy vision are present in the southern part of the Pentagon

In addition to the promising urban development features such as a dense network of streets and squares (mesh), an east-west orientation that is complementary to the pedestrian zone, the connection between the upper and lower city and the neighbourhoods within and outside the *Petite Ceinture*, this district is also bustling with local projects and initiatives which try to provide an answer to its day-to-day challenges, both large and small. To date, for committed citizens and policymakers (as well as the policies created) alike, the Southern Pentagon has proved to be a breeding ground for collective actions (for instance, protest actions by Filter Café Filtré), for unsolicited design research (BBPC, among others), for several neighbourhood contracts (Marolles, Jonction, Jardin aux Fleurs) and urban renewal contracts (Gare de l'Ouest, Heyvaert - Poincaré) and for listing priority investments (Zone voor Stedelijke Herwaardering - Urban Revitalization Area).

The citizens' initiative BBPC, together with the Brussels Academy and a number of citizens and experts, visited four neighbourhoods around the Brussels Small Ring (Canal-Saintelette, Midi-Porte d'Anderlecht, Botanique-Madou, Trône-Louise). Through co-creative design sessions, they searched for more cross connections over the Ring area, more qualitative public space for cyclists and pedestrians, and a stronger public transport .

The weekly actions of Filter Café Filtré, which were undertaken with the aim of achieving better air quality around schools, mobilized parents and committed local residents of more than 175 schools (throughout the entirety of Belgium) to temporarily close school streets. In collaboration with Architecture Workroom Brussels, in the context of the cultural manifestation around architecture and urban development "You Are Here", some of Filter Café Filtré's activists, together with parents architects and experts, designed their own proposals for the future of approximately 20 school environments.

Through the Green Connections initiative, the residents of the Cureghem-Bara and Cureghem Dauw neighbourhoods committed themselves to a more qualitative and greener connection of their neighbourhood with the city.

In addition to these citizens' initiatives, small-scale projects sometimes lead to new collaborations between local residents and the government. For example, last year , the intergenerational housing Project Casa Viva opened its doors on the

¹¹ By 'operating capital', we mean the capacity to take effective action and to give a concrete form to an idea.

Place Fontainas after LD3 vzw¹² and Samenlevingsopbouw Brussel¹³ held talks with the residents of the Anneessens district over the course of a period of two years. Elderly persons and families from different backgrounds have lived together ever since. On the other hand, a number of new community schools¹⁴ situated around the perimeter committed themselves to creating a broader living and learning environment for children and to maximizing their development opportunities by collaborating with other sectors.

In terms of policy, we find many objectives in the government agreements, both at municipal and regional level, that are intended to increase the quality of life in our cities. In the Brussels-Capital Region, the Regional Plan for Sustainable Development (PRDD), the Good Move mobility plan and the Good Food strategy – for better food production and nutrition – all provide the tools for a transition to more sustainable and liveable neighbourhoods. At municipal level, the political agreements are at least as ambitious in terms of mobility and climate. When the many current initiatives and the renewal of policy instruments are linked together, broad support will arise, as well as much shared knowledge and public investment resources to work on combined tasks for tomorrow's city based on shared challenges.

Many new projects – such as the refurbishment of the Tour à Plomb into a cultural and sports centre – have also emerged within the framework of the various neighbourhood contracts. On top of this, large-scale urban projects around the perimeter, such as the reconstruction of the Porte de Ninove and the construction of wide bicycle lanes on the Petite Ceinture (small ring), are in their implementation phase.

All of this has created a climate in the Brussels Southern Pentagon in which citizens have committed themselves personally to the future of their city, neighbourhood or street, and in which the government has simultaneously tried to provide answers through new city and neighbourhood projects aiming to cultivate this potential present among residents through citizen participation. However, the question arises as to how this available local commitment can be maximally cultivated in shaping the city of tomorrow, and which methods of consultative citizen participation are the best means for it.

¹² LD3 is an alliance of three 'local service centres'. A local service centre is a meeting place for local residents, where they can find information, recreational opportunities, training and services.

¹³ Samenlevingsopbouw Brussel is an association that works to encourage politicians to pursue a social policy. It defends the cause of less well-off Brussels residents and their right to the city, particularly in the improvement of their living and housing conditions.

¹⁴ Community schools (*Brede Scholen* in Dutch) are schools that commit themselves to work together with the neighbourhood, parents and local partners in education, culture, sports and social services, to provide maximal learning opportunities for their pupils.

1.2 Big and small challenges come together in the same city

The many ongoing initiatives and projects in the Southern Pentagon are food for optimism, but they are also motivated by a fundamental dissatisfaction with the current situation. The urgency to act is felt on a daily basis, especially when children cannot walk or cycle safely to school, when the heat in the city climbs to unprecedented heights, and when there are no green spots to cool down. The increasing sense of urban challenges for individual residents has fuelled an increase in initiatives in response to the status quo.

- The data collected during the ExpAIR measurement campaign launched by BRAL and the Environment and Energy Administrations of the Brussels-Capital Region (Bruxelles Environnement), shows that people are most exposed to black carbon in traffic. In addition to the majority of the Petite Ceinture, several local roads in the Southern Pentagon are also marked as having very poor air quality upon maps. (challenge: clean air – see da Schio and Vandenbroucke, 2020; Beaujean et al., 2016).
- The heat island effects lead to the air temperature during the night being up to 10°C higher in the city than in rural or adjacent wooded areas. The city is therefore in need of cooling spots. The shade of leafy trees and the coolness of water features are the most efficient tools for dealing with heat stress (challenge: heat island effect – see the map on Bruxelles Environnement website¹⁵)
- The Southern Pentagon is mainly a residential neighbourhood with a high population density. The average income is low. More than 30% of children aged three years and below live in poverty. In this context, the quality of public space and the strengthening of local networks can have a major impact on the quality of life. (challenge: a vulnerable residential area – see Wayens et al., 2020; Rosa et al., 2020; Malherbe and Rosa, 2017)
- In the Southern Pentagon, half to three quarters of the children attend nursery or primary education in their own neighbourhood. Consequently, there is a need for a safe network of car-free or traffic-calmed streets and squares that children can use to go to school and where space is created for informal social contacts and relaxation. By focusing on a network of proximity, the traversable, walkable city comes one step closer (challenge: road safety – data sources: BISA-Brussels)

15 <https://environnement.brussels/lenvironnement-etat-des-lieux/en-detail/climat/focus-cartographie-des-ilots-de-fraicheur-bruxelles>

2 > A FRAMEWORK THAT CONNECTS DIFFERENT REALIZATIONS

But how do we turn this multitude of initiatives into a coherent, structured and cross-policy-domain narrative for the Southern Pentagon, within which all known but diverse challenges are met?

The already-present seeds are an opportunity to perceive the area as an urban project. Such an urban project puts the vision of a liveable city first, by starting from the local people's real issues, instead of taking certain policy domains as a starting point. Indeed, a traversable or liveable city or neighbourhood also includes the underlying demand for more nature, less motorized traffic, more qualitative public space, and more social contact. Redesigning a street focusing only on mobility ignores opportunities to improve the quality of life. Closing a school street focusing only on the school's point of view or on road safety and air quality is a missed opportunity. The trick is to simultaneously test solution paths against various urban challenges, and to see how the project can be elevated to a more qualitative, efficient, sensitive, poetic and anchored whole. Moreover, by switching between the scale of the entire urban network and the street, building block or square level, and always involving the right stakeholders, simultaneous challenges can be intertwined and can contribute to a guiding framework for the city. An urban project cannot be reduced to a master plan that consists of the sum of delineated projects, but contributes to establishing a guiding framework of priorities and opportunities for the entire area.

In this respect, the Southern Pentagon is conceived as a test zone for working on a liveable city, by focusing on a cross-policy-domain urban project that connects small-scale local initiatives and large-scale urban visions and developments in a guiding framework for the future of the city.

2.1 A simultaneous approach is the message

One of the primary characteristics of an urban project concerns the way in which the city is approached as an ecosystem of interrelated challenges (air quality, social cohesion, heat island effect, among others) and where the solution for one thing acts as a stimulant for another. Thinking based on separate policy domains, which has become the only workable method due to the evolution of the political system, has a limiting effect in this respect. This political approach is an obstacle to a combined approach of simultaneous assignments in a given place, and points to the need to achieve a system shift based on a culture of urban projects.

The acceleration of the reflection on an urban project in the Southern Pentagon originates in a number of initiatives that traced together in 2017, and which underscored the need for a mobility shift (elaborated in more detail below). At the

outset of the research on the Southern Pentagon, the mobility issue was used as a starting point to work simultaneously on various tasks and to rethink the city this way. In practice, an urban project can start from any urban urgency/-ies that is/are felt at a given moment and that can be acted upon by citizens and policy in view of the improvement of the city's liveability. Multiple opportunities can be seized simultaneously.

Opportunity 1: shared mobility

The future of mobility is shared and multimodal. Vehicles will increasingly be shared, and a smooth transition between different modes of transport will become crucial. In order to facilitate the smooth combination of pedestrians, cyclists, public transport, private transport (following the STOP¹⁶ principle) and a range of new transport modes (steps, e-bikes, etc.), we must rethink public space.

Today, the public space in the Southern Pentagon is dominated by motorized transport. However, only half of the residents own a car, and many facilities are within walking distance of each other. Streets and squares that invite pedestrians and soft traffic create opportunities. We strive for a walkable fabric, reinforced with clear cycling routes and good junctions with public transport and alternative mobility. Specific loops ensure the accessibility of the city centre. This literally creates breathing space with room for meeting, cooling, retail, biodiversity, recreation and resting.

Opportunity 2: shared space

Within the dense street network of the Southern Pentagon there is a strikingly large number of schools and local organizations such as community centres, Kind en Gezin,¹⁷ youth centres and nurseries. The Southern Pentagon is a residential zone in which many parents and children travel from home to school and to leisure activities. Firstly, the public spaces must be well-connected, tailored to pedestrians, with travel by foot, bicycle or public transport being promoted. By reducing polluting motorized traffic, the street becomes a new place, safe and healthy, where parents can meet and children can play. It will be a shared space. Schools and neighbourhood organizations are an important lever to promote the relationship between public space and urban facilities and to strengthen social relationships. This is all the more the case when, echoing the Community School (*Brede School*) idea, playgrounds or parts of buildings are opened up to other activities and organizations, with this being done in an area-oriented and cross-community manner. Concrete projects in places where schools, urban facilities and the neighbourhood meet can form the stepping stones within a liveable and traffic-calmed network.

¹⁶ Priority is given to pedestrians (Stappen), then to cyclists (Trappen), then to public transport (Openbaar vervoer) and finally to private vehicles (Privévervoer).

¹⁷ 'Kind en Gezin (Child and Family) is an Agency that works actively in "Public Health, Welfare and Family" policy area. This Flemish Agency focuses on preventive treatment and guidance of young children geared to good outcomes in the future.' (www.kindengezin.be)

Opportunity 3: productive green and increased permeability

The mobility transition and the shift to a more qualitative, shared space can be supported by a program for urban agriculture and 'green'. A thorough reduction of the proportion of paved surfaces can temper the heat island effect in the city and ensure that more water finds its way back to the soil. By involving local organizations in a common process of urban agriculture in public spaces and school areas, we can achieve an integrated urban project. The schools' roofs, playgrounds and facades, as well as some public spaces, can thus become productive green areas, embedded in an educational trajectory of sustainable and healthy food. The Southern Pentagon already has a number of initiatives of greening, collective gardening and composting. We aim to further strengthen this network by focusing on sustained increases in permeability and the development of a program of urban agriculture in collaboration with the schools in the area. The first steps toward implementation were taken in 2019. The VGC began an urban renewal project in collaboration with BSI-BCO, BRAL, Atelier Groot Eiland and AWB, with the aim of creating a green-blue network in the Southern Pentagon. Funds were made available for several local interventions in co-creation with the involved schools, local organizations and policymakers.

At the beginning, the above-mentioned challenges were the most clearly tangible starting points from which to initiate an urban project in the Southern Pentagon. However, it would not be wise to limit the framework to these tasks. In situations where additional challenges such as energy production, affordable or energy-efficient housing, water management, recycling, local retail or production, and similar can be included in the project, this also happens.

2.2 From street to city and back

To tackle all the aforementioned challenges together, there is no more powerful tool than diving into the neighbourhoods themselves. The neighbourhood is the level where urgencies are felt first-hand, where the connection with the urban fabric becomes clear, and where both local stakeholders and policymakers can have a say. However, by continuously switching between the micro level (the building, building block or square), the scale of the neighbourhood and the scale of the city, long-term breakthroughs can be created. Choices must be made, for example, in terms of accessibility and quality of life, which must be assessed against the needs of the local residents and against policy priorities. Projects such as the school streets or the trajectory in the Southern Pentagon are therefore rich in opportunities because they zoom in on concrete, local interventions while positioning them, at the same time, in relation to a broader network of interventions aimed at the transformation of the city as a whole. This continuous zooming-in-and-out movement can lead to quality gains on many fronts. For example, it is possible to involve various stakeholders who, not only from the standpoint of different urban challenges (see previous point) but also from their own individual (user) perspective and

commitment, can contribute to a layered reading of and a framework for the city. For example, the accessibility of shopping streets for retailers is situated in relation to the introduction of car-free neighbourhoods within the Good Move plan and the need for a pedestrian-friendly fabric for local schoolchildren. The expertise that is bundled together in this way makes it possible, on the one hand, to set up local projects in line with the political vision for the city and, on the other, to better attune that large-scale vision of urban development to local needs.

2.3 A guiding framework is not a master plan

By treating two scales (neighbourhood and city) simultaneously, concrete solutions in the field can be used to work on a guiding framework for the future of the district. The overview map of the Southern Pentagon (Figure 1) provides insight into the urgent urban challenges and opportunities from the scale of the neighbourhood to that of the city as a whole.

However, the overview map of the Southern Pentagon should not be confused with a master plan. It does not provide an overview of delineated projects, projected out of the blue on a territory, but instead provides the background for a continuously adjusted overview of priorities and opportunities, both at the level of urban challenges and that of promising places and possible connections. In the implementation of urban projects, it is too often the case that today sharp schisms between preliminary research, project definition and project implementation exist, sometimes making 'supply and demand' difficult to reconcile. The framework therefore has the function of a working document that needs to be continuously adjusted throughout the process, based on new insights from residents, local stakeholders, experts and policymakers. It is a tool that allows defined projects and master plans to engage in constant dialogue with the guiding and evolving framework.

3 > BUILDING AN URBAN PROJECT STEP-BY-STEP

Since 2018, the Brussels Centre Observatory, BRAL, Bye Bye Petite Ceinture and Architecture Workroom Brussels have been collaborating on the development of the Southern Pentagon as an urban project through the method of co-design. It can be seen as a test program for the roll-out of more co-design projects for the future of Brussels. Throughout various design sessions, debates, meetings and walks, as well as an exhibition, the right ingredients and recipes have been – and still are – sought. The process passes through several steps, from scientific and design research to field explorations, from collective vision formation to realizations together with the residents and public actors.

3.1 Step 1: the mobility transition as an urban project

From the start of the BSI-BCO study on the pedestrian zone, the focus was placed on its southern part, both with regard to the connection with the South Station and the connection of Fontainas with the west and east. In November and December 2017, Bye Bye Petite Ceinture, together with Brussels Academy, BRAL, BSI-BCO and AWB, organized four walks and co-creative workshops for citizens, users, companies and associations around four zones along the Petite Ceinture: Canal-Saintelette, Midi-Porte d'Anderlecht, Madou-Botanique, and Trône-Louise. Together, efforts were made to find viable alternatives for the Petite Ceinture, which had been developed near-exclusively for smooth motorized traffic flows. There was a plea for more transversal connections across the ring, stronger public transport and more quality public space for cyclists and pedestrians. The series was preceded by a panel discussion and debate in the Kaaitheater about the potential of the Petite Ceinture as a space with and through which the surrounding neighbourhoods would be connected. This co-creative research contributed to the creation of a cross-policy domain urban project for Brussels, starting from a pressing urban challenge, in this case mobility.

3.2 Step 2: a structuring axis as a leverage area

In the spring of 2018, BSI-BCO organized an international masterclass 'Zoom In, Zoom Out – the Brussels Hyper Centre: from pedestrian zone to urban project' together with perspective.brussels¹⁸. During a series of seminars, a proposal was made that the current demarcation of the city centre, the so-called Brussels Pentagon, be viewed as a hypercentre stretching beyond the Petite Ceinture. In order to develop a safe, healthy and pleasant walking network, the network of public spaces must be expanded, so that soft crossings better connect the neighbourhoods inside and outside the Pentagon. For this reason, three walking axes between the upper and the lower city (east – west) were defined, which together formed a dense network of streets and squares, interconnecting the dominant north – south axes of the city centre. An initial vision was developed for each of the walking axes, and concrete interventions and programs were proposed (Vanin et al., 2020; De Visscher et al., 2018).

3.3 Step 3: co-designing a guiding framework filled with concrete project opportunities

Under the heading 'Shared Mobility, Shared Space' and within the context of the cultural manifestation You Are Here in the WTC-I tower – an Architecture Workroom initiative – the interim results of the above initiatives were exhibited

¹⁸ perspective.brussels is a regional expertise centre and initiator of the development strategy of the Brussels territory: <https://perspective.brussels/fr>

and continued in a co-creative design process. The trajectory was initiated with the support of the Mobility Administration of the Brussels-Capital Region (Brussels Mobility), in collaboration with Bye Bye Petite Ceinture, Architecture Workroom Brussels, BRAL, IRIB, Brussels Academy and BSI-BCO. The public debate 'Mobility is an Urban Project' took place in early October 2018. Among other things, it investigated how certain mobility solutions could be implemented in many places at the same time, thus contributing to the transformation of the city.

During two co-creative design workshops in autumn 2018, strategic places where the greatest potential lay for testing a new, connecting urban space were selected. The expertise of academics, designers, residents and other stakeholders resulted in a number of concrete future images for promising locations (see Figure 3).

Strategic junction A: Rue des Six Jetons

Four primary schools, two secondary schools and one location of the Erasmus College of Higher Education are located along the Rue des Six Jetons. The majority of students travel to school on foot, by bicycle or using public transport. Since the introduction of the pedestrian zone, the southern part of the Rue des Six Jetons has become a part of the city's small parking loop, resulting in heavy traffic (Hubert et al. 2017; 2020). The intersection with the Rue Van Artevelde is problematic, and there are no bicycle paths. However, the area holds a major asset: the Fontainas Park is already utilized by several schools in the area. During the current reconstruction, additional facilities are being built, such as a nursery, catering facilities and an underground sports hall. A transformation of the Place du Jardin aux Fleurs – Rue des Six Jetons – Fontainas axis is therefore imperative. We convert the intersections with Rue Van Artevelde and Place Fontainas into mobi points where we can switch between different transport modes. In the existing parking buildings, the most accessible floor is reserved for bicycle parking. The Rue des Six Jetons will be a residential area that connects schools with the park. A vegetable garden project in the park near Anneessens Funck, managed by the school, strengthens the school-park relationship. The 'greening' of the park will be extended to the construction of the nearby intersections, such as Place Fontainas and Place du Jardin aux Fleurs.

Strategic junction B: Area of Gare de Bruxelles-Chapelle

Today, the Gare de la Chapelle's underpasses and facades are dreary and underused. However, examples such as Le Viaduc des Arts in Paris and the *Hofbogen* in Rotterdam bear witness to the countless possibilities for such spaces. By using the accommodation for catering and other functions, it becomes a lively place in the evening. Surrounding actors can use the public space. Think of an evening market with the unsold goods of Les Tanneurs or a *table d'hôte* organized by Recyclart. During the day it becomes a place for games and sports for the students of the surrounding schools. The tunnels and the station's facades can be connected to

- > **Figure 3.** Photographs of some of the selected streets and areas as potential places for experimental projects: Rue des Six Jetons, Gare Bruxelles-Chapelle, Marolles, Athénée Robert Catteau (view from Place Poelart), Rue de la Senne





ZOOM ON PROJECT 2: A GREEN-BLUE WALKING NETWORK IN THE SOUTHERN PENTAGON



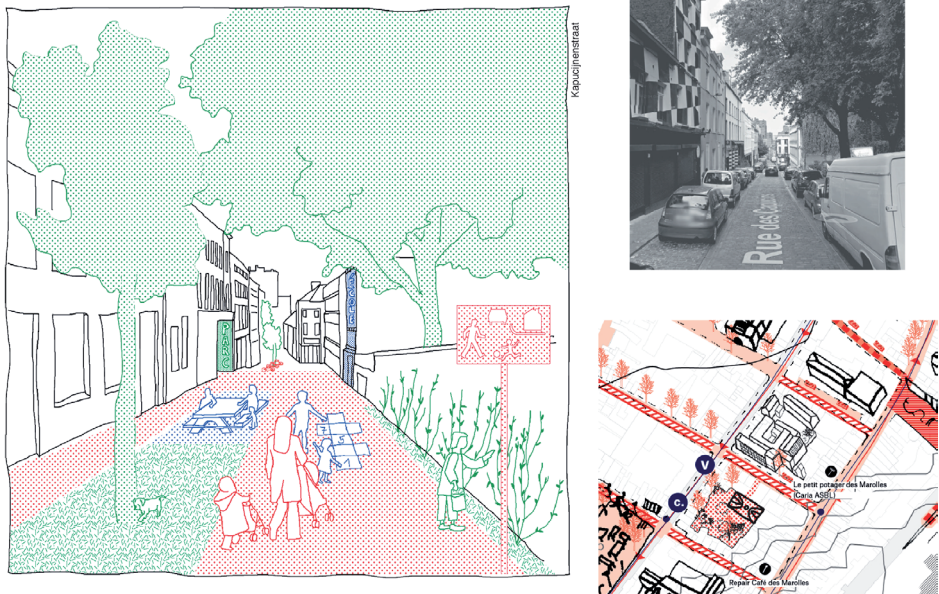
the other developments on the site and together form a large multifunctional pool in the district.

Strategic junction C: Place Poelaert

Today, the elevator at the Place Poelaert forms a major bottleneck. To encourage the use of the alternative slope, a redevelopment is required. Parking spaces should make way for a green promenade, offering a superb view over the city. It will be a place to hang out and rest while admiring this view.

Future imaginaries – Zoom 1: Rue des Capucins

➤ **Figure 4.** Future imaginaries Rue des Capucins



Source: Architecture Workroom Brussels, 2019

The Rue des Capucins is a cross street between the Rue Haute and the Rue Blaes. Today it is a narrow street, completely paved and dominated by parked vehicles. Young people on their way to school or to the green inner area *Escargot* are given little space to manoeuvre. However, the street could be given the *woonerf*¹⁹ status. Parking spaces would no longer be required, freeing up space for a paved strip for cyclists and pedestrians and a bicycle shed at the school entrance. The vacant space can also be used to play, relax or meet. Reopening and upgrading access to the *Escargot* inner area strengthens the relationship between the inner area and street events. The adjustments create a sense of the neighbourhood being traversable. Moreover, when the pavement is partially broken up, the street becomes greener, with water thus being able to find its way back to the soil. Edible greenery can be

19 A residential area with restrictions aimed at slowing down traffic.

planted along the walls of the adjacent residential complex and could be managed by the neighbouring secondary school Institut Diderot, residents of the residential complex or vzw BRAVVO,²⁰ which helps maintain the *Escargot* inner area.

Future imaginaries – Zoom 2: Rue Haute

The Rue Haute has the narrow profile of a one-way street and forms, together with the Rue Blaes, an access loop for vehicular traffic, ensuring accessibility for retailers located in both streets for loading and unloading their stock. However, the street is crossed by soft traffic axes in several places. A number of schools and facilities are also located on this street, but with little space at their entrances. However, limiting car traffic in one direction and installing markings and wide traffic islands at the intersections will create a priority space for pedestrians. Small interventions such as flower boxes, lighting and give-way road markings make it clear that this is a place in which cars are just guests.

So retailers can be smoothly supplied with goods, while it is also clear at intersections and in the areas in front of facilities that cars are merely guests.

Future imaginaries – Zoom 3: Rue des Alexiens

Today, the Rue des Alexiens is part of the small parking ring. Bicycle lanes are marked in two directions, but are embedded in the street. The *Sint-Joris* primary school is currently working on the school buildings and their access. A large, open, new school entrance is provided along the Rue des Alexiens.

When vehicular traffic is limited to one-way traffic, the vacant space can be transformed into an elevated, two-way bicycle path. At the height of the entrance to the school, a wide traffic island can provide a safe crossing.

A wider sidewalk and the widening of the school access provide space for waiting parents and children. By integrating play elements into the public domain, the routes from school to home become a trail full of experiences.

When the current parking strips are constructed to be permeable to water, with tree sections between them, the rainwater from the pavement will drain into this green strip. A green strip along the school wall can offer different qualitative elements, and the school can create a vegetable garden with an educational purpose on its roof or on the new playground.

Future imaginaries – Zoom 4: Towards a Place de la Senne?

The Rue de la Senne runs through a mainly residential neighbourhood. Only those who live here come here. Nevertheless, there is severe parking pressure in the neighbourhood. Besides one bus line (number 46), the area is poorly served by public transport, and parking is free. Between the intersection with the Rue de

²⁰ Bravo is the prevention service of the City of Brussels, in charge of the fight against social exclusion and feelings of insecurity.

l'Abattoir and the Rue Cuerens, the road widens with trees along the sidewalks and on a central traffic island. However, the vacant space is underutilized and mainly paved. By removing one lane, space can be made for a separate bicycle path on the GF6 route. A Mobi point with shared cars and bicycles can be constructed between the tree sections.

When the square is decorated with urban furniture and modules for urban agriculture, residents can grow vegetables, have a picnic, rest or play there. The modules of urban agriculture can be managed by a neighbourhood committee or by another actor in the neighbourhood, such as the Tour à Plomb. The green space under the trees can then be considerably increased, allowing rainwater to flow from the adjacent sidewalks and better infiltrate the soil. This greening of public space can be extended to the front yard of the Tour à Plomb around the corner, and can thus contribute to making the urban fabric more traversable.

3.4 Step 4: collectively managed edible greenery as the first tangible result

In 2019, an urban renewal project of the Flemish Community²¹ focusing on community building around a productive green-blue network in the test zone of the Southern Pentagon was approved. As a result, the VGC provided funding for several specific installations, designed through a co-productive process and executed by Atelier Groot Eiland. The installations aim to create new green spaces that involve local residents and organizations in their design, implementation and management.

This means that schools and other neighbourhood facilities, but possibly also parts of the public space in the vicinity of these facilities, are used as a physical carrier for productive landscaping. Roofs, facades, fences, playgrounds, but also streets, squares and other forms of street furniture are cleverly provided with edible greenery (vegetables, fruit, herbs), nest boxes, and other installations intended to foster biodiversity and the short food chain in the city. The installations with edible greenery are placed in selected locations in function of the local support, strong visibility and link with the public space.

Atelier Groot Eiland concretely elaborates the punctual interventions with edible greenery. As a social economy organization, Atelier Groot Eiland accompanies people alienated from the regular labour market to employment through training and work experience. In addition, Atelier Groot Eiland also offers labour care for

21 As the Flemish Community Commission (VGC) can only intervene in community-linked competences, it lacks the competence to pursue an urban policy in the way certain other administrations can. For example, the VGC does not have a mandate to direct the development of the physical public space in a neighbourhood or to shape the global urban vision. Therefore, the project needed to seek alignment with the policies and urban development programs of the other Brussels public authorities.

vulnerable people with complex poverty or psychosocial problems. Atelier Groot Eiland is a non-profit organization that, in addition to urban agriculture, is also active in catering, carpentry and retail.

Edible greenery in the city

Because of the scarcity of space, edible greenery in the city has to fulfil various functions. For the same reason, most of the initiatives are small-scale. Food production is often 'a bonus', as opposed to the sole objective, of edible greenery in the city. A community garden provides a space for community building, a vegetable garden on a school's playground can serve educational purposes, a food grove in the city offers a cool place on hot days and at the same time space to play and for recreation.

Atelier Groot Eiland chooses to grow mainly high-value crops in the city. These are crops that can be harvested several times a year and have a high yield, for instance herbs, tomatoes, cucumbers, lettuce and small fruit. Thanks to the proximity of the customers (short chain) and the minimum surface area required for a good yield, this is a model that is cost effective within small areas of the city.

All these forms of edible greenery in the city fulfil functions that will become increasingly important in a world in transition. The combination of professional and small-scale interventions with edible greenery increases city residents' awareness of the food's origin, and increases the knowledge and skills citizens need to grow their own food in the city.

Emancipatory levers for liveable neighbourhoods

Schools and other community facilities such as training initiatives, community centres, local service centres, etc. can play an important emancipatory role within the project. The new green spaces offer various opportunities for the neighbourhood: recreation, education and relaxation. Active citizenship, care for the environment and health are promoted through these installations through the joint efforts of schools, parent groups and neighbourhood groups. The 'greening' of the (semi-) public space contributes to a more pleasant and healthier living environment, better water management (for example through demineralization and increased permeability of the soil, water buffering and rainwater absorption via green roofs) and the tempering of the heat island effect in the metropolis.

The installations act as mobilizing instruments for sustainable urban development, focusing on concepts such as a participatory approach, health education and sustainable food. The project also contributes to the social cohesion in transition neighbourhoods, as the local community is called upon to take care of the edible greenery.

Coproduction, education and participation are key

The locations for which productive green installations are designed were selected through workshops in cooperation with the partners of the trajectory for the Southern Pentagon. Each individual location has specific requirements: for example, a floor slab needing to be broken out by a contractor, whether or not a roof was sturdy enough for a roof garden, the presence of any other greenery in the neighbourhood (such as a large tree that could be incorporated), orientation, soil type, etc.

An intention to develop an educational program around the green installations with the partners involved in the field, in order to provide a substantive framework and structural embedding, among other things, is also present. A motivated school director or coordinator of an organization, a group of teachers, or a parental or neighbourhood group can achieve a lot in this regard, but it cannot be assumed that schools and other community actors possess all the knowledge needed to maintain a food forest, a vegetable garden or fruit trees.

In addition to the investment resources required for the green installations, work is ongoing in relation to agreements regarding their maintenance. For example, fruit trees have to be pruned regularly according to certain principles and pest control has to be performed using environmentally friendly methods. A good plan for maintenance is therefore necessary. Since there are currently few systems for maintaining large-scale and long-term edible greenery in public spaces, we must look for new models in which citizens, associations, (social) companies and governments work together to achieve sustainable management and maintenance.

3.5 Still a lot of work to be done, but the actors are in position

Two years after designating the Southern Pentagon as a promising east-west axis for the development of the Brussels city centre, an intermediate account of the results can be drawn up. In addition to the preparatory cartographic research work by the BSI-BCO, AWB and BRAL have drawn up an overview map through co-design work sessions that serves as a continuously evolving working tool for the framework of the Southern Pentagon. It provides visual support for the discussions between the parties involved. It helps in envisaging new opportunities, linking opportunities and challenges, and connecting diverging interests with ongoing projects.

Within this framework, a number of promising locations have already been designated that can serve as strategic levers for the entire perimeter. This relates to a number of important nodes, as well as a number of streets and smaller squares in the dense network.

During the co-design sessions, actors with different user perspectives who had not previously sat together around the table were mobilized to formulate solution-oriented proposals for the future of the city. Local schools (Nieuwland, Sint-Jan-Berchmans, Sint-Joris), socio-cultural organizations (Habitat and Rénovation, Convivence-Samenleven, local Vegetable Garden Masters, De Markten, Nuit Blanche), experts and representatives of the City (administrations and cabinets) and of the Region (Bruxelles Environnement) entered into a dialogue.

Based on these sessions, images were made of what is possible and desirable for some of the strategic locations in the network. Overall, we can say that a certain consensus has grown between policymakers and civil society about the direction in which the Southern Pentagon should evolve, and that it is best to start from a dense network of shared spaces, shared mobility and productive greenery in a strengthened social fabric. The above process finally led to the mobilization of the first implementation budgets for the development of a green-blue network within the framework created for the Southern Pentagon.

So, the urban project for the Southern Pentagon is under construction. Many of the necessary preliminary studies (spatial and social) have been completed, with numerous opportunities for pilot projects having been explored. The guiding vision for the desired transformation of public space in the central neighbourhoods of Brussels has found a broad consensus among both private and public actors (see Vanin et al., 2020). However, there is still a long way to go for the realization of the urban project. Public investment resources and local dynamics in the neighbourhoods must be linked in order to realize the ambitions through concrete realizations, designed via co-design trajectories and managed via new public-civil partnerships. In addition, supervision by experts should also be continued, in order to control the quality and translate the global vision into the necessary policy and social innovations.

4 > AN URBAN PROJECT REQUIRES A NEW METHODOLOGY AND NEW ROLES

Many challenges, and therefore many possible solutions, come together in the city, all of which can have an impact on one another whether or not we consider them to be separate projects. For example, making the streets permeable again can also be a first step towards the creation of sheltered oases, which can, in turn, support soft mobility. Optimizing budgets for urban management (such as the renovation of sewers or the reconstruction of road surfaces) can provide opportunities for the redesign of public space with more latitude for water management and greening. However, the gap between objectives determined by policy and the capacity of individual initiatives and projects is often so large that we need to find new ways of scaling-up to connect both.

>

Policymakers already provide many useful tools for bridging this gap, but in practice they all too often merely ‘coexist’ without truly being linked together. The Good Move regional mobility plan and the Good Food strategy both search for new ways to formulate objectives in consultation with a broad group of stakeholders and through the addressal of simultaneous challenges in the region. In its revised edition, the PRDD tried – albeit cautiously – to bridge the gap between different policy domains. Since 2011, various sustainable neighbourhood contracts²² have been drawn up in the Southern Pentagon. In addition, there are several programs for school environments, such as the school contracts (perspective.brussels), the school streets (Mobility Department, City of Brussels) and the ‘richtlijnenboek beeldkwaliteit schoolomgevingen’ (a book with guidelines for the visual quality of school environments) (Brussels Master Architect²³). Some new Community Schools (*Brede scholen*) in the Southern Pentagon perimeter (e.g. Nieuwland) have expressed a desire to achieve a broad living and learning environment for children. The government’s current instruments, plans and projects all originate from a shared vision for the future, but ultimately separate into different tracks that are no longer mutually reinforcing solutions. They do not complement each other in a way that allows multiplication of the effects, and capacities for building bridges between the different instruments and projects are insufficient.

4.1 Need for a new methodology: co-design as leverage for a system shift

At present, within the current administrative system that is based on split, sometimes competing, powers, the methodology, time and budgets that would allow cooperation on an integrated project aiming to improve the quality of life in the city are lacking. Such an integrated project should link together all policy domains and scale levels in a framework that is continuously adjusted. There is thus an urgent need for a system shift that follows the logic of the urban project instead of compartmentalizing the whole into separate competences and (sub-)projects. In order to unite regional and municipal public initiatives with local civil society initiatives, a joint process is needed that bundles and promotes knowledge at all levels. Bringing local and public stakeholders, designers, academics, experts and committed citizens together around concrete design cases creates opportunities to align small-scale projects with urban regional plans and to tackle different urban challenges simultaneously.

The co-design method brings together a diversity of stakeholders, and searches for interfaces through design and imagination. The space is the physical place where

²² Sustainable neighbourhood contracts are urban renewal programmes subsidized by the Brussels- Capital Region.

²³ The Brussels Master Architect is a person, appointed by the Brussels Regional Government, who together with a team is in charge of guaranteeing the architectural, spatial and scenic qualities of new building projects in the Brussels-Capital Region.

all urban challenges present themselves simultaneously and design is ideally suited to clarify which choices can be made for all stakeholders. Everyone wants to live in a street with their own parking space in front of the door, with a wide bicycle path, with plenty of space for children to play and with plenty of greenery. But the street's width remains limited. Spatial design shows where sustainable choices can be made. Through the use of maps and images, connections between different projects can more easily be demonstrated, as can linkages between specific local interventions and their impacts on the wider urban fabric. A proposal for a local intervention can immediately be placed in synergy with other current projects or visions, and, vice-versa, large-scale visions can be refined to local needs.

> **Figure 5.** Co-design workshop within the project 'Shared Mobility, Shared Space', in the context of 'You Are Here' 2018



Source: Authors

By connecting all these different parties, the co-design method has the potential to work on widely supported transformation proposals for the city. Knowledge is passed on that would otherwise remain compartmentalized: the urban farmer shares their experiences with the policymaker, the mobility expert provides insights to local residents, the policymaker passes on knowledge about existing and future instruments, and so on. In this way, co-design can contribute to a fundamental behavioural change in the actors involved. Moreover, co-design can break through the rigid triptych between preliminary research, project definition and project implementation. Parties responsible for financing or future management are not informed in separate meeting rooms about the vision and expected impact of a project, but rather they sit together at the design table, enabling the laying-out of a more focused implementation and better monitoring of the long-term effects (Cassiers et al., 2020).

So co-design distinguishes itself from other forms of research-by-design through the early and explicitly active involvement of end users and other actors, such as experts, policymakers and residents. Therefore, citizen input takes place during the conception of the project and not in response to an already-designed and researched proposal. The visual translation of the challenges and concerns of those involved by designers makes it easier to imagine and discuss the impact and qualities of future projects together, and to gain support for the necessary change.

4.2 A need for new roles

Today, clearly defined roles and mandates that would allow the rolling-out of the co-design's methodology as a powerful tool for urban development and creation of sufficient capacity to act are still lacking. Effective co-creation and co-production are not accomplished by sporadically organizing a participatory workshop with a non-binding character and without a mandate.

It is important that the method is built into the current system as a full-fledged process, in which local stakeholders, civil society, designers, experts and policymakers are all involved, as opposed to a process that is conceived as an extra layer on top of the current system. The capacities required to fulfil the different roles within co-design are already present in the existing organizations and authorities, but there has been a lack of determination to give these people the proper mandate within the current system thus far.

A first important role within co-design is the role of process supervisor. This person is a coordinator who continuously keeps the process going and adjusts it if necessary. They bring together all the available information from the various stakeholders, and direct the other roles within the co-design process. They maintain an overview of the overall framework, and continuously adjust it according to new insights. They ensure that co-design is deployed from vision development to project implementation and beyond, in a relentless and non-linear process. In the specific case of the trajectory for the Southern Pentagon, this role was assumed by BSI-BCO through the mandate they received from the City of Brussels on the one hand, and the VGC on the other.

A second role is that of the continuous search for support throughout the process. It is important to ensure that the role of citizens is not limited to presenting ideas or criticizing policy decisions, but includes active contribution to the development of their city. For this role, one needs to talk to local stakeholders in the neighbourhoods, see what is going on, and check where there might be opportunities to act upon. BRAL, just like actors such as ARAU²⁴ and IEB²⁵, keeps a finger on the pulse

²⁴ ARAU (L'Atelier de Recherche et d'Action Urbaines) is a Brussels civil society organization that was founded in 1969.

²⁵ IEB (Inter-Environnement Bruxelles) is a civil society organization that strives for a better quality of life in Brussels.

of citizen dynamics. BRAL represented civil society in the cooperation around the Southern Pentagon, bringing engaged citizens to the table.

The third role is reserved for the designer. Through research-by-design, challenges and actors are connected in desirable and feasible future projects. The designer shows how choices can be made and where qualities can be generated by linking challenges or actors. They have a crucial role in pushing the process further when it comes to content. Both BSI-BCO and Architecture Workroom Brussels have in-house research-by-design expertise. It should be emphasized here that the mandate for this role was largely absent from the process to date, being only manifested in the form of a subsidy support from Bruxelles Mobilité to AWB pertaining to the project's participation in an exhibition of the cultural manifestation 'You Are Here', an AWB initiative.

And finally, a fourth role is necessary in order to translate all of this so that it is able to fit into the policy frameworks. It is important that policymakers are also involved as stakeholders throughout the design process. They join the design table, where they gather information and transfer knowledge, subsequently following this up by means of progress meetings.

All these roles involve an investment that should not be underestimated, but which cannot be reduced to the tendering of a short-term one-off preliminary study. The different tasks within a co-design process direct the general framework, continuously indicate new projects, and align current and new projects, so that they take on a fuller role throughout the entire process of urban development – from vision development to the follow-up of implementation projects.

5 > FOCUS ON THE FUTURE: BROADENING SUPPORT THROUGH ACTION AND EXPERIMENT

Over the past two years, and despite the limited budgets, the co-design process in the Southern Pentagon as a test for an alternative method of urban development has been driven by the collective conviction of academics, designers, spatial experts and civil society organizations. This chapter opened with the observation that the Southern Pentagon is a powerful experimental place where operating capital that allows a response to the countless urban challenges that arise is available. The interim results also show that there is a growing consensus and solution-oriented direction from which to utilize this operating capital. The future revolves around a further roll-out of this process and the perpetuation of the various responsibilities within it.

In order to further roll-out this co-design process for Brussels, it is necessary to invest in a broadening of the support base by continuing the discussions with relevant residents and local organizations about specific design locations, and thus, step-by-step, contribute to a shift in mentality that can lead to behavioural change.

Discussions and design workshops result in widely supported transformation proposals for the specific locations, delineate the responsibilities of policy and local stakeholders, and continuously adjust the general framework, which, in turn, can lead to new projects in an ever-evolving and increasingly efficient process of urban development.

The future is all about action and experiment, both by the organizations responsible for the co-design process in the Southern Pentagon, and by city services and local organizations. However, in Brussels, the method of co-design has not yet been tested as a fundamental method for urban development, and therefore requires a form of well-coordinated experiment that can adjust and professionalize the process through well-considered actions. Above all, this should take shape in new collaborations between the City of Brussels, designers, researchers, civil society organizations and local stakeholders, whereby all of these parties structurally engage in a dialogue in order to build together on the general framework for the Southern Pentagon. Therefore, in parallel to the local design sessions, a mandate for – and proper coordination of – the various responsibilities within the co-design process (process coordinator, co-design supervisor, local stakeholder expert and policy representation) is required.

5.1 The main pitfalls: lack of mandate and relapse into excessive splitting

The direction of future work seems clear. However, it is important to consider some of the pitfalls already mentioned in this chapter, which may hinder the projected process.

It is crucial, however, that an urban project does not lapse into a ‘project logic’. Politicians today work with clearly defined projects and master plans that fit their policy areas and that can be financed through compartmentalized budget lines. In such a scenario, thinking all too often stops when the project definition is determined. As a result, the translation between the vision and process – which are constantly evolving – on the one hand, and the projects that result from these on the other, systematically goes wrong. If no budgets are found for these projects, the whole process is in danger of coming to a standstill because a – by nature – incremental and dynamic urban project is, out of habit, reduced to a linear process from vision to project execution.

A second pitfall, also mentioned earlier, is the misconception of setting up a co-design process as an intermediary phase intended to collect questions from various stakeholders in order to formulate better projects with greater support. The dynamics of co-creation and the exchange between diverse stakeholders do not cease after the design, but extend beyond the project implementation. Co-design is not only a quality touchstone for design, but also for project implementation, the

eventual use and management, and for evaluation; ultimately it will also lead to the recalibration of the original vision.

A last anticipated pitfall is that the existing policy instruments must be adapted to be able to accommodate new developments, so that the general framework for the Southern Pentagon can continue to be translated. But those tools are not yet available (consider, for example, BRAL's plea for a Master Architect for Co-creation). Reworking tools takes time, but co-design is actually a way to take steps gradually, to identify opportunities and experiment in a constructive manner, and as such can contribute to the realization of such a system shift.

Finally, we think it is important to stress that this process of co-creation can only be achieved if a process of mediation between the different stakeholders is established. This important task should not be underestimated, nor should it be confused with the process of co-creation itself. At the different stages, the BSI-BCO has tried to play a mediating role, which was possible thanks to its particular position, being outside the interests of each actor and the associated power games (Vanin et al., 2020). Unfortunately, this role has so far not been sufficiently appreciated in the process, especially among public actors.

6 > CONCLUSION

The Southern Pentagon project constitutes an important learning trajectory with fertile ground for testing things in the field together with local coalitions. Despite the current policy framework that does not focus on co-design, but rather operates on a project-based logic instead of a continuously evolving process logic, there are many actors (engaged citizens, action groups, designers, cabinets, schools and other local organizations and associations, civil society, and others) who share the same vision for the city and who believe in the importance of an urban project that can increase sustainability, liveability and solidarity within the city. This gives important encouragement for continuing the process and learning through it, together, along the way.

Let us celebrate and support the first modest steps as important building blocks for the collective urban project for the entire Southern Pentagon. For the remainder, we have faith in a yet-to-come domino effect.

7 > BIBLIOGRAPHY

BEAUJEAN, F., DECLERCK, P., E VOS, T., HEENE, B., MENDES, G. and BRASSEUR, O. (2016). *Évaluation de l'impact de la nouvelle zone piétonnière dans le centre de Bruxelles sur la qualité de l'air* (p. 27). Bruxelles-Environnement (IBGE).

CASSIERS, T., VERHEYDEN, H. and ROELAND, D. (2020). Appel à la co-conception pour un avenir urbain meilleur. Expériences et leçons tirées du projet 'Pentagone Sud'. In A. MEZOUE, S. VERMEULEN and J.-P. DE VISSCHER (eds.). *Au-delà du Pentagone. Le Centre-ville Métropolitain de Bruxelles*. Brussels: EUB and VUBPRESS.

DA SCHIO, N. and VANDENBROUCKE, A. (2020). Les États Généraux de l'Air de Bruxelles 2019. In A. MEZOUE, S. VERMEULEN and J.-P. DE VISSCHER (eds.). *Au-delà du Pentagone. Le Centre-ville Métropolitain de Bruxelles*. Brussels: EUB and VUBPRESS.

DE VISSCHER, J.-P., MEZOUE, A. and VANIN, F. (2018). L'hypercentre de Bruxelles : du piétonnier au projet urbain. Masterclass Zoom In – Zoom Out. BSI BCO — Brussels centre observatory. <http://bco.bsi-brussels.be/1548/>

HUBERT, M., CORIJN, E., NEUWELS, J., HARDY, M., VERMEULEN, S. and VAESEN, J. (2017). Du « grand piétonnier » au projet urbain : Atouts et défis pour le centre-ville de Bruxelles. Note de synthèse BSI. *Brussels Studies*. <https://doi.org/10.4000/brussels.1551>

HUBERT, M., CORIJN, E., NEUWELS, J., HARDY, M., VERMEULEN, S. and VAESEN, J. (2020). *From pedestrian area to urban and metropolitan project: assets and challenges for the centre of Brussels*. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City-centre for Brussels*. Brussels: EUB and VUBPRESS.

MALHERBE, A. and ROSA, E. (2017). Sans-abrisme et projet urbain : Inconciliable ? BSI BCO – Brussels centre observatory. <http://bco.bsi-brussels.be/sans-abrisme-et-projet-urbain-inconciliable%e2%80%89/>

ROSA, E., DONNEN, A., HOULSTAN, R., LAKI, G., LEDENT, G. and SALEMBIER, C. (2020). Right(s) to Brussels' city centre and the urban project. What possibilities for future transformations? In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City-centre for Brussels*. Brussels: EUB and VUBPRESS.

VANIN, F., DE VISSCHER, J.-P., MEZOUE, A. and VERMEULEN, S. (2020). A common vision for the Brussels Metropolitan city centre beyond the Pentagon. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City-centre for Brussels*. Brussels: EUB and VUBPRESS.

WAYENS, B., DECROLY, J.-M., STRALE, M., DA SCHIO, N., KESERÜ, I., WIEGMANN, M. and PERILLEUX, H. (2020). Pedestrianization of a multifunctional space: challenges and early observations on the Brussels Pentagon. In S. VERMEULEN, A. MEZOUE and J.-P. DE VISSCHER (eds.). *Towards a Metropolitan City-centre for Brussels*. Brussels: EUB and VUBPRESS.

CONCLUSION



Michel HUBERT, Jean-Philippe DE VISSCHER,
Aniss M. MEZOUE

The findings, vision and projects developed in this book, which was in the main part written before the emergence of the COVID-19 pandemic, have since become more relevant.

As in other cities around the world, the coronavirus crisis and the associated quarantine measures have made Brussels rather fragile, but the city has also shown its resilience in this context.

Brussels was weakened because of its connected and internationalized economy, which slowed down drastically, even coming to a standstill. The closing of borders, travel restrictions and reign of telecommuting all meant that the numerous meetings held in the European and international capital of Brussels ceased. There were no longer congresses, fairs and major gatherings in this city that prides itself on being one of the largest convention cities in the world. No tourists visited the main attractions, museums or other sites of interest. It was a tough blow for the Horeca sector, which came almost completely to a halt for a period of around three months, and for the cultural and arts sectors, which are yet to recover. It was equally difficult for the inhabitants quarantined in their neighbourhood, especially those in the so-called 'croissant pauvre' (poor crescent) neighbourhoods of Brussels, which have experienced considerable densification over the past 25 years, albeit without any significant improvement in the living conditions of their inhabitants. In addition, the quarantine measures revealed a new distribution of the population into two diametrically opposed regimes: those forced to stay at home (teleworkers and the unemployed, students, children, the elderly – the last of these being those most affected by the disease) and those forced to work (workers in the health and other 'essential' sectors). In between the two are the 'forgotten' of the quarantine: all of those experiencing various forms of homelessness and other forgotten people (prisoners, etc.).

However, like a number of other cities, Brussels also proved to be quite resilient in this context. Solidarity initiatives to make masks or to provide food or aid to those most vulnerable proliferated, in the streets and elsewhere. While ‘makers’ were active creating open source solutions and materials, artists redoubled their creativity to overcome isolation and create social ties. Emergency aid was provided at different government levels (from the federal, to the regional and community, to the municipal level). Most green spaces remained accessible to the population in need of air and exercise. Houses with a garden, balcony or terrace were highly appreciated, and many roofs and platforms were transformed to this end. ‘Tactical urbanism’ interventions were launched: some streets were transformed into residential, meeting or play areas, bicycle paths quickly emerged, sidewalks were temporarily extended, etc.

Although Brussels’s urban society stood firm, the toll has been heavy: Approximately 1500¹ lives have been lost in the city, and countless others have been ruined by the effects of the quarantine measures, and due to the general unpreparedness of our society (like many others) to deal, in an emergency scenario, with this type of crisis. While some people in Brussels welcomed this ‘break’, for many others it was synonymous with loss of employment, lack of income, family or mental problems, lack of future prospects, etc. Social weaknesses and inequalities were accentuated. The housing deficit and the deplorable conditions of the housing stock in certain areas have been laid bare, as has the shortage of quality public and green spaces in some neighbourhoods. Compensation for the reduction in capacity and avoidance of public transport by the establishment of better pedestrian/cycling networks was not sufficient to avoid a massive recourse to cars and the return of poor ambient air quality.

While it will take time to recover from the COVID-19 pandemic, other more impactful crises, the climate crisis in particular, are likely to strike within the foreseeable future. There is, therefore, a need for reflection and action at the various relevant levels. This book contributes to this process by suggesting that the future of the centre of Brussels must be considered beyond the historic Pentagon to include the scale we have referred to as the ‘metropolitan centre of Brussels’. Drawing on several observations on the state of the city centre, a number of ideas have been put forward, and these should be further developed in order to:

- diversify and enrich the uses of the city centre and make it the symbolic space of reference for all those who live in Brussels;
- maintain or redeploy the vital sectors in the city;
- provide the necessary care to the populations in need;
- expand public and green spaces;

1 According to the Sciensano report dated 13 June 2020: <https://covid-19.sciensano.be/fr/covid-19-situation-epidemiologique>

- › facilitate greater integration of spaces beyond those public spaces that are accessible (schools, cultural centres, and similar) with the public space;
- › de-concentrate the development of tourism in those parts of the urban space that are now excessively specialized;
- › improve the availability and quality of housing.

In short, there is a need to accelerate the transition to a more sustainable and inclusive city centre.

This book also offers methodological insights. It advocates for the ‘decompartmentalization’ of public policies and for more cross-cutting policies. It also calls for a more effective territorialization of public action and for better policy alignment between the various relevant levels. Lastly, it advocates for more co-production and for more leverage effects based on pilot studies.

In so doing, the book highlights the mediating role the university may play in urban issues and in the quest for solutions, in a manner similar to the Brussels Studies Institute during the first four years of the Brussels Centre Observatory.



ÉDITIONS DE L'UNIVERSITÉ DE BRUXELLES

Fondées en 1972, les Éditions de l'Université de Bruxelles sont un département de l'Université libre de Bruxelles (Belgique). Elles publient des ouvrages de recherche et des manuels universitaires d'auteurs issus de l'Union européenne.

Principales collections et directeurs de collection

- Architecture, urbanisme, paysagisme (Jean-Louis Genard)
- BSI series (Bussels Studies Institute)
- Commentaire J. Mégret (Comité de rédaction : Marianne Dony (directeur), Emmanuelle Bribosia, Claude Blumann, Jacques Bourgeois, Jean-Paul Jacqué, Mehdi Mezaguer, Arnaud Van Waeyenbergh, Anne Weyembergh)
- Études européennes (Marianne Dony et François Foret)
- Genre(s) & Sexualité(s) (David Paternotte et Cécile Vanderpelen-Diagre)
- Histoire (Kenneth Bertrams, Aude Busine, Pieter Lagrou et Nicolas Schroeder)
- Journalisme et communication (ReSIC-ULB)
- Philosophie politique : généalogies et actualités (Thomas Berns)
- Religion, laïcité et société (Jean-Philippe Schreiber et Monique Weis)
- Science politique (Pascal Delwit)
- Sociologie et anthropologie (Mateo Alaluf et Pierre Desmarez)
- Territoires, environnement, sociétés (Jean-Michel Decroly, Christian Vandermotten)
- UBlire (Serge Jaumain)

Elles éditent trois séries thématiques, les Problèmes d'histoire des religions (direction : Guillaume Dye et Sylvie Peperstraete), les Études sur le XVIII^e siècle (direction : Valérie André et Christophe Loir) et Sextant (direction : Amandine Lauro et Cécile Vanderpelen-Diagre).

Les ouvrages des Éditions de l'Université de Bruxelles sont soumis à une procédure de *referees* nationaux et internationaux.

Des ouvrages des Éditions de l'Université de Bruxelles figurent sur le site de la digithèque de l'ULB. Ils sont aussi accessibles via le site des Éditions.

Founded in 1972, Éditions de l'Université de Bruxelles is a department of the Université libre de Bruxelles (Belgium). It publishes textbooks, university level and research oriented books in law, political science, economics, sociology, history, philosophy, ...

Éditions de l'Université de Bruxelles, avenue Paul Héger 26 – CPI 163, 1000 Bruxelles, Belgique, EDITIONS@ulb.be, <http://www.editions-ulb.be>

Diffusion/distribution : Interforum Benelux (Belgique, Pays-Bas et grand-duché de Luxembourg) ; SODIS/ToThèmes (France) ; Servidis (Suisse) ; Somabec (Canada).

VUBPRESS

VUBPRESS staat als academische uitgever in het midden van het wetenschappelijke leven. We ontwikkelen educatieve, academische en wetenschapspopulariserende uitgaven. VUBPRESS is een academische imprint van moederhuis ASP/Academic & Scientific Publishers.
