

CARDIFF UNIVERSITY
SCHOOL OF GEOGRAPHY AND PLANNING

**Integration approaches in local planning
processes to achieve more
environmentally friendly mobility**

Sabine Schulz

Thesis submitted for the Degree of Doctor of Philosophy

2016

Abstract

This research is concerned with mobility related planning and policy making processes in the context of sustainable urban development. Understanding and assessing integration approaches within these planning processes is the objective of this thesis. The research focuses at the local planning level. As spatial and transport planning is covered by national and European policy regulation, the impact of higher political and planning levels in a multi-level governance system has been taken into consideration. The research strategy applied is a case study approach; specifically, the city of Leipzig which is located in East Germany. Since the late 1980s, in the context of the emerging sustainability debate and the end of the German Democratic Republic (GDR), a special planning environment has developed in East Germany. It is characterised by a cross-party and population wide request for environmental objectives in planning agendas. The research aims to make a contribution to integration debates in planning processes, investigates whether and how integration works, and moreover how this contributes to sustainable urban development.

The research focuses on three integration approaches prominent in current debates on urban planning and explores how they influence local level planning processes that are related to mobility. The three integration approaches are environmental policy integration (EPI), departmental integration (DI) and stakeholder integration (SI).

The objective of this research project is to contribute to the body of knowledge in the fields of environmental policy integration, departmental integration in planning, and sustainable urban development. The research will help to understand whether and how these integration approaches can encourage a stronger focus on environmental objectives, more long term solutions in planning, and a focus on eco-mobility.

The strategy of enquiry applied to this research is a case study. The analytical framework is formed by a multi-methods approach. In order to answer the research questions the following methods are applied: semi-structured expert interviews and the analysis of secondary qualitative and quantitative data. The data is collected at different political and planning levels to be able to reflect on the variety of influences. The mix of multiple sources of evidence (triangulation) enhances the validation of the results. The thesis provides an in-depth analysis of planning policies and planning processes with respect to EPI at the local level. It demonstrates that high levels of EPI, DI and SI can be achieved within mobility related planning, but that various supporting elements as well as obstacles have a significant influence on the level of the three integration approaches.

Acknowledgements

First and foremost, I would like to thank my PhD supervisors Dr. Andrea Frank, Mike Biddulph and Prof. Peter Feindt. This thesis would not have been possible without the constant support, guidance and patience that they provided in the last years. I would also like to thank a number of fellow colleagues at the Cardiff School of Geography and Planning. I would like to thank Dr. Francesca Sartorio and Dr. Richard Cowell who gave advice during the early stages of my research in panel meetings. I would also like to thank Sian Moseley, Ruth Leo, Matthew Leismeier, and Andrew Edwards who all provided administrative or IT supports during the thesis.

The thesis would not have been possible in this form without the help of others. I would like to thank all my interviewees who kindly donated their time and energy to the investigative process.

Most importantly, I would like to thank my parents for their continuing support and patience with my studies. *Meinen herzlichsten Dank an euch, Mutti und Vati, für die jahrelange Unterstützung und Geduld!*

The process of a PhD is sometimes compared to a rollercoaster. I would like to thank my PhD colleagues and friends in Cardiff and Germany for their ongoing support whether up or down. Thank you, Marc, for your constant support, patience and cheering me up. Thank you: Hade, Agata and Säoirse! Victoria! Mariyani, James, and James! Ioanna! Doris, Heike, and Patrick! Turbo! Christine, Diana and Johannes!

Table of content

Acknowledgements	iv
Table of content	v
List of diagrams	ix
List of figures	x
List of maps	xi
List of tables	xii
Abbreviations	xiii
Chapter 1: Introduction	1
1.1 The challenge of integrating environmental objectives.....	1
1.2 Increasing relevance of environmental objectives in urban planning	2
1.2.1 Urban mobility as a challenge for environmental policy integration	3
1.3 The role of the European Union in the multi-level system of planning.....	5
1.4 The research problem, scope and objectives	7
1.4.1 The research problem	7
1.4.2 The scope of the research	7
1.4.3 Aims, objectives and research questions	9
1.5 Structure of the thesis	10
Chapter 2: Theoretical framework of environmental policy integration	12
2.1 Introduction.....	12
2.2 The concept of environmental policy integration.....	12
2.2.1 The concept of EPI in relation to the concept of sustainability.....	13
2.2.2 Conceptual framework of EPI	15
2.2.3 Analytical considerations of EPI.....	17
2.2.4 Weak and strong EPI.....	20
2.2.5 Top-down and bottom-up integration	21
2.2.6 Sectoral integration.....	23
2.2.7 The role of the local level and local participation	24
2.3 Environmental policy making in the EU – multi-level governance system...27	
2.3.1 Framework of environmental policies at the EU level	27
2.3.2 Environmental policy instruments at the EU level	32
2.3.3 EPI at the national level	35
2.3.4 EPI at the local level	38
2.4 Conclusion	50
Chapter 3: Methodology	53
3.1 Introduction.....	53
3.2 Research design	53
3.2.1 Research strategy	55
3.2.2.1 Case study approach.....	55
3.2.2.2 Multi-methods approach	56
3.3 Case study selection.....	57

3.3.1	Case study selection in Germany.....	57
3.3.2	Case study selection within Leipzig	58
3.3.3	Data collection	61
3.3.4	Data analysis.....	64
3.4	Limitations of research.....	71
3.5	Conclusion	72
 Chapter 4: Urban development in Germany		73
4.1	Introduction.....	73
4.2	Urban development in the German Democratic Republic	74
4.2.1	Spatial planning.....	74
4.2.2	Transport related planning.....	76
4.2.3	Environmental concerns and planning	77
4.3	Historical urban development concepts of the post-war period in West Germany.....	79
4.3.1	Post-war development and concepts of the 1960s.....	80
4.3.2	The environmental shift in the 1970s and 1980s	83
4.4	Urban development in reunited Germany (since 1990).....	85
4.5	Planning policies of higher planning levels in Germany.....	88
4.5.1	The national planning level in Germany	88
4.5.2	Leipzig embedded in the federal and regional planning levels of Saxony.....	91
4.6	Conclusion	93
 Chapter 5: Analysis I – Strategic planning level: Urban Development Plans		96
5.1	Introduction.....	96
5.2	Der Stadtentwicklungsplan Zentren: analysing the Centres Urban Development Plan	97
5.2.1	Introduction	97
5.2.2	Spatial development in Leipzig since 1990	99
5.2.3	The Centres Urban Development Plan of 1999	105
5.2.3.1	Emerging retail challenges after 1999.....	107
5.2.4	The Centres Urban Development Plan of 2009	108
5.2.4.1	Departmental and stakeholder integration in phase 1.....	108
5.2.4.2	Departmental and stakeholder integration in phase 2.....	111
5.2.4.3	Stakeholder participation in phase 3.1.....	113
5.2.4.4	Political debate in the city council.....	115
5.2.5	Implications of the Centres Plan.....	116
5.2.6	Conclusion of local spatial planning	119
5.3	Der Stadtentwicklungsplan Verkehr: analysing the Urban Transport Development Plan	122
5.3.1	Introduction	122
5.3.2	The transport situation in Leipzig since 1987	123
5.3.2.1	Development of the modal split in Leipzig 1987-2008	126
5.3.3	Transport related guidelines 1992	127
5.3.4	The Urban Transport Development Plan 2003.....	128
5.3.4.1	Critique of the Transport Plan & transport planning	131
5.3.5	Updating process of the Transport Urban Development Plan 2014.....	135
5.3.5.1	Evaluation of the old plan and the integration of other plans.....	136
5.3.5.2	New participation methods used in the updating process	138
5.3.6	Conclusion of local transport planning	143

5.4	Conclusion	146
Chapter 6: Analysis II – Strategic planning level: Environmental policies		150
6.1	Introduction.....	150
6.2	Clean Air Plan and low emission zone	151
6.2.1.	Introduction	151
6.2.2.	Air quality monitoring in Leipzig.....	152
6.2.3.	The Clean Air Plan 2005	156
6.2.4.	The Clean Air Plan 2009	157
6.2.5.	Air quality in Leipzig after the introduction of the low emission zone.....	158
6.2.6.	Critique on the Clean Air Plan and the low emission zone.....	160
6.2.6.1	Critique on development of the Clean Air Plan	162
6.2.6.2	Critique on the low emission zone.....	163
6.2.6.3	Economic-based critique on the low emission zone.....	168
6.2.7.	The clean air plan and its integration into other plans.....	169
6.2.8.	Conclusion of the Clean Air Plan.....	170
6.3	Noise reduction planning	173
6.3.1.	Introduction	173
6.3.2.	Framework in noise reduction planning	173
6.3.3.	Noise reduction planning after the adoption of the directive.....	175
6.3.4.1	Public participation.....	177
6.3.4.2	Results of the online forum	178
6.3.4.3	Results of the online survey	178
6.3.4.	Critique on the legal framework and the Noise Action Plan	179
6.3.5.1	Critique on the legal framework.....	179
6.3.5.2	Critique on the Noise Action Plan.....	182
6.3.5.	The “Mach’s leiser” project – new ways of public participation.....	185
6.3.6.	Conclusion of noise action planning	193
6.4	Conclusion	196
Chapter 7: Analysis III – Projects and problems		198
7.1	Introduction.....	198
7.2	The shopping centre “Höfe am Brühl”	199
7.2.1	Introduction	199
7.2.2	Project background	199
7.2.3	Spatial objectives, transport challenges and environmental concerns	201
7.2.3.1	Spatial objectives.....	201
7.2.3.2	Transport challenges and environmental concerns	205
7.2.4	Conclusion of the “Höfe am Brühl” project.....	211
7.3	Restructuring of the Karl-Liebknecht-Street	214
7.3.1	Introduction	214
7.3.2	Project outline	214
7.3.2.1	Challenges of the project.....	216
7.3.3	Planning cooperation and public participation	217
7.3.3.1	The project group and coordination group	217
7.3.3.2	The interest advisory board.....	219
7.3.3.3	Different forms of public participation.....	220
7.3.3.4	A separate tram track and funding dependency.....	223
7.3.4	Conclusion of the Karli-project.....	227
7.4	Project bicycle racks	230

7.4.1	Introduction	230
7.4.2	Current situation of bicycle racks in Leipzig	230
7.4.3	The bicycle racks project for non-public investors	231
7.4.4	Conclusion of the bicycle racks project.....	234
7.5	Parking problem.....	237
7.5.1	Introduction	237
7.5.2	Legal framework for parking in Saxony.....	237
7.5.3	Parking problems in Gründerzeit-quarters - the example of Schleußig.....	239
7.5.3.1	Public participation & research projects dealing with the parking problem.....	240
7.5.3.2	Obstacles for higher consideration of environmental concerns.....	243
7.5.4	Conclusion of the problem “Parking on pavements”	247
7.6	Cycling on the “Ring”	250
7.6.1	Introduction	250
7.6.2	Problem description and change of the legal framework.....	250
7.6.3	The changing status of cycling on the Ring and search for alternatives.....	252
7.6.4	Conclusion of the problem “Cycling on the Ring”	255
7.7	Conclusion	257
Chapter 8: Discussion of empirical findings and concluding remarks		261
8.1	Introduction.....	261
8.2	Level of integration within planning processes	264
8.2.1	Indicator framework for measuring integration levels.....	264
8.2.2	Levels of integration within planning processes	265
8.2.3	Reasons for integration.....	272
8.2.4	Supporting elements and obstacles to integration	275
8.2.5	Possibilities to increase the level of integration.....	280
8.2.6	Environmentally friendly mobility at the local level.....	282
8.3	Contribution of the research.....	284
8.4	Research limitations and further research	287
Appendix 1 – Glossary		315
Appendix 2 – Map of Germany		317
Appendix 3 – Overview interviewees		318
Appendix 4 – Examples of interview schedules.....		319
Appendix 5 – Codes of the analysis in NVivo.....		321
Appendix 6 – Participants of the city workshop “Who needs a local centre?” ..		323

List of diagrams

Diagram 2. 1: Arnstein’s ladder of participation (Arnstein, 1969).....	25
Diagram 3. 1: Planning levels at the local level in Germany.....	58
Diagram 3. 2: Overview of interviewees, the dotted stakeholders act also outside Leipzig at the regional level, but were only included in their function as local stakeholders.....	64
Diagram 3. 3: The various levels of integration related to environmental policy integration (EPI), departmental integration (DI) and stakeholder integration (SI) are compared in this diagram.....	69
Diagram 3. 4: Groups of interviewees as identified during the analysis	71
Diagram 4. 1: Development of individual motorised traffic in the GDR 1972-1987 (Güther et al., 1989, p. 875)	77
Diagram 4. 2: : Aspects of sustainable urban development (Heineberg, 2006, p. 130) ...	86
Diagram 4. 3: Overview of planning levels and their most relevant policy in general and in Saxony	91
Diagram 5. 1: Scheme of planning policies and projects in Leipzig analysed in the three analysis chapters and their relations	96
Diagram 5. 2: Chronology of spatial planning policies in Leipzig after 1990	97
Diagram 5. 3: Chronology of transport planning strategies in Leipzig after 1990	122
Diagram 5. 4: The Urban Transport Development Plan embedded in other local mobility-related plans.....	122
Diagram 5. 5: Modal split in Leipzig 1987-2008 and the goals specified in the Transport Plan 2003 (Stadt Leipzig, 2004, Stadt Leipzig, 2011c)	126
Diagram 5. 6: Modal split in Leipzig and other German cities in 2008 (Stadt Leipzig, 2008b)	127
Diagram 5. 7: Levels of environmental policy integration (EPI), departmental integration (DI) and stakeholder integration (SI) of the spatial and transport plans that were analysed in this chapter.....	147
Diagram 6. 1: Scheme of planning policies and projects in Leipzig analysed in the three analysis chapters and their relations	150
Diagram 6. 2: PM ₁₀ and PM _{2,5} at Leipzig city centre, 2009-2012 (SMUL, 2014b)	159
Diagram 6. 3: Exceeding days of PM ₁₀ in Leipzig; 1999-2012 (data: SMUL, 2014b, Stadt Leipzig, 2009b)	159
Diagram 6. 4: Levels of EPI, DI and SI of the two plans that were analysed in this chapter and the Mach’s leiser project.....	196
Diagram 7. 1: Scheme of planning policies and projects in Leipzig analysed in the three analysis chapters and their relations	198
Diagram 7. 2: Levels of EPI, DI and SI of the three projects and two problems that were analysed in this chapter	259
Diagram 8. 1: The levels of EPI, DI and SI of the cases that were analysed in this thesis	268

List of figures

Figure 2.1: Sustainability illustrated in concentric circles	14
Figure 6. 1: The measuring station in the city centre	155
Figure 6. 2: New marking of the Georg-Schumann-Street, now the street has only one lane per direction, a separate bicycle path and parking off the pavement.....	190
Figure 7. 1: The new shopping centre “Höfe am Brühl” in September 2012.....	201
Figure 7. 2: The “Höfe am Brühl” on the second day of its opening	203
Figure 7. 3: Advertising poster promoting cheap and numerous parking spaces.....	207
Figure 7. 4: View from the entrance of the car park towards the measuring station (arrow).....	209
Figure 7. 5: Section of the northern part of the Karli.....	215
Figure 7. 6: Detail of the draft of the restructuring plan (state of work: October 2012) (Stadt Leipzig et al., 2012).....	224
Figure 7. 7: The situation of the old street design next to a tram stop: cars and cyclists have to wait for people who want to use or used the tram	224
Figure 7. 8: Before and after: comparison of the planned restructuring (Ökolöwe, 2011)	225
Figure 7. 9: Bicycle racks in public space (Markgrafentree) initiated by the travel agency.....	232
Figure 7. 10: Bicycle racks in public space (Markgrafentree) initiated by the companies that use the mobility point, for example LVB, DB, next bike, Stadtwerke Leipzig.....	232
Figure 7. 11: Bicycle racks in public space initiated by house owners (Stadt Leipzig, 2012a).....	233
Figure 7. 12: Sign 315 parking on pavements (Kaube- Verkehrsfachseminare, 2013) ..	237
Figure 7. 13: Photo of the parking area of the Paunsdorf Centre in the east of Leipzig. The photo was made from a multi-storey car park. In the background of the photo a second multi-storey car park can be seen. The arrow indicates where bicycles can be parked.	239
Figure 7. 14: Aerial view on parts of Schließig with its narrow roads and many trees (Microsoft, 2014a)	240
Figure 7. 15: Parking situation in Schließig (Reiher, 2010b)	245
Figure 7. 16: Parking situation in Schließig (Borriss, 2012)	245
Figure 7. 17: Measures to stop parking in certain areas (Zeyen, 2013, Zeyen, 2014).....	247
Figure 7. 18: Following the StVO sign 275 sets a minimum speed (in this case of 40km/h) and sign 254 prohibits cycling (Brewes GmbH, 2014).....	251
Figure 7. 19: Cyclists at the Augustusplatz with the sign that prohibits cycling on the Ring	253

List of maps

Map 4. 1: The divided Germany (Geographisch-Kartographische Anstalt, 1972).....	73
Map 4. 2: Centres structure of West Saxony in the LEP 2013 (SMI, 2013, map 1).....	92
Map 4. 3: Centres structure of North Saxony in the RP 2008 (Regionaler Planungsverband Westsachsen, 2008, map 1).....	93
Map 5. 1: Examples of greenfield shopping centres around Leipzig and the location of the city centre (map basis: Microsoft, 2014b)	102
Map 5. 2: Centres structure in 1993 (Stadt Leipzig, 1993a)	103
Map 6. 1: Position of measuring stations in Leipzig (Stadt Leipzig, 2009b).	153
Map 6. 2: PM ₁₀ emissions in Leipzig 2001 of various modes of transport (LfUG, 2005)	154
Map 6. 3: The three versions of the low emission zone in Leipzig (Stadt Leipzig, 2009b)	158
Map 6. 4: Different phases of noise mapping in Leipzig	175
Map 6. 5: Detail of the noise mapping of the centre of Leipzig (Stadt Leipzig, 2011b) (red – areas of high noise levels, yellow – areas of medium noise levels, green – quite areas, brown – buildings)	176
Map 6. 6: Map of the project area in the north of Leipzig (Supplies et al., 2013)	187
Map 7. 1: The city centre of Leipzig with the project “Höfe am Brühl” in the northwest (map basis: Stadt Leipzig, 2014d).....	199
Map 7. 2: The so-called Ring around the city centre (map basis: Stadt Leipzig, 2014d)	250

List of tables

Table 2. 1: Four out of ten benchmarks set by the EEB (Buitenkamp, 1999, p. 3).....	30
Table 4. 1: Concepts and characteristics of urban planning in West Germany after the Second World War Source: Based on Heineberg (2006, p. 125).	80
Table 5. 1: Overview of the institutional framework in spatial planning.....	99
Table 5. 2: Examples of greenfield shopping centres around Leipzig that got planning permission in the time of the reunification (Kubis and Hartmann, 2007)	101
Table 5. 3: Transport related objectives in different centres in Leipzig (Stadt Leipzig, 2000, p.19).....	106
Table 5. 4 Chronological overview of the updating-process	108
Table 5. 5: Indicators and levels of integration for the three analysed urban development plans (0: no integration, -: low, o: medium, +: high integration)	121
Table 5. 6: Modal split of 1998 and predictions for 2006 and 2015 (Stadt Leipzig, 2004, p. 7).....	130
Table 5. 7: Indicators and levels of integration for the three analysed urban development plans (0: no integration, -: low, o: medium, +: high integration)	145
Table 6. 1: Measured data and traffic volume (2005) at measuring stations (Stadt Leipzig, 2009b)	153
Table 6. 2: Number of days when PM ₁₀ threshold was exceeded (Stadt Leipzig, 2009b)	155
Table 6. 3: Indicators and levels of integration for the analysed Clean Air Plan (0: no integration, -: low, o: medium, +: high integration).....	172
Table 6. 4: Affected citizens in Leipzig in daytime and at night (Stadt Leipzig, 2011b)	175
Table 6. 5: Indicators & levels of integration for the analysed Noise Action Plan & Mach's leiser (0: no integration, -: low, o: medium, +: high integration).....	195
Table 7. 1: Indicators & levels of integration for the analysed project 'Höfe am Brühl' (0: no integration, -: low, o: medium, +: high integration)	213
Table 7. 2: Indicators & levels of integration for the analysed project 'Karli' (0: no integration, -: low, o: medium, +: high integration).....	229
Table 7. 3: Indicators & levels of integration for the analysed project bicycle racks (0: no integration, -: low, o: medium, +: high integration).....	236
Table 7. 4: Abridgement of the guiding value table for parking spaces and bicycle racks of the administrative regulation on the state building code (SMI, 2012).....	238
Table 7. 5: Indicators & levels of integration for the analysed problem parking (0: no integration, -: low, o: medium, +: high integration).....	249
Table 7. 6: Indicators & levels of integration for the analysed problem cycling on the Ring (0: no integration, -: low, o: medium, +: high integration)	256
Table 8.1: Overview of levels of EPI, DI and SI as well as supporting elements and obstacles	267

Abbreviations

ADAC	German Car Association (Allgemeiner Deutscher Automobil Club)
ADFC	German Cycling Association (Allgemeiner Deutscher Fahrrad Club)
BauGB	Building Law (Baugesetzbuch)
CCI	Chamber of commerce and industry (Industrie- und Handelskammer)
CDU	Christian Democrats (Christlich Demokratische Union Deutschlands)
DEHOGA	German Hotel and Restaurant Association (Deutscher Hotel- und Gaststättenverband)
DI	Departmental Integration
EAP	Environmental Action Programme
EEA	European Environment Agency
EEB	European Environment Bureau
EEC	European Economic Community
EIA	Environmental Impact Assessment (Umweltverträglichkeitsprüfung)
EPI	Environmental Policy Integration
ESDP	European Spatial Development Perspective (EUREK – Europäisches Raumentwicklungskonzept)
EU	European Union
FEA	Federal Environmental Agency (UBA – Umweltbundesamt)
FDP	Liberal Democrats (Freie Demokratische Partei)
FOC	Factory Outlet Centre
FRG	Federal Republic of Germany (BRD – Bundesrepublik Deutschland)
GDR	German Democratic Republic (DDR – Deutsche Demokratische Republik)
GfK	Society for Consumer Research (Gesellschaft für Konsumforschung)
GMA	Society of Market Research (Gesellschaft für Markt- und Absatzforschung)
HTWK	University of Applied Science (Hochschule für Technik, Wirtschaft und Kultur Leipzig)
LEP	Federal development plan (Landesentwicklungsplan)
L-IZ	Local online newspaper (Leipziger Internet Zeitung)
LVB	Local transport Leipzig (Leipziger Verkehrsbetriebe)
LVZ	Local newspaper of Leipzig (Leipziger Volkszeitung)
LWB	Local housing company Leipzig (Leipziger Wohnungs- und Baugesellschaft mbH)
MZ	Local newspaper, main area of distribution is in Saxony-Anhalt

	(Mitteldeutsche Zeitung)
NGO	Non-governmental organisation
ROG	Federal Regional Planning Act (Bundesraumordnungsgesetz)
RP	Regional development plan (Regionalplan)
RTPI	Royal Town Planning Institute
SächsLPIG	Saxon Federal Planning Act (Sächsisches Landesplanungsgesetz)
SEA	Strategic Environmental Assessment (Strategische Umweltprüfung)
SEK _o	Integrated urban development concept (Integriertes Stadtentwicklungskonzept)
SI	Stakeholder Integration
SPD	Social Democrats (Sozialdemokratische Partei Deutschlands)
SRU	German Council of Environmental Advisors (Sachverständigenrat für Umweltfragen)
SrV	System of representative Traffic Surveys (System repräsentativer Verkehrsbefragung)
StVO	Traffic regulations (Straßenverkehrsordnung)
VLärmSchR	Guideline on traffic noise along roads controlled by the national ministry (Richtlinie für den Verkehrslärmschutz an Bundesfernstraßen in der Baulast des Bundes)

Chapter 1: Introduction

The priority of economic growth over environmental protection is the traditional policy paradigm that policy makers have applied for many decades, which is also reflected in the way they approach environmental objectives (Carter, 2007). Following the political debates in the 1980s, an alternative policy paradigm of a sustainable development was presented, with the central premise of an equal consideration of economic, environmental and social objectives (Baker et al., 1997, Connelly and Smith, 2003). The policy paradigm of environmental policy integration (EPI) goes a step further and puts the principled priority on environmental objectives, which implies the integration of environmental objectives into non-environmental policy sectors (Carter, 2007).

1.1 The challenge of integrating environmental objectives

Environmental problems often appear very complex and interconnected with other, non-environmental policy fields (Connelly and Smith, 2003). Additionally, there is a degree of uncertainty to identify cause and effect and to generate appropriate effective solutions (Carter, 2007, Connelly and Smith, 2003). For many decades policy makers responded to that with the adoption of a techno-centric perspective (Carter, 2007). Environmental problems were often regarded as unfortunate side effects of economic growth and technical solutions were considered most suitable for solving them. Existing structures of institutions and policy making were not questioned by policy makers and the common approach facing environmental issues was reactive, tactical, and end-of-pipe (Carter, 2007, Connelly and Smith, 2003). However, this traditional paradigm is not applicable to solving long-term environmental problems. As a consequence, the traditional paradigm is increasingly challenged by alternative paradigms (Carter, 2007, Radkau, 2011). Nevertheless, despite all changes in the rhetoric, the traditional paradigm is still highly used in policy making (McNeill, 2001, Hansjürgens and Lübke-Wolff, 2000).

The most discussed alternative paradigm is sustainable development, which implies an equal consideration of environmental, economic and social aspects. However, the concept of sustainability is an ambiguous concept with high complexity and also with a meaning that is contested (Carter, 2007). Furthermore, environmental concerns are only one part of sustainability and are still linked to economic issues (Jordan and Lenschow, 2010). A second alternative paradigm that goes beyond sustainable development and

focuses more on environmental objectives is environmental policy integration (EPI) (Jordan and Lenschow, 2008b, Lafferty and Hovden, 2003). EPI gives principled priority to the environment and requires the integration of environmental objectives into non-environmental policy fields (Baker et al., 1997, Carter, 2007).

Achieving higher levels of EPI requires a reform of existing institutions and policy making processes (Carter, 2007). However, there are numerous structural and political barriers that prevent higher levels of EPI, like the traditional segmentation of the policy process, compartmentalised policy fields, and strong interests of economic groups (Lenschow, 2002a, Wondollek and Yaffee, 2000, Carter, 2007). The research of environmental topics started decades ago, but the research of EPI is a relatively new field. An overview of EPI is provided, for example, by Jordan (2002), Jordan and Lenschow (2008b), and Nilsson and Eckerberg (2009).

1.2 Increasing relevance of environmental objectives in urban planning

Cities are the economic and social centre for many residents in Europe and at the same time the origin of regional and supra-regional environmental contamination (Hall and Pfeiffer, 2000, Wickop, 1999). Therefore, ideas of sustainable development and EPI are increasingly implemented into policy making at the local, the city level (Wickop, 1999). Integrated approaches of urban development include, for example, a spatial, sectoral and temporal coordination of policy making and the participation of all relevant local stakeholders (Sinning, 2008). Related aims are, for example, a reduced and conservative use of properties, environmental impact assessment of new developments (Weiland and Wohleber-Feller, 2007), and an optimisation of the urban structure (Wickop, 1999). However, it is not only the task of environmental planners to reduce the impact on the environment. The approach of EPI rather claims the integration of environmental objectives into other, non-environmental policy fields and the cooperation of various sectors in order to reduce conflicts (Lafferty and Meadowcroft, 2000). So, integrated urban development should also consider conflicting topics and overall development trends in order to fulfil sectoral integration claims (Difu, 2004).

Integrated urban planning approaches are not new. Taking Germany as an example, more integrated approaches were also chosen in the 1960s and the 1980s (Weiland and

Wohlleber-Feller, 2007). In the 1960s increasingly scarce financial resources forced local planners to go beyond sectoral planning and develop a more integrative urban development approach. In the 1980s a change of the German urban development framework led, again, to higher integration levels (Weiland and Wohlleber-Feller, 2007). Planning occurs in cycles and therefore integration approaches are currently again on top of planning agendas. Reasons for higher levels of integrated urban development approaches are usually considered when planners face far-reaching challenges, for examples (1) changes in the financial situation of governments and (2) the modernisation and restructuring of public institutions, which both have an influence on the local planning framework (Weiland and Wohlleber-Feller, 2007, Difu, 2004). It is assumed that politically and financially strong local governments can deal with these challenges successfully, in particular when they use highly integrated urban development strategies (Deutscher Städtetag, 2004).

The idea of a more integrated approach in urban planning is also addressed by the EU in the Leipzig Charter (European Union, 2007). Besides other topics, it defines integrated urban development as a process that requires the coordination of sectoral, spatial and temporal aspects. Furthermore, the integration of local stakeholders is emphasised as a key requirement for a sustainable future of urban development (European Union, 2007, Lütke Daldrup, 2008).

1.2.1 Urban mobility as a challenge for environmental policy integration

An urban topic with special relevance to environmental concerns is mobility. The impact of mobility on people and environment has been elaborated in numerous publications, positive ones (Spinney, 2009, Scheiner, 2006b) as well as the negative (Bertolini and Clercq, 2003, Bracher, 2008, Sieber, 1995). Looking in more detail at the negative impact of individual motor car traffic on the environment, various aspects become apparent. Firstly, the provision of resources, which includes the amount of materials that are needed to build vehicles, the amount of energy that is necessary to run them and the required space to move and park them (Friedrich, 2009). Secondly, emanating from the different energy forms that are used to run vehicles, various emissions are emitted, whose harmful impact on humans has been examined intensively as well as the noise pollution produced by motor vehicles (Schliephake, 1991, Küster, 2009). Thirdly, vehicles need lots of space, for moving and parking. There are serious impacts on the landscape such as soil sealing and the fragmentation of the landscape

(Roedenbeck et al., 2005). So far, there is no change in the amount of space that is needed by this mode of transport, especially as the situation is intensified by urban sprawl and greenfield developments. Summarising these arguments, it seems necessary to reduce the avoidable transport volume and decrease the environmental impacts of non-avoidable individual car mobility (Bracher, 2008).

Looking at the correlation of space and mobility, the problem of the direction of causalities arises: is there an impact of spatial structure on mobility or do individuals make a decision for certain spatial structures when moving to an area (Scheiner, 2006a)? There is no clear answer as the development of cities influences the choice of mode of transport and transport influences the future development of cities (Hall and Pfeiffer, 2000). The traditional planning paradigm does not address this correlation of space and mobility as it is characterised by segregated planning sectors and planning policies. Sustainable mobility as an alternative paradigm considers the complexity of cities and strengthens the links between land-use and transport planning (Banister, 2008, Borchard et al., 2011).

Elkin et al. (1991, p. 12) suggested that a sustainable city “must be of a form and scale appropriate to walking, cycling and efficient public transport, and with a compactness that encourages social interactions”. Key parameters to achieve a higher level of sustainability are the mixed use of developments where the preference is given to developments along public transport routes and around public transport interchanges (Banister, 2005). Such urban forms would keep distances short (Nijkamp and Perrels, 2009, Owens, 1992, Owens and Cowell, 2011) and therefore promote walking and cycling and give priority to public transport on longer journeys (Elkin et al., 1991, Newman, 1994, Borchard et al., 2011, Banister, 2008, Sinning, 2008). The intention would not be to prohibit the car but to create urban structures where a car is not necessarily needed. An integrated approach in this case is essential (Banister, 2008) as otherwise a city may suffer a loss of urban quality, with more congestion and pollution, less open space (Breheny, 1992) and as a consequence might not be the place anymore where people would like to live (Jenks et al., 2000a).

1.3 The role of the European Union in the multi-level system of planning

In the European Union (EU) air pollution and traffic noise are the two biggest environmental problems affecting health (European Environment Bureau, 2011). Although phrases like ‘environmental protection’, ‘integrated solutions’ and especially ‘sustainable development’ have been used increasingly in policy making in Europe since the late 1980s, the measurements of air pollution and noise levels are still too high (EEA, 2014, Umweltbundesamt, 2012b). However, the policy level that is mostly confronted with environmental impacts is the local level. It is the level where environmental problems are most tangible and related to the consequences of traffic, land consumption, and energy supply (Evans et al., 2005, Weber, 1998). It is also the local level where an enormous potential for integration in planning processes can be found (Carter, 2007). This special position of the local level was also highlighted in the Agenda 21 in Chapter 28. It stated that local authorities develop local environmental policies and regulations, oversee planning processes, and assist in implementing sub-national and national environmental policies, and therefore, participation and cooperation at the local level are crucial for fulfilling environmental objectives (United Nations, 1992a). Furthermore, the local level is the level closest to the people (Johnson, 1993, Evans et al., 2005).

The EU possesses a distinctive set of supra-national institutions. The various treaties of the EU define the roles of these institutions and the ways in which they are supposed to interact (Rosamond, 2010). In the last decades, there has been a shift of policy making competence of certain areas from the national level to the EU (McCormick, 2001, Rosamond, 2010). Referring to Benson and Jordan (2008), the EU remains a treaty-based organisation but increases the level of political integration where members states shift some of their sovereignties to the European level, as for example with environmental issues. In environmental policy making, the powers are still shared between member states and the EU (Benson and Jordan, 2008).

The EU is now a major source of binding policy outputs in Europe. Until 2000 the EU had already adopted more than 250 policies of environmental legislation (Jordan et al., 1999). However, several provisions in the European treaties restrain possibilities of member states to implement national environmental policies that differ from EU

policies. This could be a relevant point when member states aim for either higher or lower environmental objectives (Jeppesen, 2002). In the European multi-level governance system, it is, therefore, important to understand how policy agendas are set, policies are developed, and decisions are made and later implemented, especially at the local level (Warleigh-Lack and Drachenberg, 2010).

The power of policy making and its influence on implementation into lower levels varies amongst policy areas and also over time. In terms of environmental policy, the EU initially had no formal power (Warleigh-Lack and Drachenberg, 2010). When the European Economic Community (EEC) was founded in 1957 (EEC, 1957) the term environment did not even play any role (Jeppesen, 2002). Today this has changed and the EU has detailed and broad environmental policies (Weale et al., 2000). Environmental objectives are integrated into treaties and a legally binding framework has been developed that is applicable for all levels of governance in Europe (Benson and Jordan, 2010a). Therefore, it is essential to understand EU environmental policy and its processes when investigating related issues on other levels (Haigh, 1992).

In the fields of spatial and transport planning the EU developed a legally non-binding framework. In the case of spatial planning, the European Spatial Development Perspective (ESDP) was set up in 1999 with the aim to achieve a balanced and sustainable spatial structure in Europe (European Commission, 1999a). In the case of transport planning, a White Paper was published in 2011 which defined the key aspects of European transport systems until 2020 (European Commission, 2011). Those two policies have a rather limited direct influence on local policy making (Warleigh-Lack and Drachenberg, 2010).

Other EU policies, like environmental ones, can have a direct influence on policy making at the local level. Examples are the directives that regulate air quality (European Commission, 2008) or noise levels (European Commission, 2002a). The directives are legislative instruments that set aims but generally leave it to national governments to determine how to achieve them (Cini and Borragán, 2010). The two directives are examples of policy making using a new mode of governance: subsidiarity. The notion of subsidiarity, where the policy design is decided at the lowest, most appropriate level, entered EU policy discourses in the early 1990s (Jordan, 2000, Warleigh-Lack and Drachenberg, 2010).

Nevertheless, the relationship between the EU and its member states is challenging. On one side, the EU needs to set a framework and specific aims as otherwise nothing would happen or at least not equally in all EU states. On the other side, when central steering becomes too strong it could result in political resistance from the member states (Haug et al., 2010, Connelly and Smith, 2003)

1.4 The research problem, scope and objectives

1.4.1 The research problem

Decentralisation and urban sprawl (Borchard et al., 2011) as well as a high and still rising amount of individual motorised traffic (European Union, 2013) are significant problems of cities in Europe. Cities expand in order to fulfil spatial needs of various groups of people such as residents who aim for a house in a green environment, investors who claim space for retail parks or factories, or families who request more diversity of leisure facilities. Subsequently, this extensive expansion of the city provides a challenge for an efficient public transport system and reaches the limits of a functioning network of bicycle paths for daily uses. Where those are not possible and feasible anymore, a growing car dependency is created.

Despite the rhetoric of sustainability and environmental considerations, in the last decade the main focus of politicians and planners has been on economic topics. The economic crisis has shown that the priorities of governments at all political levels in Europe are focussed on economic objectives, i.e. economic stability of the (European) market and securing of employment. However, in order to achieve a more sustainable urban environment and better living conditions for urban residents, the rhetoric of politicians and planners needs to be transformed into action and environmental objectives need to be integrated. Furthermore, as most urban environmental problems are based in different planning departments, a higher level of departmental integration is as essential as the integration of local stakeholders.

1.4.2 The scope of the research

This research is concerned with mobility related planning and policy making processes in the context of sustainable urban development. Understanding and assessing integration approaches within these planning processes is the objective of this project.

The research focuses at the local planning level. As spatial and transport planning is covered by national and European policy regulation, the impact of higher political and planning levels in a multi-level governance system has been taken into consideration. The research strategy applied is a case study approach, specifically, the city of Leipzig which is located in East Germany. Since the late 1980s, in the context of the emerging sustainability debate and the end of the GDR, a special planning environment has developed in East Germany. It is characterised by a cross-party and population-wide request for environmental objectives in planning agendas. The research aims to make a contribution to integration debates in planning processes, investigates whether and how integration works, and how it contributes to sustainable urban development.

The focus is on the planning process in Germany as it unfolds at the local level. However, as the local level is part of the German and European multi-level governance system, this research will also reflect on the planning and policy approaches at the European Union level, the national level, the federal state level, and the regional level and their influence on the local approach in Leipzig.

Sustainability, by definition, is about environmental, economic and social issues on a long term basis. This research will focus especially on environmental objectives and will use economic and social issues as a framework.

The research focuses on three integration approaches prominent in current debates on urban planning and explores how they influence local level planning processes that are related to mobility. The three integration approaches are:

- (1) Environmental policy integration (EPI), i.e. the integration of environmental objectives into non-environmental policies,
- (2) Departmental integration (DI), i.e. the integration of compartmentalised planning areas, for example departments for urban planning, transport planning and environmental planning,
- (3) Stakeholder integration (SI), i.e. the integration of citizens' initiatives and experts, for example independent planners, transport lobby groups and environmental NGOs.

1.4.3 Aims, objectives and research questions

The objective of this research project is to contribute to the body of knowledge in the fields of environmental policy integration, departmental integration in planning, and sustainable urban development. The research will help to understand whether and how these integration approaches can encourage a stronger focus on environmental objectives, more long-term solutions in planning, and a focus on eco-mobility (walking, cycling and public transport). The research also assesses whether and how sustainable policies affecting mobility are accessible for all socio-economic groups and whether the important role of mobility in the economy is taken into account.

The research aims:

- (a) To develop an indicator framework to measure the levels of the three integration approaches,
- (b) To evaluate how the different integration approaches are implemented,
- (c) To assess what support mechanisms and obstacles are provided by the political framework and/or different interest groups and also why are they formed,
- (d) To draw lessons on whether these approaches are conducive to promote more environmentally friendly mobility.

The main research questions are:

- What is the level of integration (1)-(3) that can be found in planning processes at the local level in Leipzig? How are the different kinds of integration achieved?
- Why is integration occurring or not? Why is it successful or not?
- What support mechanisms and obstacles are formed by the political framework and/or different interest groups within these planning processes to support or hinder integration?
- What measures would support a higher level of integration within the planning processes?
- To what degree is integration instrumental for improving planning outputs? How effective are integration approaches in promoting more environmentally friendly mobility at the local level?

1.5 Structure of the thesis

The thesis is structured into eight chapters. Following this introduction, Chapter 2 reviews the literature on environmental sustainability and the concept of environmental policy integration (EPI), including the general framework, analytical considerations, weak and strong levels of EPI, top-down and bottom-up processes, sectoral integration and the relevance of the local level. The second part of the chapter reviews literature that relates to environmental policies and integration approaches at the various planning levels in Europe, with a special focus on the local level. This review provides the theoretical framework for the thesis.

Chapter 3 presents the methodology and sets the analytical framework for the research. The strategy of enquiry applied to this research is a case study. The analytical framework is formed by a multi-methods approach. In order to answer the research questions, the following methods were applied: semi-structured expert interviews and the analysis of secondary qualitative and quantitative data. The data was collected on different political and planning levels to be able to reflect on the variety of influences. Additionally, the case study is introduced: the city of Leipzig in Saxony (Germany).

Chapter 4 provides an overview of planning development in East and West Germany and the reunited Germany related to transport and spatial planning. It also presents the institutional framework of the national, federal and regional level which is legally binding for policy making and planning in Leipzig. This chapter forms the contextual framework for the analysis of the empirical data.

Chapters 5, 6 and 7 present the empirical evidence based on the interviews, planning policies and additional qualitative and quantitative data. The investigation took place on two different levels, the strategic and the project planning level. Chapter 5 focuses on two strategic plans from the fields of transport and spatial planning: the Centres Urban Development Plans and the Urban Transport Development Plan. Chapter 6 focuses on two environmental policies from the strategic planning level: the Clean Air Plan and the Noise Action Plan. Chapter 6 also presents the Mach's leiser project, which takes an alternative approach in addressing noise action planning. Chapter 7 presents three projects and two problems from the project planning level. The first one comprises the development of a new shopping centre in the city of Leipzig, the so-called 'Höfe am Brühl', the redesign of the Karl-Liebknecht-Street, and the project 'bicycle racks'. The

latter one includes the problem of parking in residential areas and of the cycling permission on the 'Ring'.

Chapter 8 presents a summary of the empirical findings and discusses them with regard to the theoretical context of the research and the research questions. The Chapter discusses the achieved levels of EPI, DI and SI, the identified supporting elements and obstacles and draws conclusions how effective integration approaches are in promoting more environmentally friendly mobility. At the end of Chapter 8, the contribution of the research, the limitations of the research and future research possibilities are presented.

Chapter 2: Theoretical framework of environmental policy integration

2.1 Introduction

This chapter reviews the literature related to the concept of environmental policy integration (EPI) and its implementation in the multi-level governance system of policy making in Europe. The intention is to unfold the concept of EPI and understand how EPI is interpreted and applied in non-environmental policy sectors.

The chapter is divided into two parts. The first one starts with a discussion of the concept of sustainability and how it can promote a better understanding of EPI. This is followed by an investigation of different analytical approaches of EPI, a discussion of weak and strong levels of EPI, and top-down and bottom-up processes related to the concept of EPI. At the end of the first part, sectoral integration possibilities and the role of the local level in achieving higher levels of EPI are reviewed.

The second part of the chapter reviews literature on EPI in policy making processes at the level of the European Union, national levels and local levels in Europe. The review of literature related to EPI at the local level focuses on policy outcomes and the state of research on the effectiveness of EPI with a special focus on sectoral integration related to this research, i.e. in spatial and transport planning processes. In the conclusion, the gaps in the literature related to the topic of this research are recapitulated.

2.2 The concept of environmental policy integration

The development of EPI as a research field is closely linked to the environmental policy making processes of the EU and the sustainability debate (Lenschow, 2002a, Liberatore, 1997). Although the integration of environmental objectives has been discussed for a long time in policy making, academic research on EPI mainly started in the late 1990s (Lenschow, 2002a, Jordan and Lenschow, 2008b, Jordan and Lenschow, 2010, Nilsson and Eckerberg, 2009, Lafferty and Hovden, 2003). The historical progress of EPI has been traced by various researchers (Jordan and Lenschow, 2008b, Lenschow, 2002a, Liberatore, 1997).

2.2.1 The concept of EPI in relation to the concept of sustainability

The growing recognition and consideration of environmental objectives in politics and planning can be seen in the widespread use of the term "sustainable development" (Connelly and Smith, 2003). In particular, the publication of the Brundtland Report in 1987, the Rio Declaration in 1992 and the Agenda 21 in 1992 drew attention to the consideration of environmental objectives and participation (Lafferty and Hovden, 2003, Meadowcroft, 2000, World Commission on Environment and Development, 1987, United Nations, 1992a, United Nations, 1992b). However, the relevance of environmental objectives is not exclusively proclaimed by environmentalists but also by politicians, planners and stakeholders from non-environmental policy fields (Connelly and Smith, 2003).

A critique is expressed by Baker et al. (1997) that the concept of sustainability lacks consistency on how the term is defined. They state that there is a large and still growing number of publications dealing with sustainability but that there is no common agreement about what sustainability means and how to use it. The variety of possibilities to define sustainability is, for example, analysed by Lozano (2008), who investigated the envisioning of sustainability approaches and related interpretations (see also: IUCN, 2006). One possibility is the approach of concentric circles (see Figure 2.1), which is based on the assumption that the economy is part of the society which, in turn, is part of the environment (Lozano, 2008, Sustainable Measures, 2010). So, this way of visualising and interpreting sustainability could be taken as a starting point of EPI as it sets environmental issues as the basis for social and economic issues. Connelly and Smith (2003) consider this an environmental interpretation of sustainability and claim that, in this case, environmental considerations need to be integrated within social, economic and political decision making processes. Following Naess (1997), this is an ecological sustainability approach which he still sees as part of the general sustainability concept. He identifies the main aim of ecological sustainability as "to facilitate the formulation of policies which will reach deep enough to ensure a global change from increasing to decreasing ecological unsustainability" (Naess, 1997, p. 71). So, there are interpretations of the sustainability concept that put the environment and its objectives at the centre of policy considerations and proclaim their integration into non-environmental policy fields (see Figure 2.1).

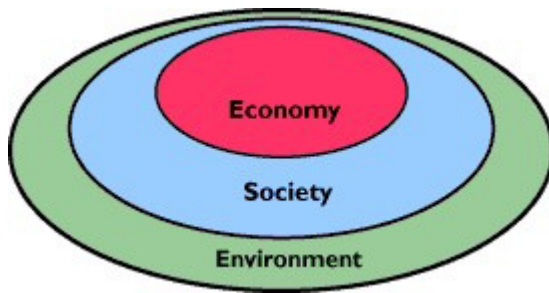


Figure 2. 1: Sustainability illustrated in concentric circles (Sustainable Measures, 2010)

This importance of the integration of environmental objectives, i.e. the relevance of EPI, in the context of sustainability is described as straight and regarded as a key element of sustainability (Baker, 1997, Liberatore, 1997, Jordan, 2008, Lafferty and Hovden, 2003). Furthermore, EPI is seen as a “first order operational principle to implement and institutionalise the idea of sustainable development” (Lenschow, 2002b, p. 6). Lafferty and Hovden (2003) also see EPI as ‘principled priority’ to the concept of sustainability and base this on the understanding that the prioritisation of environmental policies in relation to other policy sectors is required in the sustainability concept.

However, whereas the concept of EPI claims the integration of environmental objectives into all non-environmental policy fields, the concept of sustainability emphasises the balanced development of environmental and social and economic objectives (Jordan and Lenschow, 2010). Jordan and Lenschow (2010) conclude that the strong notion of the environment in the concept of EPI is lessened in the concept of sustainability. Additionally, Jordan and Lenschow (2008c, p. 8) point out that it would be insufficient to just balance environmental, social, and economic concerns as this “would be little more than ‘policy integration’”.

The term sustainability is also criticised by environmentalists as it conceals the contradiction between the modern growth economy and environmental limits (Meadowcroft, 2000). Furthermore, it appears that many efforts that are named ‘sustainable’ are only a re-packaging of already established activities, like pollution control and the encouragement of energy efficiency. The new orientation towards sustainability is rather “a complex mix of things that were already being done” and new things that might have been done anyway (Meadowcroft, 2000, p. 378).

So, the concept of EPI was set up as a separate notion in order to place the relevance of environmental concerns and related objectives at the centre of considerations, which is

not the case in the concept of sustainability. Nevertheless, the concept of sustainability is often used to explain the concept of EPI, whereas the concept of EPI is often used to define the precondition for a successful implementation of the concept of sustainability. However, both concepts cannot be used interchangeably.

2.2.2 Conceptual framework of EPI

EPI is defined as the integration of environmental objectives into non-environmental policy sectors (see for example Lafferty and Hovden, 2003, Lenschow, 2002a, Jordan and Lenschow, 2008b). Von Homeyer (2009) discusses a normative interpretation of EPI, where sectoral decision making processes are required in order to generate policies that are acceptable from an environmental sustainability perspective. He also takes a closer look at EPI from a process perspective, where it is required that environmental aspects are considered in sectoral decision making processes (von Homeyer, 2009). So, the different policy sectors seem to play a role in EPI and especially the way they integrate environmental objectives.

Collier (1994) deduced three aims of EPI based on an investigation of energy policy making in the EU: (1) preventing environmental damage and achieving sustainable development, (2) removing contradictions within and between policies, and (3) realising mutual benefits and making policies mutually supportive. He puts special emphasis on the processes between different sectors, which leads to the conclusion that successful EPI can only be achieved with a higher level of departmental integration. However, Lafferty and Hovden (2003) criticise that those aims are very severally formulated and do not provide detailed characteristics of EPI or about the level of quality that distinguishes applied EPI. Furthermore, they argue that these aims are not explicitly related to EPI. Lafferty and Hovden (2003) suggest in turn a definition of EPI, which they base on the analysis of EPI definitions of other researchers. As a key point, Lafferty and Hovden claim the integration of environmental objectives into all stages of policy making in all non-environmental policy fields. Additionally, EPI should be regarded as a guiding principle and should be used to minimise contradictions between environmental and sectoral policies (Lafferty and Hovden, 2003). However, Lafferty and Hovden (2003) admit that the last point cannot be sustained which could, again, be interpreted that the integration approach of sectoral policy making would become necessary. Lafferty and Hovden suggest to adapt the definition of EPI, saying that at least those situations need to be avoided where environmental degradation becomes

subordinate and where the long-term carrying capacity of nature becomes an overarching societal objective (Lafferty and Hovden, 2003).

Environmental problems cannot be solved alone by environmental policies and are also interrelated with other policy sectors. Therefore, an integrated approach where environmental issues are integrated into other policies and where various policy sectors cooperate is necessary (Simeonova and van der Valk, 2009, Lafferty and Hovden, 2003). Jordan and Schout (2006) argue that non-environmental policy sectors need to consider the environmental consequences of their policies and, therefore, integrate policy specific facts and knowledge into policy making processes at all levels of governance. According to Lafferty and Hovden (2003), this does not imply that environmental objectives should be placed on top of other priorities and development goals. However, this does not seem to be the problem at the moment in Western democracies as they mainly place primacy on economic policies and related objectives, as is seen in their prioritisation of providing growth, ensuring full employment, checking inflation, balance of payments, keeping down interest rates, which are all infused in every policy sector. Hence, Lafferty and Hovden argue, at the moment EPI is competing with economic policy integration (Lafferty and Hovden, 2003). Following this, the EEA (2005) reflects on the necessity to finding consensus of different policy fields. EPI is not about an equal consideration of all policy fields, as is the intention of sustainability. In terms of EPI, it is more important that policy fields related to economic and social issues consider environmental concerns than vice versa (EEA, 2005).

Watson et al. (2008) conclude that EPI could be understood as to integrate everything with everything else, but that does not explain where the boundaries of EPI are. As a result, one point of the discussions on EPI is how far environmental objectives should be integrated into other sectors. Jordan and Lenschow (2010) point out that it seems that the definition of EPI is still constantly questioned (see also Lafferty and Hovden, 2003). EPI is sometimes described as a very high-level central guiding vision (Ruddy and Hilty, 2008), which is often seen as being a prerequisite for increasing the consideration of environmental objectives (Lenschow, 2002b). However, Watson et al. (2008, p. 496) argue that a “‘one size fits for all’ approach to EPI is neither desirable nor practicable”.

In recent years, researchers aimed to clarify what is necessary to achieve EPI, what progress in EPI has been made, and what factors limited that progress (Hertin and

Berkhout, 2003, Lenschow, 1997, Lenschow, 2002a, Liberatore, 1997). Critique comes from Jordan and Lenschow (2008b) who argue that the evidence base that should underpin the concept as well as the everyday practice of EPI is still relatively fragmented. They name the same problem when looking more closely at country-based research. Additionally, they question the actual policy outcomes with regard to EPI: “If policy outcomes are ... what really count in political life then unfortunately the existing literature has amazingly little to say in this regard” (Jordan and Lenschow, 2010, p. 156). Especially the critique of Jordan and Lenschow shows that there is a lack of studies that help to better understand how far EPI can be achieved, how EPI can be applied, and what obstacles hinder EPI. Therefore, it is necessary that further research is conducted in order to reflect on the possibilities and boundaries of EPI.

The literature provides an overview what EPI is and what it implies. When it comes to indicators on how to identify and measure integration, the literature provides only little information. Ruddy and Hilty (2008) argue that EPI would be implemented successfully when many sectors and dimensions are included as well as regulatory aspects. They do not refer to any level, how to differentiate, and how success or failure of EPI could be identified. Hull (2008) claimed a shared responsibility of all involved actors and all policy fields. However, why this would be specific to EPI is not addressed. Rayner and Howlett (2009) provide a full list of what could identify successful EPI: (1) a cohesive strategy which integrates existing and sometimes also competing policies, (2) the substitution of a holistic approach to a problem, (3) optimising policy aims in order to avoid contradictory mixes, (4) using instruments that do support rather than undermine each other, and (5) the coordination of involved actors and activities. Again, there are no further information about the indicators and in which case successful EPI could be identified. The listed indicators could help to identify EPI. However, none of the literature provides details on how to measure these indicators and what level of EPI could be achieved. The nature of the suggested indicators leads to the conclusion that EPI is not only about integrating environmental objectives into non-environmental policy fields but also requires an integrative approach on how different policy sectors work together, i.e. DI, and how actors can be integrated, i.e. SI.

2.2.3 Analytical considerations of EPI

Different analytical approaches are presented in the literature to understand the political and institutional basis of EPI on the European level and its member states. Lafferty and

Hovden (2003), for example, base their suggestion of an analytical framework on the differentiation of vertical and horizontal integration. The first one is taking place within established sectors of one policy field and the second one relates to a central authority that has developed a cross-sectoral strategy (Lafferty and Hovden, 2003). Watson et al. (2008) argue that this approach can support analytical clarity of the concept of EPI and can help to identify key aspects of it.

Looking in more detail at vertical integration, Lafferty and Hovden (2003) state that it should cover the constant implementation of environmental objectives as the central aim in a governmental sector with the objective to form comprehensive policies. Indicators are necessary to show how the particular sector aims to integrate environmental issues in its activities. As indicators, Lafferty and Hovden (2003) suggest, for example, (1) the specification of environmental challenges, (2) the formulation of a sectoral environmental action plan, and (3) a regular Environmental Impact Assessment. However, in their definition, vertical integration does not relate to a multi-level governance system but to vertical decision making within one level. In terms of multi-level governance they relate to the concept of subsidiarity. This modality is criticised by Watson et al. (2008) as it leaves little space for a detailed institutional analysis in order to understand limitations of EPI at the European and national level. Furthermore, it would be of interest to learn about influencing factors between different policy levels, which cannot be addressed by the analytical considerations of Lafferty and Hovden.

According to Lafferty and Hovden (2003), horizontal integration includes a cross-sectoral strategy that is developed by a central authority and entails substantive coordination among sectors. Due to the various dimensions of conflicts that can arise between sectoral objectives and also between environmental objectives, they argue that there needs to be an intense negotiation process (Lafferty and Hovden, 2003). As indicators for horizontal integration, Lafferty and Hovden (2003) suggest, for example, (1) the existence of a long term sustainable development strategy, (2) the introduction of a central authority for supervision and coordination, and (3) timetables and targets for the integration process. Following this definition, horizontal integration is mainly about an integrative approach of sectoral policy making. However, the considerations of Lafferty and Hovden do not explain why these indicators would support EPI and how they differ to indicators that support sustainability.

Lenschow (2002b) indicates the importance of the consideration of vertical and horizontal dimensions and their relation. Furthermore, she states that EPI is dependent on the political commitments of sectoral policy makers and, therefore, needs to be complemented by horizontal coordination at the highest level. So, she relates mainly to the relevance of the highest policy making level without addressing the importance of the local level. Lafferty and Meadowcroft (2000) argue that in general both dimensions of EPI are not operationalised at the same time. According to them, it is much harder to document examples of horizontal EPI than of vertical EPI, as vertical integration is the dimension that is actively pursued and to some extent attained. Vertical EPI generally entails less inter-departmental conflicts. However, it is debatable whether vertical integration is sufficient in itself to achieve the general ambitions of policy integration. Such efforts can possibly achieve only limited effectiveness except in cases where central governments provide an applicable national framework for EPI (Lafferty and Hovden, 2003).

Despite the structured framework, EPI does not seem to be an often used policy making paradigm. Lenschow (1997) identified historically embedded institutional structures as barriers to a successfully implemented EPI. In other studies, she reveals the complexity of the EPI process, especially with a view to conceptual and institutional frames and actor-specific issues on various different political levels (Lenschow, 2002a). Watson et al. (2008) emphasise that such analyses reveal the discrepancy between claimed changes in declaratory principles and implementation in practice. This deficient realisation was found by various researchers at various policy levels of the EU (Jordan and Lenschow, 2000, Lenschow, 2002b). Watson et al. (2008) added that EPI does not happen in a static institutional context. So, there is not a fixed institutional solution that applies to everything. Environmental objectives need to be understood and require complex policy responses and the ability to identify and challenge contradictory dynamics. The process of EPI is iterative and needs to be evaluated critically across institutional contexts and scales (Watson et al., 2008).

With EPIGOV, a research project by the Institute for International and European Environmental Policy in Berlin, EPI and modes of governance at various policy levels in Europe were investigated (von Homeyer, 2009). The researchers discovered that decision making processes in core sectors are hardly affected, although EPI measures appeared to have had effects on political strategies and discourse. An often used

approach by policy makers was communicative governance which is based on strategic management, like, for example, sustainable development strategies and sectoral strategies, and on information and learning (von Homeyer, 2009). The research identified a crucial obstacle to EPI which is a strong departmentalisation and sectionalisation of policy making. Multi-level governance and federalism were also rated as obstacles to EPI but might also provide opportunities to achieve higher levels of EPI (von Homeyer, 2009).

The literature related to analytical considerations of EPI reveals that sectoral integration is claimed regularly by researchers. However, the literature often remains at a strategic policy making level and at the highest policy making level. The literature does not clarify the reasons why the local level is not considered as the analytical framework of EPI.

2.2.4 Weak and strong EPI

The notion of weak and strong EPI can be linked to the ideas of weak and strong sustainability. Weak sustainability is considered as an integrated value principle that “requires that the total value of aggregate economic activity and environmental quality should be maintained intact over time” (Hediger, 1999, p. 1127). According to Selman (2000), weak sustainability tends to be associated with techno-centric viewpoints. It denies the existence of an environmental crisis and claims that technical solutions and competent management are able to ensure liveable conditions (Selman, 2000). As a summary, weak sustainability requires that the overall capital base remains intact to secure welfare (Opschoor, 1996, Hediger, 1999). Following this, weak EPI means that environmental considerations are only taken into account by sectoral policy makers (Jordan and Schout, 2006, Jordan and Lenschow, 2008c, Hill and Jordan, 1993). Jordan and Lenschow (2008c) cite policy making in the transport sector as an example for weak EPI. They state that there is an ongoing discussion about the reduction of the impact of car use on the environment, which includes, for example, the introduction of new technologies or alternative forms of fuel in order to reduce emission levels. However, they argue that there are only limited considerations about the challenge of dealing with the underlying demand for more cars and the growing amount of travel (Jordan and Lenschow, 2008a).

Strong sustainability, on the contrary, “implies an improvement of the generalised productive capacity of the economy without degrading the overall quality of the

environment” (Hediger, 1999, p. 1125). Strong sustainability is the principle of environmental conservation (Hediger, 1999) and reflects more eco-centric philosophies (Selman, 2000). It entails a new relationship with nature and emphasises bioethics and communitarian values (Selman, 2000). So, strong EPI means that environmental considerations are placed at the heart of decision making in all non-environmental policy sectors (Lafferty, 2004, Haigh, 2005) and must be taken into considerations at the beginning of the policy making process (Jordan and Lenschow, 2008c). In this case, environmental policies get priority over other sectoral policies to minimise any contradiction (Lafferty, 2004). An example of strong EPI is so far not identified in the literature.

Baker et al. (1997) developed a ladder of sustainable development, where indicators of various policy fields are presented that relate to weak and strong sustainability. EPI is included in this ladder as an indicator for strong sustainable development in the field of policies and sectoral integration. In a later model of the ladder, EPI is shifted to the level of ‘ideal model’ of sustainable development (Baker, 2006). Other indicators of this ladder, like participation, top-down processes, and sectoral integration could also be applied to the concept of EPI. So far, there is no similar ladder that identifies and rates indicators of EPI.

Looking at both weak and strong levels of EPI, Hediger (1999) points out that both are normative concepts. They cannot be addressed exclusively with either an ecologically based principle of strong integration or an economic value principle of weak integration. Again, a more integrated approach is required (Hediger, 1999).

2.2.5 Top-down and bottom-up integration

A review of top-down and bottom-up processes in general was, for example, published by Sabatier (1986). Baker et al. (1997) state that in recent decades local initiatives experienced a growing importance, especially those with a focus on environmental issues. Nevertheless, the transformation of local initiatives into bottom-up processes is extremely challenging (Baker et al., 1997). A top-down perspective, i.e. policies and legislation at a higher level set objectives and aims which are then translated to and implemented at lower levels, and a bottom-up perspective, i.e. the recognition of the importance of local actors and shaping policies through interaction, in British climate policy making was analysed by Urwin and Jordan (2008). They conclude that only few

policies explicitly encourage the adaptation across sectors. The problem is that many topics look differently depending on the perspective of the respective policy level. Additionally, it needs to be considered that policies tend to alter as they travel from one level to the next. They suggest the use of top-down and bottom-up processes together in policy making to avoid contradictory developments (Urwin and Jordan, 2008).

In the European environmental context, top-down integration often depends on policies and processes developed by environmental ministries, which are in formal power. Bottom-up integration is more incremental and leaves greater freedom to sectoral departments to determine to what extent they modify their local policies (Wilkinson, 1997). However, there needs to be greater interaction as, usually, formal aims of policies decided centrally will never completely determine the majority of what takes place at the local level (Urwin and Jordan, 2008).

From a research perspective, the top-down approach is useful to investigate policies and their impact. The bottom-up approach, on the contrary, is useful to understand the expertise of sectoral actors (Urwin and Jordan, 2008). Research has indicated that top-down approaches alone are not sufficient to deal with environmental concerns (Lenschow, 2002a). However, promoting a bottom-up approach requires a more active strategy from local governments (Baker et al., 1997). A collaboration of government and citizens does allow the use of different forms of expertise and provides an opportunity to find new and innovative agendas and solutions (Booher and Innes, 2002, Fischer, 2002).

Turnpenny et al. (2008) highlight that the concept of integration is multi-dimensional and comprises (1) the integration of policies and stakeholders, (2) the integration in order to cross sectoral barriers, (3) the integration of conflicting interests in order to handle complexity and diversity, or (4) vertical coordination of various government levels (Turnpenny et al., 2008). One dimension of integration may be more developed than others and integration in one dimension does not necessarily result in the integration in others. However, integration can remain weak, even in cases where the desire for integration is high (Turnpenny et al., 2008).

2.2.6 Sectoral integration

For many decades, governments have compartmentalised policy fields into various sectoral ministries to obtain a clearer focus and become more efficient (OECD, 2002). This process accelerated in the 1980s and 1990s. However, the division of activities led to a growing deficiency in cooperation and coordination and made the process more difficult than it was before (Peters, 1998). Lenschow (2002a) states that the insufficiency of coordination among sectors and the high levels of specialisation of departments, governmental organisations and agencies poses a significant barrier to achieve EPI (see also Wondollek and Yaffee, 2000, Nilsson and Persson, 2003). Hence, one of the challenges of EPI emerges from this fragmentation of governmental systems. On one hand is the institutional separation of policy sectors (horizontal fragmentation) and on the other hand is the lack of coordination across various levels of government (vertical fragmentation) (Jordan and Lenschow, 2008b).

Some structures and policy processes have been reformed in recent years with the aim to integrate environmental problem solving into other non-environmental sectors. At least in principle it has been accepted that environmental issues cannot be solved by environmental policy making on its own (Meadowcroft, 2000). Numerous countries intent to promote greener objectives and have therefore linked sectoral integration approaches to broader sustainability efforts. However, looking at the integration of environmental concerns across governments in more detail reveals that it is unclear to what extent the change of the frame towards sustainability has changed decision making in sectoral policies (Meadowcroft, 2000). Sectoral integration does not only imply the consideration of other sectors' objectives but also involves a deeper understanding of the interdependency between specific notions, instruments and actors of different sectors and their link to sustainability (Lafferty and Meadowcroft, 2000). Evaluations have shown that processes have been more formal than substantive and that sectoral development interests are often prioritised, especially over environmental concerns. Environmental considerations remain an additional input in most areas of policy making and are often seen as a necessary consideration but not really integrated (Lafferty and Meadowcroft, 2000).

EPI is defined as integrating environmental objectives into non-environmental policy fields. This review of sectoral related literature shows that the integration of environmental objectives alone may not be sufficient to achieve high levels of EPI. The

sectoral segregation indicates contradictory policies and development processes. However, it seems necessary that non-environmental policy fields work in an integrated way so that the related environmental concerns are not treated separately in different policy fields but integrated in a holistic way.

2.2.7 The role of the local level and local participation

Meadowcroft (2000) points out that the idea of EPI in decision making is pervasive at all political levels. However, the local level plays a particularly important role in the multi-level governance system due to the related areas of legal competence. Furthermore, local policy makers deal with a wide range of policy fields and are therefore key players in policy implementation (Baker et al., 1997, Weiland, 2001). Both concepts, EPI and sustainable development, demand stakeholder integration and, following the definition, related policies cannot be implemented only by policy makers (Lafferty and Meadowcroft, 2000). This new participation paradigm has been increasingly emphasised in environmental policy making and decision making despite the often used argument that more integration complicates discussions of environmental problems as different sorts of problems are mixed together (Meadowcroft, 2000).

A widely used participation typology is Arnstein's ladder of participation (Arnstein, 1969, Selim, 2014). Arnstein developed the model on the basis of citizen involvement in planning in the USA. She identified eight different levels of participation which she arranged as a ladder to show the increasing level of integration from the bottom to the top (see Diagram 2.1). In her analysis she emphasises that the redistribution of power is essential for participation as otherwise the process is frustrating for the powerless (Arnstein, 1969).

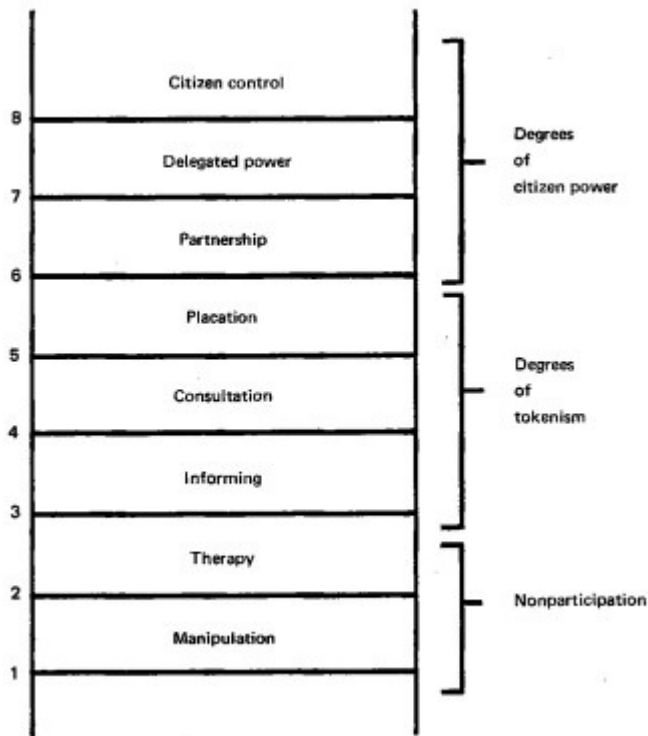


Diagram 2. 1: Arnstein's ladder of participation (Arnstein, 1969)

The model provides an overview of different levels of participation and is widely used despite the critique that it fails to distinguish between the quality and the outcome of the various levels. It also fails to encapsulate the complex continuum of the participation processes (Selim, 2014). In the last years, other models have been developed that focus on actors of participation processes (Pretty, 1995) or the interests of involved actors (White, 1996). A common understanding of those models is that consultation and information sharing are disembling and do only provide a low level of participation. It is rather important that affected citizens get a real chance for decision making and can act as partners of policy makers (Selim, 2014). Real participation happens when the knowledge transfer is not only from policy makers or planners to local stakeholders but vice versa (Chambers, 1994). However, the aim to improve the knowledge about the system through higher levels of participation can be eclipsed by the need to legitimise political decisions or to aid the implementation of decisions (Juntti et al., 2009). It is not only the difference between stakeholders and experts that makes environmental policy making difficult but also the variety of involved interests. The understanding of power relation amongst actors could offer a way for exposing the ways that actors use their knowledge in policy making processes (Juntti et al., 2009).

Healey (1997) states that environmental policy making often involves compromises with economic and sometimes also social interests. The task of the development process is to bring together different actors in order to identify commonalities and overcome barriers and conflicts (Healey, 1997). The different concepts, concerns and ways of thinking of different groups should be reflected in the process. Furthermore, it should be guaranteed that all views are fully included in discussions (Rydin and Greig, 1995, Rydin, 1999). The importance of participation was also made implicit in the Agenda 21. It constructed a broad based consensus approach, specifically related to participation in chapter 28, and claimed the necessity to establish effective participation processes at the policy making stage (Baker et al., 1997, Hahne, 2002, Lötscher and Kühmichel, 1998). It is about process rather than product and opens new dialogs with stakeholders and citizens in order to dismantle departmental silos (Selman, 2000).

What needs to be considered is that there are people who do not wish to be involved in political actions (Giddens, 1994). Individuals and groups balance first the costs and the benefits of participating and for some it does not seem worthwhile to become active. That would mean that those who engage most will be those who gain most and lose least (Rydin, 1999). Baker et al. (1997) and also Lélé (1991) argue that participation can bring people to get involved but it does not necessarily lead to a higher consideration of environmental issues. Nevertheless, decision makers should use participation processes and should aim for compromises, as results of those processes are more likely to achieve policy compliance and to be viewed as legitimate by stakeholders (Skogstad, 2003). Owens (2004) refers to planning and adds that it is a political process and arguments are sharpened best when there is a powerful opposition. So, changes of policy frames emerge usually out of conflicts and not of consensus, but participation is necessary to get to that point (Owens, 2004).

The literature on local participation is not directly linked to EPI. Nevertheless, the research has shown how important stakeholder participation processes are, especially at the local level. In a previous part of this chapter, the importance of local initiatives in environmental policy making was highlighted. So, this leads to the conclusion that stakeholder integration in environmental policy making at the local level is a factor that influences the level of EPI.

2.3 Environmental policy making in the EU – multi-level governance system

2.3.1 Framework of environmental policies at the EU level

The consideration of environmental issues and reduced conflicting objectives can be traced back to 1972, when the Stockholm Conference took place where the notion of eco-development was formulated (Lenschow, 2002b). With the objective to improve the quality of life and the living conditions for citizens (Hildebrand, 2002) the European Community adopted a first Environmental Action Programme (EAP) in 1973 (European Commission, 1973). Baker (1993) argues that this programme was the reaction of the European Commission on the perception that the environmental protection policies of member states could conflict with European policies. However, this consideration was not primarily based on the legitimacy of environmental protection but on the assumption that environment related measures could have consequences on the economy and trade (Baker, 1993, Connelly and Smith, 2003). Carter (2007, p. 283) argues that “environmental policy was dressed up as a market regulation” with the intention to create common environmental standards.

The second EAP was adopted in 1977 (European Commission, 1977) and put special emphasis on the preventive nature of European policies (Hildebrand, 2002). The third EAP followed the traditions of the first two (Hildebrand, 2002, European Commission, 1983). However, Carter (2007, p. 307) concludes that “the first three EAPs pursued a regulatory, end-of-pipe approach that lay firmly within the traditional paradigm” as environmental concerns were still subordinate to objectives of economic growth. The limited legal foundation for environmental issues led to restricted possibilities to constrain activities, shape expectations, and prescribe behavioural roles. So, a proper environmental regime could not be put in place, despite the evolving process of institutionalisation (Hildebrand, 2002).

A change was made with the adoption of the Single European Act in 1987 (European Community, 1987) that ended the informal status of the environment and led to a stronger legal basis (Carter, 2007, Connelly and Smith, 2003). Following this, environmental policy became one of the direct concerns of the European Commission, which was also reflected in the fourth EAP, where the integration of environmental considerations into other EU policies was included (Carter, 2007, Connelly and Smith,

2003, European Commission, 1987). However, Weale and Williams (1993, p. 49) criticise that integrating the environment “has been a faltering and haphazard affair, without serious resonance in the central policy activities of the EC”. They further argue that despite the growing popularity of environmental integration, no specifications were made as to what it might involve (Weale and Williams, 1993). According to Benson and Jordan (2008), the growing importance of integration approaches could be seen in the aims for (1) more extensive stakeholder integration, (2) a higher level of integration of lower policy levels in the policy making process, and (3) more flexibility in the implementation of policies. Buitenkamp (1999) sums up that for a long time environmental policy making had been focussing on reacting on economic activities with end-of-pipe measures. The negative impact of the economy on the environment was tackled with a range of measures without changing the source as such. The change was slowly then going towards a prevention-oriented, integrated approach that paid more attention on the input side. So, the traditional output-side approach needed to be complemented by an input-side orientation (Buitenkamp, 1999).

This new level of consideration was confirmed and strengthened by the adoption of the Treaty of Maastricht in 1993 (Connelly and Smith, 2003, European Council, 1992). However, the objections about the limited information on how to integrate environmental objectives were still not diminished with the fifth EAP as it also remained vague about the achievement of integration in practice (Baker, 1997). The EAP outlined how to improve integration, using a wide range of instruments and policy initiatives (Carter, 2007, European Commission, 1993). With the fifth EAP a shift took place from top-down policy formulations to a greater use of self-regulation and voluntary agreements, the use of economic incentives and attempts to increase public participation (Knill and Lenschow, 1999). However, the EAP did not impose legal obligations upon the member states. Only the strategy and the general approach were approved (Wilkinson, 1997, Scott, 2000).

The official evaluation of the fifth EAP in 2000 revealed that the “practical progress towards sustainable development has been rather limited” (European Commission, 1999b, p. 6). There was little progress towards intersectoral integration as it proved difficult to persuade other ministries to place environmental objectives above their own priorities (Baker, 1997, Carter, 2007). One reason could have been that environmental considerations were supposed to have restrictive consequences for economic activity. In

other cases the consideration of environmental concerns might not be easy and would have required rather radical policy changes (Baker, 1997). The full integration of existing environmental objectives into all non-environmental policy fields was lacking all the time. However, when there is not enough political weight behind the integration this aim cannot be achieved sufficiently (Buitenkamp, 1999). Another critical point of the official evaluation was the absence of “clear recognition of commitment from member states and stakeholders” (European Commission, 1999b, p. 9).

The adoption of the Amsterdam Treaty in 1997 (European Council, 1997) pushed EPI to a central position (Watson et al., 2008, Lenschow, 2002b). The new article 6 states that “environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities ... in particular with a view to promoting sustainable development” (European Council, 1997, p. 23). So, the Amsterdam Treaty claims integrated approaches for achieving sustainability. However, the environmental legislation of the EU fell short afterwards with providing a supportive framework (Buitenkamp, 1999). As a consequence, the European Environmental Bureau (EEB) published ten benchmarks for sustainable development together with timetables and clear indicators in order to give guidance to environmental, sectoral and economic policies. The aim was to show the dimension of required policy shifts and also to provide a basis to monitor progress. Besides others, these benchmarks dealt with air quality, climate change, land use and transport (see Table 2.1) (Buitenkamp, 1999).

Benchmark	Indicator	Timetable	Final target
Air quality	Emissions of 4 pollutants (SO _x , NO _x , NH ₃ , VOCs)	Emissions of 4 pollutants (SO _x , NO _x , NH ₃ , VOCs)	Good air quality within 30 years. The critical loads for pollutants and the WHO standards for air pollutants with respect to human health should not be exceeded any more.
Climate change	Total CO ₂ and five other greenhouse gas emissions (CH ₄ , N ₂ O, HFCs, PFCs, SF ₆)	Short term: full implementation of "Kyoto" Medium term: 30% reduction should be reached by 2010 and 55% reduction by 2020.	By 2030 more than 75% reduction of current greenhouse gas emissions.
Land use	Amount of built-up areas	See final target	Net stabilisation of non-built-up areas by 2000,

Benchmark	Indicator	Timetable	Final target
	compared to total area		allowing for some mitigation and exchange between different areas
Transport	Total passenger- and ton-kilometres travelled and total energy consumption	Short term: the necessary preconditions to reverse the current trends need to be in place within five years.	Within 30 years stabilisation of total distances (pkm/tkm) travelled and halving of total energy consumption (level 2000)

Table 2. 1: Four out of ten benchmarks set by the EEB (Buitenkamp, 1999, p. 3)

The intention to move EPI from a more declaratory level into more sectoral activity was defined at the Cardiff Summit in 1998 (Lenschow, 2002b). The aim was to shift responsibility from the environmental sector to all other sectors (Schout et al., 2010). However, the intention of generating stronger political commitment and identifying key tools and strategies had shown some positive effects but they were uneven across sectors (Baker, 2006). Lenschow (2005) criticises that especially during difficult economic times the commitment of EU's political leadership to environmental integration will remain volatile.

In the third assessment of the EU's environmental policies, the European Environment Agency concluded that "the implementation of more integrated approaches to policy making needs to be accelerated if Europe is to ensure proper protection of the environment and meet its aspirations on sectoral integration and sustainable development" (European Environment Agency, 2003, p.7). The correction of the failings of the first five EAPs, also in terms of EPI, was the aim of the sixth EAP (Carter, 2007), which was adopted in 2002 (European Commission, 2002b). However, an evaluation of the sixth EAP indicated, again, that the aims are not achieved (Carter, 2007).

In addition, in 2001 the EU developed a Strategy for Sustainable Development where they referred to the Cardiff summit and called for a continuing "process of integration of environmental concerns in sectoral policies" and the consistency of sectoral environmental integration strategies with the concept of sustainable development (European Commission, 2001, p. 14). The strategy was renewed in 2006. One of the main challenges named in the updated version was the necessary change of the "non-integrated approach to policy-making" (European Council, 2006, p. 2). However, there

is no focus on environmental integration, it is always referred to sustainability and the integration of economic, social and environmental considerations (European Council, 2006). In 2009 the Commission published an updated version of the strategy (European Commission, 2009a). EPI is again not mentioned explicitly (Jordan and Lenschow, 2010). In the analysis of the situation, the Commission concludes that “unsustainable trends persist in the EU in several areas and the efforts need to be intensified” (European Commission, 2009b). Schout et al. (2010) criticise that the EU has two long-term strategies that have a focus on environmental issues, the Sustainable Development Strategy and their EAP. Nevertheless, they are not sufficiently harmonised with each other although this was claimed by the EU itself. Furthermore, there is a tradition that many of the policies of the EU, also article 6 of the Amsterdam Treaty, only mention the importance of EPI but lack practical implementation and developing binding rules for policy makers (Schout et al., 2010).

The Treaty of Lisbon was adopted in 2007 (European Council, 2007). The consideration of environmental issues was integrated in Article 2, but not as principled priority. According to it, environmental issues are related to the internal market and should be based on “a high level of protection and improvement of the quality of the environment” (European Council, 2007, p. 11). All in all, the Treaty was, again, a classic EU compromise and followed the framework that was set with previous treaties and made only small changes regarding environmental issues like the ones related to climate change, energy production, and transport (Benson and Jordan, 2010b).

According to Jordan and Lenschow (2008a, p. 318), there seems to be “a market preference for organisational instruments which are relatively quick and easy to establish (and hence to dismantle), and which give the impression that something has been done to implement EPI.” On the contrary, more consequential formats like identifying and resolving inter-sectoral conflicts or powerful connections are less popular (Jordan and Lenschow, 2008a). Policy making at the EU level is in the focus of a range of non-state actors, like non-governmental organisations (NGOs), interest groups and trade unions who aim to influence decision making (Warleigh-Lack and Drachenberg, 2010). In particular, those groups focussing on environmental concerns could be integrated to a certain extent in policy making processes. Nevertheless, it is not only in the responsibility of administrations to increase the levels of EPI. A higher political support could also promote EPI, especially in coordination with administrative processes

(Schout et al., 2010). Carter (2007) concludes that all the above named policies achieved limited improvement of the policy content and the nature of policy making. Furthermore, sectoral divisions did not get minimised over time. A third problem is the still lacking commitment of member states (Carter, 2007).

2.3.2 Environmental policy instruments at the EU level

There is a distinction between traditional environmental policy and EPI and their instruments (von Homeyer, 2009). Traditional environmental policies do not green sectoral political decision making although they regularly change the behaviour of sectoral non-state actors. Only when significant feedback is provided in sectoral decision making then EPI is supported to an extent by traditional environmental policies. Such feedback effects can usually be linked to more flexible environmental policy instruments like emission trading, eco-taxes or eco-labelling. A reason could be that, contrary to less flexible instruments, they “create stronger incentives for polluters to reflect on their activities and tend to be more compatible with established sectoral rationality and routines” (von Homeyer, 2009, p. 4).

For many decades, environmental issues have been managed through regulation (Lenschow, 2002a), which included market based instruments like emission trading and environmental taxes and also voluntary agreements (Jordan et al., 2003). In the last few years, a change of choices of instruments has started slowly. Reasons for the resistance seem to be mainly based on national interests and concerns about protecting competitiveness and national sovereignty (Jordan et al., 2003). The analysis of European climate policies had revealed that there is still, among other things, a preference for more regulatory instruments. To some extent this could be explained with the ineffectiveness of voluntary approaches (Haug et al., 2010). In the transport sector, European regulation has mainly concentrated on promoting and requesting technological improvements and only to a limited extent on supporting more environmentally friendly modes of transport (Dhondt, 2003)

A traditional instrument is command-and-control regulation. This is a form of legislation that is traditionally used by most European governments and is applied, for example, in policy making that is related to emission standards, prohibitions or requirements to employ particular technologies or licenses (Börkey and Lévêque, 2000). The attraction of this form of regulation is based on the reasonable certainty as to the

end result. Clear responsibilities and environmental standards can be set in order to prevent or limit environmental damage. However, the effectiveness of legislation depends, for example, on companies complying with the legislation and following the administrative and legal structures which promote the standard (Bailey, 2003). There are concerns that command-and-control regulation does not cope with longstanding environmental problems and does not integrate environmental objectives adequately into mainstream planning and economic decisions (Ekins, 1999). Legislation does not impose direct charges on polluting activities. Nevertheless, costs are obviously incurred by public authorities in monitoring compliance and by industry in setting up procedures to meet standards (Beder, 1996). As a result, legislation is sometimes seen as unnecessarily expensive. Arguments in that respect are that the standards set in such regulations are developed by government officials who are detached from market conditions (Baumol and Oates, 1988).

Two instruments related to command-and-control regulation are environmental taxes and charges. Fiscal instruments are often used with the aim to correct environmental externalities and the negative impacts on the environment caused by the failure of markets (Bailey, 2003, Ekins, 1999). Externalities occur where private individuals or companies consider only their use value of environmental resources and neglect the costs that are caused by different forms of pollution. So, with environmental taxes and charges, it is possible to re-internalise some of the costs of excessive environmental degradation and to provide the chance to encourage a more thoughtful use of resources or pollution patterns. The primary function of these two instruments is to create a financial incentive for reducing pollution which is based on two principles; either the polluter pays principle or the user pays principle (Bailey, 2003). However, there are also critics of fiscal instruments as they could create a license to allow pollution as polluters and/or users could argue that they have paid their dues to society (Beder, 1996). In order to use environmental taxation to achieve higher consideration of environmental issues, it would require a shift away from governments who act as reactive agent to democratic pressure, a new emphasis ecological valuation of resources, the introduction of an independent agency dealing with taxation, and a widening of the tax basis including the integration of the level of environmental disruption, of national resource depletion and the intensity of material use in production and distribution (O'Riordan, 1994).

Hey (2002) conducted a research on environmental taxation for heavy goods vehicles and concludes that environmental interests were not represented in the taxes and that there was a general favouring of conservative decisions. He expresses the impression that European transport policy making tends to produce symbolic policies and makes trend-enhancing policy decisions. Therefore, it would be necessary for institutional reform to change the sectoral structure of the policy making system as it, so far, often excludes contradictory issues like the environment in order to protect core interests (Hey, 2002)

Another command-and-control instrument is tradable permits. This instrument is a rights based mechanism following the principle that “any increases in prescribed emissions or other polluting activities by one company must be offset by an equivalent or greater reduction elsewhere” (Bailey, 2003, p. 47). In this case, regulation and a financial incentive are combined. At the beginning, the government calculates a quantitative limit of allowable emissions for an area. Following this, the level is subdivided into pollution permits. These permits are sold to polluters and can also be traded between companies (Bailey, 2003, Carter, 2007). So, companies get an incentive to reduce their emissions and those that have a low impact could also sell their permits to higher pollutants (Carter, 2007). As a result, the market forces working behind tradable permits can support achieving environmental standards. A further reduction of emissions can be achieved if the government chooses to reduce the number of permits in the trading system or when the government starts buying back permits (Bailey, 2003). A widely recognised example of tradable permits is the European Union Emission Trading System. It started in 2005 and is currently in the third phase of implementation. However, the high hopes that were put on this scheme have been modified in recent years (Vlachou, 2014).

A more recent instrument of regulation is voluntary agreements. They represent a cooperation between industry and public authorities for defining environmental standards and implementation methods (Börkey and Lévêque, 2000). They are supposed to supplement or replace instruments of command-and-control regulation (Bailey, 2003). The increased popularity of voluntary agreements can be explained by a greater flexibility in how targets are achieved, reduced administrative costs for regulation, an increased innovation, the removal of the need for legislation, and the rapid and relatively non-controversial implementation (Nunan, 1999). With the agreement, environmental

standards are established that are comparable to those that are based on using a legislative instrument (Segerson and Miceli, 1998). However, in this case, representatives of industries and public authorities need to be equally strong to not give too much influencing power to one side (Segerson and Miceli, 1998, Nunan, 1999) which could lead to a manipulation of agreements to the benefit of companies and the disadvantage of wider public interests (Bailey, 2003). Depending on the number of participants in the agreement the negotiation process could become more complex as a wider range of interests has to be considered (Bailey, 2003).

In order to evaluate the impact of these instruments and also of policy making processes and their implementation, instruments like Environmental Impact Assessment, Strategic Environmental Assessment (SEA) and policy appraisal can perform as good indicators on the position of EPI (Hertin et al., 2008, Turnpenny et al., 2008, Carter, 2007, Lafferty and Hovden, 2003). An overview and analysis of the possibilities that SEA creates related to EPI was done, for example, by Bina (2008). The evaluation of policies is necessary, as it can help to identify what effects the chosen instruments and regulations are actually having or not. An evaluation would need to cover three elements that are whether clear objectives were formulated at the beginning; following that, to what extent these objectives have been met; and how changes have come about, i.e. whether the imposed obligations are themselves an ample response to the related situation and whether the effects have created the anticipated results (Etherington, 2006).

2.3.3 EPI at the national level

In the last few years, several academic studies focused on the implementation of EPI at the national level (see for example Heinelt et al., 2001, Jordan, 2002, Lenschow, 2002a). There has been no clear shift towards a higher consideration of environmental issues and their integration into decision making (Lenschow, 2002a). It seems that most countries only prefer to develop policies that name the importance of EPI without developing structures and procedures that could increase intersectoral integration and lessen traditional routines of policy making (Jacob et al., 2008). Many European states have introduced coordination teams at their national level. However, it is not clear whether their work does play a strategic role in enhancing the level of EPI and whether they have the intention of reducing intersectoral conflicts in everyday policy making (Schout et al., 2010). Currently, national plans and strategies usually use an integrative

rhetoric and include related components. At the very least, they are based on inter-ministerial consultations. However, there is a worry that the cooperation of different ministries and their related environmental action has not been sustained (Meadowcroft, 2000). So far, the idea of an environmental “super-ministry” as, for example, indicated by Lafferty and Hovden (2003) has not been implemented by any European country (Meadowcroft, 2000).

Liefferink and Andersen (2002) investigated environmental policy making strategies of six European countries, which they had identified as the green pioneers and leaders within the EU. They analysed the situation in Denmark, Sweden, Austria, The Netherlands, Finland and Germany with the focus on policy making strategies in the countries linked to policy making in the EU. In their conclusion, they emphasise the meaning of this group and its formation of a successful green alliance. In particular, they emphasise the position of Germany and its voting power at the EU level when it comes to environmental policy making. However, they argue that the change of national policy making from an active approach to a more defensive one puts a risk on the role that Germany plays in environmental discussions (Liefferink and Andersen, 2002).

An analysis of UK energy policy, public spending, and defence policy was conducted by Russel and Jordan (2009). They conclude that, with view to the environmental perspective, coordination is used in the rhetoric of politicians but not in everyday policy making activities. As a result, policy coordination remains highly departmentalised and fails to uncover conflicts in a more transparent way (Russel and Jordan, 2009).

Uba (2010) conducted an analysis of renewable energy policy making in Sweden and found that the process is dominated by state authorities, producers of traditional forms of energy, and energy intensive industries, but renewable energy producers were less represented. She indicates that this could be related to their generally weak organisation. In the end, the cooperation and involvement of different actors has promoted broader societal consensus and the level of political conflict was kept quite low due to the integration of stakeholders. However, some conflicts between sectors remained (Uba, 2010). Another research that was based in Sweden was the study on “which environmental problems get policy attention (Engström et al., 2008). The researchers conclude that the attention level of issues is linked especially to strong and well-organised stakeholders of a sector. Furthermore, once topics made it successfully on the

agendas, there is a high probability that they remain there which could be related to institutions that aim to keep issues once they are introduced (Engström et al., 2008).

Related to their analytical consideration of vertical and horizontal EPI, Lafferty and Hovden (2003) analysed the situation in Canada and Germany. In case of Germany, they identified a relatively early emphasis on governmental mechanisms and instruments in order to strengthen vertical policy integration. As examples, they name the Renewable Energy Act (see BMWi, 2014) which combines, like some other policies, indicators, policy instruments, target groups and monitoring procedures. Lafferty and Hovden also highlight that the sectors of transport, energy and agriculture, which they name crucial for environmental considerations, have developed sectoral strategies on how to achieve sustainable development (see also OECD, 2002). A third point of vertical EPI was linked to the federal structure of Germany. The Conference of Environment Ministers meets regularly with the purpose of coordinating the strategy and policies within the environmental sector across all levels of governance (Lafferty and Hovden, 2003). In relation to horizontal EPI, Lafferty and Hovden (2003) name the first German Environment Programme, which was adopted in 1971 and functioned as a precursor for the National Strategy for Sustainable Development (see BMUB, 2013). Lafferty and Hovden state that the first development of an environmental policy with a cross sectoral approach happened in 1976. However, following this, the green development in Germany stagnated and even the UNCED process did not have the expected effect in Germany. Since the early 2000s, there is an initiative in place that aims to push green policies and strategies further. Lafferty and Hovden (2003, p. 18) conclude that there is the potential for strong and substantial horizontal EPI in Germany. Furthermore, the existing frame of vertical and horizontal EPI could “move Germany to the forefront in this area”.

The German case related to EPI was also investigated by (Müller, 2002) with the aim to find out what slowed the EPI process in Germany. She indicates that several German political parties rate environmental issues high. Together with a strong environmental minister, there is the potential that intersectoral programmes could be initiated. However, she assumes that an environmental minister on its own cannot sufficiently promote EPI. Müller argues another point that slowed the implementation of EPI is Germany's objectives and initiatives that mainly remained conceptual. All in all, she concludes, a stronger European framework could push the German environmental

ministry, and consequently environmental policies, and could provide more power in negotiation processes (Müller, 2002).

2.3.4 EPI at the local level

Environmental problems occurring in urban areas have their origins not only in a single policy sector but are interrelated strongly. Therefore, an integrated approach of all relevant fields of urban planning should be sought (European Commission, 2006). Urban planning also provides the possibility to negotiate and reconcile conflicting interests and goals (Miller and De Roo, 2005, Campbell, 1996, Roseland, 2000, Conroy and Berke, 2004). However, the achievement of better integration approaches at the local level is a critical task for planners (Simeonova and van der Valk, 2009). Furthermore, there are numerous conflicts that stand between the development goals of planners, such as between environmental objectives and urban competitiveness. Thus, environmental protection of urban areas is increasingly dependent on building relationships between various urban areas of expertise and on collaborations between involved actors, including local planners, non-profit organisations, members of the economy, and landowners (Yli-Pelkonen and Niemelä, 2005).

For a long time, the environmental protection of urban areas had mainly focussed on regulations, for example regulations that protect water, soil and air quality, or the restriction of certain developments, like economic projects in residential areas (Simeonova and van der Valk, 2009). An integrated approach could overcome this traditional mode. In addition, Baker et al. (1997) emphasise that land-use and transport planning are two sectors where EPI is easier achievable at the local level than at the national level.

In EPI research, and also in related policy making research, the focus is primarily on the supranational and national levels and on institutional structures and processes that could enhance the level of EPI at those scales (Watson et al., 2008, von Homeyer, 2009). Only a small number of studies have taken a closer look on how those policies are translated and implemented at lower levels, especially at the local level with the final implementation in applied planning. A multi-level approach must be chosen for a comprehensive analysis of EPI. A consideration of international and national policies and institutions is necessary but not sufficient for a widespread analysis of potential and the progress of EPI (Watson et al., 2008). Jordan and Lenschow (2000) claim the

consideration of EPI at all policy levels as the multi-level nature of EPI includes sub-national levels as well. Higher policy levels set the context and instrumental framework for implementation at lower levels. However, the evaluation of EPI can only be done successfully when outcomes are analysed at the local level. Their realisation depends on the integration action of public and non-public institutions (Watson et al., 2008). Jordan and Lenschow (2010) criticise that the evidence base related to the concept of EPI and its implementation remains fragmented, especially after such a long time of consideration.

The local level could enter into the European policy making processes by providing EU institutions with legitimacy, knowledge, and ways to monitor the implementation of EU policies (Heinelt and Niederhafner, 2008). Additionally, European local government associations could mobilize their members in order to support them with policy-relevant information what would also enable them to initiate political action at the national level. In this way, cities and their European umbrella organisations could participate in European policy making (Heinelt and Niederhafner, 2008).

So far, in terms of environmental concerns, there is hardly any detailed analysis of policy integration processes at the local level (Jordan and Lenschow, 2010, Watson et al., 2008). Owens (2004) indicates that it is often assumed that generic and local considerations could be separated from other, higher policy levels. On the other hand, there is a conventional understanding of the policy process that it is institutionally bounded and also organised in a hierarchical way. That means that policies are developed by central institutions and passed down to lower levels (Bulkeley et al., 2005). However, the levels are not separated from each other and differences in policies relate to the point that policies are translated into processes and also decisions are made on how far objectives are implemented or defeated at what level. In research related to the implementation of EPI, the various levels are often split up. That neglects that policies in general never pass unchanged from one level to the next one but get interpreted in applicable ways (Watson et al., 2008).

It is necessary to investigate day to day practices of EPI and its instruments and their political context (Jordan and Lenschow, 2008b). However, in this case, there is hardly any literature available (Jordan and Lenschow, 2010). The following three subsections focus on research based at the local level. The first one takes a closer look at spatial

planning and integration, with a focus on departmental and stakeholder integration. The second subsection presents literature that is related to integrated spatial and transport planning but only on general integration approaches due to a lack of EPI research in those fields. The third one reviews EPI related research in non-mobility fields.

2.4.4.1 Spatial planning and integration

The system of spatial planning and the related planning culture differ in the countries of the EU (Dühr, 2011, Guldenberg et al., 2009). Reasons are often related to the historical context due to different spatial circumstances and political and social frameworks (Dühr, 2011). However, the planning systems are not static. They are subject to continuous changes and adjustments (Dühr, 2011). Reasons for changes to the planning systems are, for example, a reorganisation of planning competences, the introduction of new planning instruments, a change of regulation at higher planning levels, or, more recently, the aim for a higher level of integration of sectoral policies (Dühr, 2011, Selle, 2011). However, so far, there is no research that investigates EPI in spatial planning at the local level, although there are examples and research on the integration of citizens and on departmental integration.

The historical development of planning systems, involved actors, participation possibilities and the importance of environmental objectives have been outlined and analysed by researchers in various countries. Cullingworth et al. (2015) analysed the situation in the UK, Blotevogel and Schelhaas (2011) in Germany and Booth et al. (2007) made a comparative analysis of France and Britain. Priebis (2009) made a comparison of the most recent Danish and German planning systems. He concludes that in both countries the local level has a very powerful position. They differ in the organisation of the planning system, where the German system has a very complex structure due to, for example, the federal system, the Danish system is very clear and straightforward. He further highlights the focus in the Danish system on strategic planning and intense public participation (Priebis, 2009). Scholles (2009) compared the French and the German planning system and concludes that particularly in the German case, sectoral integration plays an important role as well as the coordination and moderation of spatial planning, the mediation between the national and local level and the focus on aims of sustainability (see also Fürst and Scholles, 2008).

In recent years, there has been a significant change to the British planning system (Hart et al., 2015). Hart et al. (2015) criticise the former traditional local land-use planning as it often had been “disconnected from the lives of those they [the master plans] served” (Hart et al., 2015, p. 2). Shaw and Lord (2009) argue that it was time to speed up the planning process and to increase the participation of citizens.

One of the starting points of the transformation process was the publication of the “New Vision for Planning” by the Royal Town Planning Institute (RTPI) in 2001 (Royal Town Planning Institute, 2001). Within this New Vision the RTPI defines four ideas of planning, which they place at the centre of their thoughts: (1) spatial, (2) sustainable, (3) integrative, and (4) inclusive. Although the RTPI does not name these ideas in the context of EPI, DI or SI, the three integration approaches can be found in these four ideas. The idea of “spatial” entails, for example, that all possible levels of activity, national to local, play an important role, which follows the idea of vertical integration. The idea of “sustainable” deals with the terms of environmental integrity and integrated transport, which are related to the concept of EPI and the integration of sectoral policies, i.e. DI. The RTPI criticises that there was a lack of integration of spatial objectives and objectives of other policy fields. Therefore, the idea of “integrative” claims a more collaborative approach of spatial planning, which relates to DI, specifying that this should comprise, for example, energy policy and urban design. Furthermore, the integration of citizens and of community initiatives and strategies is claimed, which follows the idea of SI. In the final idea “inclusive”, integration of the public in policy making processes is named important as “successfully negotiated outcomes carry a greater commitment from the parties involved and create a greater likelihood of implementation” (Royal Town Planning Institute, 2001, p. 4). This would also be an example of SI, whereas the RTPI also points out that it is important to integrate all parts of the society and also “give a voice to those excluded communities” (Royal Town Planning Institute, 2001, p. 4). So, although the RTPI does not explicitly name EPI, DI and SI in its New Vision, the named ideas and the related remarks indicate that the three integration approaches are seen as important for future spatial planning in the UK.

In 2004, the “Planning and Compulsory Purchase Act” was enacted by the Parliament of the United Kingdom (Parliament of the United Kingdom, 2004), which formally introduced the concept of “spatial planning”. Shaw and Lord (2009) argue that the Act has the potential to reduce the segregation of planning areas and to increase the level of

integration. This more inclusive approach is also claimed by Hart et al. (2015). In the Act, the national government does not specify how the public has to be integrated into spatial planning processes but gives this task to the local level, requesting a “Statement of community involvement” from every local planning authority (Part 2 of the Act, No. 18) (see for example Cambridge City Council, 2013, Plymouth City Council, 2009).

Shaw and Lord (2009) describe the development of the British planning system as a “transition from land-use to spatial planning” (p. 418), arguing that there is a growing need for more coordination and cooperation of planners, agencies and the public. The focus of the new planning system is more on the results of planning than on prescriptive and overly detailed plans (Shaw and Lord, 2009). Although the authors do not name the changes in the planning system as a possible increase of DI and SI, they highlight everywhere the growing importance of “widespread consultation and stakeholder participation” (p. 418) and the pressure on planners “to collaborate on a wide range of issues” (p. 418).

Shaw and Lord (2009) also reflect on a research project, “Spatial Plans in Practice”, which had been funded by the British government in order to get empirical evidence on the experience of planners in the first years of the new planning system. The participation of stakeholders, which is an essential part of the new planning system, has proven more difficult to implement than was expected. There is, for example, little evidence that the formulation of the Statements of Community Involvement “has added significant value to the process” (p. 426). Furthermore, due to the limited participation possibilities beforehand, most stakeholders find it difficult to get involved. Reasons are existing partnership responsibilities that could cause a conflict or difficulties in understanding how the new system of participation really functions (Shaw and Lord, 2009).

Another aim of the new planning system is the increase of horizontal and vertical integration of policies, i.e. that they conform to policies of higher planning levels and to other local planning fields (Shaw and Lord, 2009). Particularly in the case of vertical integration, it turned out to be difficult as policies of higher levels were changed more quickly than they could be implemented at the local level. In terms of higher levels of horizontal integration of planning fields, Shaw and Lord (2009) mention some evidence and name Plymouth as the best example. However, in most other cases, the possibilities

of higher departmental integration “have gone unexploited” (Shaw and Lord, 2009, p. 428). Shaw and Lord (2009, p. 431) conclude that there are some exceptions but in general “only modest progress has been made” and the transformation of the planning system is still on the way. In their eyes, it is crucial that planners change their behaviour, i.e. the way they think and work, which in the end requires a shift in the whole planning culture (Shaw and Lord, 2009).

So far, there is no research that explicitly investigates EPI, DI or SI in spatial planning in Germany. However, there is considerable research on spatial planning that could be used in order to understand integration processes in German spatial planning.

In Germany, spatial planning takes place at different planning levels, i.e. national, federal, regional and local level, and each level has a different depth of content of planning policies (Schmidt-Eichstaedt et al., 2011). The importance of the local level comes with the principle of subsidiarity. It means that planners at the lowest possible level deal with a planning task and that decisions are made as close to the citizens as possible (Brunazzo, 2010). However, the local level does not develop planning policies on its own. Following the principle of countervailing influence (Gegenstromprinzip), the various German planning levels have to develop planning policies together with higher levels and the next lower level and together with all relevant planning sectors (Vallée, 2011). The principle is stipulated in §1 number 3 of the Federal Regional Planning Act (Bundesraumordnungsgesetz – ROG) (BMVBS, 2008), which is the highest German spatial planning law. Following the theoretical considerations of Lafferty and Hovden (2003), as presented in part 2.2.3, this principle of countervailing influence could be regarded as an example of vertical integration. The additional fact that all spatial planning policies of all planning levels have to pass a Strategic Environmental Assessment (SEA) or an Environmental Impact Assessment (EIA) (Schmidt-Eichstaedt et al., 2011) would turn it into an example of vertical EPI. However, so far, no research has been conducted on whether the German spatial planning system fulfils all criteria of vertical EPI, how the integration in these planning processes works and what the outcome is.

Schmidt-Eichstaedt et al. (2011) argue that the extended participation of planners and stakeholders does not aim for the consideration of all suggestions and objections of other planners and citizens but to offer the possibility for presenting and discussing the

policy in order to increase the level of transparency of the development processes and to increase the acceptance of the policies.

An example of a national policy that has an influence on spatial planning at the local level is the National Sustainability Strategy (Die Bundesregierung, 2002). In part E VII, the aim to significantly reduce land consumption is formulated. In 2002, 129 hectares were used per day for new housing and transport infrastructure (Die Bundesregierung, 2002). This amount of land was reduced to 69 hectares in 2014 (Statistisches Bundesamt Deutschland, 2016). The overall aim of the German government is the reduction of the daily amount of land consumption to 30 hectares by 2020 (Die Bundesregierung, 2002). The necessity of this aim was shown in various investigations of the Federal Environmental Agency (FEA – Umweltbundesamt) (Umweltbundesamt, 2009b, 2009c, 2011, 2016). However, the national level has only limited influence on how this aim is implemented at the local level. The German municipalities have planning sovereignty, which means that they are the ones who decide on spatial planning, building projects and technical and transport infrastructure. The higher planning levels can only provide a wider strategic framework (Schmidt-Eichstaedt et al., 2011).

In 2004, the Federal Ministry of Education and Research¹ had set up the research project REFINA² together with the Federal Ministry of Transport, Building and Urban Affairs³ and the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety⁴ (Preuß and Floeting, 2010). Several universities, companies, municipalities, regional associations, other associations, and planning agencies participated. One part of the projects dealt with follow-up costs of land-consumption. The researchers emphasise the importance of adhering to the aim of 30 hectares a day as the costs for municipalities and cities would otherwise increase significantly. Additional costs that the local level would have to pay include investment in inner development, outer development, environmental compensation, planning coordination, and follow-up costs due to a higher amount of mobility, of soil sealing and demographic change (Preuß and Floeting, 2010).

¹ *Bundesministerium für Bildung und Forschung*

² *Forschung für die Reduzierung der Flächeninanspruchnahme und nachhaltiges Flächenmanagement = Research on the reduction of land consumption and sustainable land management*

³ *Bundesministerium für Verkehr, Bau und Stadtentwicklung*

⁴ *Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit*

In terms of sustainable urban development, Albers (1997) sees a significant role for the local planning level. It is the level that can directly influence land use and, therefore, the amount of open space and the type of use. As a consequence, the need for transport infrastructure is also based on the decisions made by spatial planners. However, he also indicates that there is no solution in spatial planning that fits all cities. The spatial circumstances require the analysis of the local situation and the suitable implementation of spatial planning instruments (Albers, 1997).

2.4.4.2 Shift from separated spatial and transport planning to an integrated approach

In traditional planning, spatial and transport planning are two separated fields. Traditional spatial planning is about planning the use of instruments to influence spatial conditions that are relevant to the aims of planning authorities (Schoof, 1999). Spatial planning can also be described as the summing up term for the use of planning means for development, establishment and implementation of the aimed state of spatial policy. Spatial policy means the spatial order that is aspired to a national territory and contains residential areas, economic facilities, infrastructure and others (Leser, 1997). Lichtenberger (1998) remarks that technical and administrative considerations had played an important role for a long time and that a growing bureaucratisation and technocratization had occurred. Until now, development proposals are often dictated by political-strategic considerations. One difficulty that cannot be underestimated is the categorical communication problem between scientists, technicians, civil servants, and politicians (Lichtenberger, 1998).

Traditional transport planning deals with the current and prospective development of transport and related infrastructure in a certain area (Leser, 2011). Space is somehow included into the considerations of transport planners, but mostly it is more an abstract concept of distances. Transport planners look more to the connection of different points. The first aim of transport planners is to create the infrastructure that people need to get from one destination to another one (Beckmann, 2001). Referring to Parkin et al. (2007) transport planning traditionally concentrates on estimating cost and time of mobility. Beckmann (2001) criticises the usually quantitative understanding of mobility in transport planning as the basis for development is often the number of trips per person and per day.

Various studies investigated the extent to which urban form affects mobility behaviour and vice versa (see for example Milakis et al., 2008, Grazi et al., 2008, Handy, 1996, Scheiner, 2006a). Other studies focused on the interrelation of density of urban areas and the level of cars and, subsequently, the level of impact on the environment (Hesse and Trostorff, 2000, Gebhardt et al., 2005). However, the underlying planning paradigms that led to the investigated structures and their relation to other planning levels are not considered in those studies.

Combining the two traditional approaches of spatial and transport planning into an integrative approach seems to be a challenge. The integration of transport and spatial planning would mean the consideration of interdependencies of urban structures and location patterns on the one hand and transport infrastructure and systems on the other (Meyer and Miller, 2001). Several researchers argue that a more environmentally friendly transport system can only be achieved when these two planning areas work in an integrated way (Banister, 2002, Banister, 2005, Banister, 2008, Cervero, 1998, Meyer and Miller, 2001, Moore, 2000, Williams, 2005). The consistency between transport policies and spatial planning policies could be implemented with the creation of urban planning blueprints that restrict building on unoccupied land on the edges of cities and the promotion of densification, primarily in the vicinity of stations and shopping points. Furthermore, integrated projects need to be encouraged that combine the positioning of businesses, offices and leisure activities with the construction of new public transport. Thereby it is vital that investment is made into integrated networks that are developed between the different modes of transport and the various operators (Mezghani, 2003).

Bosserhoff (2004) claims that planners should make a contribution to avoid additional motorised traffic and to organise residual traffic in an environmentally and socially acceptable way. Deficient considerations of these points will result in a continuing development of locations that are preferentially accessible by car and an urban area that is structurally dispersed. Additionally, these spatial structures downgrade the accessibility of eco-mobility (Bosserhoff, 2004). However, modern cities cannot exist without motorised individual transport. Due to fragmented travel patterns and urban sprawl, the car is necessary rather than an option (Beckmann, 2001). Related to this, Holz-Rau (1996, 2007) remarks that integration approaches are not only necessary between the departments of spatial and transport planning but also within the transport planning

department itself. An integrated transport concept supports the modes of eco-mobility (Holz-Rau, 1996, Holz-Rau, 2007).

Sectoral planning concepts do not have the ability to approach the cross-sectional task of traffic reduction in a promising way (Holz-Rau and Kutter, 1995). The integration of spatial and transport planning enables the avoidance, or at least reduction, of transport problems resulting from the development proposals of spatial planning (Bosserhoff, 2004). Critique comes from some researchers who complain that, in reality, the stated integration is rather policy coordination and an exchange of information rather than real integration (Hull and Tricker, 2006, Stead and Marshall, 2001, Stead et al., 2004).

A concern in land-use planning is that a lack of coordination of spatial and environmental planning could result in conflicting policies as both fields differ significantly in their objectives and approaches to implementation (Miller and De Roo, 2005). Land-use planning aims to use land in an optimal way whereas environmental planning aims to mitigate or even avoid impact on the environment (Berke, 2002, Miller and De Roo, 2005). So, a sectoral approach fails to consider constraints and objectives in both fields (Beatley, 1995). An integrated planning process is essential to deal with the conflicting goals (Conroy and Berke, 2004, Roseland, 2000, Miller and De Roo, 2005). However, for planners, the integration process is a challenge despite the appealing rhetoric (Simeonova and van der Valk, 2009).

In order to achieve EPI in land-use planning the traditional approach of spatial planners needs to be changed (Lenschow, 2002a). In planning, a collaboration of actors, such as local planners, NGOs and stakeholders, is seen as one important factor (Yli-Pelkonen and Niemela, 2005). This is often hindered due to a lack of coordination among the two sectors which is often based on their specialisation (Nilsson and Persson, 2003). However, overcoming this separation is not only a task at the local level but also of higher levels where the framework of environmental and spatial planning is set (Simeonova and van der Valk, 2009). EPI in planning should, by no means, indicate that environmental objectives should dictate the policies of all other sectors (Simeonova and van der Valk, 2009). In practice, EPI needs to be made visible and new approaches how to successfully achieve higher levels of it need to be tested. Simeonova and van der Valk (2009) conclude that EPI is a communicative process and requires that involved actors adopt themselves to the changing requirements. The communication among actors can

increase the level of EPI as it aims for joint decision making. This also requires a shift from a traditional bureaucratic organisational structure towards more interactive ones. In the end, it can help to develop a broader understanding of problems and more comprehensive solutions (Simeonova and van der Valk, 2009).

Koch and Stein (2005) carried out a pilot study in the region of Dresden in Saxony (Germany) on strategies for the integrated development of urban areas and transport. Their aim was to investigate what conditions are needed for new developments in order to be traffic efficient. They started with an analysis of the current spatial development of the area and subsequently of the possibilities to influence local actors. In their conclusion, they highlight the importance of public transport, arguing that new developments should be realised next to public transport routes and the structure of public transport needs to be expanded to all urban areas. Additionally, the regional planning level plays a significant role in providing a framework to support the compactness of urban areas and also the development of facilities along transport infrastructure (Koch and Stein, 2005).

An integrated approach in local policy making without a special focus on the environment was conducted by Hull (2008). Her focus was on cross-sectoral interaction related to more sustainable transport in cities. The investigation was done in the UK. The results indicate that the integration of transport modes at the city level is hindered by disintegrated implementation, insufficient funds and stakeholders with limited competences. Additionally, organisational issues that prevented higher integration were insufficient technical skills and time resources of staff members, the absence of management mechanisms that could coordinate integration, and insufficient local data. Despite the announced consideration of environmental issues by planners, the practice of providing policies for cars is still strong in local transport planning. Furthermore, current funding procedures supported old fashioned planning procedures rather than supporting integrated strategies that could encourage alternative modes. Partially, the lacking focus on integration can be related to controversial policies at the national level. The expressed aim is often to reduce greenhouse gases and limit the growth of motorised transport but, at the same time, air travel and airport investment are supported. At the local level, transport related policies often compete and conflict with other sectoral policies. A change could be made with the introduction of shared responsibility between authorities at different levels (Hull, 2008).

An analysis of the meaning and of processes of land-use planning with a focus on the UK was done by Owens and Cowell (2011). In their analysis, they found that a change in transport planning took place in the 1990s with more emphasis on the term of integration. As one of the reasons, they identified the understanding of planners that the continuing growth of traffic was having an impact on the environment and society (Owens and Cowell, 2011). In their analysis, they refer to the interrelations. Transport infrastructure has a direct impact on the landscape and an indirect one on the environment. Patterns of land use affect travel behaviour, and transport systems have an influence on development forms (Owens and Cowell, 2011). However, knowing that they are interrelated does not mean that there is a tradition of integrated approaches. The segregation of uses like living, working and facilities is still leading to a growing dependency on motorised transport. More transport creates more or bigger roads. Owens and Cowell (2011) conclude that it is necessary to achieve a greater priority for eco-mobility, a more stringent protection for landscapes and habitats, and planning policies that support the reduction of the need to travel by car. Those aims have become broadly accepted rhetorical objectives and, to a certain extent, have been written into policies at different policy levels. Nevertheless, the intensive work of lobby groups can quickly lead to a softening of policies. Therefore, questions need to be raised whether such policies are sufficient and whether they have been, or will be, applied in long-term planning (Owens and Cowell, 2011). “The real test is the extent to which travel behaviour is modified and environmental quality improved” (Owens and Cowell, 2011, p. 100).

2.4.4.3 Lessons from other planning fields

Watson et al. (2008) conducted an analysis of the UK municipal waste policy with regard to EPI using a critical approach and saying that this policy arena has failed to achieve a paradigm shift toward a more sustainable waste management. They argue that when EPI is investigated, existing paradigms and structures at all policy levels need to be considered as well as contradictory processes of integration. Their investigation of waste management in the UK revealed a failure of EPI at the local level. If integration is achieved, then it is vertical EPI but not horizontal EPI. This can be found particularly at the local level. They conclude that the analysis of EPI requires a multi-level approach with special importance given to the local level and local policy outcomes. A second point is that institutions are not static and a complexity of policy responses is therefore necessary. The existing local context is shaped by embedded structures, traditional

cultures, and cross-cutting dynamics of policy and institutional change. The implementation of EPI should consequently happen within the dynamics of vertical and horizontal contexts (Watson et al., 2008).

A second study on waste management decision making in the context of EPI was conducted by Nilsson et al. (2009) in five Swedish cities. They identified a gap between the policy ambitions of higher policy levels and decision making and outcomes at the local level. This is based to a certain extent on coordination problems due to an incompatibility of frameworks. They conclude that, so far, traditional instruments like taxes or bans can achieve more than newer instruments like management by objectives as the latter ones have limited institutional structures to be effective (Nilsson et al., 2009).

Weber and Driessen (2010) investigated Dutch initiatives to integrate noise management into spatial planning policy with view to EPI. Following their analysis, they suggest that decision making and procedural rules as well as organisational arrangements can overcome implementation gaps in planning practice at the local level. Organisational and communication structures that were related to government funding, guidance and a help desk were identified as supporting elements of top-down processes. Other important factors were the institutional framework and stakeholder integration. However, despite the EPI approach, the noise problem in the Netherlands could not be solved so far (Weber and Driessen, 2010).

2.4 Conclusion

This review of literature has shown that the theoretical considerations behind EPI exist at all levels of governance with a main focus at the supranational level. That is also reflected in the amount of literature that presents EPI research in relation to the EU. Most of the publications of the EU, and at the national level, refer to the importance of the local level in EPI as it is the main level of policy outcome that affects people. However, the lower the level of governance, the smaller is the amount of existing EPI literature. There is some literature that covers the theoretical frame of EPI at the local level but hardly any that provides empirical data on the implementation of EPI at the local level. This research aims to address this gap of EPI at the local level. This research is focussed on the local planning level and can, therefore, contribute to a greater

understanding of EPI processes at the local level. As higher planning levels are used as a context for this research, conclusions are also possible on how EPI processes at the local level are affected by higher level EPI processes.

The review of literature has identified cross-sectoral cooperation, i.e. departmental integration, and stakeholder participation, i.e. stakeholder integration, as key processes to achieve EPI. However, most of the research that deals with the analysis of participation processes and interdepartmental cooperation is based either on a higher level of governance or is outside the EPI framework. There are also only some indicators described that could help to identify EPI but no precise indicators as how to measure EPI in general and how to make a distinction between weak and strong EPI. The related literature on sustainability does also not provide indicators for measuring weak and strong levels. This research aims to fill the gap of indicators with the development of an indicator framework that is later used in the research to analyse the empirical data and can, therefore, be tested as well.

Related to the linked and interrelated connection of spatial and transport planning, there is a substantial body of literature. Some of the theoretical and empirical studies emphasise the importance of an integrative approach. However, so far, there is a gap in the literature on integrated spatial and transport planning related to EPI. This research aims to address this gap as it is dealing with spatial and transport related processes within urban mobility planning in the context of EPI.

The literature on EPI often highlights the necessity to consider the integration of environmental objectives at all levels of governance. In particular, the analytical considerations of Lafferty and Hovden (2003) and related research, claim an approach that integrates horizontal and vertical dimensions. So far, most of the investigations of integrated spatial and transport planning focus on the local level and therefore only consider the horizontal dimension. The vertical dimension is often not as well integrated as a detailed analysis of the integration of environmental objectives. This research aims to address this knowledge gap in empirical studies that is related to spatial and transport planning in the frame of EPI. Although the focus of this research is on planning processes at the local level, and therefore on horizontal integration, this aspect of vertical integration is used as a framework, with the intention to identify supporting elements and obstacles of EPI.

The next chapter discusses the analytical framework that was chosen to answer the research questions following this research gaps. It is followed by Chapter 4, which sets the contextual framework behind this research. This firstly outlines the historical context of planning in Leipzig. Secondly, the various planning levels of Germany are introduced to show interactions and set the framework for vertical integration in Germany.

Chapter 3: Methodology

3.1 Introduction

The last chapter set out the theoretical framework and identified gaps in the existing research. Following this and the research questions outlined in Chapter 1, this chapter explains the research framework that was used to answer the research questions. It outlines the research strategy, the chosen approach, data collection and method of analysis, and the boundaries of the research.

The literature on EPI indicates that a higher level of integration leads to greater consideration of environmental objectives. The theoretical approach used in existing literature tends to employ a two-dimensional model in defining the concept of EPI, i.e., vertical and horizontal integration. Vertical refers to policy making within one policy sector across the various levels of the multi-level governance system. Horizontal refers to policy making across various planning sectors on one governance level.

For this research, the model is advanced to provide a more detailed analysis of EPI. Specifically, the horizontal dimension is split into three units: (1) the integration of environmental objectives (EPI), (2) the integration of other departments at the local level (DI) and (3) the integration of stakeholders and citizens (SI). The vertical dimension is formed by the institutional and legal framework set by higher planning and policy levels and is mainly used in this research as an influencing factor on processes at the local planning level.

The focus of this research is on the planning process which means the *development* of planning policies. Measurable changes of, for example, the modal split or air quality that would follow from the implementation of such planning policies are not part of this research and would have required a different methodology.

3.2 Research design

The research design is formed by the plan and the procedures that shape how the research is done. It is based on the worldview and assumptions of the researcher, the chosen strategies, and the methods of data collection, analysis and interpretation (Creswell, 2009). In order to fulfil the aims of the thesis set out in Chapter 1, it is

necessary to fully understand the processes and the development of planning policies, including the diversity and plurality of influencing factors, different world views of involved actors and stakeholders as well as political frameworks.

Hence, it was decided to adopt a mainly qualitative mode of research. Within qualitative research reports, recordings and other material are transformed into data in written form, not numbers. Qualitative research is suited to investigate fewer situations and people, compared to quantitative research, and is therefore often used for in-depth studies (Denscombe, 2007). Furthermore, qualitative research intends more to put things in context and to stress how phenomena are related and interdependent (Denscombe, 2007). Additionally, quantitative data, such as noise levels and measures of air quality, is also gathered in order to strengthen, and give broader contextual detail, to the findings produced from the analysis of the qualitative data presented in the empirical chapters.

Philosophically, a social constructivist epistemological perspective is applied with the aim to investigate the institutions and processes and their output at the local as well as higher planning levels in detail. This approach has been chosen as the researcher believes that understanding of the world is shaped by experiences of individuals. As part of the above perspective, the researcher transforms data into theoretical entities and constructs an understanding (Nelson, 1994) that makes sense only relative to an individual, or culture, or paradigm (Kukla, 2000).

At the same time, as the researcher has a keen interest in environmental topics, it was important for this research to take an empirically objective perspective and reduce the influence of personal worldviews as much as possible. It was, therefore, important to create a research strategy that allowed both in-depth analysis as well as a broad input from a wide variety of stakeholders to reduce the influence of individual interviewees and increase the level of objectivity.

The significant contribution of the researcher is the conclusions drawn on the basis of the analysis of the collected data. This analysis is based on a set of indicators that had been developed by the researcher as part of this research project. Although these indicators are based on investigations of other researchers, the researcher's own understanding of the concept of EPI was used to identify, specify and socially construct the set of indicators. Linked to the general understanding of indicators expressed by

Astleithner (2004), the indicators represent a type of knowledge. In the case of this research, the indicators are based on the perspective and knowledge of the researcher with regard to the topics of EPI, integration, sustainability and urban development.

3.2.1 Research strategy

Research strategies represent the way how empirical evidence was collected and analysed (Yin, 2003). The strategy applied to this research is that of nested case studies. Firstly, a single city is chosen as case study to represent the local planning level. Secondly, the investigation of this case takes place on two different levels of urban planning which are organised around multi-cases.

The decision of using a single city as case study was made early in the process. It was based on the analytical consideration of conducting an extensive and in-depth analysis of local policy making processes. Within this single city case, a variety of planning policies, planning projects, and planning problems were then purposefully selected to serve as multi-cases to get a broader source of evidence of EPI in policy making processes at the local level. Case studies of several cities could have added substance to the generalisation of the analytical contribution but this would have been at the expense of detailed investigation (Yin, 2003). The multi-cases within the single case approach, furthermore, helped the researcher with achieving a certain level of empirical objectivity; albeit, complete objectivity is not easy to achieve and usually numerous influences that form the particular academic perspective cannot be excluded entirely (Oliver, 2008).

3.2.2.1 Case study approach

According to Yin (2003), with a case study, contemporary phenomena can be examined within their real-life context, which is significant for the development of a differentiated view of reality (Flyvbjerg, 2006). Parts of a case study are direct observation and interviews with involved people (Yin, 2003). The ability to deal with various sources of evidence, types of data, and research methods is one of the strengths of case studies (Denscombe, 2007, Yin, 2003). Denscombe (2007) named another strength which is the more holistic approach of case studies instead of an investigation of isolated factors. Case studies provide the opportunity to unfold why certain outcomes might occur and offer the best approach when something should be researched in depth.

The first step of this analysis was to identify a city to serve as the overall case study. When developing the research framework, it was decided to choose a German city for detailed investigations. The main reason for choosing a German city is the researcher's a priori knowledge of planning in Germany, which greatly assists the analysis of the case studies and identification of outlying behaviours and governance that would be indicative of enhanced EPI. This results in the analysis of the case studies to be able to focus more clearly upon EPI in planning rather than upon the nuances of the planning systems themselves.

In a second step, local spatial and transport planning as well as environmental planning processes in Germany were explored comparing the former West Germany (Federal Republic of Germany), the former German Democratic Republic (GDR), and thirdly the reunited Germany. The aim was to examine what traditional approaches were developed in the various areas and what influencing factors could be observed. Especially the change during the reunification was interesting as it happened at the same time as a stronger consideration of environmental objectives and higher levels of participation were internationally discussed. These circumstances and the special situation in East Germany led to the decision to choose a city of the former GDR.

3.2.2.2 Multi-methods approach

The observation of an object from different angles, i.e. triangulation, represents a process where multiple sources of data are used, for example interview transcripts and published documents (Grix, 2001). According to Yin (2003), triangulation supports developing converging lines of inquiry, which allows the researcher to address a topic with a wide range of evidence sources compared to a single evidence source that could leave various factors unaccounted.

In order to answer the research questions, the following methods were applied: semi-structured expert interview, analysis of secondary qualitative data, and analysis of secondary quantitative data. Data was collected at different spatial planning levels to be able to reflect on the variety of influences with regard to vertical integration. At the local level, a variety of stakeholders was chosen in order to address the three horizontal sub-dimensions of EPI: environmental objectives, departmental integration and stakeholder integration.

3.3 Case study selection

There are two stages to the selection processes; first the single city case and then the nine nested cases within the city: four at the strategic planning level and three projects and two problems at the project level. Diagram 3.1, which is discussed in detail in section 3.3.2, provides an overview of the three different planning levels at the local level in Germany. The first four cases are based in the top tier and the three projects and two problems are embedded in the bottom tier.

The focus of the empirical investigation is on a wide variety of policies, projects, initiatives and problems in Leipzig. The selection of cases had to be wide-ranging in order to contribute to the understanding of EPI with its multifaceted characteristics. Following this, the sampling and collection of the empirical data had to be multi-layered to allow the intended in-depth analysis.

3.3.1 Case study selection in Germany

There are five federal states in the east of Germany that were established after the reunification, from which the case study city was to be selected. The intention of this research was to find a case city with a range of similar characteristics to the others to increase the potential of wider applicability of research finding. Several factors guided the selection. First, federal capitals (Dresden, Erfurt, Magdeburg, Schwerin and Potsdam) were excluded as these cities feature special facilities, political and financial backgrounds and this would likely lead to findings that have little relevance elsewhere. Second, the city was to be a certain size to have the preconditions of a functioning public transport, which is a part of eco-mobility which in turn is a key topic of EPI. The minimum number of inhabitants was set to 100,000 people indicating Jena, Rostock, Magdeburg, Halle (Saale), Chemnitz and Leipzig as possible candidates (Statistisches Bundesamt Deutschland, 2013). A significant problem of the former East Germany was that of population loss after reunification (Fürst and Mäding, 2011). Shrinking cities face increasingly sparsely populated urban areas which have a negative impact on the efficiency of infrastructure systems, including public transport (Siedentop and Kausch, 2003, Kulturstiftung des Bundes, 2008). Hence, third, the selected city was to have a certain economic strength to reduce policy interference from shrinking city processes. This led to the selection of Leipzig, which was the second largest city of the GDR, with a very dense public transport network. Although, after reunification, Leipzig was also

facing an economic downturn and population loss, the city reversed this trend from 2002 by attracting new industrial and service sector employers, including BMW, Porsche, DHL and Amazon.

3.3.2 Case study selection within Leipzig

Planning at the local, i.e. city, level takes place at different strategic levels (Schmidt-Eichstaedt et al., 2011: see Diagram 3.1) There are the ‘strategic planning policies’ which form the highest local planning level and contain overall strategies for the whole city. In the middle tier are ‘planning policies related to area development planning’ which are policies that are strongly linked to the building law and cover either parts of the city (building plans) or the whole city (land-use plan). The bottom tier comprises ‘specific project plans’ that are related to projects in certain parts of the city. Those levels can be seen as part of the vertical dimension of EPI.

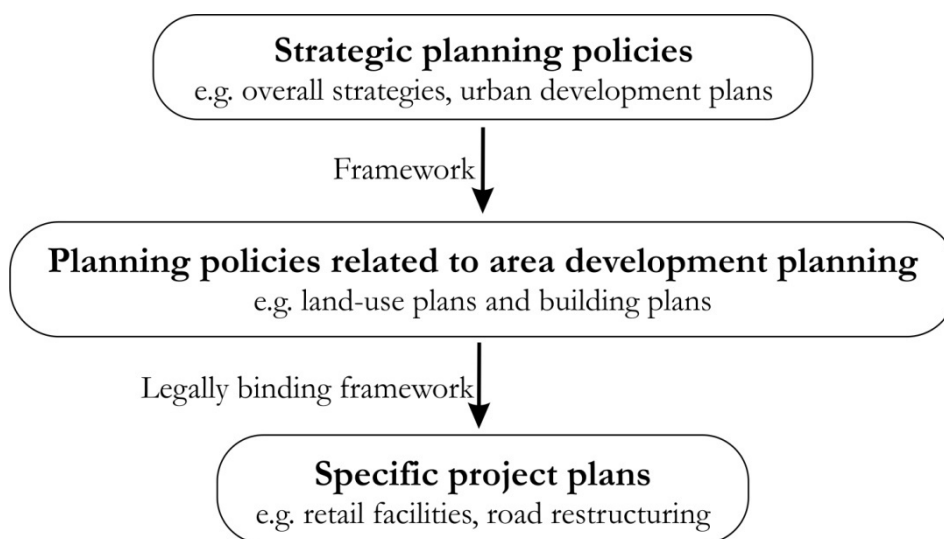


Diagram 3. 1: Planning levels at the local level in Germany

The task was to identify cases in Leipzig that could help to form a comprehensive understanding of policy making processes and how they interrelate. In order to identify suitable cases at the highest strategic local planning level in Leipzig, planning policies were analysed both online and in local libraries. Policies related to mobility, the spatial structure of the city and environmental topics like noise and air quality were then taken into closer examination. The practical experience of the researcher gained in a planning office in Leipziger before this research started was helpful in identifying suitable cases.

In Leipzig the highest planning policy is the Integrated Urban Development Concept (SEKo – Integriertes Stadtentwicklungskonzept). It brings together all strategic planning policies of the various areas of planning, e.g. transport planning, urban development planning, school planning, and presents them in an integrated way. However, the SEKo was not chosen for this research as the policy is still under development.

Instead two Urban Development Plans which are also based at the strategic planning level and which will ultimately be incorporated into the SEKo were selected: (a) Centres Urban Development Plan which deals with the spatial structure of Leipzig with a focus on retail, and (b) Transport Urban Development Plan which deals with all mobility related topics. The Centres Plan was originally set up in 1999 and updated in 2009. The Transport Plan was developed for the first time in 2003 and updated since 2012. Both development plans were chosen as they can be linked to literature on environmentally friendly mobility (Pinto and Pourbaix, 2007, Banister, 2008).

Other plans at the strategic planning level are required to be created because they are directly related to European directives. How these types of plans are created is delegated to each nation state and, in the case of Germany, those plans are developed at the local level. Two of the plans were chosen for this research as they also relate to the aim of environmentally friendly mobility and, contrary to the Urban Development Plans, they have their origin in environmental planning. The first one is the Clean Air Plan which is related to the European directive on ambient air quality (European Commission, 2008). The second one is the Noise Action Plan which is based on the European directive on environmental noise (European Commission, 2002a). These two plans were chosen as they are related to two differently organised directives and, theoretically, provide the opportunity to reduce the impact of mobility on the environment.

The middle tier of Diagram 3.1 was excluded from this research. Area development planning is based on a tight legal framework that does not, so far, offer alterations with respect to the levels of EPI, DI and SI. In case, the national government adjusts the legal framework, an investigation of the middle tier would increase the understanding of integration approaches in planning processes at the local level.

Excluding the middle tier of Diagram 3.1, the second level addressed in this research is the project planning level. The selection of those cases was made during an initial

interview phase, which had the purpose of understanding local circumstances and identifying local planning actors and potential local cases. The initial four interviews took place two months before the main interview phase and interviewees named numerous projects that are either related to mobility or where different stakeholders are involved or projects that are highly discussed in Leipzig by citizens, planners and local politicians. In the end, three projects and two problems were selected for detailed investigation in the main interview phase where there was an indication of either a lack of integration or of new approaches in planning with higher levels of integration.

The first project is the development of a new shopping centre in the city centre of Leipzig, the project 'Höfe am Brühl' (Courtyards at Brühl). This project is related to the city's spatial development but due to its size has also an influence on mobility and is linked to environmental concerns. The second project is the restructuring of a street South of the city centre, the Karl-Liebnecht-Street. In this case, the project does not only influence the various modes of transport but also the adjacent urban areas. Those two projects are very different in their outline but both were highly discussed by stakeholders and citizens. The third project was initiated by the transport planning department with the aim to promote private funding of bicycle racks in public space. In contrast to the other two, this project caused hardly any public interest despite clear local benefits.

Planning processes do not only deal with strategic concepts and the development of urban areas but also are intended to solve planning problems. The interviewees did not only talk about planning policies and projects in Leipzig but also cited numerous problems in the city that are related to mobility. Some of them show clearly the other side of planning, i.e. the reaction of planners to local problems and the reaction to issues named by the public. Therefore, two cases of this nature were also selected for analysis with the aim of finding out whether planners can respond to problems in an integrated way and whether there are differences in reactive planning compared to proactive planning. The first case refers to a shortage of parking spaces in the traditional residential areas of Leipzig. The second case is related to cycling on a main road in Leipzig.

In sum, nine case studies were chosen in Leipzig to create an evidence base to answer the research questions and to understand policy making processes at the local level through the lens of EPI.

3.3.3 Data collection

A variety of research data was necessary to analyse the chosen cases in detail. The data collection was carried out in different forms and phases. Initially, all available planning policies related to spatial, transport and environmental planning in Leipzig, as well as reports, newspaper articles, and other research projects of planners, NGOs, political parties, interest groups, and researchers, were collected and analysed in order to identify key topics, policies, and potential stakeholders.

The secondary data used to investigate planning developments in Leipzig only included data since reunification as this represented a major shift in planning policies in the city. The majority of secondary data could be found on the internet, for example planning policies, minutes of meetings of the city council, information related to the process of the Regional Development Plan and the Federal Development Plan, and a database with measuring data of all measuring stations for air quality in Saxony. The FEA offers a variety of research studies and measuring data related to environmental topics on its website. Additional data was provided by interviewees and could also be found in the geographical library of the Leibniz Institute for Regional Geography, which is based in Leipzig. Newspaper articles were included where suitable. This included articles of the two local newspapers LVZ (Leipziger Volkszeitung) and L-IZ (Leipziger Internet Zeitung) and the MZ (Mitteldeutsche Zeitung), which also reports about the region of Leipzig. One problem occurred with the LVZ. They do not provide access to their archive, so only articles that were published during the time of this research could be included.

The analysis of the four strategic planning level cases and the three project cases started with an investigation of related planning policies and laws within the multi-level framework. This was supplemented by an in-depth study of other sources of secondary qualitative data, such as newspaper articles, articles of the official journal of Leipzig, research projects of the FEA, and other planning policies of Leipzig, the surrounding municipalities, the regional planning level, the federal planning level as well as the national and EU level. Auxiliary material was also provided by interviewees, for example

on funding requirements and project descriptions. Additionally, secondary quantitative data was used, such as air quality data and the modal split of transport modes.

In the second stage of the analysis, interviews were conducted to get detailed information about the development process and the policies, to find out where tensions occurred and what factors supported or hindered integration. A wide group of interviewees was selected to be able to reflect on the variety of integration approaches and to make sure that most relevant factors and actors are addressed.

The first interviewees were selected due to their position in the departments of spatial and transport planning. The aim was to talk to the head of the departments to get an overview and to start with identifying key stakeholders in the planning process. However, the first interview was with planners from an independent planning office where the researcher used to work, which helped to get a deeper insight in planning structures in Leipzig, in problems and interrelationships between stakeholders.

The interviewees for the main phase were selected following the suggestions of the preliminary interviewees and the analysis of documents that named involved planning departments, political parties, interest groups, NGOs, local companies, and the media. Further interviewees of interest to the case studies were also suggested by other interviewees, especially those at higher planning levels.

Interviews were held with planners and stakeholders from the local level in Leipzig, the surrounding municipalities and the regional, federal and national level. This enabled an understanding of the multi-level governance system in Leipzig and how this is embedded in local planning interactions. Diagram 3.2 presents an overview of the interviewees. It shows the various planning levels that were covered in the research and the position of interviewees.

The format of semi-structured expert interviews was chosen so that some specific questions could be asked that are related to the cases. The order of questions is flexible, and the openness of answers allows interviewees to go into detail in this form of interview, which was therefore seen as most suitable. However, as the interviewees have more influence at the level of policy, the right questions had to be asked (Bogner et al., 2009).

The interview data collection was conducted in three phases. In autumn 2011 four preliminary interviews were conducted to gather background information on the situation in Leipzig and to identify potential interviewees for future in-depth interviews. Three months later, the majority of the in-depth interviews were conducted. Six further interviews with stakeholders, who were not previously available, were then done in spring 2012. All interviews were conducted in Germany and in German. All except one were recorded. The one non-recorded interview contained sensitive information that was not yet ready for official use. The interview recordings were transcribed to provide a text format for the content analysis (Mayring, 2010). The transcriptions were done in German and followed the exact wording of the interviewees and highlighted parts where interviewees put special emphasis on a topic or argument.

Although this section suggests that data collection was done on a step by step basis, it was more an iterative process in reality. The identification of interviewees and the collection of planning documents, newspaper articles and other sources of information was an ongoing process. The final selection of cases for analysis was concluded at the end of the main phase of interviews. Cases were selected based on information obtained from both the interviews and the available secondary data.

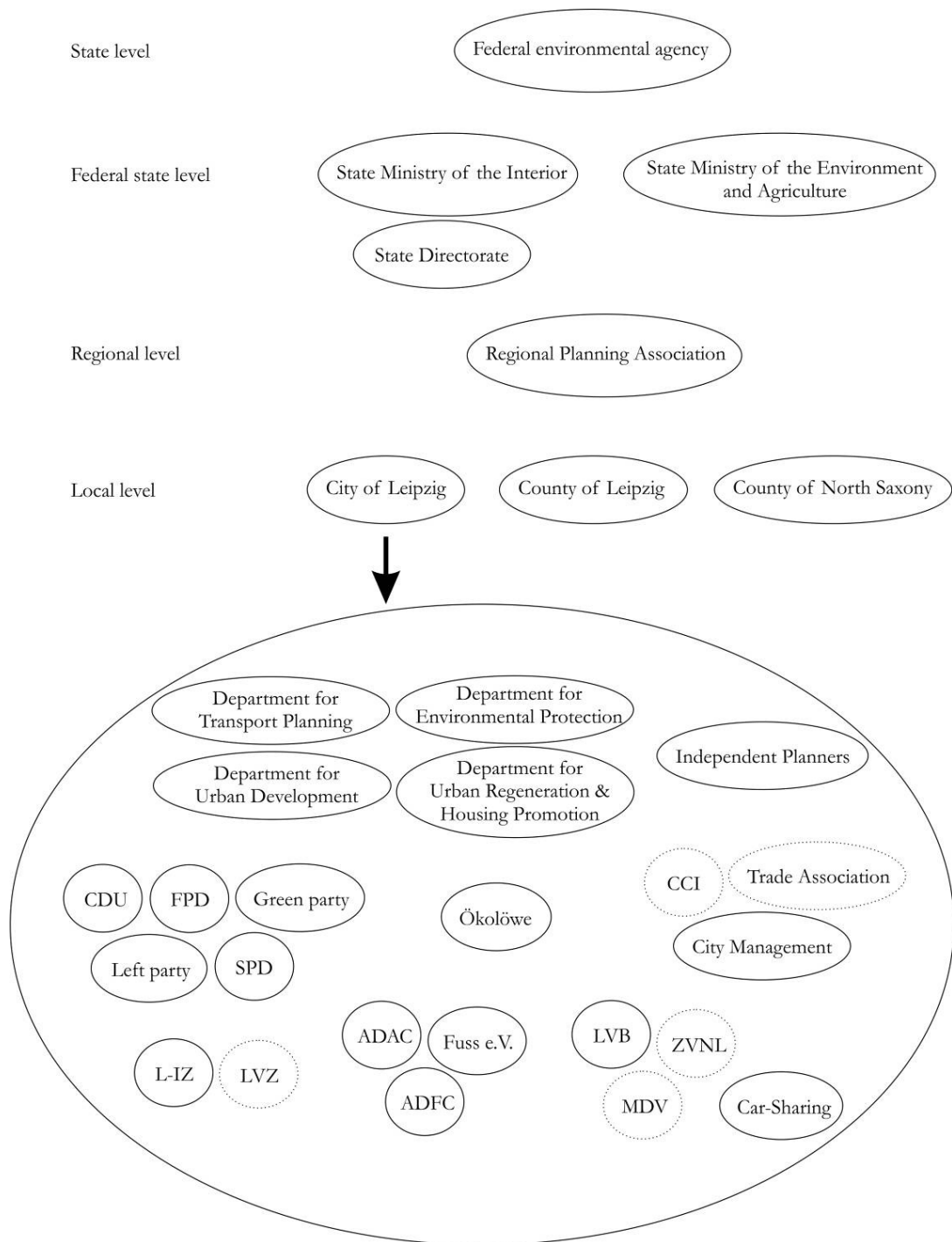


Diagram 3. 2: Overview of interviewees, the dotted stakeholders act also outside Leipzig at the regional level, but were only included in their function as local stakeholders

3.3.4 Data analysis

An indicator system to measure the level of integration had to be developed to facilitate the analysis. As the level of integration or the context of local/regional planning had not been defined in any depth in prior research, arguments and indicators used in the literature to describe integration, environmental achievements or work processes were used to develop a novel indicator framework for this research.

Based on the research questions and the chosen methodology, a set of qualitative indicators had to be developed. The analysis of the literature has revealed that in many cases quantitative indicators are used to measure EPI (European Environmental Bureau, 1999) or sustainable development (European Commission, 2015). In the case of measuring the success of regional development, Harris (2005) found that the development of indicators was lacking and in cases, where indicators had been developed, they were often quantitative. However, reflecting on indicators in the context of the change of the British planning system, Wong et al. (2006) argue that “quantitative indicators can only serve as a way of describing local contexts and changing circumstances, rather than providing a definitive performance assessment” (Wong et al., 2006, p. 536). Astleithner et al. (2004) remark that the key feature of indicators is that a kind of measurement can take place and, as a consequence, the comparison of the object of interest. Therefore, measurement can also take place on the basis of qualitative scales (Astleithner et al., 2004). In the context of integration, Runhaar (2016) states that “the development of indicators for measuring the nature and degree of integration may facilitate the (ex ante) assessment of the ‘success’ of integration efforts, and may also help structuring a debate about what integration to strive after (Runhaar, 2016, p. 2).

Based on the literature on EPI and on sustainable development, a set of indicators was developed that followed the conceptual considerations of EPI, DI and SI, as outlined in Chapter 1.4, and the methodology of this research. In the theoretical considerations of EPI, departmental and stakeholder integration are parts of the EPI concept. However, in this research all three are measured separately in order to achieve more analytical depth, to understand how the three integration processes function on their own, and to find out whether one of the three can achieve higher levels than the others or not. So, that means that the level of EPI represents the integration level of environmental objectives, DI of interdepartmental cooperation and exchange, and SI of the participation possibilities of stakeholders.

The following decisions were made in order to set up the indicators and to measure the levels of integration. They are partly based on the considerations of Baker’s ladder of sustainable development (2006), of Arnstein’s ladder of participation (1969), of Jordan and Lenschow (2010), of Watson et al. (2008), Lafferty and Hovden (2003), and of Simeonova and van der Valk (2009).

Four indicators were identified to assess the levels of EPI, DI and SI in a comprehensible way:

- (1) Timeframe: when does the integration of environmental objectives/departments/stakeholders start? Integration can take place at different stages of the policy making process and research has shown that it becomes easier when it starts at the decision making stage (Runhaar, 2016)
- (2) Environmental objectives: are they integrated in the process and the policies? Lafferty and Hovden (2003) suggest the mapping and specification of environmental challenges that are relevant to the non-environmental sector. Jordan and Lenschow (2010) ask what level of attention is given to environmental protection in non-environmental sectors and to what extent are environmental objectives then considered in the processes and policies.
- (3) Departmental/stakeholder integration: to what extent are they integrated and how? Simeonova and van der Valk (2009) request an “efficient communication and learning between diverse sectoral actors” (p. 258) that is needed in order to get to a more interactive planning culture. Poor relationships and a lack or low quality of communication among planners of different planning areas as well as the lack of coordination between different planning sectors leads to barriers to achieving EPI (Simeonova and van der Valk, 2009). Watson et al. (2008) also highlight the importance of the local institutional structures when it comes to integration processes.
- (4) Communication: what forms of communication are used? How many people are reached? Is there the possibility of initiatives from non-planners? These questions are also based on possibilities of communication and participation of stakeholders.

In order to assess the levels of these four indicators, several questions were formulated. The answers to them can indicate the achieved level of integration (Table 3.1). In all cases (EPI, DI and SI) the differentiation is made between ‘no integration’, ‘weak integration’, ‘medium integration’ and ‘high integration’. The distinctions between the four levels were defined with view to the research of Baker (2006), Arnstein (1969) and Hediger (1999). Weak levels of integration occurred when only standard participation and cooperation took place and environmental issues were only used as rhetoric. Medium levels of integration could be observed in cases where new forms of

Indicators/Questions	+ Strong integration	o Medium integration	- Weak integration	0 No integration	Applies to
Timeframe					
When did the integration of environmental issues start?	Right at the start	When other stakeholders claimed it OR Sometime in the process	At the end when it was thought necessary/mandatory/requested by reviewers	Never	EPI
When did the integration of other planning departments start?	Right at the start	Sometime in the middle of the process, when it became relevant	Towards the end as it was mandatory	Never	EPI
When did the integration of stakeholders start?	Right at the start	Sometime in the middle of the process, when it became relevant	Towards the end as it was mandatory	Never	DI, SI
Environmental objectives					
To what extent were environmental objectives discussed in the process?	Environmental objectives were discussed at every stage of the process	There was a significant discussion at certain times of the process	It was just discussed marginally	Not discussed at all	EPI
To what extent were environmental objectives integrated into the policy?	Environmental objectives are integrated everywhere in the policy	There is a section where environmental objectives and the topic are brought together	It is only mentioned in order to tick a box	Not integrated at all	EPI
Department/stakeholder integration					
To what extent were other departments/stakeholders integrated?	A big variety of departments/stakeholders was integrated all the time of the process	Some departments/ stakeholders were involved all the time OR A variety of departments/stakeholders was involved at a certain time of the process	There was only the involvement that was officially required	No integration	DI, SI

Indicators/Questions	+ Strong integration	o Medium integration	- Weak integration	0 No integration	Applies to
How was the integration of other departments/stakeholders organised?	Different events and formats were offered to get as many people and opinions integrated as possible Sometimes new formats were introduced	Round table discussions, information events and discussions of the city council were organised	The mandatory process took place as required by the German law	No integration	DI, SI
Communication					
What forms of communication were used?	Traditional and new forms of communication were used, like traditional and new media, exhibitions, interactive web pages, leaflets	Traditional forms of communication were used, like newspapers, the official journal and the city's web page	Information were published in the official journal or on the city's web page	Hardly any information announced	SI
How many people were reached by the announcements?	Theoretically everyone could read about the process and the projects	Mainly those who knew already about the project/process or those interested in the topic in general	Only people linked to the process and project were reached	Hardly anyone due to a lack of information	SI
Was there a possibility for non-planners to get heard?	Everyone could bring in opinions and they were discussed	Opinions could be announced	It was only possible to bring in opinions via the official mandatory process	No one had the possibility	DI, SI

Table 3. 1: Indicators and variables to assess the integration level of EPI, DI and SI

departmental and stakeholder participation were created and this process started earlier than in standardised processes. High levels of integration occurred when environmental objectives played an equal role to other policy aims and when other departments and stakeholders were integrated from the beginning and with new forms of participation.

The results of this assessment are presented for each case in the following diagram. This can help to show the different levels of integration that were achieved in each case, but also the development over time as all relevant policies of the several cases have been analysed.

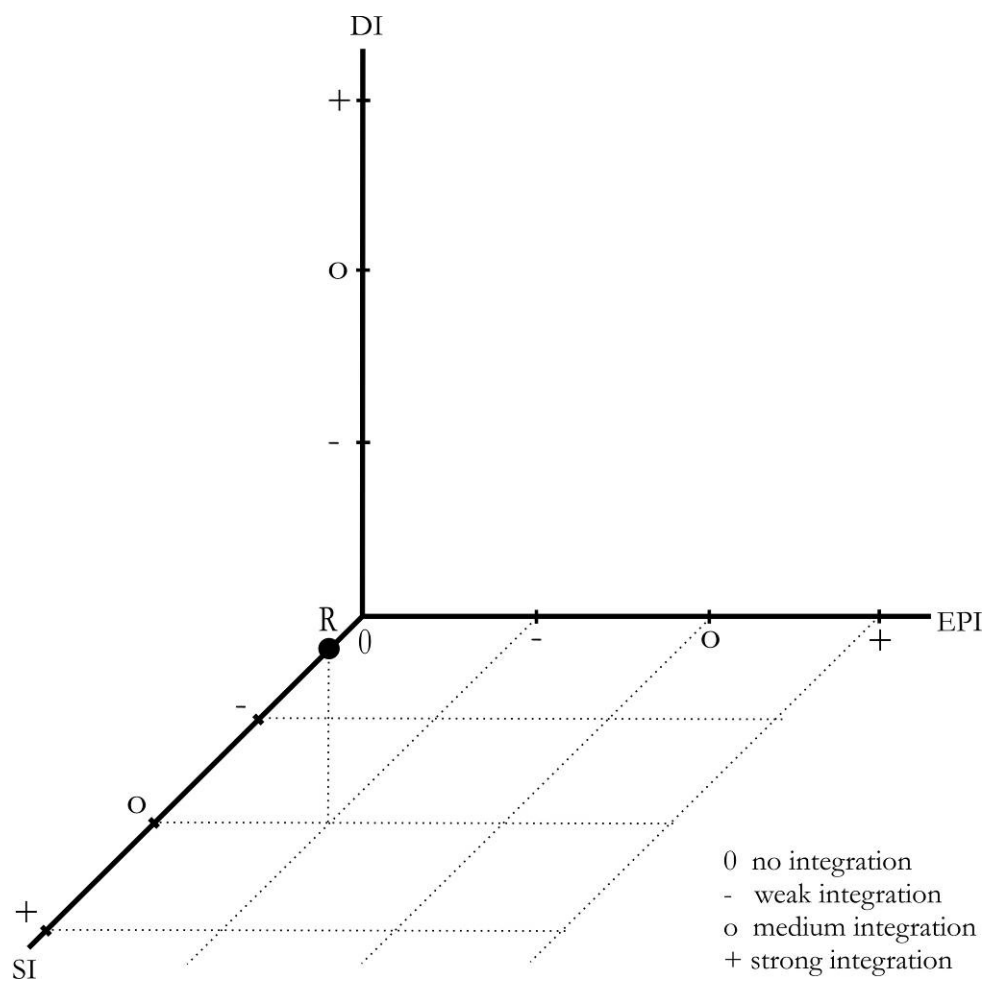


Diagram 3. 3: The various levels of integration related to environmental policy integration (EPI), departmental integration (DI) and stakeholder integration (SI) are compared in this diagram

However, identifying the level of integration is not the only aim of this research. Additionally, elements in support of integration (as well as obstacles) had to be discovered and analysed.

The data collection for this study was rich and substantial and consisted of 37 interview transcripts plus supplemental policy documents for the nine cases. Data analysis was supported by the specialist software NVivo® in order to conduct an effective and organised analysis of the data and ensuring its rigour (Bazeley, 2011). The software allows analysing data from multiple angles through a system of codes that are developed to help to sort the data by themes, indicators, cases or stakeholder status in a more efficient manner than is possible via manual coding. Coding can be done in different ways, for example with a search for a term or phrase in all or certain data or a query to find all sources that contain a certain phrase. Another possibility is to go step by step through all data, e.g. all interview transcripts, and code everything that is related to a certain topic, indicator or question (Bazeley, 2011). Coding of the interview transcripts was done in English. The content of the interviews was more important than the words that the interviewees used.

During the analysis, the interviewees were anonymised and sorted into coherent groups. Following this, the names are: Planner x, Stakeholder x, Pol. Party x, Transport x, Retail x and Outsider x. Outsiders are interviewees from outside Leipzig, so usually not directly linked to planning processes. Retail and Transport were used as separate groups to be able to reflect on their different, but strong, interest in their own field. This process helped during the analysis to quickly identify positions in the planning process and to keep an appropriate analytical distance.

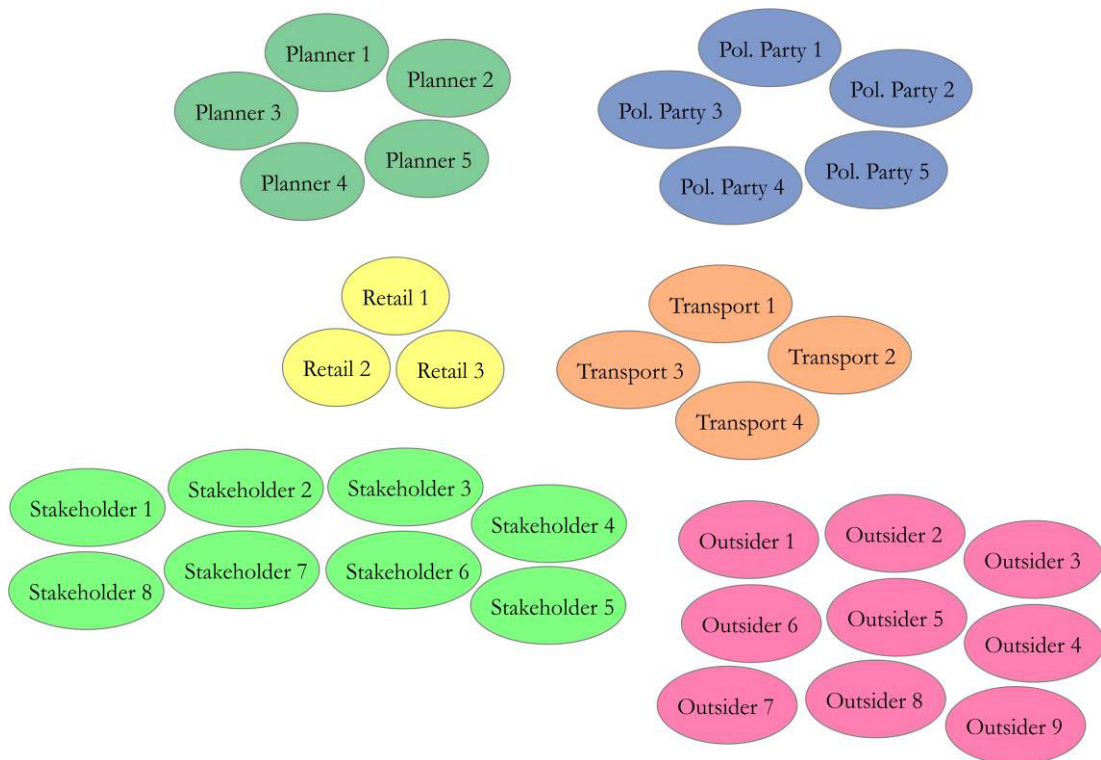


Diagram 3. 4: Groups of interviewees as identified during the analysis

In the end, there is a data set of nodes, that is how the storage areas of codes in NVivo are named, that can be used to organise the data, to keep track of all records, and to use it for writing (Bazeley, 2011). This work could also be done on printouts but, with regard to the amount of data, NVivo helps to work in an organised way and so as not to lose any information during the process of analysis and writing. Along the coding process, it is very useful to keep a journal so that the research journey is documented. With NVivo this can be done with the software (Bazeley, 2011).

3.4 Limitations of research

Case studies are sometimes criticised for a lack of rigour and the difficulties of generalisation (Yin, 2003, Denscombe, 2007). However, case studies should not be seen as a sample but as the possibility to study a topic in detail so that new, deeper insights into a particular topic are possible. The generalisation of the research needs to take place at an analytical level (Yin, 2003). One of the problems of choosing only one case study is that there is no comparison to other conditions, and issues can occur over whether some discovered phenomena are generally applicable or linked specifically to the local context. However, a detailed analysis and the coding of data with a view to the theoretical background makes it possible to minimise this problem (Flyvbjerg, 2006,

Yin, 2003). Although the case of Leipzig is somewhat special due to its history in the GDR there is sufficient similarity with other cities and planning takes place within the multi-level framework that observations and learning may be applicable to other local planning processes as well. Cases where special local initiatives are identified during this research literature, related to EPI and participation, could help with the generalisation. So, in the end the diversity of cases and, subsequently, of empirical evidence comes at the analytical level and so does the generalisation.

One problem that was discovered during this research is language boundaries. The research is based in Germany and the majority of the empirical data is in German. Thus, German terms and some of the original texts had to be translated into English. In some cases, this posed a real challenge as some terms are very country, and therefore language, specific.

3.5 Conclusion

This chapter has presented the research framework behind this study and provided an outline and justification of the employed methodology. It described and explained why the decision to follow a case study approach was made, and which methods were used to collect appropriate data to answer the research questions. Furthermore, analytical considerations were considered that help to measure the various levels of integration. The main focus of the analysis is on interview transcripts, planning policies and the institutional framework. The identification of relevant sources, the processes of data collection and analysis were presented as well.

The next chapter will provide an overview of relevant urban development processes in East and West Germany and the reunited Germany and takes a closer look at the various planning levels and institutional frameworks in Germany and Leipzig in order to contextualise the analysis of the cases.

Chapter 4: Urban development in Germany

4.1 Introduction

Following the theoretical framework defined in Chapter 2 and the analytical framework developed in Chapter 3, this chapter sets the contextual framework of planning in Germany. Firstly, post-war policy and planning processes are presented to understand how the current planning paradigms in Germany emerged. Leipzig was a city in the German Democratic Republic (GDR) and, therefore, this chapter investigates developments in the GDR and the Federal Republic of Germany (FRG) prior to 1990, which is followed by an examination of processes in the united Germany after 1990. Secondly, this chapter presents the institutional framework of planning policies at higher planning levels, i.e. the national, the federal, and the regional planning level, which is relevant for the analysis of Leipzig, which is part of the local planning level.



Map 4. 1: The divided Germany (Geographisch-Kartographische Anstalt, 1972)

4.2 Urban development in the German Democratic Republic

The GDR was founded in 1949 (Doernberg, 1954) and was based on a socialist form of government (Geographische Gesellschaft der DDR, 1973). Urban development in the GDR also followed the aims of socialism and was characterised by a considerable absence of local self-government, at least in practice, that had been replaced by a centralist system of pre-setting and distribution (Güther et al., 1989, Geographische Gesellschaft der DDR, 1973). The SED (Sozialistische Einheitspartei Deutschlands, Socialist Unity Party of Germany) provided very precise requirements how urban development and architecture had to be shaped, from the national to the local level (Eckart, 1989). However, there was an absence of planners on different planning levels and so urban development was not the concern of municipalities, it was the business of the state (Eckart, 1989). Another example of the influence of the centralist government at the local level was the nationalisation of retail activity. Consumer behaviour did not have any influence on the retail development and, therefore, no competition between different retailers or between different municipalities occurred (Eckart, 1989).

4.2.1 Spatial planning

Spatial planning in the GDR featured differences to planning in the FRG, but there had also been some similar principles and structures (Schelhaas, 2011). One similarity was the use of the “Central Places System”, which provided the possibility for the central government of the GDR to exert influence on the regional development with the implementation of various interventions and sanctions (Eckart, 1989). The Central Places System is a concept of urban structure that is based on the considerations of Christaller (see Christaller, 1933) that was also used in West Germany and which is the basis of spatial planning in Germany until today (Domhardt et al., 2011). However, in the GDR the Central Places System was mainly used to restructure economic locations and subsequently the working population in order to strengthen local centres equally. That was politically motivated (Güther et al., 1989) as spatial planning in the GDR followed the objective of minimising spatial inequalities. One possibility of achieving that was the development of large-scale agricultural and industrial facilities in non-central locations (Schöller, 1986, Eckart, 1989, Schelhaas, 2011).

In the GDR, the focus of spatial planning had been placed on house building in order to overcome the housing shortage of cities. Related planning objectives and planning

frameworks were decided by the Central Committee, the national decision-making body, on a five-year basis (Schöller, 1986). The greatest interest did national planners have in the development of the capital, East-Berlin, and therefore higher levels of investment, workforces and research capacities were constantly implemented in East-Berlin (Werner, 1981).

In a first phase of spatial planning, a framework was set up for the development of representative projects, for example the Stalinallee in Berlin, and the development of socialist cities (IFAD, 2007, Werner, 1981). The development of the first entire socialist city, called Eisenhüttenstadt, started in 1950 (IFAD, 2007). Additionally, in 1950 the 16 principles of urban planning were formulated by the Central Committee (IFAD, 2007, Schöller, 1986). The second phase of spatial planning started in the middle of the 1960s and was characterised by a reduced focus on representative projects and a higher focus on industrial house building (IFAD, 2007). At first the planning followed the Western principles of a structured city but was later interpreted in a socialist way, emphasising the meaning of housing for the society. In this regard new residential areas were always connected to the development of a school, a kindergarten, and retail facilities for daily needs (Werner, 1981). In order to realise this in an efficient way, a new aim of planning had been generated: the industrialisation of house building. However, it occurred that the implementation of this aim was more difficult than expected by the Central Committee due to the limited financial resources (Werner, 1981). Nevertheless, the realisation of a second socialist city, Hoyerswerda, was started in 1957 (IFAD, 2007, Werner, 1981). The 16 principles of urban planning were still in force in the 1960s although highly contested by planners (BMWB, 1956).

In many Western countries, a change of spatial planning paradigms had been visible in the 1970s. A shift was made from an extensive expansion of urban areas towards the development of inner urban areas and from a segregation of urban functions towards an urban mix (Güther et al., 1989). This development could also be observed in the GDR, though the reason, in this case, was the necessary reduction of costs of urban development (Werner, 1981).

In the 1970s and 1980s house building remained the main objective of spatial planning (IFAD, 2007) and all other fields of urban development were underrepresented (Güther et al., 1989). So, the spatial planning policy was mainly concerned with the creation of

residential properties. The Central Committee in Berlin decided where in the GDR houses were built and the municipalities had to implement the requirements (Güther et al., 1989). In that time, large new residential areas were built at the edges of cities, such as Halle-Neustadt and Leipzig Grünau (Schöller, 1986, Usbeck, 1990).

In summary, spatial planning in the GDR was based on policies set by the Central Committee. Local planning authorities had no planning sovereignty and had to follow the centralised planning principles. Although spatial planning partly followed the development principles of West Germany, the main focus all the time was on house building and spatial equality in the GDR.

4.2.2 Transport related planning

The single sided development of new housing areas created a problem in long existing quarters, especially with view to transport infrastructure, which was not renewed those quarters (Güther et al., 1989). Car-density in the GDR was significantly smaller than in West Germany (Kristen, 1988), but the growing amount of individual motorised traffic (see Diagram 4.1), especially in urban areas, started discussions in the 1980s on how to minimise the related impact (Güther et al., 1989). Formulated aims implied the separation of the modes of transport and the development of main roads without intersections (Werner, 1981). Another serious problem was the situation of public transport. The proportion of public transport within the modal split was 50%, but the lack of investment in infrastructure and vehicles had led to the decrease of attractiveness. So, another aim promoted by the Central Committee had been the promotion of public transport (Werner, 1981).

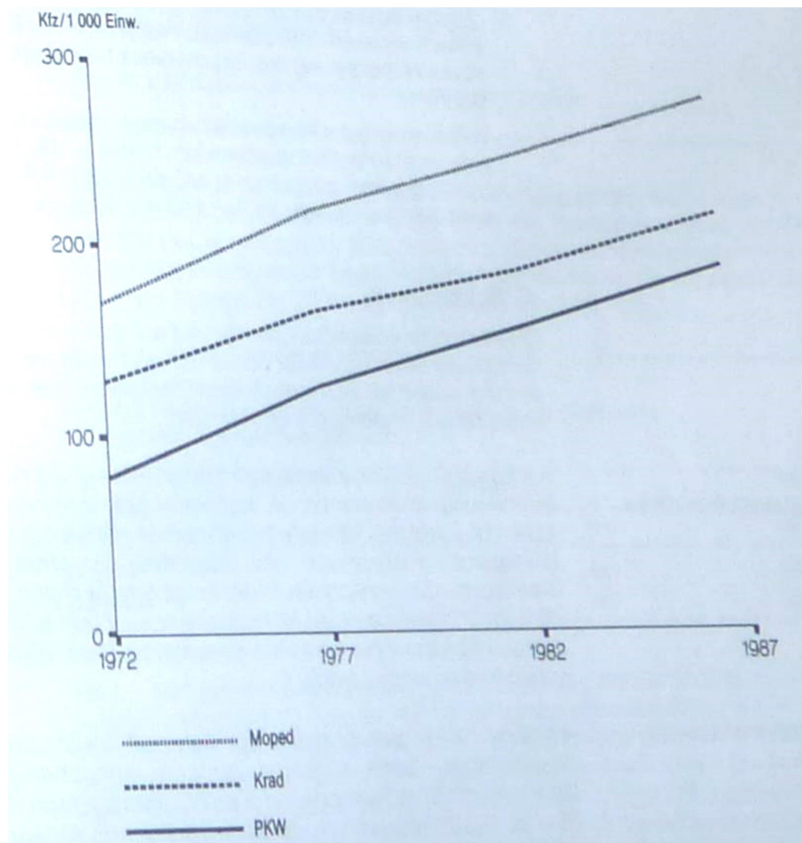


Diagram 4. 1: Development of individual motorised traffic in the GDR 1972-1987 (Güther et al., 1989, p. 875)

The growing number of cars and the neglected investment in existing infrastructure led to an increasingly bad condition of bridges and roads. Many transport projects had been planned to relieve urban areas of motorised traffic but were hardly realised. So, urban areas had been facing a high impact of cars and at the same time a shrinking use of public transport (Güther et al., 1989). Following that, at the end of the 1980s new aims for transport planning had been formulated by the Central Committee: to limit the impact of individual car traffic to an environmentally acceptable level, to support public transport, to increase investment in cycling infrastructure and pedestrian zones, to increase investment in transport infrastructure, and to achieve a better mix of living and working in order to reduce traffic (Kristen, 1988, Güther et al., 1989, Werner, 1981). With this last aim, the Central Committee had indicated a link between traffic and the spatial structure of urban areas.

4.2.3 Environmental concerns and planning

Roesler (2006) divided environmental development and related policy making in the GDR into four phases. The first one, from 1949 to 1960, was characterised by a lack of

interest in environmental topics. The industries related to the extraction and processing of brown coal posed a serious environmental problem and remained one until the early 1990s. First environmental groups were founded in that phase but in general environmental issues were not considered (Roesler, 2006).

In the second phase from 1961 to 1970, the first environmental initiatives were founded. Beforehand, there had been a belief that soil, air and water are freely given resources that have no value (Roesler, 2006). However, the environmental problems and an economic crisis in the early 1960s led to a change in rhetoric towards a consideration of the environment. The later change in industries towards cleaner productions had a positive influence on the environmental situation but was mainly based on economic considerations (Roesler, 2006). Air pollution, which used to be a significant threat in the GDR, was recognised as an environmental problem due to better and more measuring of air quality. So, in the 1960s there was a slow change towards considering environmental objectives, which was mainly promoted by the Central Committee as a concern for the well-being of citizens. A real shift to a higher level of environmental topics on agendas did not happen (Roesler, 2006).

In the third phase, from 1971 to 1975, environmental concerns were placed on agendas by the Central Committee. A change in the political leadership of the GDR in 1971 had led again to a shift in the rhetoric (Roesler, 2006). The new aim of the Central Committee was to put environmental protection and the problems of air pollution and noise on their agendas. In the updated version of the constitution of 1974, environmental protection was proclaimed as a programme for all citizens. Additionally, the Central Committee established new institutions, including the Environmental Ministry in 1972. However, the implementation of these aims was minimised from the beginning as the Central Committee always referred to related costs of environmental considerations (Roesler, 2006).

External factors had also played a role in this shift of perception of the Central Committee. In West Germany, a change in rhetoric towards higher levels of environmental protection did also take place in 1970/71. This change was also broadcasted in the GDR and a kind of competition between the two countries started, at least from the East German side, who considers environmental objectives more (Roesler, 2006). The information from West Germany related to environmental issues

also encouraged more citizens in the GDR to get involved in environmental groups and to claim higher levels of environmental protection (Roesler, 2006).

The last phase, from 1975 to 1989, was again characterised by a lack of governmental interest in environmental topics (Roesler, 2006). In the five-year-plan of 1975, which was applicable for the period of 1976 to 1980, environmental considerations did not play any role. The reason for this change was mainly based on the shortage of public finances, as environmental concerns had to step back behind social and economic concerns (Roesler, 2006). However, this change worsened the environmental situation in the GDR again. Especially the situation of air and water quality was the worst in Europe. As a result, a constantly increasing number of citizens got engaged in environmental groups. The environmental situation in the GDR had also been the main reason why many new political parties, like Bündnis 90 and Neues Forum, had put special emphasis on environmental topics in their party programmes at the end of the 1980s (Roesler, 2006).

In summary, the Central Committee of the GDR had dealt with environmental topics in the same way as spatial and transport related topics. It decided the aims and development possibilities and local planning authorities had no influence. The reasons for changes towards higher consideration of environmental issues were mainly based on rhetoric, addressing West Germany, and on the severe environmental situation in the GDR. However, environmental topics were always considered last and their implementation was constantly minimised due to the financial situation. Environmental groups were founded in the GDR but hardly had any chance to get involved in decision-making processes.

4.3 Historical urban development concepts of the post-war period in West Germany

The concepts presented in this section were not introduced one after another. In fact each concept can be described as a layer, where new concepts are repeatedly placed on top of older and established ones. Existing concepts never completely vanish (Feindt and Flynn, 2009, Rayner and Howlett, 2009). Within this process of institutional layering (defined for example by Schickler, 2001, Hacker, 2004) the potential for tensions arises. In turn these tensions can cause a policy change (Lieberman, 2002). The following

paragraphs are going to look closely at the different concepts and resulting tensions. Table 4.1 provides an overview of the development described, which was developed by Heineberg (2006).

Time	Urban concepts and characteristics			
Early post-war period	Focus on historical heritage		Structured and open city	
1960s	Urban regeneration	Car-prioritising city		Urbanity by density
1970s	Cautious regeneration	Continuing suburbanisation		Mass-transport city
1980s	Ecological urban development			
1990s onwards	Revitalisation of inner cities	Realisation of large housing estates	Decentralised concentration	Sustainable development

Table 4. 1: Concepts and characteristics of urban planning in West Germany after the Second World War Source: Based on Heineberg (2006, p. 125).

4.3.1 Post-war development and concepts of the 1960s

After the Second World War and during the 1950s the main intention of urban development was the reconstruction of buildings and the accommodation of the population. In addition, the technical infrastructure needed to be restored (Heineberg, 2006). The framework, set by the government and planning authorities, was formed towards the provision of residential properties rather than a comprehensive town planning policy (Heineberg, 2000). Distinctive policy measures were the financial statutory support of residential properties and maintenance of extremely low interest rates (Lichtenberger, 1998).

Assistance was introduced by the state with the first House Building Law in 1950 (BMWB, 1950). This law facilitated the building of new houses at low cost and social housing. The construction of public housing was in the form of basic apartment buildings, mainly in continuous rows. This development could be observed in inner city areas, but also at the periphery of cities, where new districts of social housing developed (Heineberg, 2000). With the introduction of the second House Building Law in 1956 (BMWB, 1956) the construction of private residential buildings was enhanced. This led to a significant expansion of city areas. In addition to these developments, urban planning was beginning to concentrate on the separation of living, working and supply functions. The development was criticised by Trieb (1983). From his point of view, the

post-war reconstruction shows a loss in urban shape as it has not been at any time in history of cities before.

The 1960s were characterised by emerging regeneration, the building of large housing schemes and increasing suburbanisation. Additionally, compared to the agenda of the past decade, new laws and concepts were introduced. In 1960 the new national Building Law (BMWB, 1960) formed the new statutory framework for town planning and it consolidated urban land use planning at the municipality level. Two planning tools, the land use plan (Flächennutzungsplan) and the building plan (Bebauungsplan), were initiated by the law. The new Building Law also lifted restriction of the price of properties. The price of properties was, officially, determined on the level of 1936. However, the cancellation of this regulation had a significant influence on the location of urban functions. The rising costs of properties especially in the inner cities led, for example, to a displacement of apartments and small local business into peripheral areas of centres (Heineberg, 2000).

Hewitt et al. (1993) described in this context the controversy of the question: new construction or reconstruction of existing structures? Normally, the complete redevelopment of inner city areas was avoided. They were considerably restructured, especially huge enlargements of traffic space were implemented by generating wide thoroughfares, urban motorways, circular roads and large parking areas (Harlander, 1998), as the city centres of Dortmund and Gießen show. The aim was to give consideration to the modern traffic (car-prioritising city) (Heineberg, 2000). In the 1950s, the breakthrough of private mass motorisation had taken place, as cars became affordable for more people. The car was the symbol of the economic miracle in Germany and facilitated the extensive development and urban sprawl of urban areas (Harlander, 1998).

The increasing importance of car-use led to the introduction of the concept of the car-prioritising city into urban planning. The intention was that all activities were subordinated to the unobstructed flow of car traffic. Urban planners aimed to create residential areas where transport infrastructure, and the layout of street space, were ideally developed for the private individual transport (Heineberg, 2006). The new availability of cars and the growing spatial segregation of urban functions helped to accelerate the sprawl of traffic, with both more frequent and longer journeys. The

constitution of open urban areas was characterised by distances that were too long for pedestrians. Additionally, at that time the implementation of a high quality public transport system to connect the residential area with each other and the city centre was considered as being too expensive (Heineberg, 2000).

Beckmann (2001) remarked that automobilisation had enforced the accelerate growth of suburban spaces that had started to developed alongside the provision of metropolitan rail systems and cars during the second half of the 19th century. The fragmentation of space was gradually contributed by cars and space had become ever more fragmented and dispersed. Modern cities were divided into housing areas, business districts, shopping areas, leisure parks, and others. Activities were no longer concentrated in a particular area. They spread over space and time. The means of the car and its complementary infrastructure assured the accessibility of all functions (Läpple, 1997).

A growth in household wealth can also be seen as a driver in the suburbanisation process. Beginning in the 1960s people started to build their own single family or terraced house, preferably within a green environment at the edges of cities. Beside the huge land consumption of these new residential areas, people moved away from shopping and leisure facilities and their workplace, which generated both a need for more and longer journeys (Sieverts and Irion, 1994). However, at the beginning of the 1960s critique emerged on the quality of these areas. They were described as being monotonous and focussing only on habitation. Furthermore, these areas were growing ever faster and were attended by the growth of individual motor car traffic (Adrian, 1983, Sieverts and Irion, 1994).

There are various aspects that could be observed in the 1950s and 1960s. Firstly, the new concept of the location of urban functions led to a spatial segregation of functions within the city. Secondly, new areas of urban expansion were very space consuming. Thirdly, the emerging suburbanisation process and the segregation of functions facilitated higher individual transport and created urban sprawl and environmental problems, like rising emissions and land consumption. The criticism on these car-prioritising developments led to new planning concepts that are discussed in more detail in the next subsection (Heineberg, 2000).

4.3.2 The environmental shift in the 1970s and 1980s

Following the development of spatial segregation and increasing car-use, in the 1960s primarily social scientists initiated to claim new dimensions of urban and transport development, like urban density and integrated kinds of use (Beyme et al., 1992). A new generation of planners also questioned the old concepts of the ‘structured and open city’ and the ‘car-prioritising city’ (Heineberg, 2006). At the end of the 1960s, urban planners started to change their focus towards the new concept of ‘urbanity by density’, which was characterised by spatial concentration and integration of uses. The new idea was to create large housing schemes at the edges of urban areas, on greenfield sites, and include service and leisure facilities. These dense districts should create somehow the urbanity that was lost in the inner cities and suburbs. The new districts were built in gigantic dimensions for 50,000 or more residents, for example München (Neuperlach) and Berlin (Marzahn). However, these “over-dimensioned” areas (Heineberg, 2000), mainly built in the 1960s and 1970s, rarely met the expectations of their residents (Harlander, 1998). In most instances these quarters were mono-functional and had a limited public transport connection to the city centre and other districts (Harlander, 1998). They had huge problems, with social deprivation and antisocial behaviour, increasingly since the 1980s (West Germany). Rising vacancies and the fluctuation of rents were the most obvious indications (Fangohr, 1988). As a response to this, people moved away, and the potential for conflicts between the remaining residents increased, as mainly elderly people, unemployed people and migrants stayed. In the end, the debasement led to the restructuring of those residential areas (Heineberg, 2000).

The idea behind these developments, of dense urban areas, was only fulfilled to a certain point. Especially the locations of living and working continuously moved away from each other and needed to be connected over long distances (Beyme et al., 1992). As the car was the first choice of travelling for most commuters, the car-prioritising development of the 1950s and 1960s continued in these areas. On one side commuters asked for infrastructure to drive as quickly and convenient as possible and on the other side planners aimed to provide infrastructure that allowed a constant flow of traffic (Heineberg, 2006). However, following the problems caused by traffic, for example the high degree of emissions and noise, critique emerged and several urban planners started turning away from the focus on car-prioritising concepts. They developed ideas of car-free or at least car-reduced areas and focussed on the improvement of public transport (Heineberg, 2006).

The development and planning manners were also influenced by the two oil crises that occurred within the past 40 years. The first oil crisis was in autumn 1973. The OPEC (Organisation of Petroleum Exporting Countries) reduced the delivery rate by 5% to put pressure on the Western countries due to their support for Israel (Borowsky, 1998). During the oil crisis in 1973 car free Sundays and speed limits on motorways were initiated in Germany. However, these measures did not lead to a change in the use of private cars. So, in the 1970s cities also increasingly improved their public transport and therefore developed existing and introduced new mass transport systems, for example underground railways (Nürnberg 1972), suburban railways (München 1972) and trams (Heineberg, 2006). These new means of transportation were supported at the same time as the development of new infrastructure for cars was maintained (Stiftung Haus der Geschichte der Bundesrepublik Deutschland, 2010). So, the concentration on car-use was not reduced.

As a response to the loss of importance of city centres due to the suburbanisation process, a new concept was developed at the beginning of the 1970s: behutsamer Stadtumbau (cautious regeneration) (Heineberg, 2000). The concept was also the result of a discussion, whether older buildings in the inner cities should be renovated or replaced. As a result in some cities old buildings were reconstructed, new shopping arcades built and streets transformed into pedestrian zones. The intention was to create a more convenient atmosphere in the inner cities and to increase the attractiveness for pedestrians and residents without a destruction of existing urban structures and forms. It was also aimed to get a balance to the huge greenfield developments (shopping centres, for example Hessen-Center in Frankfurt a. Main, built in 1971, RheinRuhrZentrum in Mülheim a. d. Ruhr, built 1973) that came up together with the suburbanisation process (Heineberg, 2006). The development was encouraged by the 'Städtebauförderungsgesetz' ('Urban Development Conveyance Law') (BMSW, 1971), which was introduced in 1971. Unlike the House Building Laws it supported the regeneration and development measures and focused on the rehabilitation of historical urban centres (Heineberg, 2000).

However, despite the shift of urban planning toward the development of inner urban areas, the process of suburbanisation was continuously promoted in the 1970s. Individual car-use was criticised for the impact it caused and therefore other modes of transport were improved, like walking and the use of public transport. Nevertheless,

huge investments were made at the same time to provide and improve infrastructure for car-users (Heineberg, 2006).

In the 1980s, a new focus on environmental topics came up, which led to the concept of 'ecological urban development'. Following the new nature conservation movement a shift towards more environmentally friendly attitudes appeared in urban planning. The purpose of the inclusion of ecological issues was planned to be achieved by the reduction of individual car use and an appreciation of public spaces (Heineberg, 2000). The intention was to increase quality of life by reducing the impact of individual motor traffic, by improving the structure of urban environments, and by using environmentally friendly materials. Additionally, the aim was to decrease the need for car-use and the amount of resources (Heineberg, 2006). Köhler and Schäfers (1986) described a commitment towards a city that is more convenient for people, which would include a qualitative improvement of cities in terms of traffic calming and pedestrian friendliness. However, Ipsen (1992) criticised that only some projects have been realised in the past; mainly those that are focussing on energy saving technologies or the use of healthier building materials. In his eyes no substantial change had been made within urban structures. Betker (1992) claimed a development, where residential areas are improved and the city becomes greener by traffic calming.

Despite the increased focus on environmentally friendly objectives, there was no change in planning manners. Ongoing greenfield developments in the 1980s, like the construction of shopping centres (for example pep in München in 1981, Löhr-Center Koblenz in 1984) or new settlement areas, followed the urban development concept of previous decades. The same direction could be observed within the development of the various modes of transport. Even though individual motor car traffic was known for its significant impact on the environment new car-based infrastructure was built (Heineberg, 2006).

4.4 Urban development in reunited Germany (since 1990)

In October 1990, the reunification of Germany took place in what resulted in the adoption of West German planning policies by East German planning authorities (Schelhaas, 2011). The reunification happened in a time when a growing attention was put on the concept of sustainability. Established with the Brundtland Report in 1987

(United Nations, 1987), the term sustainability was introduced in many different areas. In addition to the goal of ecological development, sustainable development includes also social and economic aspects (Heineberg, 2006). Concepts that were implemented and used since the beginning of the 1990s are decentralised concentration, revitalisation of inner cities and the meta-concept of sustainable urban development. As most urban planning concepts since then are named 'sustainable', the concept of sustainability can be seen as the meta-concept that tries to combine different planning approaches and pervades all planning areas (Connelly and Smith, 2003, Heineberg, 2006). Nevertheless, current spatial trends in Germany are still resulting in the space consuming growth of settlement areas and the segregation of urban functions and growing traffic (Dosch, 2002). The concept of sustainable urban development denotes different sub-concepts that aim at changing current trends: the compact city, promoting mixed uses, permeability and decentralised concentration (Heineberg, 2000). Diagram 4.2 provides an overview of sustainable urban development and related sub-concepts.

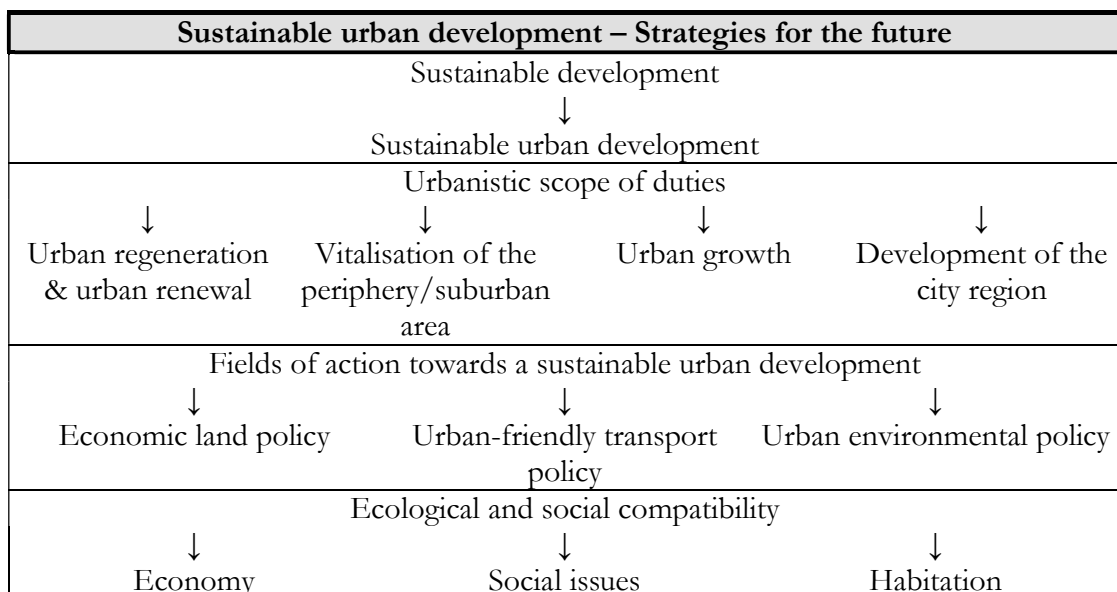


Diagram 4. 2: : Aspects of sustainable urban development (Heineberg, 2006, p. 130)

Nevertheless, over the past decades the road infrastructure has constantly extended (Statistisches Bundesamt Deutschland, 2010). Whereas planners try to solve structural problems with the concept of decentralised concentration, the suburbanisation process and greenfield developments, which cause these problems to a certain extent, are ongoing processes. There is no change in the political and planning routine to part with old-established concepts and habits (Heineberg, 2006). The continuous growth of traffic brings roads daily, at specific times, to their capacity limit. It is still common practice to build larger streets and crossroads, if the old ones cannot cope with the traffic any

longer, even though it is commonly known that a higher supply of street infrastructure creates a higher amount of traffic (Huhn and Hesse, 2006). Developments that are convenient for residents, for example living in suburbia, are still on many planning agendas. The same applies to shopping centres. They provide a wide range of products, but require accessibility by car (Lichtenberger, 1998).

Spatial principles referring to sustainability are based on considerations of the ecological urban development of the 1980s. Currently three main concepts are being discussed in Germany: compact city, functional mixture and decentralised concentration (Heineberg, 2006). The concept of the compact city, claiming urban density, is based on the concept of 'urbanity by density', which was introduced at the end of the 1960s. The aim of urban density is the generation of compact, but high-value urban structures that prevent urban sprawl (Heineberg, 2000). Various instruments and programmes were introduced to implement these aims; including the preferential conversion of fallow land prior to designation of green land, concentration of development on already developed areas, ecological compensation measures, economical designation of building land, smaller property sizes, concentration of industrial estates (Bergmann and Wiegandt, 1996).

One of the main principles within the concept is inner-development before outer-development. The focus within land-use planning is on the development of already existing urban structures. The renovation, maintenance and conversion of existing buildings as well as land recycling and concentration are main development goals (Loske, 1996). Looking at the concept from the transport perspective, it aims to prevent traffic as its main objective is to create a city of short ways (Schmitz, 2001).

Functional mixture of districts is intended by integrating living and working as well as shopping and leisure facilities. It aims on the concentration of functions and the shortening of distances and travel time. Furthermore, developments within the city area need to be preferred on the contrary to greenfield developments (Heineberg, 2000). The concept of functional mixture is closely related to the concepts of compact cities and permeability and contrary to the objectives of the Athens Charter (Gebhardt et al., 2005, Haase et al., 2008, Jenks et al., 2000b). Sustainable urban development claims not only the mixture of various functions, but also a mixture of buildings. For different purposes different buildings are needed, for example for living, working, business, education, administration and the community. Referring now to a good mixture, these different

types of buildings need to be arranged in a reasonable way (Bergmann and Wiegandt, 1996). In addition, the structural mixture within a city is part of the work of urban planners. It encompasses the mixture of buildings, open and green space, and traffic infrastructure, for example railways, streets and pavements (Heineberg, 2000).

The concept of decentralised concentration, the polycentric city, aims to implement the objectives of the polycentric region and polycentric city. The ongoing development pressure in outer conurbation areas of cities should be concentrated in selected urban focal points to avoid urban sprawl (Heineberg, 2000, Meurer, 1998).

4.5 Planning policies of higher planning levels in Germany

From the German perspective, five planning levels are in place in spatial planning: the European, the national, the federal, the regional, and the local level (Durner et al., 2011). Germany has a staged planning system which is based, for example, on the share of the legislative competence between national and federal governments (Durner et al., 2011).

Firstly, this section gives a general overview on planning policies at the national level related to spatial, transport and environmental topics. This is followed by an overview of the federal and regional level and related planning policies with a special focus on the federal state Saxony and on the region West Saxony, as they represent the next higher planning and policy levels of the case study area, Leipzig.

4.5.1 The national planning level in Germany

At the national level are two statutes that regulate spatial planning in Germany, which set the framework for the federal state statutes as well as the regional and local ones (Durner et al., 2011). The first one of the legal framework is the Federal Regional Planning Act (Bundesraumordnungsgesetz – ROG) (BMVBS, 2008). This Planning Act sets the more general spatial planning framework for Germany, naming aims and characterising instruments. It also defines requirements for federal states and their duties. However, since the federalism reform in 2006 that led to a change within the competing legislation, the federal states can differ with their own policies from the regulations that are stated in the Federal Regional Planning Act (Durner et al., 2011). Part 2 of the Planning Act plays an important role for the lower planning levels, as it defines how the federal development plans (Landesentwicklungsplan – LEP) and the

regional development plans (Regionalplan – RP) have to be laid down and why (Durner et al., 2011).

Article 2.2⁵ of the Federal Regional Planning Act has a special focus on the spatial concentration of developments (BMVBS, 2008). It declares that future developments have to be directed to existing settlements with adequate infrastructure and central places. This regulation specifically aims to prevent greenfield developments and strengthen central places, like urban and rural centres in general and centres within built areas more specifically. The link to infrastructure can be interpreted as having an adequate network of public transport and being also accessible to cyclists and pedestrians. This aim is closely linked to the general aims of less soil sealing, less traffic and less impact on the environment in general (BMVBS, 2008).

Article 2.3⁶ of the Federal Regional Planning Act focuses more on accessibility of inner urban centres and the link between the spatial structure and transport (BMVBS, 2008). Firstly, centres have to be developed in a way that all members of the society are able to fulfil their daily needs. However, accessibility and facilities of the centres need to meet local requirements as well. A special focus has to be on inner cities and local centres as being central supply areas. The spatial structure has to be developed in a way that it supports sustainable mobility and an integrated transport system. All spatial subsystems need to be accessible easily. Spatial structures need to be designed in a way that congestions are minimised and additional traffic is prevented (BMVBS, 2008).

Whereas the Federal Regional Planning act sets the general framework for spatial planning in Germany, the German Building Law (Baugesetzbuch – BauGB) provides legally-binding requirements and parameters for urban and spatial planning, gives precise regulations, and defines the most important urban planning instruments (Bundesministerium für Wohnungsbau, 2014). The Building Law represents the most

⁵ §2.2 „Die Siedlungstätigkeit ist räumlich zu konzentrieren, sie ist vorrangig auf vorhandene Siedlungen mit ausreichender Infrastruktur und auf Zentrale Orte auszurichten.“

⁶ §2.3 „Die Versorgung mit Dienstleistungen und Infrastrukturen der Daseinsvorsorge, insbesondere die Erreichbarkeit von Einrichtungen und Angeboten der Grundversorgung für alle Bevölkerungsgruppen, ist zur Sicherung von Chancengerechtigkeit in den Teilräumen in angemessener Weise zu gewährleisten; ... die Erreichbarkeits- und Tragfähigkeitskriterien des Zentrale-Orte-Konzepts sind flexibel an regionalen Erfordernissen auszurichten. Es sind die räumlichen Voraussetzungen für die Erhaltung der Innenstädte und örtlichen Zentren als zentrale Versorgungsbereiche zu schaffen. ... Es sind die räumlichen Voraussetzungen für nachhaltige Mobilität und ein integriertes Verkehrssystem zu schaffen. Auf eine gute und verkehrssichere Erreichbarkeit der Teilräume untereinander durch schnellen und reibungslosen Personen- und Güterverkehr ist hinzuwirken. ... Raumstrukturen sind so zu gestalten, dass die Verkehrsbelastung verringert und zusätzlicher Verkehr vermieden wird.“

important law of the building planning legislation (Durner et al., 2011). The Building Law also gets amended regularly to reflect the changes of urban requirements. As a result of changes in recent years the possibilities of regulation of retail facilities have changed significantly. The development of inner city areas and of facilities within residential areas was strengthened (Bundesministerium für Wohnungsbau, 2014)

Policies related to transport and environmental planning follow the division of levels of governance but do not have such a strong interrelated approach as spatial planning. In transport planning the national level develops the Federal Transport Infrastructure Plan (Bundesverkehrswegeplan) which defines the integrated planning of transport infrastructure of different modes of transport on the national level (BMVBW, 2003). It is based on the EU strategy on Trans-European Networks (Schmidt-Eichstaedt et al., 2011, see European Commission, 2014). The Federal Transport Infrastructure Plan forms the basis for the development of transport master plans of the federal states (Schmidt-Eichstaedt et al., 2011).

In terms of environmental planning the national level has to implement EU requirements. Examples that are related to environmental impact are the Clean Air Directive (European Commission, 2008) and the Noise Reduction Directive (European Commission, 2002a) that play a significant role especially in transport planning (Langhagen-Rohrbach, 2011).

In 1974 the Federal Environmental Agency (FEA – Umweltbundesamt) was founded. The intention was to increase the awareness of environmental topics and to consider environmental problems. Since then, it is the central environment institution of Germany (Umweltbundesamt, 2014). It deals for example with land recycling to avoid soil sealing and urban sprawl (Simsch et al., 2000, Penn-Bressel, 2003) or evaluates the implementation of the Clean Air Directive (Diegmann et al., 2014).

Additionally, there are several national strategies that are in some parts linked to spatial planning issues, like the National Sustainability Strategy (BMUB, 2013), the Strategy on sustainable urban development (BMVBW, 2005), and the National Strategy on biological diversity (BMUB, 2007). Although they consider topics of all three planning areas, i.e. spatial, transport, and environmental planning, it is not clear whether all the related ministries and national institutions were integrated in the policy making process.

4.5.2 Leipzig embedded in the federal and regional planning levels of Saxony

Municipalities cannot be considered as enclosed entities. Developments of one municipality can have an effect on neighbouring municipalities and vice versa (Borchard et al., 2011). In order to coordinate developments several municipalities are centralised in districts (Landkreise). Local planners of the district develop an overall planning strategy for their area to avoid planning conflicts (Borchard et al., 2011). In Saxony some districts are grouped together at the regional level again. This regional planning level represents the level between the local planning level at the bottom and the federal state planning level. The main task of the regional planning level is to develop the Regional Development Plan. This plan concretises the aims of the federal level and sets the wider framework for the districts and municipalities (Borchard et al., 2011). Diagram 4.3 provides an overview of the federal, regional and local planning level and their most relevant planning policies and names the specific levels that are relevant for Leipzig.

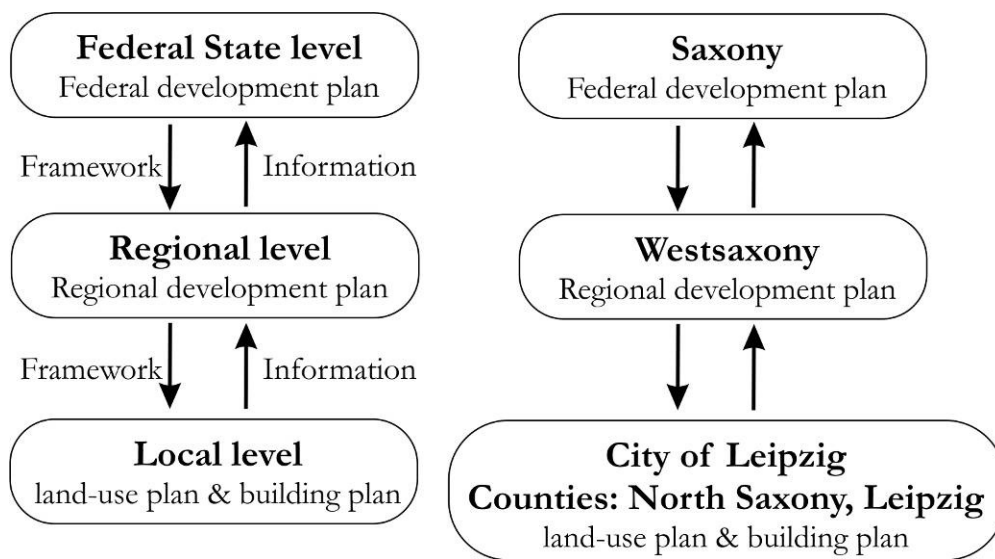
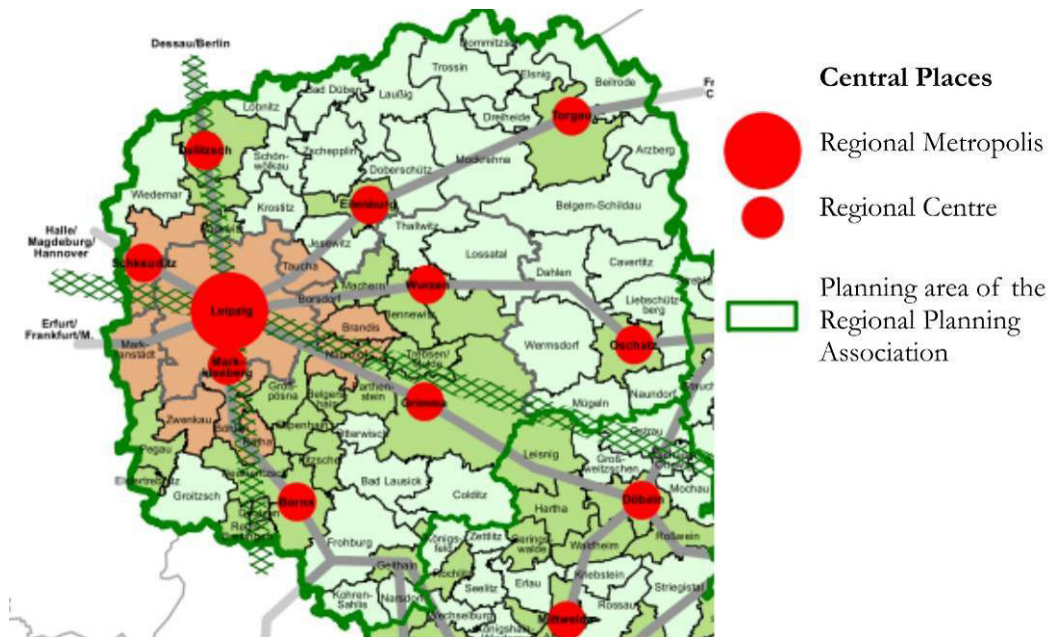


Diagram 4. 3: Overview of planning levels and their most relevant policy in general and in Saxony

4.5.2.1 Spatial regulations at the federal and regional level in Saxony

The Federal Development Plan (LEP) of Saxony is developed by various planning departments in Dresden, the federal capital of Saxony (SMI, 2013). The LEP is a strategic policy and valid for about ten years. Its aims and objectives are binding for all lower planning levels. The municipalities at the lowest level have the right to self-determination for those things that they can, want and have to regulate themselves (Borchard et al., 2011).

The LEP includes numerous principles and aims. One of aims plays an important role in structural planning when it comes to the development of large shopping facilities. Aim 2.3.2.1 says that the development, extension or significant changes of shopping centres or large scale shopping facilities are only permissible in regional metropolis or regional centres (SMI, 2013). Map 4.2 shows the centres structure of West Saxony as illustrated in the LEP.

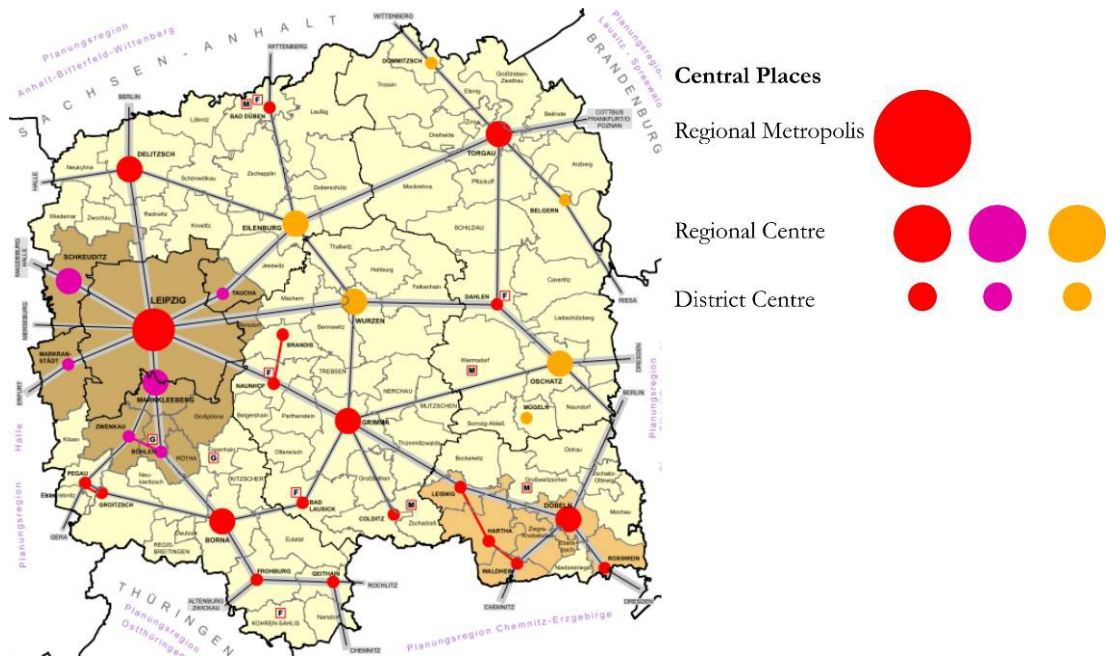


Map 4. 2: Centres structure of West Saxony in the LEP 2013 (SMI, 2013, map 1)

The policy at the next lower level is the Regional Development Plan (RP) (Regionaler Planungsverband Westsachsen, 2008). One objective of the RP is to define a structured spatial and urban development of the region. When the aims and objectives of the RP follow this overall objective the development of the region would lead to traffic reducing structures (Regionaler Planungsverband Westsachsen, 2008). The regional level has to follow the framework of the federal level, but the process is bidirectional. The regional level provides information and suggestions to the federal level when the LEP is developed (Borchard et al., 2011). In case of West Saxony, the City of Leipzig and the two surrounding districts cooperate with the Regional Planning Association in an open process.

The RP includes numerous aims and objectives. Principle 2.3.4 says that in central places the preconditions for an appropriate location of commerce and industry should preferentially be within settlements. Map 4.3 shows the centres structure of West

Saxony as illustrated in the RP. Aim 6.2.4 has the same content like aim 2.3.2.1 of the LEP (Regionaler Planungsverband Westsachsen, 2008). The current RP was adopted in 2008.



Map 4. 3: Centres structure of North Saxony in the RP 2008 (Regionaler Planungsverband Westsachsen, 2008, map 1)

The LEP is mainly developed by federal planners and later members of the public agency, including regional planners, have the possibility to hand in suggestions (SMI, 2013). The RP is mainly developed by regional planners, but during the phase of the public review process the public agency is involved and all citizens are invited as well to submit their suggestions (Regionaler Planungsverband Westsachsen, 2008). So, it seems that, at lower planning levels of Saxony, the possibilities to get involved in policy making processes are increased.

4.6 Conclusion

The first part of this chapter dealt with the development and introduction of planning concepts in the GDR and FRG. As described, politicians and planners regularly introduced concepts, generally on top of established ones. There has never been a complete removal of an existing concept. Due to the absence of critical questioning, current planning is to some extent still based on less sustainable concepts. An example is the ongoing car-prioritising development in many cities. However, the permanent

enhancements of existing structures and instruments compromise an innovative progress. Over the past decades, tensions arose between concepts and it seems likely that this process will continue. The literature could not answer the question of whether it is possible that sustainable urban development could be the problem-solving concept while being equally implemented on top of opposed concepts. The contradictions between concepts like car-prioritising city or suburbanisation, on one side, and the meta-concept of sustainability, on the other side, led to new tensions.

The second part of the chapter took a closer look at the different planning levels in Germany with a special focus on the federal and regional planning level. In terms of vertical integration, the LEP and the RP follow the objectives set at the European and national level. In terms of horizontal integration, they follow an integrated approach and consider, besides other topics, issues related to spatial, transport and environmental planning. The development process of both is relatively open and integrated at the departmental level. When it comes to stakeholder integration the RP provides an intensive participation process when the draft of the plan has been finished by the Regional Planning Association.

The European, national, federal, and regional level set the overall framework of spatial, transport and environmental planning at the local level. However, they do not provide any precise specifications how this framework has to be implemented at the local level. There are also no specifications how an integrated approach can be achieved at the local level nor are there any incentives to achieve integration. The incentive of funding is only related to the final local policies but not to the policy making process.

This chapter sets the contextual framework for the analysis of the empirical data. The literature review had revealed that EPI can have two dimensions: horizontal and vertical. Referring to vertical EPI, Leipzig is part of the European multi-level governance system, therefore policies of higher planning levels have an impact on policies and policy making processes at the local level. It is important to understand the other levels and their level of impact as this research aims to identify supporting elements for higher levels of EPI, and obstacles that hinder EPI, and some of these are expected to be found in the multi-level governance system.

Additionally, this chapter reviewed historical urban planning concepts. This was also done with view to supporting elements and obstacles as those urban planning concepts mainly stand for the traditional planning paradigm. As older planning concepts are hardly entirely removed when new ones are implemented, they can still influence policy making processes and especially planning behaviour. This knowledge is used in the analysis to understand arguments and the background to decision making.

The next three chapters present the analysis of planning processes in Leipzig. Chapter 5 focuses on Urban Development Plans at the strategic planning level. Chapter 6 takes a closer look at sectoral environmental policies, also at the strategic planning level. Chapter 7 presents three projects and two problems at the project planning level.

Chapter 5: Analysis I – Strategic planning level: Urban Development Plans

5.1 Introduction

The analysis of the primary and secondary data, collected as set out in Chapter 3, is subdivided into three chapters. Diagram 5.1 provides an overview of the cases that are addressed in the three analysis chapters. The focus of this first chapter is on Urban Development Plans, which are situated at the strategic planning level. In this chapter, the levels of environmental policy integration (EPI), departmental integration (DI) and stakeholder integration (SI) are analysed for planning policies from two different urban planning fields: spatial and transport planning using the analytical framework set out in table 3.1 in Chapter 3. Furthermore, elements that have supported integration or created obstacles to the integration process are identified.

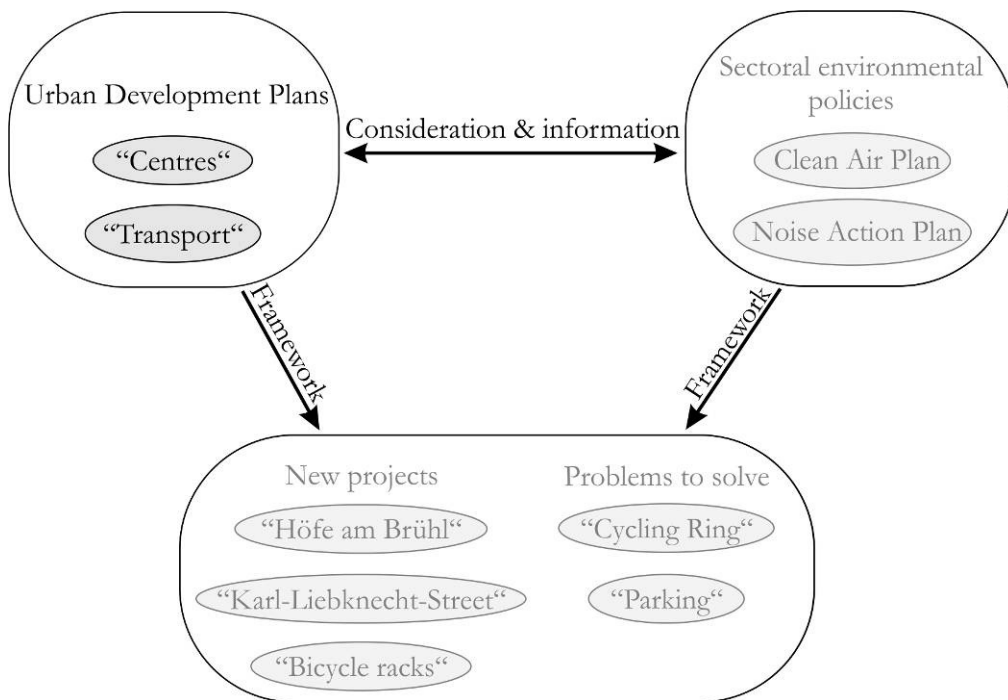


Diagram 5. 1: Scheme of planning policies and projects in Leipzig analysed in the three analysis chapters and their relations

This chapter presents two case studies. The first case focuses on “Centres Urban Development Plans” for Leipzig and the second case investigates “Urban Transport Development Plans”. In both cases, the three significant plans that have been developed since the reunification are evaluated. The focus of the interviews was on the most recent plans and their development. Older plans are mainly analysed through their content and

through some relevant comments from interviewees. The discussion of previously developed plans included in this chapter is mainly to explain the context and circumstances that led to the development of the most recent plans. Furthermore, the aim was to see whether there was an evolution of integration levels.

5.2 Der Stadtentwicklungsplan Zentren: analysing the Centres Urban Development Plan

5.2.1 Introduction

This section discusses spatial planning in Leipzig and its impact on mobility and transport. To start out, the development of retail facilities in and around Leipzig during the time of the reunification and the early 1990s is reviewed. This information is necessary to understand the local circumstances and factors influencing the spatial planning process. Then the Centres Urban Development Plan of 1999 and changes of the local planning framework are investigated. Third, the most recent Centres Urban Development Plan which was created in 2009 and its development process are analysed. Diagram 5.2 shows the three phases of urban spatial development planning in Leipzig that are investigated in this section.

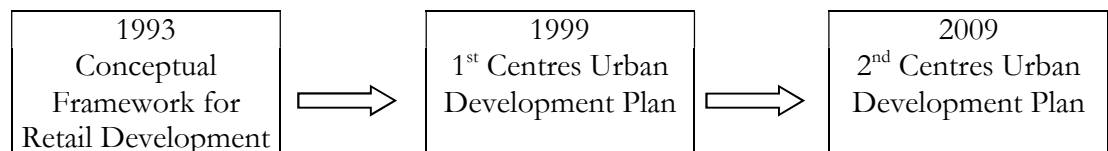


Diagram 5. 2: Chronology of spatial planning policies in Leipzig after 1990

The Centres Urban Development Plan deals with the spatial structure of retail and neighbourhood centres. The purpose of the plan is to assess the quality of centres and to identify future development possibilities (Stadt Leipzig, 2000).

An integrated consideration of spatial and transport objectives could support environmentally friendly forms of mobility. Borchard et al. (2011) state that a network of centres and sub-centres within a city improves the walkability of a city because closer links between residential areas and neighbourhood centres increase the ability of residents to meet daily needs from within a short distance. As a consequence, walking and cycling would gain in importance and the use of cars would be less necessary. Following this, the negative impacts of cars, for example noise and air pollution, could be reduced (Bock et al., 2011).

However, in order to develop a functional network of centres, strong planning instruments are necessary to guide the development. The institutional framework forms the basis for this. Policies that are applicable for spatial planning in Leipzig and by extension form the institutional framework for urban spatial planning are listed in table 5.1. The important point here is that all policy levels follow the institutional framework when developing and implementing their policies. The aim is not always met as Planner 2 implied: ‘It would be helpful for us when federal planning would stick to its own interests and aims. ... So, the important point is the implementation of federal and regional planning and their aims’⁷.

The Centres Urban Development Plan is one of the plans that form the strategic framework for the formal planning process. Local planners are therefore required to define and also limit the use of properties within land-use and building plans with reference to the Centres Plan (Bundesministerium für Wohnungsbau, 2014). The result of this framework has been a wider participation process towards the end of the Centres Plan than usually done with urban development plans as this quotation from Planner 2 shows: ‘In case of retail planning the Centres Plan is used more strongly for the land-use plan and building plans than in other cases of urban development plans. That is why we have chosen a higher level of participation.’⁸

Planning level	Planning policy	Content
European Union	ESDP (European Spatial Development Perspective)	<ul style="list-style-type: none"> - can be adopted by the member states; no obligation, no legal commitment, but can open funding possibilities (implementation is supported); - implemented on the national, regional and local level - spatial planning policies based on cooperation, consensus and consultation - necessity of horizontal and vertical coordination of departmental planning (European Commission, 1999a)
Germany (National level)	ROG (Federal Regional Planning Act)	- more general spatial planning framework for Germany, naming aims and characterising instruments

⁷ „Es würde schon reichen, wenn die Landesentwicklungsplanung und Raumordnungsplanung am Ende wirklich ihre Interessen, also ihre Ziele durchsetzen würde. Wäre schon viel getan. ... Als allererstes Mal die Umsetzung der Landes- und Regionalplanung, die konsequente Umsetzung der landes- und regionalplanerischen Zielsetzung.“ – Planner 2

⁸ „Bei dem Einzelhandelsthema wird der Stadtentwicklungsplan stärker als bei anderen Themen als Abwägungsgrundlage in den Flächennutzungs- und Bebauungsplänen genutzt und dadurch wollten wir sozusagen ein Stück mehr formelles Verfahren daran knüpfen.“ – Planner 2

Planning level	Planning policy	Content
		<ul style="list-style-type: none"> - defines requirements for federal states and their duties - Article 2.2: focus on the spatial concentration of developments - Article 2.3: accessibility of inner urban centres and the link between the spatial structure and transport (Bundesministerium für Verkehr, Bau und Stadtentwicklung, 2008)
	BauGB (Building Law)	<ul style="list-style-type: none"> - provides legally-binding requirements and parameters for urban and spatial planning, gives precise regulations, and defines the most important urban planning instruments - several articles to strengthen the development of inner cities and the spatially close supply of residents (Bundesministerium für Wohnungsbau, 2014)
Saxony (Federal level)	SächsLPlG (Saxon Federal Planning Act)	- more specific requirements for the regional and local planning levels in Saxony (Sächsische Staatskanzlei, 2014)
	LEP (Federal State Development Plan)	- sets the general planning framework for Saxony, defining aims for example for spatial development, environmental protection, and transport infrastructure (SMI, 2013)
West Saxony (Regional level)	RP Regional Development Plan	<ul style="list-style-type: none"> - coordinates objectives between federal state and municipalities - general aims at the regional level, including land use, spatial development, protection of the landscape - needs to be taken into consideration at the local level (Regionaler Planungsverband Westsachsen, 2008)
Leipzig (Local level)	SEKo (Integrated Urban Development Concept)	<ul style="list-style-type: none"> - general development strategy of Leipzig - aims to coordinate the content of various local policies, e.g. the 'Centres' urban development plan, the 'Transport' urban development plan and the land-use plan (Stadt Leipzig, 2009a)

Table 5. 1: Overview of the institutional framework in spatial planning

5.2.2 Spatial development in Leipzig since 1990

In order to understand the development in Leipzig since the 1990s, the local circumstances prior to the 1990s need to be explained. Leipzig was part of the German Democratic Republic (GDR) and with the change to the socialist system of government after the Second World War Leipzig lost its important role in the German city network (Rink and Grahl, 1993). Between 1949 and 1990 the majority of the financial resources of the GDR were used for the development of Berlin or primary production (Rink and Grahl, 1993, Werner, 1981). The other cities and municipalities were characterised by

insufficient retail facilities and transport infrastructure. Although retail facilities were mostly well connected to the public transport network, they were less accessible by car (Eckart, 1989).

In 1990 Leipzig had a sales area of 160,000m² (0.3m² per capita) what planners described as very small for a city of its size (Stadt Leipzig, 2009c). Additionally, a high percentage of retail spaces needed rehabilitation due to a lack of investment in the previous years (Stadt Leipzig, 2009c). The accessibility of most retail facilities by all modes of transport was also not adequate. The result of these two issues meant that there was high investment pressure within the city in 1990 (Stadt Leipzig, 2009c). However, due to restitution claims of former owners of property prior to 1949 investments and developments within the administrative area of Leipzig started very slowly (Schmidt and Fliege, 1997, Stadt Leipzig, 2009c).

Retailer 2 highlighted why greenfield rather than brownfield development became the preference for new retail development in Leipzig: ‘It was not that someone had forgotten to develop the city centre in 1990. It was just not possible, with the problems of property rights. Greenfield development was easier. There was a complete chaos, reassignment claims and that all hindered a development in the city centre⁹. So, at that time the development of greenfield sites in municipalities around Leipzig was easier and faster compared to inner city development. Agricultural properties had predominantly been expropriated before 1949, so restoration was not applicable, in contrast to the city centre properties. Furthermore, in the months before the reunification of Germany on the 3rd October 1990 planning in the GDR more or less took place in a ‘lawless space’. Building laws of the GDR were no longer applicable and the laws of the Federal Republic of Germany were not yet in force (Kegler, 2010). ‘The basis for shopping centres on greenfield sites had been laid before the 3rd October 1990. All the big shopping centres around Leipzig received planning permission before that day.’¹⁰ (Planner 2 on the circumstances in 1990)

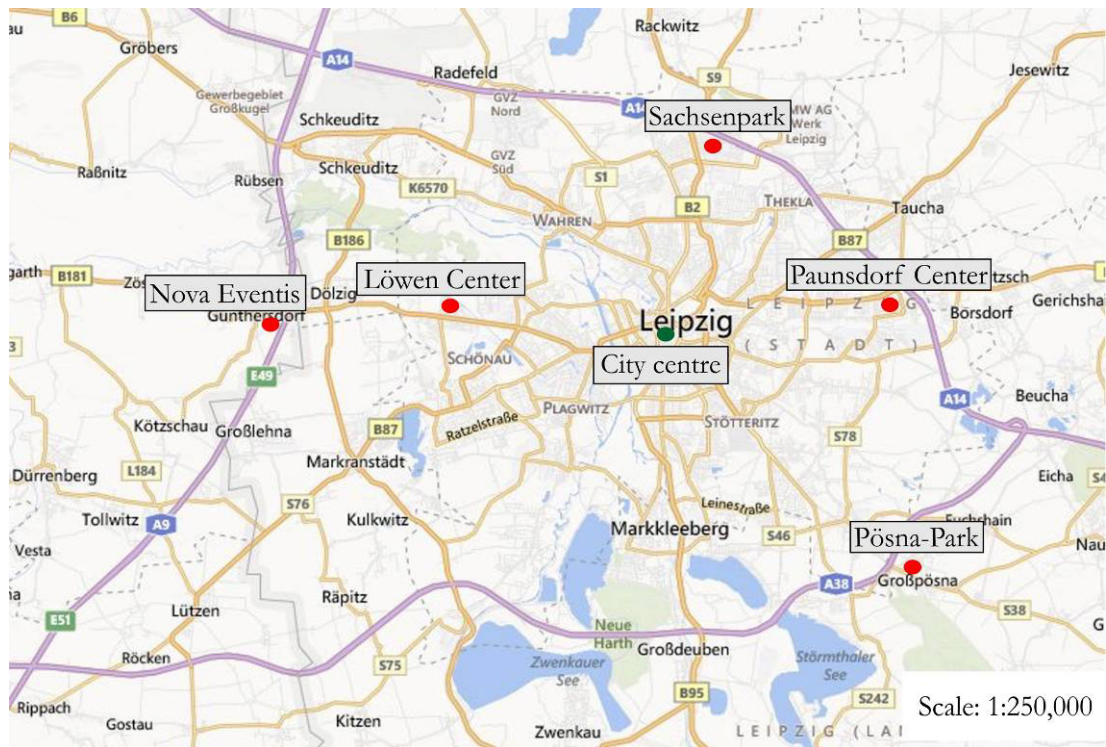
⁹ „Also das ist ja nicht so, dass das 90 jemand verschlafen hätte, mit der Innenstadt. Das ist nur einfach Eigentumsrechtlich nicht in die Reihe zu kriegen gewesen. Grüne Wiese funktioniert immer viel einfacher. Es war ein heillooses Durcheinander, Rückübertragungsansprüche, also das hemmte komplett alle Entwicklungen.“ – Retail 2

¹⁰ „Die Grundlagen für die Einkaufszentren auf der grünen Wiese sind alle vor dem 03. Oktober 1990 gelegt worden. Also Saalepark, Sachsenpark, Rückmarsdorf-Burghausen, Pösnapark, alles bis zum 02. Oktober 1990 genehmigt gewesen.“ – Planner 2

As a result, within these months of little control around 400,000m² of sales area were approved around Leipzig by local planning authorities of the surrounding municipalities (Stadt Leipzig, 2009c). This process of greenfield retail development continued after the reunification. Small municipalities around Leipzig and planning authorities at higher levels, who obtained planning powers over night, were totally overwhelmed in autumn 1990 by the high number of building applications. As a result the majority of developments that received approval in that time were contradictory to the aims of spatial planning (Kegler, 2010, Stadt Leipzig, 2009c). Table 5.2 presents the size and accessibility of the main five shopping centres that had been built around Leipzig in the early 1990s. Map 5.1 illustrates the location in relation to the city centre. It shows that the shopping centres are all build next to a motorway or a major road and therefore are clearly reliant on people using motor vehicles to get there.

Name of shopping centre	Year of opening	Sales area	Accessible via
Nova Eventis (former name: Saalepark)	1991	77,937m ²	Motorway A9
Löwen Center	1993	41,191m ²	Motorway A9
Paunsdorf Center	1994	105,964m ²	Motorway A14
Sachsenpark	1992	34,596m ²	Motorway A14
Pösna-Park	1993	41,650m ²	Motorway A38

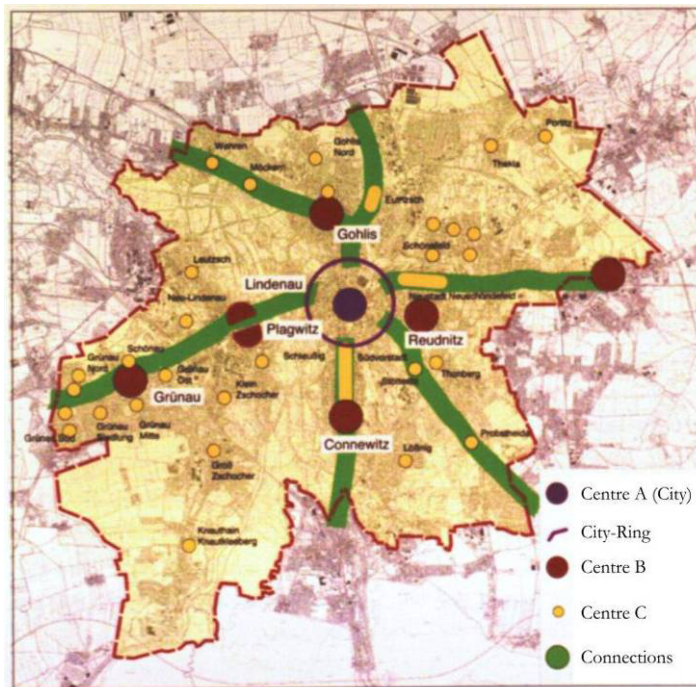
Table 5. 2: Examples of greenfield shopping centres around Leipzig that got planning permission in the time of the reunification (Kubis and Hartmann, 2007)



Map 5. 1: Examples of greenfield shopping centres around Leipzig and the location of the city centre (map basis: Microsoft, 2014b)

One direct effect of these greenfield developments had been a shift towards purchasing goods away from urban to suburban centres. In response to this trend, in 1993 a first development strategy for spatial planning was published by local spatial planners. The work on this “Conceptual Framework for Retail Development in Leipzig” (Stadt Leipzig, 1993b) had already started in 1991. It was therefore based on the old retail structure of the late 1980s. The planners had the objective to guide the amount of investment, which was very high in all sectors at that time. In order to avoid a shortage of space in the city centre and to achieve equal development in all parts of the city local planners set up some general development aims. In their eyes, the risk otherwise was that existing centres in Leipzig would be weakened.

In cooperation with an external expert, the planners also developed a three-level hierarchy for centres. The levels involve different quantities and qualities of facilities and different catchment areas. This structure was also included in the land-use plan of Leipzig, as can be seen on map 5.2 (Stadt Leipzig, 1993a). All other main findings of the “Conceptual Framework” were included in the land-use plan, too (Stadt Leipzig, 2000).



Map 5. 2: Centres structure in 1993 (Stadt Leipzig, 1993a)

In the early 1990s difficulties in planning in Leipzig included time pressure created by the speed of developments. The rapid and constant change of retail space made it impossible to calculate the future demand with exact numbers as Planner 2 commented: ‘After the reunification big investments were prepared and planning policies had to be developed and the strategy was mainly focussing on big projects. One effect was that the real development lagged behind the high development expectations and therefore we experienced a mismatch between plans and reality. This resulted in a high level of vacancies.’¹¹ Additionally, the estimate of purchasing power of the residents was difficult as there was a high fluctuation, especially of people migrating Leipzig. This also affected the calculation of required retail space and facilities in centres (Stadt Leipzig, 2000).

Planner 2 talked about the consequences that were taken by planners in the middle of the 1990s: ‘Planners started to establish strategic urban development planning, which was still focussing on sectoral policies’¹². Additionally, in 1995 the development of retail facilities in and around Leipzig slowed down and it was possible for planners to analyse the size and structure of all retail areas. The analysis of the local planners showed that

¹¹ „Nach der Wende, wo im Prinzip nachholend zu der Vergangenheit große Investitionen vorbereitet wurden, Planungsgrundlagen erst aufgebaut werden mussten und man eben eine sehr einzeln und projektbezogene Planungsstrategie hatte. Das hat in der Folge auch dazu geführt, dass die Entwicklungserwartungen größer waren als die reale Entwicklung und es sozusagen ein Mismatch dazwischen gab und in der Folge eben ziemlich hohe Leerstände.“ – Planner 2

¹² „Als die ersten Folgen absehbar waren, hat man angefangen, hier eine strategische Stadtentwicklungsplanung aufzubauen, die zunächst über sektorale Konzepte gearbeitet hat.“ – Planner 2

the quality of the retail facilities partly dropped although the retail area increased between 1990 and 1995 from 160,000m² to 510,000m² (Stadt Leipzig, 2000). Due to the orientation of new developments on car accessibility retail facilities in integrated centres were hardly developed and the retail situation got worse especially for less mobile residents (Stadt Leipzig, 2000).

The city centre of Leipzig is the highest centre in the hierarchy. However, despite all investments the city centre had only a retail area of approx. 70,000m² in 1995. It had a less important market position than the Paunsdorf Centre in the East of Leipzig with its 105,000m² (Stadt Leipzig, 2000). However, whereas in the early 1990s most developments in the region of Leipzig happened on greenfield sites, a change occurred in the middle of the 1990s. The inner city areas of Leipzig and especially the city centre became more important and planners had to adjust their strategy (Stadt Leipzig, 2000). Planner 2 explains this shift in strategy towards city centre development in more detail: ‘What planners did then was a consequent focus on city centre development. There was not only a focus on retail but also on public investment, for example the museum or the public space in the city centre.¹³ Property ownerships were solved step by step and new investments started like the first newly-built department store in Leipzig in 1994 (Moore Ruble Yudell architects & planners, 2014) and the transformation of parts of the main station to a shopping centre in 1996 (Hoppmann and Axtner, 2005).

In the early 1990s Leipzig was often called “Boomtown of the East” (Rosenfeld et al., 2011), linked to this phase of high investment. However, towards the end of the 1990s investments in new retail space were tailing off which provided the chance for planners to deal with the situation in a more differentiated way. The result of this process was the formation of a strong urban development concept which had become necessary to order the retail structure of Leipzig and stop the development of retail facilities on all free spaces around the city. Retail 2 highlights the importance that the new approach to planning has on retail development in the city: ‘It orders the whole structure better. Before we had the phenomenon – there was an empty space and immediately a retailer

¹³ „Was die Stadt Leipzig gemacht hat, ist eine ziemlich konsequente Innenstadtpolitik. Nicht nur bezogen auf den Einzelhandel, sondern eben auch bezogen auf öffentliche Investitionen, Museum der bildenden Künste und so was, auf den öffentlichen Raum und die Qualität dieses öffentlichen Raumes.“ – Planner 2

had to develop something there. And then it was said we need to order that better. Sometimes involved parties went straight to court, but then we got the Centres Plan.¹⁴

The analysis of the circumstances and developments of the 1990s reveals how much the situation had changed since the end of the GDR. Private investors had taken over the role of retail development. A growing number of facilities were opened in car-oriented locations. Unsolved property issues and missing or weak spatial regulations could not impede the development of non-integrated places. Local spatial planners were mainly reacting and did not have an overall plan that could help to strengthen integrated centres and to provide accessibility of facilities to less mobile citizens. Environmental objectives did not play any role.

5.2.3 The Centres Urban Development Plan of 1999

The first Centres Plan was adopted in 1999. It was subdivided into three parts: the general introduction which included information about the development procedure of the plan, the detailed description of the eight retail areas of the city, and a detailed report of each centre (Stadt Leipzig, 2000). The structure of the plan reveals a strong focus on spatial planning and a lack of integration of environmental objectives and of topics of other departments, for example transport planning. The preparatory examination of the local retail structure, as presented in the policy, also focussed only on retail topics and related spatial issues. An analysis of transport links at the city level and impacts of the retail structure on the environment were not included.

In the Centres Plan is written that the integration of local stakeholders is important with an emphasis on the cooperation of “affected stakeholders, administration, Chambers and associations as well as individual retailers, caterers and citizens” (Stadt Leipzig, 2000, p. 15)¹⁵. Furthermore, the integration of stakeholders is suggested as early as possible with the argument that decisions only made by local planners have a higher potential for conflicts. Subsequently, stakeholders were invited by local planners to participate in a working team. Members of the Chambers, various associations, some

¹⁴ „Also der ordnet das Ganze so ein Stückchen in der Gesamtstruktur. Wir haben ja in den 90er Jahren immer bei Einzelhandelsansiedlungen das Phänomen gehabt, wo eine freie Fläche ist, da muss ein Versorger drauf. ... Also da hat man gesagt, jetzt müssen wir das Ganze ein bisschen ordnen, das kann nicht überall ... es geht dann auch immer alles vor Gericht und statt dem Gericht eine feste Konstruktion zu haben – den Stadtentwicklungsplan Zentren.“ – Retail 2
¹⁵ „betroffene Akteure, Verwaltung, Kammern und Verbände, aber auch einzelne Händler, Gastronomen und Bürger“

retailers, caterers and investors took part and discussed and voted on first ideas of the plan (Stadt Leipzig, 2000).

In the Centres Plan, transport related issues are only mentioned in a table, where spatial planners list the development aims for the different centres. Table 5.3 shows the relevant part on transport. Depending on the level of the centres, the amount and also importance of eco-mobility related aims and measures is declining. Otherwise transport related issues are not discussed in the plan. Environmental topics do not play any role.

A-Centre	B-Centre	C-Centre	Neighbourhood-Centre
Urban railway, central public transport point	Tram stop	Tram stop	Public transport stop
Pedestrian area	Pedestrian area/Mall	Pavement connection	
Cycling plan	Pedestrian and cycling plan		
Traffic-calmed areas			
	Parking areas		
Barrier-free access			
Services for elderly people and disabled people			
Plan for economic traffic			

Table 5. 3: Transport related objectives in different centres in Leipzig (Stadt Leipzig, 2000, p.19)

In the second part of the Centres Plan all retail areas of Leipzig are described and information is provided referring to the number of residents living in the area, urban and transport capacities, development trends in the centres, and necessary amendments in the future. More detailed information about each centre follows in the final part of the plan (Stadt Leipzig, 2000). The descriptions and analysis of the retail areas and centres are mainly focussing on retail facilities. In relation to mobility only the accessibility by public transport, tram or bus, and number of stops is evaluated with 'good' or 'deficient'. Other modes of eco-mobility are not mentioned as well as there are no suggestions about how to make the accessibility of the centres more environmentally friendly. The impact of centres on the local environment is also not analysed or mentioned.

5.2.3.1 Emerging retail challenges after 1999

In the early 2000s a new problem arose which was not part of the plan of 1999. Discount supermarket retailers opened more new stores along main roads in peripheral areas with 36 new stores being built between 1999 and 2007. In 2007 Leipzig had a total number of 106 discount supermarkets. Out of these 106 only 6 were established in designated centres (Stadt Leipzig, 2009c). The local planners named two reasons in the Centres Plan for this development. Firstly, there are lower property costs of brownfield sites outside of defined centres. Secondly, it is easier for developers to find the right land to build the desired form of building and parking outside the existing centres (Stadt Leipzig, 2009c).

This development of non-integrated supermarkets created a second network of retailers who focus mainly on car users. Additionally, it led to a weakening of the centres that are integrated within residential areas. The German legal framework did not provide any legal regulation until 2004 to prevent this development as this quotation from Planner 2 shows: 'It was 2005, when the paragraph 34.3 had been added to the Building Law – that was when the control modes for retail development had been changed'¹⁶. In 2004 §34.3 of the Building Law was changed to protect existing centres in municipalities (Bundesministerium für Wohnungsbau, 2014, Fuchs, 2011). It states that new developments must not interfere with established centres¹⁷. An additional change in 2007 had an influence on building plans. Planner 2 highlighted second change: '2007 was a second amendment, which is, I believe, more important than the first one 2004'¹⁸. In §1 the changes refer to the consideration of existing centres and the integration of aims of urban development plans¹⁹. The changes in §9 are linked to §34.3 and say that local planners can limit land use in building plans according to their urban development plans²⁰ (Bundesministerium für Wohnungsbau, 2014, Fuchs, 2011)

¹⁶ „Es war im Jahr 2005, also es war gerade der Paragraph 34.3 ins Baugesetzbuch eingefügt worden. Es fing gerade an, dass sich die Steuerungsmöglichkeiten für die Einzelhandelsentwicklung verändert haben.“ – Planner 2

¹⁷ „Von Vorhaben nach Absatz 1 oder 2 dürfen keine schädlichen Auswirkungen auf zentrale Versorgungsbereiche in der Gemeinde oder in anderen Gemeinden zu erwarten sein.“ BauGB § 34.3

¹⁸ „2007 gab es eine zweite, die ist, glaube ich, noch wesentlicher.“ – Planner 2

¹⁹ „...die Erhaltung und Entwicklung zentraler Versorgungsbereiche“ BauGB § 1 (6.4); „die Ergebnisse eines von der Gemeinde beschlossenen städtebaulichen Entwicklungskonzeptes ...“ BauGB § 1 (6.11)

²⁰ „...in einem Bebauungsplan festgesetzt werden, dass nur bestimmte Arten der nach § 34 Abs. 1 und 2 zulässigen baulichen Nutzungen zulässig oder nicht zulässig sind oder nur ausnahmsweise zugelassen werden können ... ein hierauf bezogenes städtebauliches Entwicklungskonzept ... zu berücksichtigen ...“ BauGB § 9 (2a)

The change of the Building Law in 2004 and 2007 has strengthened the importance of inner urban developments and of the polycentric development of cities. Local planners received stronger instruments to secure the spatial structure and to provide adequate supply to all residents. With the implementation of these guidelines they could generate stronger development plans, which then provide the framework for further economic development. The changes to the institutional framework and the changing local circumstances made it necessary to update the Centres Urban Development Plan. The updating process started officially in 2007 and was completed in 2009.

5.2.4 The Centres Urban Development Plan of 2009

The Centres Plan of 2009 is the most recent policy of spatial planning in Leipzig and represents the focus of the spatial planning aspect of this research. The updating process was organised and led by the Department of Urban Development Planning. It took place in three main phases (see Table 5.4). The first phase was the preparation phase where ideas were discussed. The second phase was the main phase of the updating process, where a working group developed the new plan. The final steps were the participation of stakeholders and the political debate in the city council. The updating process finished in 2009, when the city council agreed and adopted the plan (Stadt Leipzig, 2009c).

2005	2006	2007	2008	2009
Phase 1 City workshop	Phase 2 Workgroup process		Phase 3.1 Participation of: citizens public agency district boards	Phase 3.2 Political debate in the city council

Table 5. 4 Chronological overview of the updating-process

5.2.4.1 Departmental and stakeholder integration in phase 1

The official starting point of the updating process was a city workshop that took place in 2005. According to Planner 2 city workshops in Leipzig are informal meetings that allow experts of a certain field to discuss current developments in urban planning in an open debate: '50 to 70 invited participants ... in the morning are two or three presentations ... to show the situation of the city, to bring in experiences from outside the city, then a panel discussion, followed by questions and in the afternoon are workgroups where some detailed issues can be discussed. At the end of the day the

results are brought together.²¹ The list of participants of this workshop is attached in Appendix 6. Results of the workshops are used in planning processes, in this case as one basis for the updating of the Centres Plan (Stadt Leipzig, 2005).

The city workshop that started the updating process had the title “Who needs a local centre?”²² and took place in June 2005. More than 60 people with different backgrounds participated (Stadt Leipzig, 2005, see Appendix 6) but further inspection reveals that the majority of participants had an interest in retail development. No stakeholders appeared to have an explicit interest in transport or environmental topics. Only one planner from the Department of Transport Planning attended and no one from the Department of Environmental Planning. This means a deficient focus on these topics and therefore a weak level of environmental, departmental and stakeholder integration.

The topics that local spatial planners brought up on that day also reflected the focus on retail related topics. They covered a discussion of the centre development in Leipzig on the basis of the changes in the city in the previous years and the problem of discount supermarkets in non-integrated areas (Stadt Leipzig, 2005). A third topic that was discussed was named by Planner 2: ‘Article 34.4 had been added to the building law.’²³ He refers to a change of the German Building Law in 2004 which followed the massive growth of discount supermarkets and which offered a stronger institutional framework for local planners.

The general agreement of participants on the problems, challenges and future developments of the centres, as presented in the report of the workshop, can be explained by the composition of participants and the chosen topics as Planner 2 explained: ‘there are less controversial discussions as there are no solutions to be found at this stage or no final ones. It is rather a communication about different views and a

²¹ „... ein geladener Kreis von Teilnehmern so 50 bis 70 Personen ... am Vormittag gibt zwei/drei Vorträge ... noch einmal die Situation der Stadt aufreißen, auf der anderen Seite aber auch noch mal Erfahrungen von außen hereinbringen, dann eine Art Podiumsdiskussion ... dann Rückfragen ins Plenum und am Nachmittag geht man in ... Arbeitsgruppen, wo man Teilfragen vertieft, die dann wieder zusammengeführt werden.“ – Planner 2

²² *Wer braucht schon ein Stadtteilzentrum?*

²³ „es war gerade der Paragraph 34.4 ins Baugesetz eingefügt worden.“ – Planner 2

common view on the situation and a basic understanding how a solution could look like. Contentious issues usually occur when it comes to discussions about details²⁴.

Avoiding contradictory policies is one aim of the integration approach. The development of discount retailers in non-integrated locations contradicts the Centres Plan and was therefore highly discussed in the workshop. According to the workshop report, it was urban planners and traditional retailers who especially complained about the development of car-friendly sites outside of residential areas and defined centres that usually have no link to the public transport network and are not within a walkable distance. Additionally, it was emphasised that discount retailers compete with retailers in integrated locations and small-section retailers (Stadt Leipzig, 2005).

Key drivers in urban development are financial aspects and local business tax (Rosenfeld, 2010). The type of retailer plays an important role for municipalities, for example full-range supermarkets like REWE do favour integrated locations. Furthermore, every supermarket belonging to them is a franchise and has the position of a small company and, therefore, these supermarkets pay business tax locally and not in the cities, where the company is headquartered as it is with discount retailers like Aldi and Lidl. This peculiarity of the tax system is used as one argument by local planners to strengthen traditional retailers in centres (Stadt Leipzig, 2005). However, they do not use integrated locations as another argument for franchise supermarkets, an argument that would be in the interest of environmental objectives.

In the conclusion of the day, integrated concepts were deemed ‘necessary’. This opinion is again based only on spatial issues especially in the request that facilities should be provided close to residential areas in local centres (Stadt Leipzig, 2005). However, no suggestions are written in the report on how to achieve higher degrees of integration, how integrated centres could be developed to make them accessible mainly by eco-mobility and how to reduce the car dependency that non-integrated retail locations have.

²⁴ *“also es sind weniger kontroverse Diskussionen, weil es sind ja keine Lösungsansätze an der Stelle schon oder nicht in der Tiefe sondern es ist erst mal sozusagen Verständigung über eine Sichtweise, eine gemeinsame Sichtweise auf die Situation und eine Grundrichtung, wo so eine Lösung hingehen kann. Die Kontroversen entstehen in der Regel im Detail.“ – Planner 2*

5.2.4.2 Departmental and stakeholder integration in phase 2

The Centres Plan of 2009 states that stakeholder integration is important in order to successfully implement the plan. A commonly found strategy, i.e. together with local actors of retail and urban planning and members of political parties and economy, is necessary²⁵ (Stadt Leipzig, 2009c). So, again, the focus is only on spatial and retail topics. This limitation also applies to the participants of the working group that was established to discuss upcoming issues along the development process of the Centres Plan. Planner 2 specified the members of the working group as representatives of the Department of Urban Development Planning, the CCI, the Trade Association of Saxony, and the State Directorate of West-Saxony²⁶. The main conceptual work was done by local spatial planners, who were also leading and coordinating the working group (Stadt Leipzig, 2009c).

The small group of participants supports consensus finding and allows discussions in great detail as Planner 2 stated: 'It is a relatively small group that can really work. About six to seven people sit around the table ... it is a really intense and collective working process'.²⁷ The agreement of planners and stakeholders working on the plan was expressed important especially with regard to the following political discussion with Planner 2 and Retail 2 commenting:

- 'We have to stand completely behind the plan in order to be assertive in the political debate'²⁸. (Planner 2)
- 'We managed it a little bit as well especially with regard to the political line as it is not easy to get it pass through the city council'²⁹. (Retail 2 on their task with regard to political consensus)

So, finding consensus in such a homogeneous group on how to develop retail generally and centres more specifically in Leipzig seems to be not too difficult as these quotes of Retail 2 and Retail 3 show:

²⁵ "... spielt der Kommunikationsprozess eine wesentliche Rolle. Nur wenn eine gemeinsame Strategie mit den lokalen Akteuren des Einzelhandels und der Stadtentwicklung sowie mit Vertretern aus Politik und Wirtschaft hergestellt wird, wird ein Stadtentwicklungsplan auch erfolgreich umgesetzt werden können." (p. 17)

²⁶ „Vertreter der IHK, Landesdirektion und der Chef vom Handelsverband Westsachsen.“ – Planner 2

²⁷ "Das ist ja dann eine relative kleine Runde, die auch wirklich arbeiten kann. Da sitzen halt sechs, sieben Leute am Tisch ... Das ist also wirklich so ein intensiver, gemeinsamer Arbeitsprozess." – Planner 2

²⁸ "um im politischen Raum durchsetzungsfähig zu sein, müssen sie vollständig hinter dem Konzept stehen" – Planner 2

²⁹ "... und das Ganze ein bisschen mitgesteuert, auch was die politische Linie angeht, das ist ja nicht immer ganz einfach, das auch durch den Stadtrat zu bringen ..." – Retail 2

- 'We always found a consensus, that worked well'³⁰. (Retail 2 on the working group)
- 'From my point of view that is a very agreeable group. It is important to exchange ideas, but also to find a solution. And that works well in Leipzig'³¹. (Retail 3)

Stakeholders and planners of other fields were not involved in the workgroup phase. That can be seen in the discussed topics as those focussed on retail related issues only, such as: how tight the framework for further development should be, how much the plan should regulate, and how much planning freedom planners could allow retail companies. A discussion of transport related topics, in order to connect centres, or environmental topics, which means the impact of centres and other retail facilities, did not take place.

The members of the working group pointed out that the process was a constructive one creating broad agreement. However, the agreement is a limited one due to the restricted membership of the group. Transport and environmental planners and stakeholders could have added information and raised issues on centres development, but were not included. Planner 2 explains the rationale for this bias in the working group's activity stating that: 'The ecological interests and social interests are resulting indirectly out of the concentration of centres. And depending on how consequent the plan is implemented there are consequential effects in the transport sector, climate protection, and the quality of local retail facilities. However, these are indirect criteria ... they are not the focus of the discussion. The focus of the discussion is on quality of facilities, closeness to residential areas, a certain concentration of facilities and how tight we set the framework for retailers'³². So, he shifts integration processes to a different level of planning or different departments.

³⁰ "Also von daher hat da eigentlich immer ein Konsens stattgefunden, das lief recht gut." – Retail 2

³¹ "Und das ist eigentlich aus meiner Sicht eine sehr konsensfähige Runde. Es ist wichtig, dass man Meinungen austauschen kann, dass man aber auch zu einem Ergebnis kommt. Und das funktioniert in der Stadt Leipzig seit vielen Jahren sehr, sehr gut" – Retail 3

³² „Und die ökologischen Interessen und sozialen Interessen, die ergeben sich ja fast eher mittelbar, nämlich über dieses Konzentrationskonzept mit den Stadtteilzentren. Und je nach dem wie konsequent man das durchsetzt, hat man auch letztlich Folgewirkungen im Verkehrsbereich und Klimaschutz, in der Qualität der Nahversorgung. Aber das sind sozusagen mittelbare Kriterien, die wir versuchen da planerisch da rein zu bringen, die stehen nicht im Vordergrund der Diskussion, sondern im Vordergrund der Diskussion steht so ein bisschen Versorgungsqualität, Wohnortnähe der Versorgung, versus einer gewissen Konzentration und wie eng strickt man das Korsett für die Wirtschaft.“ – Planner 2

Higher integration levels lead to an increasing consideration of different topics and influencing factors and in the end to stronger policies. A strong Centres Plan is important for local planners as it can be used to support funding applications. Those are submitted to the State Directorate. A member of them was part of the working group and should have requested higher levels of integration with regard to these applications. However, why this did not happen could not be established as the relevant individual was unavailable for interview.

5.2.4.3 Stakeholder participation in phase 3.1

The first public draft of the new Centres Plan was published in 2008. Following this all residents of Leipzig, the public agencies and the district boards had the possibility to comment and criticise the plan (Stadt Leipzig, 2009c). This formal participation process is not mandatory for Urban Development Plans, but was chosen by planners to increase the acceptance of the Centres Plan:

- ‘And then we did a formal public disclosure, what we usually do not do with Urban Development Plans. In this case the Centres Plan is often used as basis in decision making processes in land-use and building plans and so we decided to have a formal procedure and consider submissions³³. (Planner 2 on reasons to change normal procedures to higher involvement)

This form of participation followed a standardised procedure that is similar to the one in area development planning processes. Interested citizens and stakeholders could submit comments over a four week period (Stadt Leipzig, 2009c, Bundesministerium für Wohnungsbau, 2014). In order that modifications to the plan were considered Planner 2 explained that: ‘People had to submit clear and well-grounded proposals for modification³⁴. Following the legal requirements all proposals for modification needed to be evaluated by local planners. The results were published in a report, including information whether the proposals were accepted or not and the reasons. In total 75 citizens and 10 members of public agencies submitted comments. The majority had suggestions about the characteristics and/or dimensions of local centres (Stadt Leipzig,

³³ ‘Und dann gab es an der Stelle, das machen wir sonst bei den Stadtentwicklungskonzepten nicht immer so förmlich, quasi auf Grundlage des Entwurfs, eine förmliche Auslegung. Das liegt daran, dass bei dem Einzelhandelsbema der Stadtentwicklungsplan stärker als bei anderen Themen als Abwägungsgrundlage in den Flächennutzungs- in den Bebauungsplänen genutzt wird und dadurch wollten wir sozusagen ein Stück mehr formelles Verfahren daran knüpfen. Also es gab eine förmliche Auslegung, eine förmliche Beteiligung der Träger öffentlicher Belange und die Anregungen wurden dann abgewogen.“ – Planner 2

³⁴ ‘Es müssen also ganz konkrete, auch begründete Änderungsvorschläge eingebracht werden.“ – Planner 2

2009c, Anhang 1). The analysis of the proposals revealed that none of them dealt with environmental issues and only three were related to transport. Two of them, a specific tram stop and the extension of a tram line, were not accepted with the reason that the Centres Plan is not the appropriate plan to deal with transport related issues. The third one came from the local transport company. They requested that the bus network is considered as well, not only the tram network. The local planners agreed but added that this was already done to a certain extent (Stadt Leipzig, 2009c, Anhang 1).

The participation of citizens and the public agency was scheduled in parallel to the participation of district boards. Leipzig has 14 district boards which are elected boards of formerly independent municipalities. Their tasks and competences are regulated in the local government law of Leipzig. One of their tasks is the information, documentation and presentation of local issues (Stadt Leipzig, 2014a). Local planners attended one of the meetings of each district board in order to discuss the plan. The representatives of each board had the chance to bring in own ideas as Planner 2 pointed out: ‘The most interesting part of the participation was the discussion with the district boards. It is very difficult as the peripheral areas do not have typical centres. The district boards are directly elected and so their specific local interest can lead to some changes. We are invited and then there is a talk, followed by a vote and sometimes applications for changes. And those applications are considered as all other ones as well. And sometimes we made the change so we were able to get the Centres Plan politically accepted.’³⁵ This shows that the discussion of local issues can lead to an alteration of the plan. However, this could have been done as part of the development process and could, therefore, have increased the level of stakeholder integration.

The results of the discussions with the district boards were added to the report of the participation of citizens and the public agency. Local planners used them as a proof that public participation had taken place and that the process is transparent and can be understood. Nevertheless, the Centres Plan seems to be quite finished at that phase and significant changes not desired. So, looking at how the planners express it, they present

³⁵ *“Interessanter war dann sozusagen noch mal die Diskussion in den Ortschaftsräten. Weil das auch wirklich extrem schwierig ist, weil gerade in den Randbereichen der Stadt hat man keine typischen Zentren mehr. ... Die Ortschaftsräte sind ja vor Ort direkt gewählt, kommt also noch mal die besonderen Interessen der eingemeindeten Ortsteile, Ortschaften zur Wirkung. Auch das hat noch mal zu ein paar Änderungen im Detail im Stadtentwicklungsplan geführt. ... Die Ortschaftsräte laden uns ein, dann gibt es ein Gespräch, ein Votum, gegebenenfalls einen Antrag zu dem Konzept. ... Und wir nehmen das dann auch in die Abwägung auf. ... Das hat dann auch dazu geführt, dass wir in einer Ortschaft am Ende, um das politisch durchzukriegen, halt einen zentralen Versorgungsbereich als Ziel ausgewiesen haben.“ – Planner 2*

something like a medium level of stakeholder integration, but in the end it is only a low level of SI.

5.2.4.4 Political debate in the city council

The final decision on the adoption of the Centres Plan lies with the city council. In preparation for this decision, local planners, the CCI and the Trade Association informed the members of the city council about their aims, the process and the results of the participation process. Retail 3 explained: ‘It is adopted by the city council and we do what we can in influencing political views. There are, for example, fractions with a diverse opinion, whether we need something like the Centres Plan. And we meet then for questioning and explain our position. And that is our possibility to influence.’³⁶

So, it seems more likely that the city council agrees on the plan, when the stakeholder side provides fewer arguments against it as these two quotes show:

- ‘It is very helpful as there are only few counter-arguments from the stakeholder side against the concept.’³⁷ (Planner 2 on the question whether the council agrees easier when the trade association is standing behind)
- ‘We navigated the whole thing a bit, also with respect to the political debate. It is not always easy to get policies through the city council with its various fractions. There is definitely opposition and we need to face this. ... In the end we got it passed.’³⁸ (Retail 2)

The debate in the city council is also quicker, when retail interest groups like the CCI and the Trade Association agree on the concept before the political debate starts. ‘It is always a fundamental discussion whether regulation needs to be so tight, also in politics. Therefore it is important that the CCI and the trade association are committed to the policy. ... When the city council sees that interests are considered then they usually do

³⁶ *‘Verabschieden tut es der Stadtrat und da tun wir natürlich auch was dafür oder auch in der politischen Willensbildung, z.B. gibt es Fraktionen, da ändert sich auch mal das Meinungsbild – brauchen wir so was überhaupt? Dann lassen wir uns da auch schon mal befragen und nehmen da Positionen ein. Und das ist halt unsere Möglichkeit der Einflussnahme.’ – Retail 3*

³⁷ *‘Das ist schon sehr hilfreich. Weil sie nämlich dann aus der Akteursebene wenig Gegenargumente gegen das Konzept haben.’ – Planner 2*

³⁸ *‘Wir haben das Ganze ein bisschen mit gesteuert, auch was die politische Linie angeht. Das ist ja nicht immer ganz einfach, das auch durch den Stadtrat zu bringen, durch die verschiedenen Fraktionen. Da gibt es durchaus Widerstände und denen müssen wir uns stellen ... und haben es letztendlich auch durchgekriegt.’ – Retail 2*

agree.³⁹ (Planner 2 on opinion forming powers of stakeholders) ‘When trade stakeholders communicate there is a different result as when the administration tries to argue’⁴⁰ (Planner 2 on the different possibilities of stakeholders and planners)

One of the main discussion topics between members of the city council was competition. It was for example argued that the Centres Plan and its regulation would be negative for the economic development of Leipzig. Retail 2 and Planner 2 presented also some arguments why some restriction is necessary, despite doubts of some members of the city council:

- ‘Not everyone is happy when retail is treated a bit restrictively. We always argue then that it is important that the competition is healthy.’⁴¹ (Retail 2)
- ‘We do not interfere with the competition of retailers, but we define spaces where competition can take place and make sure that there is room for development in those spaces.’⁴² (Planner 2)

However, as the representatives of the retailers expressed their support of the plan and it was also set within the legal framework most members of the city council voted for the policy as Planner 2 pointed out: ‘Generally it is accepted.’⁴³

5.2.5 Implications of the Centres Plan

The Centres Plan could be an important instrument to regulate future retail developments in Leipzig. However, it cannot be used to reverse some misdirected investments of the past, like the Paunsdorf Centre as Stakeholder 1 pointed out ‘An aberration remains an aberration. It is a negative development of the 1990s and we need to deal with that, but the Centres Plan does not make it more urban compatible.’⁴⁴

³⁹ ‘Es ist immer eher die grundsätzliche Diskussion, ob man die Steuerung so eng will, auch in der Politik. Deswegen ist es wichtig, dass die IHK und der Handelsverband dahinterstehen ... Wenn sie merken, dass das ausreichend berücksichtigt ist, ist in der Regel dann auch eine Zustimmung da.’ – Planner 2

⁴⁰ ‘Wenn die Wirtschaft fragt, kommt was anderes bei raus, als wenn ihnen nur die Verwaltung etwas erzählt.’ –Planner 2

⁴¹ ‘Nicht jeder ist begeistert, wenn man den Handel ein bisschen restriktiv behandelt. Entgegen halten, dass es sich um einen gesunden Wettbewerb handeln muss.’ – Retail 2

⁴² ‘Wir beeinflussen ja auch nicht den Wettbewerb, sondern wir definieren die Räume, in denen der Wettbewerb stattfinden kann und wichtig ist, dass es dort Potenzialflächen gibt.’ – Planner 2

⁴³ ‘Generell wird das abgesegnet.’ – Planner 2

⁴⁴ ‘Die Fehlentwicklung bleibt eine Fehlentwicklung. Man muss mit den großen Fehlentwicklungen der 1990er Jahre umgehen. Das Paunsdorf Center ... macht das in keiner Art und Weise stadtverträglicher.’ – Stakeholder 1

Stakeholder 1 continued with a general critique on the Centres Plan that ‘the planning aims are correct but the reality is still not satisfying.’⁴⁵

So, it seems that the success of the policy depends on how strictly these aims are implemented into formal planning instruments, especially into building plans. In the case that the city follows the legal frameworks, particularly the building law, this urban development plan could be an example of strong integration. At the moment, Leipzig handles retail developments quite strictly and always refers to the aims of the Centres Plan (Stadt Leipzig, 2008a). However, the city of Leipzig is depended upon trade income tax. In this relation the development of a new shopping centre in the city centre is an interesting case. The ‘Höfe am Brühl’ project and the related debate are discussed in Chapter 7. However, it could be interesting to see, how planners would adjust the policy in case it becomes necessary to attract more investment. Stakeholder 1 named an example: ‘The basic idea of the Centres Plan is that there are bigger and smaller centres all over the city. But reality can be different. There are some linear shopping streets in Leipzig and they are struggling. In some areas retail is not profitable anymore and so the premises are transformed into flats. However, that contradicts the aims of the Centres Plan as it hardly happens that a flat is transferred into retail again.’⁴⁶

Environmental objectives are not mentioned directly in the policy. However, the focus on inner city development and of retail on specific centres could have a significant impact on traffic flows. The better the centres are developed the easier they are accessible, especially by eco-modes of transport. As stated before, interviewed planners and stakeholders did not include environmental topics or transport links into their argumentation and mainly named it as follow-up effects.

However, several transport related policies had been used during the updating process of the Centres Plan as is specified in the policy (Stadt Leipzig, 2009c). One of these policies was the Urban Transport Development Plan, which had been used as a basis for the centre structure. Centres of higher levels in the hierarchy needed to be localised at

⁴⁵ *“Insofern ist das planerische Ziel richtig, tröstet aber nicht darüber hinweg, dass die Realität nach wie vor nicht befriedigend ist.” – Stakeholder 1*

⁴⁶ *“Die Grundidee des Ganzen ist ja, dass es mal größere, mal kleinere geballte Räume gibt. Die Welt kann ja auch anders aussehen. Also es gab da auch mal lineare Geschäftsstraßen und die kranken, was fatal ist, in ihrer Entwicklung. Und somit wird die Infrastruktur, wie zum Beispiel Straßeneckgeschäfte, zurückgebaut und zu Wohnraum umgenutzt. Damit werden auch die Ziele eines Zentrenentwicklungsplans kaum noch umsetzbar, weil ich dort keinen Laden mehr haben kann, selbst wenn ich will.” – Stakeholder 1*

points of intersection of rail-bound public transport (Stadt Leipzig, 2009c). This was also highlighted by Planner 2: ‘In case of the localisation of centres the rail-bound local transport has always been the basis. That automatically gives the interlinking. It goes back to strategies at the beginning of the 1990s – as local centres are always situated at the intersection of tram lines.’⁴⁷

The Centres Plan itself, the version of 1999, had been used as ‘one basis for a reform of the bus network in 2010’⁴⁸ (Stakeholder 4). The network had been ‘concentrated, simplified and unified which led to a massive increase in ridership’⁴⁹ (Stakeholder 4). The idea of a reform of the bus network was specified in the Public Transport Plan of Leipzig (adopted in 2007) (Stadt Leipzig, 2007a). That policy contains a section that focuses on poorly connected and/or poorly accessible centres (Stadt Leipzig, 2007a, Stadt Leipzig, 2009c), and as was also named by Planner 1: ‘We took a closer look where bus and tram lines had to be changed as there is this topic in the Public Transport Plan – badly accessible areas. And considerations of the Centres Plan were included there as well’⁵⁰. Stakeholder 4 also highlighted the interrelationship of the various policies: ‘There was a section written in the Public Transport Plan about centres in Leipzig, as this is interconnected planning.’⁵¹

The link between spatial structure and mobility was hardly mentioned by interviewees related to the Centres Plan. However, Pol. Party 4 and Retail 2 pointed at this interrelationship in a wider context:

- ‘Centres – with view to mobility – we also have a growing number of elderly people, who are not as mobile and for whom some routes can be burdensome. That needs to be considered in the Centres Plan, so that there are not only big shopping centres but close-by retail areas in a way that is suitable and not only for motorised individual transport. There are first steps in that direction and that is

⁴⁷ „Die Grundlage des STEP Zentren war in Bezug auf die Verortung der Zentrenstruktur schon immer der schienengebundene Nahverkehr. Also von daher hat man automatisch die Verzahnung. Das geht eigentlich zurück bis auf die Strategien Anfang der 1990er Jahre, weil die Stadtteilzentren eigentlich immer an den Knotenpunkten von Straßenbahnlinien liegen.“ – Planner 2

⁴⁸ „Dieser Stadtentwicklungsplan Zentren war Grundlage für die Busnetzreform.“ – Stakeholder 4

⁴⁹ „Wir haben Linien konzentriert ... das ganze Netz verdichtet ... mit dieser Vereinfachung des gesamten Netzes aber ein viel dichteres, einheitlicheres Angebot und massenweise Fahrgastzuwächse erzielen können.“ – Stakeholder 4

⁵⁰ „Wir haben dort noch einmal genau geschaut, da gab es so im Nahverkehrsplan das Thema ‚schlecht erschlossene Gebiete‘, wo muss man Buslinien und Straßenbahnen etwas verändern ... und da fließen natürlich solche Überlegungen des STEP Zentren dann mit ein.“ – Planner 1

⁵¹ „Das war auch ein Punkt, findet sich auch im Nahverkehrsplan wieder, ist ja alles ineinandergreifende Planung.“ – Stakeholder 4

something that can help to minimise traffic in the end.⁵² (Pol. Party 4 on the interlinkage of spatial structure and mobility with special view at elderly people)

- ‘Urban development and the development of centres require accessibility. A centre would not develop if not accessible. ... In the end there is planning of infrastructure based on these centres.’⁵³ (Retail 2 on the interdependency of centres and transport infrastructure)

Many interviewees indicated the relation between urban structure and transport. They highlighted several times the dependency of local centres on good accessibility by all modes of transport. They also explained how plans are used as a basis for other plans. Nevertheless, the development of the Centres Plan took place in a group with mainly retail interests and no transport experts. If transport plays as important a role as expressed by the interviewees, it should have possibly been more prioritised in the workgroup phase.

The main aim of the local spatial planners was to create a network of centres and provide facilities that are close to residential areas and are easily accessible. The aim to prevent car use at the local level is not mentioned explicitly in the plan, but was expressed by various interviewees. However, they also pointed out that some more specific objectives could not be addressed in the Centres Plan as they go beyond the meaning of this plan. They argued that those objectives have to be addressed in other plans. The interviewees do not resolve the question as to how separate plans can be made coherent when the related policy making processes are detached, and planners and stakeholders of other fields are not integrated.

5.2.6 Conclusion of local spatial planning

Spatial planning is subjected to regular changes of the legal framework, is embedded in top-down and bottom-up processes, and comprises competition between municipalities. The Centres Plan is based on a strong institutional framework. Based on the Centres

⁵² “Zentren – das gerade mit Blick auf Mobilität – wir haben auch eine wachsende Zahl an Senioren, die nicht so mobil sind, für die Wege beschwerlich sein können. Das gilt es im Zentrenkonzept zu überdenken, also nicht noch mehr großflächigen Einzelhandel, sondern Naberversorgung. Natürlich in Strukturen, die dem wirklich gerecht werden und nicht nur auf Individualverkehr ausgerichtet sind. Da gibt es erste Schritte dahin und das ist auch etwas, was im Endeffekt auch den Verkehr minimieren helfen kann.“ – Pol. Party 4

⁵³ “Also was jetzt Stadtentwicklung betrifft und die Zentrenentwicklung, die bedingen ja auch eine Erreichbarkeit. Ein Zentrum würde sich nicht entwickeln, wenn es nicht erreichbar ist. ... Letztendlich läuft sozusagen auch alle Infrastrukturplanung auf diese Zentren aus.“ – Retail 2

Plan legally binding policies, such as building plans, are developed. However, if the plan does not include environmental objectives and only mentions mobility related issues without addressing and discussing them properly it is hard to see how the Centres Plan could directly contribute to a more environmentally friendly mobility in Leipzig. So far, it seems that it only supports the local economy and aims to be socially compliant.

Environmental objectives are not expressed in the policy and were only named during the interviews if specifically asked for. So far, the main focus is on economic security and development in the first place and social factors like local accessibility for residents in the second place. Environmental factors are not yet seen as important to strengthen arguments in local spatial planning.

The interviewees always put emphasis on stakeholder integration, though more on the involvement of, for example, outside stakeholders than on neighbouring planning departments. The integration of stakeholders only happened to a certain extent as only those got involved who had an interest in retail. Considering arguments regarding 'accessibility' and 'link to public transport' at least the integration of transport planners and stakeholders would have been essential. Nevertheless, the Centres Plan of 2009 achieved a higher level of integration than the older plans. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 5.5. The table also shows the development of levels of integration of the three successive plans.

In the future it would be interesting to see whether the local spatial planners would expand participation following the experiences that other planning departments of Leipzig made. The example of the transport planners is analysed in the next section of this chapter.

Indicators/Questions	Conceptual Framework 1993	Centres Plan 1999	Centres Plan 2009
Timeframe			
When did the integration of environmental issues start?	Environmental issues were named in the plan	At the end when it was thought necessary/ mandatory/requested by reviewers	At the end when it was thought necessary/ mandatory/requested by reviewers
When did the integration of other planning departments start?	Other departments were not involved	Towards the end as it was mandatory	Towards the end as it was mandatory
When did the integration of stakeholders start?	Other stakeholders were not involved	Towards the end as it was mandatory	Right at the start, but only certain stakeholders
Environmental objectives			
To what extent were environmental objectives discussed in the process?	They were only mentioned	They were only mentioned	They were only mentioned
To what extent were environmental objectives integrated in the policy?	They were only mentioned	They were only mentioned	They were only mentioned
Department/stakeholder integration			
To what extent were other departments/stakeholders integrated?	Other departments/stakeholders were not involved	There was only the involvement that was officially required	Some stakeholders were involved all the time
How was the integration of other departments/stakeholders organised?	Other departments/stakeholders were not involved	The mandatory process took place as required in the German law	Round table discussions with some stakeholders, otherwise the mandatory process
Communication			
What forms of communication were used?	Only in the official journal	Information were published in the official journal and a brochure of the plan was available in print form	Traditional forms of communication were used, like newspapers, the official journal and the city's web page and a brochure of the plan was available in print form
How many people were reached by the announcements?	Only people linked to the process and project were reached	Only people linked to the process and project were reached	Mainly those who new already about the project
Was there a possibility for non-planners to get heard?	No one had the possibility	It was only possible to bring in opinions via the official mandatory process	It was only possible to bring in opinions via the official mandatory process
Level of EPI	-	-	-
Level of DI	0	-	-
Level of SI	0	-	o

Table 5. 5: Indicators and levels of integration for the three analysed urban development plans (0: no integration, -: low, o: medium, +: high integration)

5.3 Der Stadtentwicklungsplan Verkehr: analysing the Urban Transport Development Plan

5.3.1 Introduction

Following the analysis of spatial planning in the previous section, this section examines the local transport planning policies of Leipzig with a special focus on Urban Transport Development Plans. The first part of this section analyses the transport guidelines of 1992 with regard to the transport situation in Leipzig. The second part takes a closer look at the Urban Transport Development Plan of 2004. The final part of this section deals with the updating process of this plan that had started in 2011. The updating process and the new Transport Plan are not part of this research as they were not finished. Diagram 5.3 shows the three phases of transport planning in Leipzig that are investigated in this section.

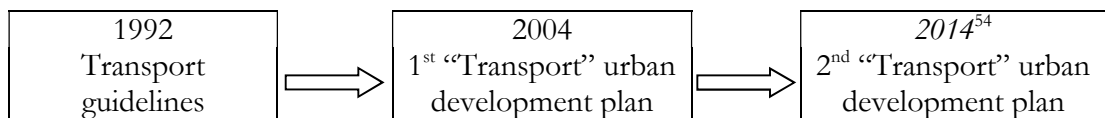


Diagram 5. 3: Chronology of transport planning strategies in Leipzig after 1990

The Transport Urban Development Plan deals with the infrastructure of various modes of transport and open space. It provides an analysis of the current situation in Leipzig as well as information about further development possibilities. The plan sets strategic guidelines and priorities for urban transport (Stadt Leipzig, 2004). Diagram 5.4 gives an overview of transport related planning policies in Leipzig and shows the position of the Transport Plan within other local transport related policies.

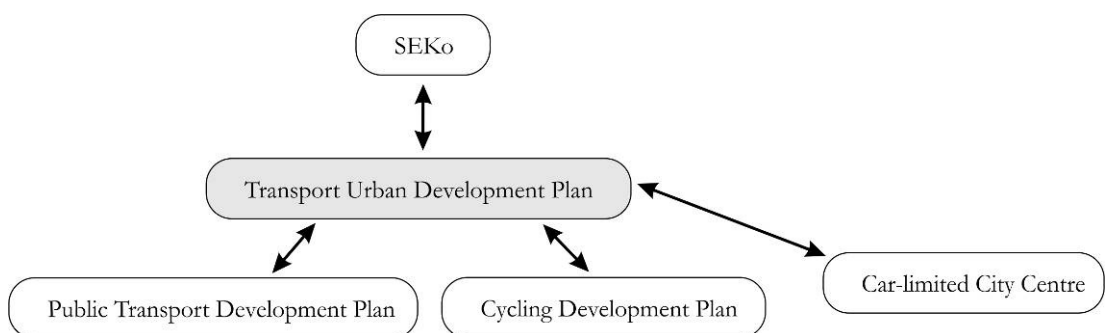


Diagram 5. 4: The Urban Transport Development Plan embedded in other local mobility-related plans

⁵⁴ The updating process had just started when the interviews had been conducted and therefore this research cannot cover the full updating process.

The Public Transport Development Plan, the Cycling Development Plan and the concept Car-limited City Centre are all based on the guidelines and findings of the Transport Plan. At present, Leipzig has no explicit plan for pedestrians.

5.3.2 The transport situation in Leipzig since 1987

In times of the GDR a “Generalverkehrsplan” (General Transport Plan) was produced by national transport planners that contained the development strategy and general aims for the whole country, including the local level. Planner 1 explained transport planning in the GDR: “There were so called Generalverkehrspläne, which had slightly different aims than those after the reunification. In the 1970s West German cities acted as models where a lot was done for motorised transport. The people, also in the GDR, sought for an own car and that was also subject of planning.”⁵⁵

However, due to financial restrictions few road schemes were built as the quotes of Planner 1 and Pol. Party 1 show:

- “In the GDR there was no big building activity. ... Big, wide roads – I think we have skipped that phase, because the GDR did not have the investment resources.”⁵⁶ (Planner 1)
- “The GDR was also quite fixated on cars in its planning, but did not have the financial resources to implement those plans. ... So in the end it was a mix of shortage of money and dated GDR-structures.”⁵⁷ (Pol. Party 1)

Public transport was well used in the GDR. Pol. Party 2 assumed various reasons: “Reason and thrift or maybe also certain adversities were factors that public transport always played a more important role than individual transport.”⁵⁸ Another reason was the fact that fewer people had cars, an argument that was also used by Transport 3: “The car in the East was not as available, what means people could not buy it as they wanted. ... And obviously it was more common in the GDR to park the car in a garage and

⁵⁵ “Dazu gab es natürlich sogenannte Generalverkehrspläne, die ein bisschen ein anderes Ziel hatten als die Dinge, die dann nach der Wende aktuell waren. In den 1970er Jahren hatte ja jede Stadt so das bundesdeutsche Vorbild vor Augen, viel für den Kraftverkehr zu tun ... der Bürger, auch in der DDR, strebte ja als erstes nach einem Fahrzeug und das war so ein bisschen Inhalt auch der Planung.“ – Planner 1

⁵⁶ “Zu DDR-Zeiten gab es keine große Bautätigkeit. ... Große Straßen, breite Straßen – ich denke, wir haben diese Epoche übersprungen, weil die DDR gar nicht die Investitionsmittel hatte.“ – Planner 1

⁵⁷ “Die DDR war auch sehr autofixiert in ihrer Planung, hat aber nicht die finanziellen Mittel gehabt, das in jedem Fall umzusetzen. ... Also insofern eine Mischung aus Geldmangel und überkommenen DDR-Strukturen.“ – Pol. Party 1

⁵⁸ “Vernunft und Sparsamkeit oder vielleicht auch eine gewisse Not führte dazu, dass dort immer auf den öffentlichen Nahverkehr gesetzt worden ist und nicht auf den Individualverkehr.“ – Pol-Party 2

therefore it was not right in front of the house.⁵⁹ The limited supply of cars in the GDR was well known as the production was not as fast as in other countries⁶⁰ (Werner, 1981).

After the reunification the situation changed and a higher demand and usage of cars could be observed. The desire to own a car was, for most families, increasingly easy to fulfil resulting in a significant increase of the number of cars from 1990 onwards. Several interviewees highlighted this development:

- ‘There are many people who have bought a car ... it was a real desire.’⁶¹
(Transport 3)
- ‘Within one-two years car traffic exploded. There had been various reasons. One was the car ownership increased significantly. And then the spatial structures in Leipzig changed, especially those of working. Many factories were closed in the early 1990s, factories that were situated along the tram network. New workplaces were later mainly developed on greenfield sites and they were not connected to the tram network. The same applies to the big shopping centres that also mainly developed on greenfield sites. And also residential areas on greenfield sites were a big topic, a dream of many in those years.’⁶² (Pol. Party 1)
- ‘The catch-up effect that was to find after the reunification is reversing in the last years.’⁶³ (Pol. Party 2)

These quotes show that a variety of factors led to an increase of traffic. Firstly, cars were available and people aimed to have one. Secondly, the spatial structure of the city changed significantly. This alteration of the situation required an amendment of the transport planning policies.

Following the changes of the legal framework after reunification the Generalverkehrsplan was evaluated by local transport planners in Leipzig in the early

⁵⁹ *„dass das Auto im Osten gar nicht verfügbar war, also man es nicht so kaufen konnte, wie man es wollte. ... Und offensichtlich war es zu DDR-Zeiten gang und gäbe, dass das Auto nicht in der Straße stand, sondern in Garagenanlagen.“* – Transport 3

⁶⁰ *The average waiting time for a Trabbi, the East German car, was 16 years.*

⁶¹ *„Also es haben sich viele ein Auto gekauft ... das war so ein Bedürfnis wohl am Anfang.“* – Transport 3

⁶² *„Also innerhalb von ein-zwei Jahren ist der Autoverkehr explodiert. Was wiederum viele Gründe hatte. Also zum einen hat der Pkw-Besitz ganz enorm zugenommen ... und es haben sich die Strukturen, insbesondere der Arbeit, ganz stark verändert. Auch das ÖPNV-Netz der Stadt war sehr stark auf die Wohn-Arbeits-Beziehung ausgerichtet. Viele Großbetriebe haben in den Jahren nach der Wende geschlossen, andererseits entstanden Arbeitsplätze an Stellen, die nicht ÖPNV erschlossen waren, auf der Grünen Wiese. Genauso entstanden Einkaufsmöglichkeiten auf der Grünen Wiese. Und auch beim Wohnbau ein wesentliches Thema, ein Eigenheim auf der Grünen Wiese, war in den Anfangsjahren ein großer Traum.“* – Pol. Party 1

⁶³ *„Der Nachholeschub, den es in der ehemaligen DDR gegeben hat, der kehrt sich in den letzten Jahren um.“* – Pol. Party 2

1990s. This evaluation was followed by an active discussion with experts and citizens about future aims of transport planning and led in the end to the local transport guidelines of 1992. ‘At the beginning of the 1990s, after reunification, an active discussion with experts and citizens ensued. Where do we want to go? How will we develop, in terms of urbanity and transport? ... There used to be city workshops and it all led to the development of the transport guidelines, which were adopted in 1992 and which formed the discussion basis.’⁶⁴ (Planner 1 on the first steps in the early 1990s)

An additional discussion forum was founded in July 1989. Since then a cycling working group is meeting biweekly to intensively discuss planning aims and projects related to cycling. Stakeholder 1 emphasised the importance of the group: ‘The working group cycling is exemplary. It is a group where planners of different departments and external organisations discuss together the development of cycling. They meet every two weeks and that is outstanding. It is a high level of influence, of participation that you cannot find anywhere else.’⁶⁵ Planner 5 provided some more information about the group: ‘The group intensively discusses plans and projects related to cycling. Members of the group are transport planners, urban planners, environmental planners, someone from the police and the ADFC (the cycling association). In cases where we discuss more specific problems we also invite other planners or external experts.’⁶⁶ The example of the cycling working group shows how a continuing discussion process can be achieved. It is a great example for DI and SI with high levels of integration. Furthermore, this group had been introduced more than 20 years ago and is still in place. It also shows that planners and stakeholders in Leipzig have experience with an integrated process over a long time. The question could be why there is no working group for pedestrians or one for the whole group of eco-mobility. One possible answer could be the lack of a strong lobby group for pedestrians and no lobby group for eco-mobility in its entirety.

⁶⁴ „Anfang der 1990er Jahre, nach der Wende, gab es also eine rege Diskussion mit Fachleuten, mit Bürgern. Wobin will die Stadt gehen? Wobin will sie sich entwickeln, städtebaulich und verkehrlich? ... Es gab Werkstattgespräche, Stadtwerkstätten, die dienen der Erarbeitung einer Leitlinie. Und es sind dann 1992 Verkehrspolitische Leitlinien beschlossen worden, als Grundsatzdiskussionsdokument.“ – Planner 1

⁶⁵ „Die Arbeitsgruppe Radverkehr ... ist sehr vorbildlich, wo eben Verwaltung in Form verschiedener Ämter plus externe Verbände gemeinsam die Entwicklung des Radverkehrs besprechen, in einem Rhythmus von 14 Tagen, und das ist herausragend. Das ist auch ein hoher Einfluss, eine hohe Beteiligung, die es wo anders nicht gibt.“ – Stakeholder 1

⁶⁶ „Die Arbeitsgruppe ... diskutiert dort sehr intensiv Planungen, Projekte zum Radverkehr. Teilnehmer an dieser Arbeitsgruppe Radverkehrsförderung sind der Radverkehrsbeauftragte, Vertreter aus dem Stadtplanungsamt, Amt für Umweltschutz, Grünflächenamt, der Polizei und des ADFC, also auch von der Nutzerseite des Verbandes sind regelmäßig Vertreter mit dabei und wir diskutieren dann die Probleme und wenn wir noch jemand dazu brauchen ... dann werden die zu diesen Themen dazu eingeladen.“ – Planner 5

5.3.2.1 Development of the modal split in Leipzig 1987-2008

The modal split is an indicator of the mobility structure of a certain area (Leser, 2011). Its development over time, i.e. the modal shift, is used by transport planners to reflect how the proportions of the single modes of transport change over time and to evaluate the implementation of their planning policies. The following diagram 5.5 shows the modal split in Leipzig from 1987 to 2008 and the aims for 2015 as defined in the Transport Urban Development Plan of 2003. The numbers include only passenger transport.

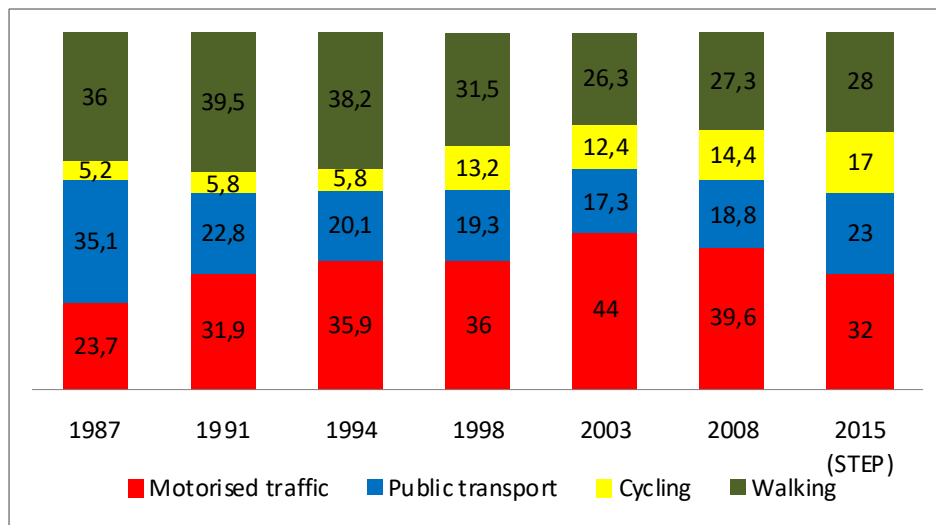


Diagram 5. 5: Modal split in Leipzig 1987-2008 and the goals specified in the Transport Plan 2003 (Stadt Leipzig, 2004, Stadt Leipzig, 2011c)

The diagram shows that car use increased between 1987 and 2003, but then declined again by 2008. The level of eco-mobility is not back to the one of 1998 yet. Walking and the use of public transport decreased until 2003 followed by a slow increase from 2003 to 2008. Cycling increased most of the time and people do cycle in 2008 nearly three times as often as in 1987. The aim of local transport planners is to continue this trend of growing importance of eco-mobility (Stadt Leipzig, 2011c).

The next diagram, 5.6, shows the modal split of Leipzig compared to other German cities and the German average. The numbers include again only passenger transport.

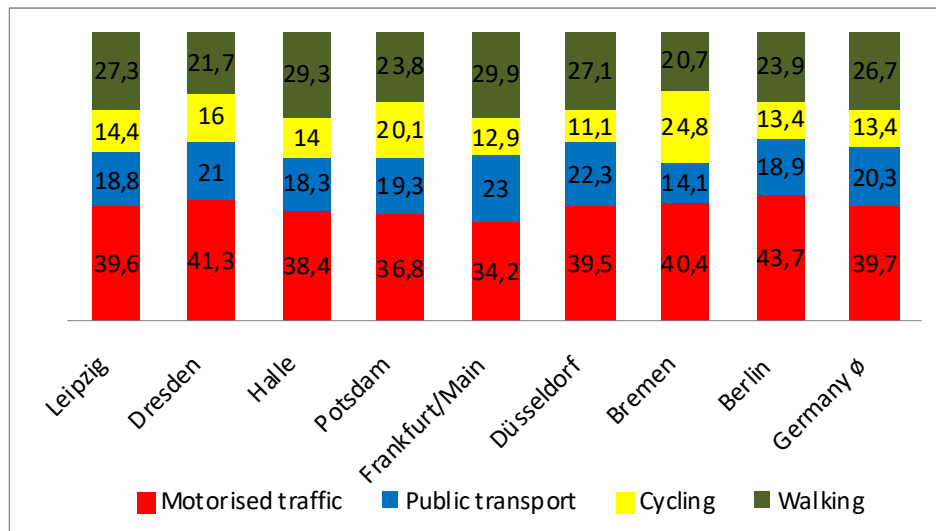


Diagram 5. 6: Modal split in Leipzig and other German cities in 2008 (Stadt Leipzig, 2008b)

In comparison to other German cities Leipzig holds a position in the middle ranks and comes quite close to the German average. If Leipzig could reach its goals set in the new Transport Urban Development Plan it would take a lead position in Germany with the highest level of eco-mobility. The next parts aim to analyse how planning policies of the last decades have influenced the levels of the various modes of transport and what levels of EPI, DI and SI were achieved.

5.3.3 Transport related guidelines 1992

The first transport policy that was developed by local transport planners after the reunification was the Transport Related Guidelines. The guidelines were developed by the temporary committee “Transport” of the city council and local planners. The city council adopted the guidelines in November 1992. The guidelines were announced as the basis for further strategic work of local planners and that would influence the development of Leipzig and the region far into the 21st century (Stadt Leipzig, 1992).

The development of strong eco-mobility, with an integration of motorised and commercial transport and an emphasis on efficient transport networks and infrastructure is announced as the main objective of the guidelines (Stadt Leipzig, 1992). ‘One of the main goals was to keep the public transport strong (emphasis added). Public transport used to be strong in Leipzig, which was not too complicated due to the lack of

car ownership. And then we also considered how we can improve the traffic flow.⁶⁷ (Planner 1 on two aims of the guidelines) These two aims expressed by Planner 1 show that the focus was on both on public transport as one mode of eco-mobility and on individual car traffic.

The principle of 'transport avoidance' is stipulated in the guidelines, meaning the promotion of a polycentric urban structure, a continuing development of mixed uses, promoting urban development along axes of rail-bound modes of transport and brownfield development instead of greenfield development (Stadt Leipzig, 1992). The objectives and aims of the guidelines express the understanding of transport as a sum of different modes of transport and the importance of public transport, cycling and walking. Furthermore, they show that the committee had the aim to emphasise that the urban structure and transport need integrated consideration.

However, the link between the various modes of transport that was emphasised in the introduction is hardly mentioned in the more detailed information sections. The urban structure does not find any consideration after the introduction. Although the committee described these links in the first parts of the guidelines they did not continue to develop them. It is written that these guidelines are the basis for future transport development. Therefore it would have been necessary to reflect on the aims in later parts of the guidelines.

5.3.4 The Urban Transport Development Plan 2003

Until 2003 the Transport Related Guidelines had been used as the principal basis for decisions and measures in urban transport planning. The aims were also integrated into the land-use plan, the street building programme, the Public Transport Development Plan, and the Cycling Development Plan (Stadt Leipzig, 2004). However, only the land-use plan is no transport based plan and in its case the integration of transport aims is legally binding due to German law (Bundesministerium für Wohnungsbau, 2014, §1(6)9).

⁶⁷ *Eines der Hauptziele war, den öffentlichen Personennahverkehr STARK zu lassen. Der war in Leipzig stark. Er hatte es ja einfach dadurch, dass die Bürger auch nicht diesen Autobesitz hatten – war der ÖPNV natürlich ein sehr starkes Glied. Dann überlegen wir, wie kann man den Verkehrsfluss verbessern.* – Planner 1

In 2003 local transport planners decided to update the guidelines and adjust them to the changed local circumstances. This led ultimately to what is referred to hereafter as Urban Transport Development Plan. Planner 1 explained the reasons: ‘In the years 2000 to 2003 the question was raised, how transport shall be developed. That means to evaluate ourselves, to look whether expected developments occurred and whether something needed to be changed.’⁶⁸ Following the internal evaluation of the transport situation the local transport planners asked for related opinions outside their department as Planner 1 indicated: ‘And then numerous citizen discussions were used to get opinions.’⁶⁹ The methods that the planners had used and the extent of them were not covered in the interviews.

Nevertheless, there was a change in the Transport Plan compared to the previous Transport related guidelines that was explained by Planner 1: ‘The previous concept and the old ideas were mainly confirmed, but we went a bit further with our considerations for example on how much space every mode of transport needs and whether it would be possible to plant trees.’⁷⁰ So, this new plan did go a step further and dealt with the modes of transport more differentiated, but a consideration of other topics like the environment or the urban structure happen only marginally at least not to the extent of real integration. This time other planning departments got involved to a certain extent towards the end of the process as Planner 1 indicated: ‘All departments have to write comments about the plan. There they can complain about it or not. I mean they write it from their point of view and that needs to be coordinated. That needs to be discussed.’⁷¹ The part of the participation was also facilitated by Planner 4: ‘We are always participating.’⁷² The participation they are both talking about is the general involvement at the end of a policy development process, where all other departments get the finished plan and can comment on it. Integration during the whole process did not take place.

⁶⁸ „In den Jahren 2000 bis 2003 wurde dann die Frage gestellt, wie geht es weiter im Verkehr. Also sich selber auf den Prüfstand stellen, zu schauen, sind die Entwicklungen eingetreten, muss man etwas anders machen.“ – Planner 1

⁶⁹ „Man hat dann, erneut mit vielen Bürgerdiskussionen, die Meinungen abgefragt.“ – Planner 1

⁷⁰ Das vorherige Konzept bestätigen wir ... und jetzt geht es aber auch um die Gestaltung des Straßenraumes ... wie viel Fläche braucht jede einzelne Verkehrsart? Kann man Bäume pflanzen?“ – Planner 1

⁷¹ „Alle Ämter müssen Stellungnahmen abgeben, da können sie dann drüber schimpfen oder nicht, was die schreiben. Ich meine, die sehen das natürlich immer aus ihrem Blick und das muss koordiniert werden. Das muss besprochen werden.“ – Planner 1

⁷² „Wir werden ja immer beteiligt.“ – Planner 4

The expanded Transport Plan was adopted in 2003 and published in 2004 (Stadt Leipzig, 2004) and as Planner 1 emphasised ‘is the tool for transport planners’⁷³. Taking a closer look at the Transport Plan of 2003 it highlights at the beginning the requirement to be set in relation with other urban plans and environmental objectives of Leipzig (Stadt Leipzig, 2004). Furthermore, it is written that the planners aim for an intense and integrated discussion of transport and other urban planning topics in political committees and with stakeholders (Stadt Leipzig, 2004). There are no instruments, timeframes or other examples given on how that could be realised or achieved. Furthermore, the remainder of the plan is entirely focused on transport related issues. The intention expressed at the beginning is not reflected in the plan.

The second part of the Transport Plan deals with a more detailed analysis of the transport development in Leipzig and measures for future development. It covers transport reducing urban structures and examines different modes of transport (Stadt Leipzig, 2004). In order to get a transport reducing urban structure the local planners formulated the aim that a balanced centre structure, mixed uses, the promotion of urban development along axes of rail-bound modes of transport, and brownfield development instead of greenfield development would avoid unnecessary transport (Stadt Leipzig, 2004). This aim follows the formulation of the transport guidelines of 1992, but again all these measures are developed and implemented by other planning departments and are not in the responsibility of transport planners. The development of own measures could underpin the idea of integrated solutions.

In the plan the modal split of 1998 is analysed and objectives are formulated for 2006 and 2015. The numbers are based on regular transport surveys conducted every five years by researchers of the TU Dresden in Leipzig and other German cities (Stadt Leipzig, 2004). Table 5.6 presents the data.

Mode of transport	1998	2006	2015
On foot	32	29	28
Cyclists	13	15	17
Public transport	19	21	23
Individual motorised transport	36	35	32

Table 5. 6: Modal split of 1998 and predictions for 2006 and 2015 (Stadt Leipzig, 2004, p. 7)

⁷³ „... und ist unser Arbeitsinstrument.“ – Planner 1

Table 5.6 shows that the planners aim to increase cycling and the use of public transport by four percent each and decrease the use of individual motorised transport by four percent. Their own analysis of the modal split of 2011 as illustrated in diagram 5.5 shows that the planners failed with their own objectives. In 2008 pedestrians had a proportion of 27.3%, cyclists of 14.4%, public transport of 18.8% and individual motorised transport of 39.6% (Stadt Leipzig, 2011c).

In terms of the development of the various modes of transport it is important to promote them together and not one on the expense of another. Planner 1 warned that ‘public transport is not weakened for the benefit of cycling. Eco-mobility must be seen as a unit, public transport, cycling and walking and when the goal is reached it would have a high number of 70-75%. And cars would only be used for necessary trips.’⁷⁴ Planner 5 argued in the same way and also added some numbers, what percentage the planners aim to achieve by 2020: ‘In the long-term the goal for public transport is 25%, cycling at least 18% ... and the percentage of pedestrians stable with 27%. That would leave about 30% for motorised individual transport.’⁷⁵ The planners highlighted the necessity of a comprehensive approach of transport planning and the importance of eco-mobility itself and as a unit. The failure to deliver on the modal shift for walking may be a result of the lack of special measures for pedestrians who represent the largest group within eco-mobility. The fact that relevant lobby groups were not involved in the process, prohibited an integrated discussion of the different modes of transport.

5.3.4.1 Critique of the Transport Plan & transport planning

The Transport Plan of 2003 and its implementation was criticised in many ways. Stakeholder 1 started with a critique of the approach stated in the plan: ‘The planners postulated that they prioritise public transport, cycling and walking but at the same time they aim to develop big ring roads for cars. In my eyes this is not a suitable system to

⁷⁴ „Aber ich denke, man muss auch aufpassen, dass natürlich der ÖPNV nicht zu Gunsten des Radverkehrs geschwächt wird. Sondern, dass man eigentlich diesen Umweltverbund sieht, ÖPNV, Fahrrad- und Fußgängerverkehr und der hätte, wenn man das Ziel erreicht, so schon eine sehr hohe Prozentzahl, etwa 70-75%. Und da würde das Auto also dann wirklich für die notwendigen Fahrten gebraucht werden.“ – Planner 1

⁷⁵ „Langfristig wären die Ziele ÖPNV 25%, ich denke beim Radverkehr wird angestrebt, mindestens 18% bis 2020, das wäre das Ziel, was wir erst mal jetzt formulieren, ... und wir wollen den Fußgängeranteil, der heute bei 27% ist, langfristig halten. Und wenn Sie das alles zusammenrechnen, haben Sie dann einen MIV-Anteil von 30%, der dann irgendwann dabei raus kommt.“ – Planner 5

achieve the goals of prioritising eco-mobility.⁷⁶ However, the Transport Plan is not the only contradiction as another quote of Stakeholder 1 shows: ‘There is the politically announced aim [of supporting eco-mobility] – the official aim. But when looking at the measures, it seems that the implementation is not following this priority.’⁷⁷ The local transport planners make decisions based on numbers and formulate development goals but it seems that they base decision making for projects and investments on other criteria. If eco-mobility is really the priority of transport planners and politicians in Leipzig then the Transport Plan and its implementation need to reflect that.

The formulation of the goals and especially their implementation is very dependent on the financial situation. Goals in a policy can be forward-looking but need to be realistic and convertible. This point was conveyed by Retail 2: ‘It [the motorised transport] cannot be restricted in certain areas when there are no financial resources on the other side to realise certain measures like certain surfaces or noise protection – when money is missing. Everyone has to make a contribution.’⁷⁸ The point that Retail 2 talks about is the development and that this must be done in a considered way, so that the improvement of some modes of transport does not go on the expenses of others, for example on commercial transport.

Stakeholder 1, in contrast to Retail 2, remarked that the financial situation is not always the problem. Sometimes the allocation of financial resources is a bigger one: ‘If you look at the budgets ... especially at the ones for cyclists and pedestrians ... then you see that there is still no budget for pedestrians and only a very small or also no one for cyclist only measures. And that contradicts the stated goals.’⁷⁹ So, it seems that the planning goals on one side and the implementation, budget-provision and investments on the other side do not fit together. After the implementation of bigger developments like

⁷⁶ „In der Verkehrsplanung hat man zwar postuliert, den Vorrang des ÖPNV und Radverkehrs und Fußverkehrs aber gleichzeitig die Maßnahmen zum Mittleren Ring. Das ist eigentlich kein geeignetes System um diese Ziele zu erreichen.“ – Stakeholder 1

⁷⁷ „Es gibt das politisch gesetzte Ziel, das offizielle Ziel. Aber wenn man sich die Maßnahmen anschaut, kann man zur Auffassung gelangen, und mein Eindruck ist so, dass in der Maßnahmenumsetzung die Priorität nicht genügend ablesbar ist.“ – Stakeholder 1

⁷⁸ „Man kann das nicht einseitig einschränken, in bestimmten Bereichen, wenn man auf der anderen Seite nicht die finanzielle Kraft hat, um bestimmte parallele Maßnahmen zu ergreifen, wie Flüsterasphalt zu verlegen oder bestimmte Lärmschutzmaßnahmen an Hausfassaden oder an Straßen einzubauen, weil das Geld fehlt. – Jeder muss seinen Beitrag leisten.“ – Retail 2

⁷⁹ „Wenn man sich die Haushaltsplanung anschaut, ... wenn man nur das Thema Fußgänger- und Radverkehr ... wo es nach wie vor keine eigene Haushaltsstelle für den Fußgängerverkehr gibt und auch nur eine sehr geringe oder keine Haushaltsstelle für eigenständige Radverkehrsmaßnahmen. Und das widerspricht in gewisser Weise den formulierten Zielen.“ – Stakeholder 1

road networks there is often none or little funding left for eco-mobility, as a quote of Stakeholder 1 evidences: ‘Big measures of infrastructure, like for example new roads, the two ring roads – due to the size of the investment they use more of the budget and often smaller measures, mainly for slower modes of transport, cannot be realised. Planners tend to do the bigger measures and there is hardly a budget for smaller measures that are mainly connected to eco-mobility.’⁸⁰ So, the promotion of eco-mobility aims in the plan is not reflected in actual planning projects. Although these examples are related to the implementation of the Transport Plan and not the plan itself they show that it would be necessary to state more clearly in the plan how funding should be used during the implementation.

The weak level of integration of other departments and stakeholders during the development process was addressed by Planner 2: ‘Transport planning considers itself quite autonomous and rather in the way – transport influences the city – and not in the way – the city influences transport and the transport strategy.’⁸¹ This quote indicates that during the work on the Transport Plan of 2003 the transport planners did the work on the plan without integrating other departments.

Integrating stakeholders includes the integration of lobby groups. There are various transport related lobby groups working in Leipzig, but with a varying success. Pol. Party 5 commented on them: ‘In Leipzig there is a strong lobby for certain modes of transport and none for others.’⁸² Pol. Party 3 provides some more detailed information: ‘Cyclists are definitely supported ... pedestrians are not really represented ... cyclists have different possibilities to get heard, also in the media, due to their lobby groups and the pedestrians as a rather inhomogeneous group and are hardly heard.’⁸³ Transport 1 and 2 agreed on the last point: ‘Pedestrians have no lobby, they have nobody.’⁸⁴

⁸⁰ „Großmaßnahmen zur Herstellung von Infrastruktur, wie neue Straßen, der Ausbau des Tangentenvierecks und des mittleren Rings, binden natürlich immer Aufgrund der Größe der Investition auch die meisten Mittel und kleine Maßnahmen, die wirksam gerade für den langsamen Verkehr sind, fallen dann oft hinten runter und werden eben nicht in ausreichender Art und Weise berücksichtigt. Also man tendiert immer zur großen Maßnahme und es gibt kaum Haushaltsmittel im ausreichenden Maße um kleine Maßnahmen, die gerade für die Verkehrsmittel des Umweltverbundes wichtig sind, dann auszusenden.“ – Stakeholder 1

⁸¹ „Verkehr sieht sich als ziemlich autonom an und eher im Sinne von – der Verkehr beeinflusst die Stadt – und nicht – die Stadt beeinflusst den Verkehr und die Verkehrsstrategie.“ – Planner 2

⁸² „Es gibt in Leipzig eine starke Lobby für bestimmte Verkehrsformen und –arten und für andere wiederum nicht.“ – Pol. Party 5

⁸³ „Die Radfahrer werden auf jeden Fall gefördert ... Fußgänger bleiben meiner Ansicht nach immer ein bisschen auf der Strecke ... also Radfahrer, die haben durch ihre Verbände sicherlich immer mehr auch in der Presse Möglichkeiten sich zu äußern, während eben die Fußgänger als inhomogene Masse wenig so zu Wort kommen.“ – Pol. Party 3

⁸⁴ „Die Fußgänger haben doch keine Lobby, die haben niemanden.“ – Transport 1

(Transport 1) - ‘There is a representative for cycling issues in transport planning. That is someone we would also need for pedestrians.’⁸⁵ (Transport 3) Transport 2 tried to explain the limited perception of walking: ‘Pedestrians are numerically one of the largest groups in transport ... but it seems that people do not perceive it as a mode of transport ... travelling on foot might not be a form of transport for many as there simply is no means of transportation.’⁸⁶ There is a lobby group for pedestrians working in Leipzig, the Fuss e.V., however their work seems to have little impact at the local level. ‘There is much lobby work at the national level but less at the local level ... in Leipzig live around five to ten members and that is too little for proper lobby work’⁸⁷ (Transport 2) What could help the position of pedestrians is the formation of a lobby group for eco-mobility. That could also help people who use public transport, as they also have no lobby as Stakeholder 4 observed: ‘That is missing in Leipzig – users of public transport have no lobby.’⁸⁸ Stronger lobby groups for pedestrians and public transport users together with an already strong lobby group for cyclists could form a strong basis to claim higher levels of integration and could therefore increase the level of stakeholder integration in transport planning in Leipzig.

So, it seems that in local planning processes integration is not only necessary in development processes but also in organisational processes. Almost everyone expresses the importance of pedestrians, but they have the weakest lobby group, no specialised planner in the transport planning department, no extra funding, and no special development plan.

The current Transport Plan is from 2003. During the second phase of interviews it turned out that the local transport planners are preparing another plan update. Stakeholder 1 used some critique of the old plan to express what transport planners should do before updating it: ‘There is the continuing development of aims and also a development of the implementation. However, that does not necessarily work in parallel. If planners write down ambitious aims that does not mean that they are

⁸⁵ „Es gibt einen Radverkehrsbeauftragten in der Verkehrsplanung, so etwas bräuchte es für den Fußverkehr auch, für Fußgänger.“ – Transport 3

⁸⁶ „Fußgänger sind ja zahlenmäßig eine der größten Verkehrsteilnehmergruppen ... aber es wird von den Leuten wahrscheinlich nicht so wahrgenommen, dass man eine Verkehrsart ist ... Fußverkehr ist für viele wahrscheinlich kein Verkehr, weil es einfach kein Verkehrsmittel gibt.“ – Transport 2

⁸⁷ „Es wird sehr viel bundesweite Lobbyarbeit gemacht, aber weniger auf der Ortsebene. ... Und in Leipzig wohnen jetzt ca. fünf oder zehn Mitglieder des Fuss e.V.“ – Transport 2

⁸⁸ „So etwas fehlt in Leipzig – die Fahrgäste haben keine Lobby.“ – Stakeholder 4

implemented exactly that way. If you take a look at the plan of 2003 and its aims – there are specific main aims and when you then look at the implementation of them – that is something that has to be exactly evaluated and it has to be investigated whether the implementations are following the formulations in the plan.⁸⁹

So, for the updating process it seems not only important to analyse the current transport situation in Leipzig, but also to evaluate the old plan in order to find out whether its aims are still up to date and whether they really support eco-mobility. Furthermore this updating process could pose the chance to increase integration, especially of eco-mobility related stakeholders, to really proof that the transport planners aim for more environmentally friendly transport.

5.3.5 Updating process of the Transport Urban Development Plan 2014

Urban development plans are usually updated every 10 years to adjust them to changing circumstances. In 2011 the decision was made to start updating the Transport Plan. This research can only cover the first steps of this process as the main work on the plan and the participation process started after the interview phase. However, the local transport planners had already finished the evaluation of the old Transport Plan of 2003. Additionally they intended to introduce new participation methods for the updating process and so both, the evaluation and the new methods were topics of some interviews.

Planner 5 formulated some expectation from the new plan: ‘Looking on experiences from other recent plans I assume that there will be a strong movement to make the Transport Plan greener, all has to be more compatible, more sustainable and we need to see how that could work.’⁹⁰ His statement indicates that the plan of 2003 was not green and not sustainable and that the work on recent other transport related plans has shown that there is a request for more sustainability and more environmental considerations.

⁸⁹ „Es gib eine Fortentwicklung der Ziele und auch eine Entwicklung in der Umsetzung. Das läuft nicht unbedingt parallel. Also hebre Ziele, die aufgeschrieben worden sind, heißt nicht unbedingt, dass die eins zu eins so umgesetzt wurden. Also wenn ich mir jetzt die Planungsgrundsätze des STEP von 2003 anschau, so lassen sich bestimmte Hauptziele dort definieren und wenn man sich dann aber die realen Umsetzungen anschaut, muss man dann noch mal genau evaluieren und sich angucken, ob das immer wirklich dem folgt, was als Ziel formuliert worden ist.“ – Stakeholder 1

⁹⁰ „Ich unterstelle mal, Aufgrund Erfahrungen, die ... gemacht worden sind, dass es eine sehr starke Bewegung gibt, das Verkehrskonzept in einen grünen Bereich zu schieben, das muss alles verträglicher, nachhaltiger werden und wir müssen gucken, ob das dann tragfähig ist.“ – Planner 5

5.3.5.1. Evaluation of the old plan and the integration of other plans

The updating process of the Transport Plan was started in 2011 with an evaluation of the old plan. An independent planning office from Berlin was commissioned to evaluate and summarise what had been achieved in the years since 2003, what should be done in the future and to develop questions that could be raised in the following discussions. All these information were put into the brochure “Mobility 2020”, which was published in December 2011 (Stadt Leipzig, 2011c).

The procedure that led to the brochure was described in detail by Planner 5: ‘We took the old plan of 2003 and went through it chapter by chapter and evaluated them and this was summarised as the status quo of 2011 ... The main work was done by an external planning office but in close cooperation ... and then it was published in a brochure ... which is also the basis for all discussions.’ This course of action and especially the result is transparent and the planners make the results of the evaluation available for all stakeholders and citizens, which seem to be a helpful start for wider discussions of transport related topics. The fact that outsiders evaluated the plan increased the unbiased view on it. Nevertheless, the local planners had to agree on the result. A discussion of the evaluation results with other departments and stakeholders in Leipzig before the publication of the brochure was not intended by transport planners.

At the end of the publication is a part about the integration of the public and politicians into the transport planning process. Local planners seek to establish a citizen friendly process with the aim to integrate as many affected and interested people as possible. This entails intense information, communication and exchange between local planners and citizens. Therefore they aim to introduce several methods during the process:

- A round table ‘Transport Planning’ that shall secure a wide participation, requests topics, and discusses suggestions and hints. Support for the participants will be given by an external moderator, scientists and other experts. Intended participants are members of the city council, transport planners, representatives of the police, transport scientists, transport and environmental lobby groups and representatives of public transport of Leipzig.
- Citizen competition and citizen expertise, using the local knowledge, perceptions and priorities of citizens. This is planned parallel to the round table.
- Local events in various parts of Leipzig with local actors (Stadt Leipzig, 2011c).

The announcement of this set of methods for the updating process would lead to high levels of DI and SI as the planners aim to involve a great variety of people in many different ways and right from the start.

The results of the citizen participation and the discussions of the round table shall be used to formulate a first draft of the Transport Plan. This would then be discussed again at the round table. The second draft would be brought into the formal participation process, where the citizens, other departments and stakeholders could bring in their comments again. The end of the updating process is estimated for spring 2014 (Stadt Leipzig, 2011c). This time the transport planners published at the beginning a timeline of the process and made it therefore transparent. Additionally, they intend to integrate departments and stakeholders at every stage of the process. If this is really the case it would lead to high levels of DI and SI.

Some environmental topics have to be considered more in the new plan due to changing legal requirements in Germany, for example clean air and noise reduction requirements. Local planners had set up new policies, like the SEKO, the cycling plan or the public transport plan, but there was also a change in European legislation in regard to clean air and noise reduction that made it necessary to implement more environmental topics in the Transport Plan.

The following two quotes show the influence of this change: “There is pressure from the Noise Action Plan and the Clean Air Plan to do something.”⁹¹ (Planner 5) – “There are requirements from our environmental goals and from other sectoral policies.”⁹² (Planner 4) These examples indicate that transport planning cannot be done exclusively. Other policies, in this case most importantly environmental policies, need to be considered. Planner 4 emphasised the importance of the environmental policies: “We can make a certain pressure as we have the Clean Air Plan and we can say there is a resolution, we have to stick to it. In the end there are financial requirements as those plans have to be implemented.”⁹³ This means that environmental planners can put pressure on non-

⁹¹ „Aus dem Luftreinhalteplan oder Lärmaktionsplan gibt es wahrscheinlich auch Druck“ – Planner 5

⁹² „Wir haben Anforderungen aus den Umweltqualitätszielen, wir haben Anforderungen aus anderen Fachplanungen.“ – Planner 4

⁹³ „Da können wir einen gewissen Druck ausüben, da wir den Luftreinhalteplan in der Hinterhand haben und sagen können, da gibt es einen Beschluss. Da hängen dann am Ende Finanzen dran, weil es konkret umgesetzt werden muss.“ – Planner 4

environmental planners with their environmental policies as previously there had been an agreement on the environmental policies. So, in case the transport planners would not follow the aims of the environmental and other sectoral plans there could be planning mismatches that would lead to financial problems. The cases of the Clean Air Plan and the Noise Action Plan are discussed in the next chapter.

With regard to car infrastructure it seems that there is also a change in how transport planners think about it. The Transport Plan of 2003 planned two big ring roads to be constructed in Leipzig to take car traffic out of residential areas and the city centre. However, parts of one of rings will not be constructed in the future as Planner 1 and 5 indicated: “The Middle Ring which will not be closed entirely anymore, as there is the alluvial forest.”⁹⁴ (Planner 1) – “We disbanded the concept of the entire Middle Ring, what mean that we will not close the Ring in the South where the alluvial forest is.”⁹⁵ (Planner 5) The reason for a change of the plans is environmental concerns as was also articulated by Stakeholder 1: “In the main road plan of 2003 the Middle Ring was planned in its entirety, but in the meantime this project was stopped in the southern alluvial forest due to reasons of environment and nature protection.”⁹⁶ So, this change of plans is an example how environmental objectives can change transport planning which also means a higher consideration of environmental objectives.

It seems that the transport planners intent to adjust their previously made decisions to the changed circumstances but also to a changed perception of environmental topics. They even considered a possible reduction of certain bigger car-focussed projects in the future in case that the citizens of Leipzig use modes of eco-mobility. That is a change in transport planning behaviour compared to previous years with the effect that environmental objectives are rated more importantly.

5.3.5.2. New participation methods used in the updating process

Traditionally, the transport planners would have developed the Transport Plan, presented the draft to the public with a chance for the public to comment on it and in

⁹⁴ „der Mittlere Ring, den man heute sicher nicht mehr vollkommen umschließen wird, weil hier der Auwald ist.“ – Planner 1

⁹⁵ „Und diese Konzeption eines geschlossenen Ringes, von der haben wir uns verabschiedet, das heißt, wir werden den Bereich des Mittleren Ringes Süd durch den Auwald nicht mehr weiter verfolgen.“ – Planner 5

⁹⁶ „Also wenn man sich die Straßenhauptnetzplanung von 2003 ansieht, war dort geplant, den vollständigen Mittleren Ring zu bauen, der mittlerweile aus Umwelt- und Naturschutzgründen im südlichen Auwald nicht gebaut werden soll.“ – Stakeholder 1

the end the city council would have adopted the plan. As presented in the previous section, the transport planners aimed to do this differently this time. The updating process is planned to be integrative, open and all of this from the start onwards. As Pol. Party 1 expressed it: ‘That is for sure the most ambitious project that they have resolved to do, but is also related to the growing number of citizens’ initiatives that were founded in the last years in Leipzig where people want changes to their situation. ... Planners need to achieve a new wider social consensus in transport development.’⁹⁷ So, there is a desire in Leipzig for higher stakeholder integration and it seems that the local planners are responding to this. Planner 5 talked about the reasons in detail: ‘It is not possible to just simply do these big strategic plans and then hope for agreement – that does not work. And it is not solely important that the city council agrees, but it is more important that they are accepted by the citizens especially when the plans are implemented. The citizens are longer here than the city council which is usually reassembled every four years. In this respect we need to have the discussion with the citizens. In the end it is about a lot of money. So we do not need nice colourful lines on a paper but a built reality where the citizens feel comfortable.’⁹⁸ Planner 2 argued in a similar direction: ‘From the working perspective – maybe there is the wish to try something new. But in the end there is the aim to adopt a transport policy that is working in the future and that is not easy.’⁹⁹ The planners express that there is a change in perception that the citizens should agree on the plan and that the plan is made for the citizens. In the end this is an argument for higher levels of stakeholder integration as lobby groups and several associations are like representatives of the citizens and work in their interest.

A higher degree of integration usually requires more time and funding. Therefore, in the case of the updating of the Transport Plan and the intention of planners to integrate the citizens into the process, special funding was necessary. Planner 5 explained how they

⁹⁷ „Das ist mit Sicherheit das anspruchsvollste, was man sich bisher vorgenommen hat und speist sich auch ein Stück daraus, dass sich in den letzten anderthalb Jahren immer mehr Bürgerinitiativen gegründet haben, die an ihrer konkreten Situation etwas geändert haben wollen. ... man muss also versuchen einen anderen, auch breiteren gesellschaftlichen Konsensus zur Verkehrsentwicklung zu erreichen.“ – Pol. Party 1

⁹⁸ „Man kann solche großen, ganzstädtischen Konzepte nicht einfach so machen und dann – das funktioniert nicht. Es ist nicht ausschließlich wichtig, dass man Unterstützung im Stadtrat bekommt, sondern es ist viel wichtiger, dass die Konzepte, wenn sie dann im Anschluss mit Leben gefüllt werden sollen, eine Akzeptanz bei der Bevölkerung finden. Die Bevölkerung ist hier länger als ein Stadtrat, der nach vier Jahren sich wieder neu zusammensetzt. Insofern muss dann auch die Diskussion mit den Bürgern geführt werden. Denn hier geht es um viel, viel Geld. Und das sollen nicht nur irgendwelche bunte Linien auf dem Papier sein, die gut aussehen, sondern letztendlich auch gebaute Realität werden, in der sich Leipziger wohlfühlen.“ – Planner 5

⁹⁹ „Auf Arbeitsebene vielleicht auch das schon der Wunsch, mal was anderes probieren zu können. Ja, und natürlich ist das Ziel am Ende ein Verkehrskonzept beschlossen zu kriegen, was wirklich auch in die Zukunft trägt und das ist ja nicht so ganz einfach.“ – Planner 2

got the extra funding: ‘We received funding from the national urban development programme of the German government, from the Federal Ministry of Transport, and with this funding we can organise the citizen competition. That is something new.’¹⁰⁰ Planner 2 added some thoughts about additional pressure which was put on the transport planners after receiving the funding: ‘With some support from our department the transport planners could get some funding from the national urban development programme for the updating process of the Transport Plan, for an innovative participation process. Now the money is there so they have to do it. We need to try it ... and for the transport planners it was a reason, so they could get money for their necessary participation process but with the obligation to change something.’¹⁰¹ These two quotes show how dependent planners are on funding during the development process of policies. It also shows how special funding can increase the level of stakeholder integration. As funding is usually bound to the implementation of the applied project the planners need to put their ambitious integration plans into practice.

One new form of participation used for the updating process is a round table. The intention of round tables is to bring interested or affected people together and let them discuss their positions. Planner 5 explained the first ideas: ‘At the round table we will start with a review of the aims of each chapter [of the brochure] whether they are still applicable or need to be adjusted or renewed. What did we achieve ... and are these the topics we need to deal with or are there different ones.’¹⁰² The round table would not be the first one in Leipzig, but as other examples have shown the level of integration of these round tables depends very much on the variety of participants. Planner 5 presented the full list: ‘There are 25 participants: members of the city council, all of the fractions, the ADAC, ADFC, VCD, Fuss e.V., association of the elderly people, association of handicapped people, representatives of the economy, the CCI, Stadtforum, associations of citizens, the public transport company, representatives of the police, urban planning department, environmental planning department, transport

¹⁰⁰ „Wir haben dort eine Förderung bekommen über das nationale Stadtentwicklungsprogramm der Bundesregierung, Bundesministerium für Verkehr hat das ausgeschrieben, und über diese Förderung ist es uns möglich, so einen Wettbewerb durchzuführen. Das gab es bisher noch nicht. – Planner 5

¹⁰¹ „Mit ein bisschen Unterstützung von uns ist es dann gelungen, für die Fortschreibung des STEP Verkehrs Mittel der nationalen Stadtentwicklungspolitik für die Beteiligung zu kriegen, für ein innovatives Beteiligungsverfahren. Nun ist das Geld da, nun muss man auch. Wir müssen das versuchen. ... ich meine für die Verkehrsplaner war es auch ein Grund, ein Stück Geld für das zwingend notwendige Beteiligungsverfahren zu kriegen und damit die Kröte zu schlucken, auch etwas anderes machen zu müssen.“ – Planner 2

¹⁰² „Und am Runden Tisch wollen wir dann für jedes Kapitel die Ziele noch einmal überprüfen, sind die noch aktuell, müssen wir die anpassen, gibt es neue Ziele, andere Ziele? Was haben wir erreicht ...sind das jetzt eigentlich die Themen, mit denen wir uns jetzt neu beschäftigen müssen oder müssen es andere sein. – Planner 5

planning department, Ökolöwe, car-sharing, DB and MDV. The round table is in the charge of an external moderator.¹⁰³ This list comprises a great variety of participants who can cover environmental, social and economic aspects and the full diversity of all modes of transport. This introduction of the round table and its members poses a new quality of integration in transport planning in Leipzig and beyond. A great variety of stakeholders and other planning departments are invited even before the work on the draft of the new Transport Plan had started. So, high levels of DI and SI are achieved during this process.

The second new form of participation is the introduction of a public competition to take place in 2012. This method was chosen to involve as many interested and/or affected citizens as possible and to use the local knowledge of them. Planner 5 specified who is invited to participate: 'Everyone who has an interest, every citizen initiative, citizen associations, other associations or lobby groups, schools.'¹⁰⁴ The planners have chosen a wide frame to include all social groups of the city. They also left it open in what form people participate: 'it can be an online submission or a video or a classic plan'¹⁰⁵ (Planner 5) and on what geographical scale they work: 'it can be a small section, a district or the whole city'¹⁰⁶ (Planner 5). This variety of participation possibilities may encourage many citizens to take part in this competition. However, in order to not overwhelm people and to present some ideas and guidelines beforehand some additional events were organised as Stakeholder 1 facilitated: 'There was a big opening event in March in the City Hall where everyone interested was invited to receive information on how this competition will work. ... Following this we will have now four events in the adult education centre where we present certain topics. Three are fixed and the fourth topic will be developed with regard to topics that come up in the other debates. The events will be a mix of presentation and discussion with citizens and will work as a kind of inspiration and advertising.'¹⁰⁷ This is again an example of high

¹⁰³ „Wir haben 25 Teilnehmer. Es sind Vertreter der Fraktionen, alle Stadtratsfraktionen, der ADAC, der ADFC, der VCD, Fuss e.V., Seniorenverband, Behindertenverband, Wirtschaftsvertreter, IHK, Stadtforum, ... Bürgervereine, Bürgerinitiative, Verkehrsbetriebe, Polizei, die Ämter, Stadtplanungsamt, Amt für Umweltschutz, Verkehrsplanungsamt, Ökolöwe, Car-Sharing, DB und MDV. Der Runde Tisch wird extern moderiert.“ – Planner 5

¹⁰⁴ „jeder, der Interesse hat, jede Bürgerinitiative, ... Bürgervereine, Verbände und Interessengruppen, Schulen“ – Planner 5

¹⁰⁵ „Beitrag kann eine Webgeschichte, kann ein Video sein, kann ganz klassisch ein Plan sein“ – Planner 5

¹⁰⁶ „es kann kleinteilig sein, es kann ein Stadtteil sein oder das Stadtgebiet.“ – Planner 5

¹⁰⁷ „Es gab jetzt im März eine große Auftaktveranstaltung im Rathaus, wo also Leute eingeladen worden sind, als Information, wie das ganze Verfahren funktioniert. ... Es gibt jetzt im Anschluss eine vierteilige Veranstaltungsreihe in der Volkshochschule, zu bestimmten Teilthemen. Drei von denen hat die Verwaltung quasi schon vorgegeben, die Termine sind fix. Der vierte Termin ist ein offener, zu einem Thema oder Schwerpunktthemen, die sich dann in der Debatte

stakeholder integration as citizens and interest groups are invited to participate from the start and in great variety. The offered events pose a start for people who have an interest in getting involved in transport issues but do not know where to start and how to do this. So, the transport planners offer support for those who are interested to get involved.

At the end of October the competition ends and a jury will then rank the contributions: ‘a jury will chose the best, most innovative, most useful ones or those we want to discuss further. Early next year we will then discuss those at the round table.’¹⁰⁸ (Planner 5) The contributions of the citizens are not just viewed by the planners but rated by a jury which means people are actively dealing with the ideas of the citizens. Furthermore, the best ones are then discussed at the round table which has members of many environmental, social and economic groups and so the ideas are discussed intensely and in great variety. The results of the citizen competition will later be published in a brochure as well: ‘There will be a brochure of the competition which will also be available online.’¹⁰⁹ (Planner 5) In the end the outcome of the citizen participation will not only be available internally but also externally, so everyone can see how people from Leipzig would plan transport infrastructure. So, there is also the possibility to find out how much transport planners integrate the ideas of the citizens in the final Transport Plan.

This form of public participation has not been part of any strategic plan in Leipzig before. The wide range of scales and the involvement of individuals and groups on any topic related to transport allow an unbiased possibility to inform local planners about local transport issues.

The full process could not be part of the research as it had just started in early 2012. Nevertheless, the levels of DI and SI are estimated high within this updating process. A great variety of other departments and stakeholders is involved in various forms and right from the beginning. The level of EPI is hard to estimate as it really depends on

irgendwie entwickeln. Das ist eine Mischung aus Input, Vortrag und Diskussion mit den Bürgern. Ist eine Mischung aus Inspiration und Aufklärung. – Stakeholder 1

¹⁰⁸ *„Im Rahmen einer Jurysitzung werden die besten, die innovativsten, verwertbarsten oder auch die Sachen, die wir weiter diskutieren wollen, auswählen ... dann am Runden Tisch zu diskutieren.“* – Planner 5

¹⁰⁹ *„Also für den Wettbewerb wird es eine eigene Broschüre geben ... die pdf wird es dann auch wieder im Internet geben.“* – Planner 5

how environmental objectives are integrated into the final Transport Plan. However, the high levels of DI and SI guarantee that environmental topics are part of the discussions and will be considered. Additionally, the policies in the background, like the Clean Air Plan and the Noise Action Plan, can put pressure on the process so that environmental topics are integrated. In the end a higher level of EPI can be expected compared to previous transport planning processes.

5.3.6 Conclusion of local transport planning

The transport planning processes need to be divided into two phases. The first one includes the Transport Guidelines of 1992 and the Transport Urban Development Plan of 2003. They were mainly developed in a traditional way by the transport planning department with some contribution of stakeholders, like the working group cycling. The official participation process followed the procedures of other plans. The second phase started with the updating process of the Transport Urban Development Plan 2014. This time the local planners started with an open discussion and aim to integrate other departments and stakeholders all along. The citizens of Leipzig are asked to hand in ideas as part of a competition and various information events take place in parallel. The round table meetings offer the opportunity to a wide range of participants to discuss topics with representatives of various fields, i.e. transport, environment, urban development, economy, social groups. The transport planners expressed their hope to increase the acceptance of the Transport Plan and its implementation with this extended participation.

The transport planners indicated several times that they have no experience with such an enlarged participation process and that there is no guarantee that it will be successful in the end. That could be seen in the following five to ten years. Nevertheless, the fact that they started that process in that form is a step to find out how intense integration processes can work in local planning. A mix of bottom-up and top-down procedures might increase the understanding of each other's position, i.e. planners, stakeholders and citizens, and the acceptance of the plan in the end.

Transport planning is bound to very strict technical regulations. Furthermore, the requirements to get funding are very strict, too. As Leipzig cannot pay for the big infrastructure projects on its own, local planners are dependent on additional external funding. The technical and funding regulations are two reasons why transport planners

need well thought at comprehensive planning policies. An integrative approach during the development of these policies can increase the interdisciplinary treatment of topics and therefore increase the sustainability of the policies. Additionally, special knowledge, especially of stakeholders, can help to adjust the policies to the local needs and therefore increase the general acceptance.

An issue with transport planning so far is the strict division in classic mobility modes. However, walking, cycling and public transport are all part of eco-mobility. If planners really have the aim of making mobility more environmentally friendly they should consider those three as one mode. The consideration of them as single modes does not support eco-mobility as the measures are usually not coordinated and it could be very likely that they are developed at the expenses of each other.

Most interviewees expressed the importance of pedestrians. However, this is not visible in the structure of the Transport Planning department or the financial budget or in the Transport Plans so far. There is also no separate Pedestrian Development Plan. The situation of pedestrians might change in the most recent plan, but that could not be investigated in this research.

The levels of EPI, DI and SI have increased over the years, but especially with the start of the updating process for the Transport Plan. In case this process is successful, i.e. the plan achieves high levels of acceptance, environmental objectives are integrated and departments and stakeholders could find a satisfying compromise for all, this could be used as a model process for other planning areas in Leipzig and for other planners in other parts of Germany. If it works, then funding of the German government was one of the supporting elements and it would be interesting how this repays. This could be an interesting area of future research. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 5.7. The table also shows the development of levels of integration of the three successive plans.

Indicators/Questions	Transport Guidelines 1992	Transport Plan 2003	Transport Plan 2014 (Process)
Timeframe			
When did the integration of environmental issues start?	Environmental issues were named in the plan	At the end when it was thought necessary/mandatory/requested by reviewers	Environmental issues were raised early, the full integration could not be measured
When did the integration of other planning departments start?	Other departments were not involved	Towards the end as it was mandatory	Right from the start
When did the integration of stakeholders start?	Other stakeholders were not involved	Mainly towards the end as it was mandatory, except the working group cycling	Right from the start
Environmental objectives			
To what extent were environmental objectives discussed in the process?	They were only mentioned	It was discussed marginally	There might be a significant discussion at several phases of the process
To what extent were environmental objectives integrated in the policy?	They were only mentioned	There is a section in the policy, but no real integration	Cannot be measured
Department/stakeholder integration			
To what extent were other departments/stakeholders integrated?	Other departments/stakeholders were hardly involved	There was only the involvement that was officially required, except the working group cycling	A big variety of departments/stakeholders was integrated all the time of the process
How was the integration of other departments/stakeholders organised?	Other departments/stakeholders were hardly involved	The mandatory process took place as required in the German law	Different events/ formats were offered to get as many people & opinions integrated as possible/ Sometimes new formats were introduced
Communication			
What forms of communication were used?	Only in the official journal	Information were published in the official journal and a brochure of the plan was available in print form	Traditional and new forms of communication were used, like traditional and new media, exhibitions, interactive web pages, leaflets
How many people were reached by the announcements?	Only people linked to the process and project were reached	Only people linked to the process and project were reached	Theoretically everyone could read about the process and the projects
Was there a possibility for non-planners to get heard?	No one had the possibility	It was only possible to bring in opinions via the official mandatory process	Everyone could bring in opinions and they were discussed
Level of EPI	-	-	o
Level of DI	0	-	+
Level of SI	0	-	+

Table 5. 7: Indicators and levels of integration for the three analysed urban development plans (0: no integration, -: low, o: medium, +: high integration)

5.4 Conclusion

In this chapter, the focus was on Urban Development Plans on the strategic planning level. Plans of two planning fields have been analysed. First, the urban spatial plans, which have a strong focus on retail and the local centres structure, but also mention environmental and transport related objectives. The development of the Conceptual Framework and the first Centres Plan was mainly masterminded by the urban development department, using the official participation process. The second Centres Plan achieved a low level of EPI as environmental issues and plans are hardly mentioned in the plan. The level of DI was low, as topics like ‘accessibility’ and ‘links to public transport’ are named in the plan and the accessibility of every centre is analysed. Nevertheless, an active integration of other planners in the development phase did not happen. The level of SI is medium. The introduction of the working group could count as high integration, but the lack of stakeholders from various fields and not only retail diminishes the level of integration.

Second, the transport related plans, which had a similar evolution. The Transport Guidelines and the first Transport Plan were mainly developed by local transport planners, again adhering to the official participation process. The updating process of the recent Transport Plan posed a significant change. The level of EPI can be described as medium as environmental objectives are discussed during the participation process. The extent and final integration in the plan could not be measured. The levels of DI and SI are high. A round table that includes members of various interests was initiated before the work on the plan started and there is wide citizen participation possible in the competition. The focus of this analysis was only on the updating process as the Transport Plan was not finished.

In diagram 5.7 the different levels of EPI, DI and SI are presented that were analysed in this chapter. It can be seen that the most recent plans always achieved higher levels of integration what could be read either as an increasing interest of planners to integrate environmental objectives, other planners and stakeholders into the process or that there is higher pressure on planners to increase integration.

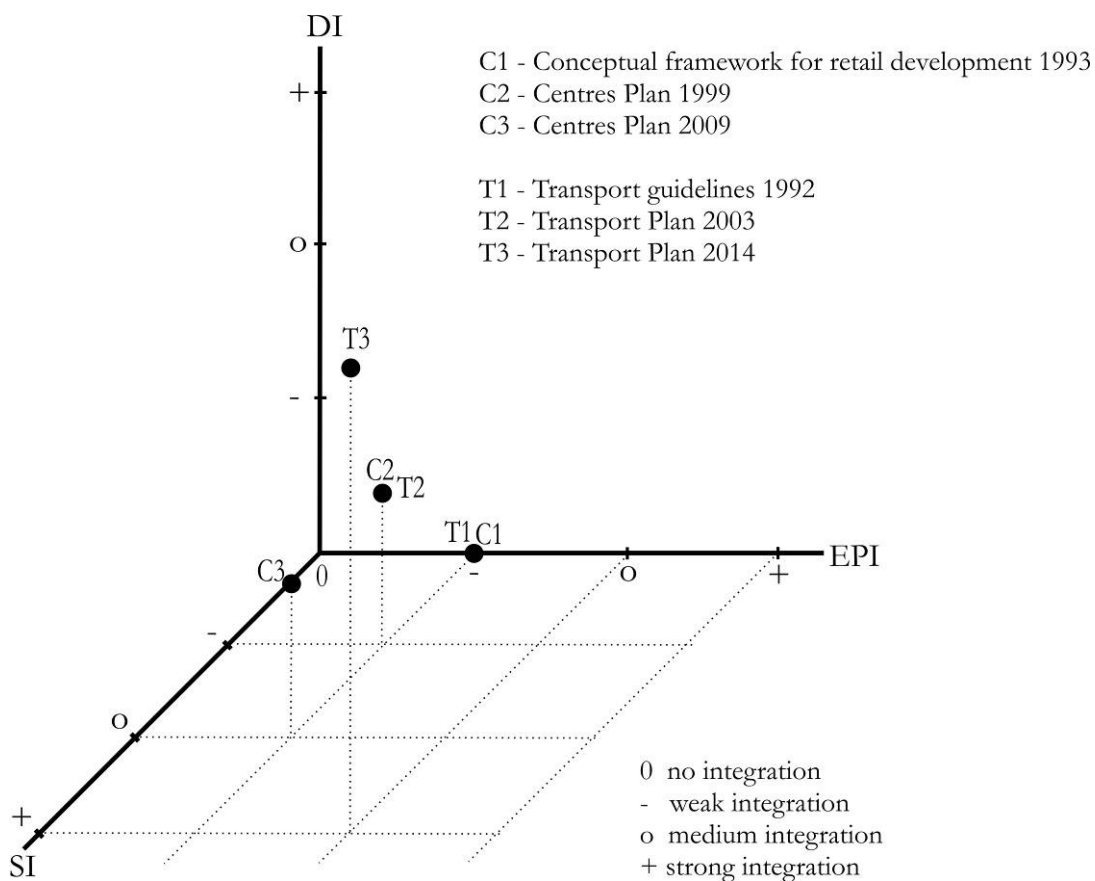


Diagram 5. 7: Levels of environmental policy integration (EPI), departmental integration (DI) and stakeholder integration (SI) of the spatial and transport plans that were analysed in this chapter

The analysis has shown that there is always a consideration of environmental objectives, but the level varies. Plans that are set up mainly by other than the environmental department mention environmental objectives in some parts but not all. However, especially the updating process of the new Transport Plan has shown that the interest to integrate environmental objectives is increasing.

Departmental integration varies a lot, too. Although the work on the Centres Plan involved a working group no other departments were invited. A higher level of integration is again achieved during the work on the new Transport Plan. However, the local transport planners use this extended process with a round table for the first time and their experiences will show whether they will use it in future work as well.

Stakeholder integration does also happen on different levels in Leipzig. The Centres Plan was set up by local planners and discussed by a working group. Members of this working group were stakeholders with an interest in local economies. In order to get a

stronger level of integration stakeholders from other fields and citizens need to get involved as well. A higher level of integration was again achieved with the work on the new Transport Plan. In case of stakeholder integration the same arguments can be used as with departmental integration. The approach for the updating of the Transport Plan is new and it is not given that the local transport planners will always have such a wide possibility to involve citizens and other stakeholders.

These plans have shown that EPI, DI and SI are possible at higher levels, but that it depends on supporting elements and obstacles how high the levels of integration are. As a supporting element, funding possibilities seem to work, like the updating process of the Transport Plan has shown. Other supporting elements are the legal and institutional framework and certain lobby groups. Obstacles that hinder higher integration levels are institutional frameworks, strong lobby groups, as the updating of the Centres Plan has shown, the dependency on funding, and planners who are still based in their traditional way of thinking, what can be seen especially in the segregated treatment of the modes of eco-mobility.

In general, the examples have shown that integration needs time and extra funding. The examples have also shown that a higher level of DI and SI could increase the level of acceptance of the final plans. However, the importance of environmental objectives is not seen by everyone. Classic plans like the Centres Plan and the Transport Plan integrate environmental objectives to a certain extent as it is required nowadays, but they still base lots of arguments in their plans on statements of economic lobby groups (Centres Plan) and car friendlier lobby groups (Transport Plan). Especially in the Transport Plan the arguments of supporters of eco-mobility need to get higher consideration.

In this chapter, urban development plans were analysed. The next chapter deals with two sectoral environmental plans: the Clean Air Plan and the Noise Action Plan. The Centres Plan and the Transport Plan focussed on two specific topics on how to structure and how to connect the city. They were structured and developed by the local planners and are based mainly on the national and sub-national legal framework. The two environmental plans discussed in Chapter 6 are based on European directives with a strong aim to protect citizens. The plans are worked out by planners of the environmental planning department. This research aims to find out whether

environmental plans that could have an impact on mobility can achieve higher levels of integration than the non-environmental plans that were analysed in this chapter.

Chapter 6: Analysis II – Strategic planning level: Environmental policies

6.1 Introduction

In the last chapter urban development plans of spatial and transport planning were analysed with regard to the levels of integration and their ability to make transport more environmentally friendly. This chapter deals again with local plans of the strategic planning level. Two environmental plans are examined: the Clean Air Plan and the Noise Action Plan. The plans are based on the European directives on ambient air quality and noise reduction and their development has been led by the environmental planning department of Leipzig. While both of these directives have a strong environmental background, their aims, implementation, and also prosecutions for non-compliance are defined differently. Based on that framework the levels of DI and SI can vary. However, this chapter will also analyse a project which is linked to noise reduction but was initiated by the environmental NGO Ökolöwe. In this case the aim was to show in a model project how higher levels of SI in noise reduction planning can be achieved.

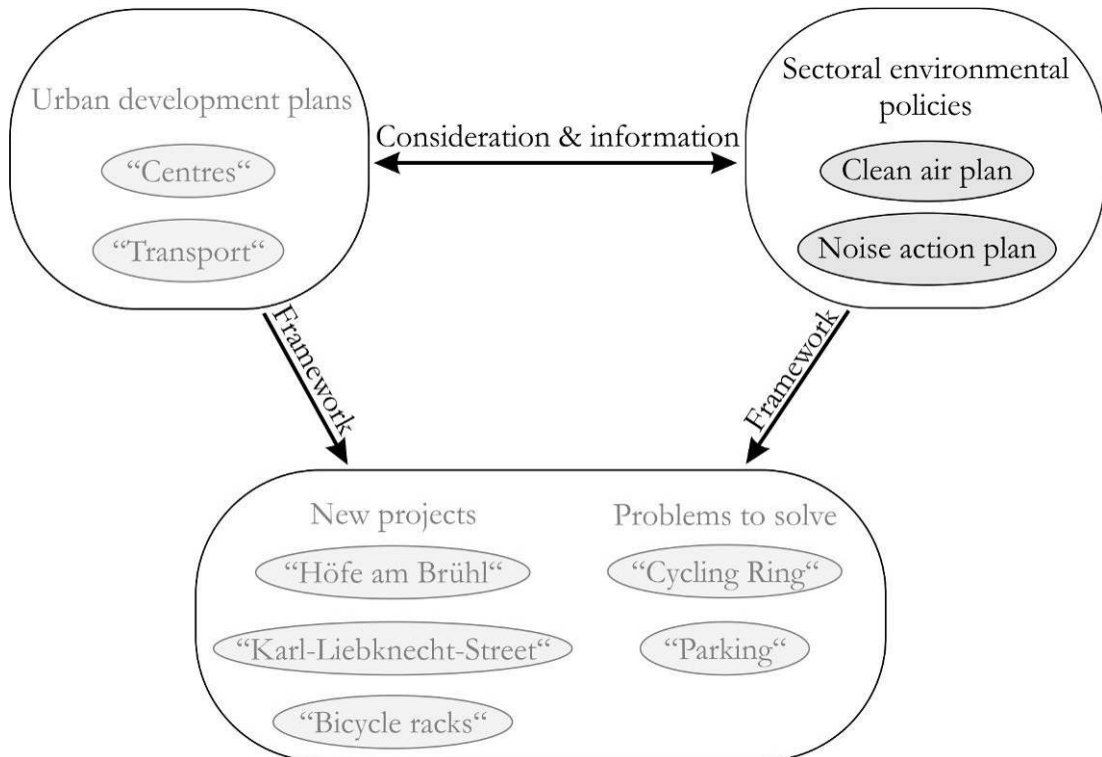


Diagram 6. 1: Scheme of planning policies and projects in Leipzig analysed in the three analysis chapters and their relations

6.2 Clean Air Plan and low emission zone

6.2.1. Introduction

This section deals with the institutional background and the development of Leipzig's Clean Air Plans. First the aims of the Clean Air Directive are described, followed by an analysis of the air quality monitoring in Leipzig. Then the Clean Air Plans of 2005 and 2009 are evaluated. The final part of this sections deals with the integration of the Clean Air Plan into other plans.

Air pollution is a serious threat to human health (WHO, 2014), and because of this the improvement of air quality has been a constant issue of European environmental policies since the 1970s (Connelly and Smith, 2003). Directive 1996/62/EC, which was adopted by the European Commission in 1996, deals with ambient air quality assessment and management (European Commission, 1996). It was replaced in 2008 by Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe, which emphasises to a greater extent on the link between health and poor air quality aiming to “minimise harmful effects on human health ... and the environment as a whole ... and to provide information to the public” (European Commission, 2008).

In particular, the directive defines the thresholds for pollutants, which are: particulate matter (PM), oxides of nitrogen (NO_x), nitrogen dioxides (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO), lead and benzene (European Commission, 2008). Common criteria for measuring stations and standardised measurement techniques are also suggested in order to collect sufficiently comparable and representative results across all member states (European Commission, 2008).

In the directive of 2008 it is determined that cities which exceed the thresholds need to create a Clean Air Plan. Within such plans they need to identify measures that will enable them to meet clean air requirements. According to the directive the participation of interest groups and citizens is not necessary during the development of the Clean Air Plan. The only requirement is to inform the public about the local pollution levels, the risks associated with exposure to pollution and the implementation of measures (European Commission, 2008).

The directive and its objectives are mandatory for all member states. In order to reduce the harmful impact of emissions the directive suggests a wide range of measures that

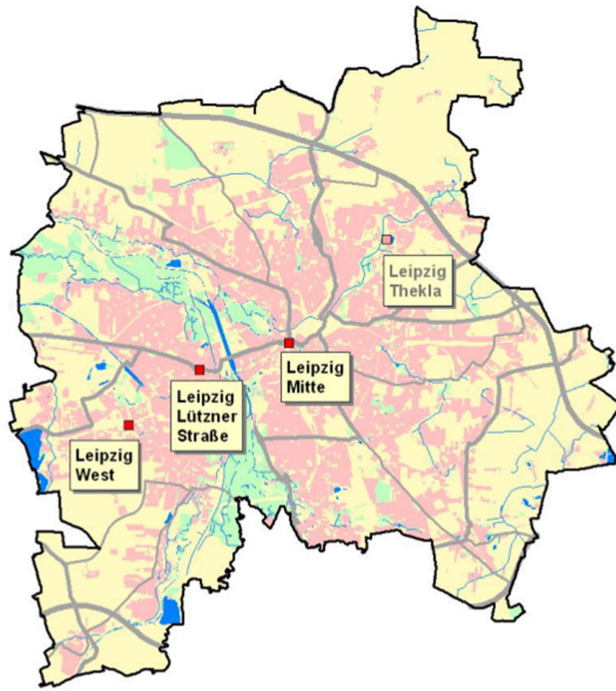
could be used to achieve the objectives. These measures are from various planning fields, for example technical solutions, low emission zones, a modal shift in the transport sector, different fuels in the energy sector, and taxes or emission trading as economic instruments (European Commission, 2008).

The European Commission evaluates the Clean Air Plans to find out whether the chosen measures are sufficient to keep air pollution within the defined limits. In the case that measures are deemed insufficient and limits are exceeded on too many days per year, penalties can be imposed (European Commission, 2008). In other words, the European Commission would start treaty violation proceedings through the European Court of Justice. The member states define the rules on penalties themselves, with the requirement set by the European Commission that they “must be effective, proportionate and dissuasive” (European Commission, 2008).

Germany implemented the directive 1996/62/EC in 2001/02 (Umweltbundesamt, 2009a). The directive 2008/50/EC was transposed into German law in August 2010 (BMUB, 2010). The amendment of the Federal Immission Control Act sets the framework for the federal states. They are responsible for the enforcement of the new regulation (BMUB, 2010). Usually, the federal states hand over the responsibility to their municipalities. However, in the case of Clean Air Plans local governments and federal governments work in cooperation (Umweltbundesamt, 2009a).

6.2.2. Air quality monitoring in Leipzig

Three measuring stations monitor the air quality in Leipzig: Leipzig city centre (see Figure 6.1 on page 147), Leipzig Lützner Street, and Leipzig West. Map 6.1 shows the position of the measuring stations.



Map 6. 1: Position of measuring stations in Leipzig (Stadt Leipzig, 2009b).

The clean air directive of 2008 defines particulate matter (PM) as one of the threats for human health and also sets the thresholds for PM_{10}^{110} and $PM_{2.5}$ (European Commission, 2008). Since 2005 the allowed annual average of PM_{10} is $40\mu\text{g}/\text{m}^3$. On 35 days a year the daily amount is allowed to be $50\mu\text{g}/\text{m}^3$. For $PM_{2.5}$ only an annual average is defined, which is $25\mu\text{g}/\text{m}^3$ from 2015 onwards and $20\mu\text{g}/\text{m}^3$ from 2020 onwards (Stadt Leipzig, 2009b). In Leipzig the level of PM_{10} is measured at all stations. $PM_{2.5}$ is only measured in the city centre. Table 6.1 shows the measured data and the frequency of vehicles per day at the four stations.

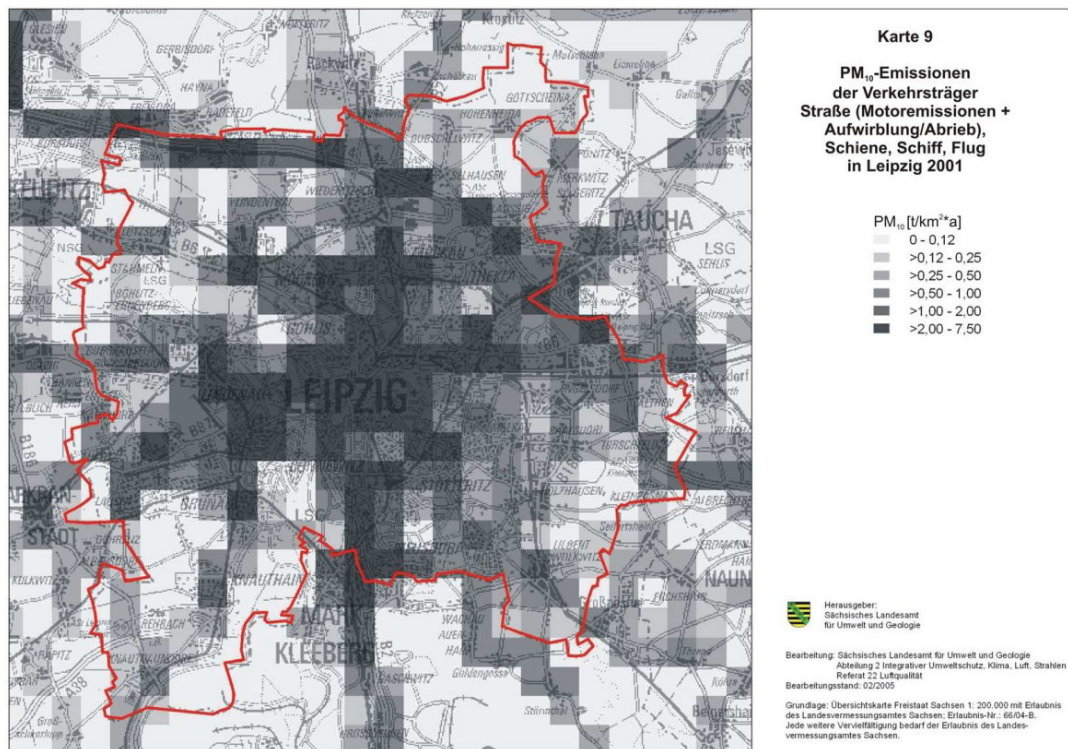
Station name	Measured data	Motor vehicles per day	Of which commercial vehicle
Leipzig city centre	PM_{10} , $PM_{2.5}$, NO_2 , SO_2 , CO, BTX, soot, dust, meteorological data	55 500	1 200
Leipzig Lützner Street	PM_{10} , NO_2 , soot, dust, meteorological data	24 200	950
Leipzig West	PM_{10} , NO_2 , SO_2 , BTX, dust, meteorological data	10 400	215

Table 6. 1: Measured data and traffic volume (2005) at measuring stations (Stadt Leipzig, 2009b)

¹¹⁰ PM_{10} are particles smaller than $10\mu\text{m}$ and $PM_{2.5}$ are particles smaller $2.5\mu\text{m}$ (European Commission, 2008).

The high amount of traffic close to the stations can lead to the conclusion that traffic is a key pollutant in this area. With regard to emissions caused by transport, especially those roads are affected that have a high traffic volume and a narrow width (Stadt Leipzig, 2009b). Reasons for that are related to the composition of particulate matter. The particles are partly natural, for example dust from fields, and partly anthropogenic, derived from, for example, the braking process of vehicles, tyre abrasion and the dispersion of dust of the roads (Stadt Leipzig, 2009b).

The level of particulate matter exceeded the allowed limit at all times at the stations in the city centre and the Lützner Street. People living in the areas around these stations were constantly exposed to highly polluted air. Map 6.2 was published in Leipzig's first Clean Air Plan of 2005 and shows the level of the PM₁₀ emissions in Leipzig in 2001.



Map 6. 2: PM₁₀ emissions in Leipzig 2001 of various modes of transport (LfUG, 2005)

The emissions shown on the map are caused by motorised vehicles on the roads, including motor emissions, dispersion of dust, and abrasion, as well as emissions of railways, ships, and airplanes (LfUG, 2005). The courses of the main roads are clearly visible. One problem of the map is the chosen indicator. It has a different unit than used in the EU directives. Whereas the directives use µg/m³, this plan uses t/km³*a. It is possible to see areas with the highest level of pollution, but it is not possible to

classify the amount with reference to the thresholds of the directives. This makes it difficult to assess the numbers correctly and to compare them with other stations. The map was prepared and first published by the Saxon State Ministry for the Environment and Agriculture, who is responsible for the overall monitoring and assessment of clean air in Saxony.



Figure 6. 1: The measuring station in the city centre

The Clean Air Plan of 2009 shows that over a period from 1999 to 2008, there were only two years when the number of days on which limits for PM_{10} were exceeded in the city centre and Lützner Street (Stadt Leipzig, 2009b, p. 26) did not pass the 35 day threshold stipulated by the EU directive (see table 6.2).

Year	City centre	Lützner Street
1999	36	-
2000	25	103
2001	49	77
2002	45	62
2003	64	89
2004	32	49
2005	75	63
2006	74	75
2007	39	40
2008	39	32

Table 6. 2: Number of days when PM_{10} threshold was exceeded (Stadt Leipzig, 2009b)

The high number of days when the thresholds were exceeded at two of the stations required that local planners in Leipzig develop a Clean Air Plan. The first one was developed in cooperation with the federal government of Saxony and adopted in 2005. As the pollution levels did not decrease as much as necessary a new plan had to be developed in order to avoid fines by the European Commission. So, in 2009 the second Clean Air Plan was adopted, which was again developed jointly by the local environmental planners and the federal government of Saxony.

6.2.3. The Clean Air Plan 2005

Following an analysis of air quality, environmental planners identified a range of air pollution emitters. The biggest emitters were diesel engines without particulate filter, abrasion of tyres and brakes, and dust on the streets. Thus transport is an issue that needed to be addressed as part of the Clean Air Plan. The following measures were identified: (1) improvement of road surfaces, (2) increasing traffic flow, (3) speed limits, (4) improvement of public transport, (5) supporting walking and cycling, and (6) traffic calming (LfUG, 2005).

One problem with the plan's measures is that many of them have little effect on pollution levels. As a study of the FEA has shown, better road infrastructure does not reduce the amount of motorised traffic and new roads and bans will only shift the pollution problem to another area of the city (Umweltbundesamt, 2009a). Measures that could lead to a decline of air pollution are a modal shift to public transport, cycling and walking. As the analysis of the modal split in section 5.3.2 has shown, there is a change to more environmentally friendly modes of transport in Leipzig. However, due to the generally high number of motorised transport in the city, the target of one third is still too high to significantly curb air pollution.

As a result, the European Commission questioned the effectiveness of the plan and threatened Saxony with fines as Planner 4 indicated: "The federal level does apply pressure on us, like with the Clean Air Plan, as the federal state is the contact [to the EU]. When the European Commission says that there is an air-hygienic problem in Leipzig then treaty violation proceedings are initiated and the first one to get it is the federal state. And they say, referring to the Federal Immission Control Act you have to do something and then they apply pressure. On the other side they supported us with all

calculations ... we cannot do that on our own.¹¹¹ Firstly, this example shows that the European Commission is really after the implication of its directives. Secondly, it also shows how different levels do cooperate but also how higher political levels can put pressure on the local level in environmental issues.

6.2.4. The Clean Air Plan 2009

The second plan analysed the situation in Leipzig in more detail. All measures of the first plan were integrated into the second plan and updated. The most significant alteration was the introduction of a low emission zone (Stadt Leipzig, 2009b).

The plan of 2009 proposed three different versions of low emission zones, see Map 6.3, differing in size and allowance of vehicles, for example only cars with green stickers¹¹² (Stadt Leipzig, 2009b). As air quality measurements in 2009 and 2010 were still showing pollution levels beyond the thresholds, planners had no choice but to introduce the low emission zone covering most of the city area and allowing only vehicles with green stickers to enter (version 3). This solution was the only way to prevent fines (Stadt Leipzig, 2011a). Stakeholder 1 talked about general options and how the local planners had justified the introduction of the low emission zone: “Those EU-goals, the legal ones, are known for many years. They had all the time in the world to come up with something. The dates are final dates, but they could have done something in advance. ... And then they need the safety break like it happened this time with the low emission zone. And they have done it, at the end with the official justification, that they could not act differently as the legal circumstances required that and so there is the scapegoat in Brussels and they can blame them.”¹¹³ This quote shows that the planners did not decide on the low emission zone because they aimed for it, but because they had to.

¹¹¹ „Die üben auch Druck aus, also zum Beispiel beim Luftreinhalteplan, da ist erst einmal das Land der Ansprechpartner, wenn die EU-Kommission sagt hier gibt es also ein lufthygienisches Problem in Leipzig. Dann wird das Vertragsverletzungsverfahren angestoßen und der Adressat ist erst einmal das Land. Und die sagen, nach Immissionschutzzuständigkeitsverordnung müsst ihr ja und dann üben die natürlich Druck aus. Und die haben aber andererseits uns mit den ganzen Berechnungen unterstützt, dazu sind wir selber gar nicht in der Lage.“ – Planner 4

¹¹² Depending on how much exhaust fumes a car produces, a green, yellow or red sticker is stuck behind the windscreen. In most low emission zones only cars with green stickers, i.e. a low level of exhaust fumes, are allowed.

¹¹³ „Denn diese EU-Ziele, die gesetzten, die sind ja schon seit Jahren bekannt. Man hat ja alle Zeit der Welt gehabt, sich beizeiten etwas auszudenken. Die Termine sind ja wirklich Endtermine, man hätte ja auch schon vorher was machen dürfen. ... Und dann hilft die Notbremse, wie es nun eben passiert ist mit der Umweltzone. Das ist dann gemacht worden, auch am Ende mit der offiziellen Begründung – wir konnten nicht anders, die juristischen Verhältnisse fordern das von uns ein. Und man hat irgendwo in Brüssel den Buhmann, dem man das leider in die Schube schieben muss.“ – Stakeholder 1



Map 6. 3: The three versions of the low emission zone in Leipzig (Stadt Leipzig, 2009b) Version (1) would have covered 21km², version (2) 230km² and version (3) covers 184km². (red line: boundary of Leipzig, green line: boundary of low emission zone)

6.2.5. Air quality in Leipzig after the introduction of the low emission zone

Local planners and the planners of the federal government put together information about air quality and exact measurements to be provided on websites to fulfil the information requirement on informing the public as stipulated in the directive (SMUL, 2014a, SMUL, 2014b)¹¹⁴.

Diagram 6.3 shows the daily amount of PM₁₀ and PM_{2.5} from 2009 to 2012 at the city centre measuring station. The data is available on the website of the Saxon Ministry (SMUL, 2014b). The black arrow marks the time when the low emission zone was introduced (01.03.2011). From this diagram, it is difficult to tell whether the air quality improved or not. There are still some days with levels above 50µg/m³ after the introduction of the low emission zone.

¹¹⁴ This link is also available on the official website of Leipzig.

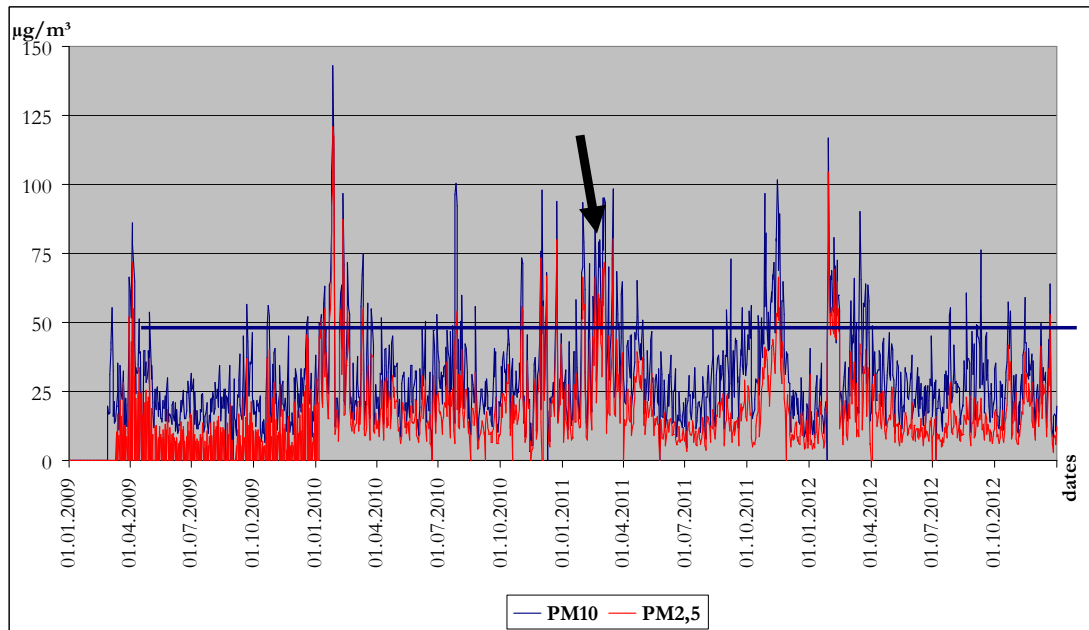


Diagram 6. 2: PM₁₀ and PM_{2.5} at Leipzig city centre, 2009-2012 (SMUL, 2014b)

Diagram 6.4 offers further detail regarding the number of days exceeding PM₁₀ levels since 1999. Referring to the directive, 35 days with more than 50µg/m³ are allowed per year. The only station in Leipzig that meets this criterion is Leipzig West. The other two stations have still too many days with more than 50µg/m³ (2012: Leipzig city centre 39; Leipzig Lützner Street 37).

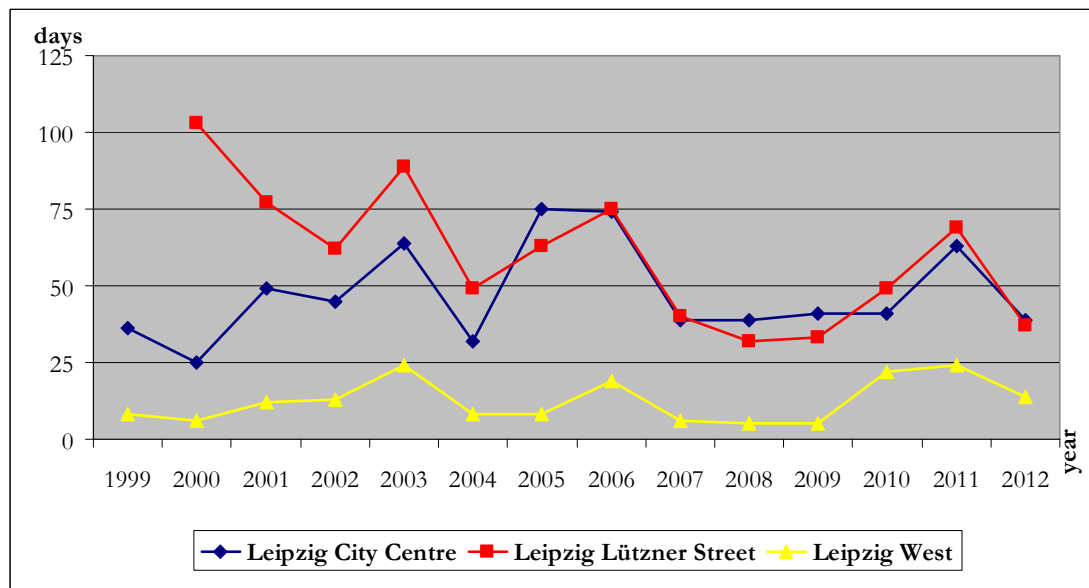


Diagram 6. 3: Exceeding days of PM₁₀ in Leipzig; 1999-2012 (data: SMUL, 2014b, Stadt Leipzig, 2009b)

Looking at developments in other cities, the positive effects of the introduction of a low emission zone can genuinely be expected. One example, named by Outsider 9 and in the literature, is Berlin (Rauterberg-Wulff and Lutz, 2011). ‘In Berlin positive experiences were made, the levels did decrease, of course not very steadily. ... With NO_x the decline is rather continuing but with particulate matter it is rather vague. There is a year with great success ... and then there is a year with certain exceeding as it also depends on other factors ... like a dry, warm year with few precipitations ... it has to be observed over several years. (Outsider 9)¹¹⁵

6.2.6. Critique on the Clean Air Plan and the low emission zone

Critiques on different parts of clean air planning have emerged in Leipzig during the development phase of the Clean Air Plan and the introduction of the low emission zone. Interview analysis revealed that the low emission zone is discussed at length, while all other measures of the Clean Air Plan seem to be widely accepted.

Amongst the interviewees the preference of measures varies considerably as these quotes show:

- Planner 1 explained that the reduction of traffic should be a main aim: ‘If we could achieve the protection of residential areas, what we aimed with the speed limit 30 zones, and if we manage to implement the transport concept then we would have achieved a lot. Sometimes it is on the citizens whether they use a car or not. The walkable city is a topic where the car should not be taken.’¹¹⁶
- Pol. Party 3 suggested a mix of measures: ‘There could be more roadside planting, more trees. That should be made ... furthermore we want that there is a restriction for heavy goods vehicle traffic through the city, which should be possible as the motorway ring around Leipzig is now closed. ... as I said we proposed various measures like planting additional trees, maintenance of roads in anyway, maintenance of pavements.’¹¹⁷

¹¹⁵ „In Berlin sind positive Erfahrungen gemacht worden. Die Werte sind gesunken, natürlich jetzt nicht so kontinuierlich ... Mit NO_x ist es eher, also Stickstoffoxide, ist es eher kontinuierlich, aber bei Feinstaub ist es sehr unbestimmt. Da gibt es mal ein Jahr, da hat man große Erfolge, dann gibt es wieder ein Jahr, wo ... eine gewisse Anzahl an Überschreitungen da war und das hängt eben auch von anderen Faktoren ab ... wenn man ein trockenes, warmes Jahr hatte, wenig Niederschlag ... man muss das dann über mehrere Jahre betrachten.“ – Outsider 9

¹¹⁶ “Und wenn man erreichen könnte, dass man die Wohngebiete voll vor Verkehr schützt, das haben wir ja gemacht mit Tempo-30-Zonen, und das man versucht, das Verkehrssystem umzusetzen, hat man eigentlich schon viel erreicht. Manches liegt auch am einzelnen Bürger, ob er mit dem Auto fährt oder nicht. Die Stadt der kurzen Wege ist ja ein Thema, wo man eben nicht unbedingt das Auto nehmen sollte.“ – Planner 1

¹¹⁷ “In dem ich mehr Straßenbegleitgrün bringe, mehr Bäume pflanze. Das gehört eigentlich auch mit dazu ... wir wollen aufgrund dessen, dass um Leipzig herum dieser Autobahnring jetzt geschlossen ist, wollen wir keinen Schwerlastverkehr

- Pol. Party 4 indicated a measure that the local planners could develop with private investors: ‘We have no proper Park and Ride system ... that does not have to be accomplished by the city budget alone, they [the local planners] could look for partners, as you could let administer such areas. ... And so people would park their car, pay their ticket for the tram and go to the city centre. And so they would have a free parking space.’¹¹⁸

Referring to a study of the FEA (Umweltbundesamt, 2007) all these measures have an effect on the level of particulate matter. However, their impact on the level is very low and they are on their own not effective enough to significantly improve the air quality of highly polluted areas (Umweltbundesamt, 2007).

A more long term measure was suggested by Stakeholder 1: ‘It is possible to think that there are more useful measures than a low emission zone, for example the consequent implementation of the promotion of eco-mobility, which could possibly have led to a higher degree of reduction [of exhaust fumes].’¹¹⁹ The FEA highly recommends measures like a change in modal split as a significant reduction of air pollution could be achieved with the reduction of the motorised traffic volume by 20-30% (Umweltbundesamt, 2009a). In cases where the limit of particulate matter is exceeded on more than 35 days a year the investigations of the FEA have revealed that the introducing a low emission zone could bring a considerable change of the pollution level. Models and measurements, for example in Berlin, have shown that the strict implementation of low emission zones can increase the air quality significantly (Umweltbundesamt, 2012a). However, Outsider 9 pointed out that it is important that only vehicles with certified low emissions are allowed to drive into cities: ‘I know that some cities have designed their low emission zone differently [than Berlin] and are not as successful as they have not consequently preferred the green stickers or have

mehr durch die Stadt ... wie gesagt Bäume pflanzen, Straßeninstandsetzungen sowieso, Fußweginstandsetzung.“ – Pol. Party 3

¹¹⁸ *“Es gibt keine anständigen Park-und-Ride Plätze ... Das muss nicht alles der Stadthaushalt bewältigen, da kann man sich auch Partner suchen, man kann auch solche Park-und-Ride Parkplätze bewirtschaften lassen ... man stellt sein Auto auf diesem Parkplatz ab und bezahlt dann sein Ticket in der Straßenbahn und fährt. Und hat dadurch einen kostenlosen Parkplatz.“ – Pol. Party 4*

¹¹⁹ *„Und man kann durchaus der Auffassung sein, dass es geeigneteren Maßnahmen gibt als die Umweltzone, zum Beispiel eine konsequente Umsetzung der Förderung des Umweltverbundes, die vielleicht zu einer stärkeren Reduzierung geführt hätte.“ – Stakeholder 1*

provided too many exceptions.¹²⁰ This response from Outsider 9 shows that while it is helpful to introduce a low emission zone, conditions for implementation play an important role.

In the end local planners need to choose those measures that have the highest impact on the pollution level. Referring to the measures Stakeholder 1 criticised ‘most of the measures outlined consist of current projects and plans that the local planners would have done anyway, with or without the plan [Clean Air Plan].¹²¹

6.2.6.1 Critique on development of the Clean Air Plan

Both directives on clean air do not require public participation. The only requirement is the information of the public with numbers of air quality and measurements (European Commission, 2008). Pol. Party 5 criticised the local planners for sticking to this practice and developing the plan without the public: ‘The general question is whether only the decision is the task of the planners or also the conceptual design of it ... and we believe that the conceptual discussion should be a task of the city council ... and even if it is not legally required, it is such an important decision that it would be a good gesture to involve the city council and therefore to have the political legitimacy.’¹²²

Overall, however, there was no obvious critique of the process of the plan development emerging from the interviews. Planner 1 explained: ‘This plan is a task of environmental planners that is not part of our work. Therefore we collaborated there and gave our concerns.’¹²³ Outsider 9 had a different opinion: ‘That is organised differently [in various cities], but it should be the way that they [the environmental planners] do the clean air planning together with the transport planners.’¹²⁴ So, there are different opinions about the form than an integrated approach in clean air planning should take. However, the

¹²⁰ ‘Und ich weiß, dass andere Städte zum Teil die Umweltzone anders konzipiert haben und die nicht so erfolgreich gewesen sind, weil sie nicht so konsequent die grüne Plakette bevorzugen oder zu viele Ausnahmegenehmigungen erteilen.’ – Outsider 9

¹²¹ ‘Die meisten Maßnahmen davon sind Dinge, die aktuelle Projekte und Planungen, die die Verwaltung, ob mit oder ohne diesen Plan, sowieso gemacht hätte.’ – Stakeholder 1

¹²² ‘Die Frage ist, ob nur die grundsätzliche Entscheidung der Verwaltung obliegt oder auch die inhaltliche Ausgestaltung ... wir sind der Meinung gewesen, dass zumindest die inhaltliche Diskussion auch Aufgabe des Stadtrates gewesen wäre und selbst wenn es nicht rechtlich der Fall gewesen wäre, ist doch die Entscheidung von so politischer Bedeutung ... dass es dieser Stadt gut zu Gesicht gestanden hätte, diese Entscheidung auch im Stadtrat zu diskutieren und letzten Endes die Möglichkeit zu geben, eine politische Legitimation zu holen.’ – Pol. Party 5

¹²³ ‘Das ist eine Aufgabe vom Umweltamt. Das liegt also nicht bei unserem Amt. Und insofern haben wir dort mitgearbeitet, auch unsere Bedenken eingetragen.’ – Planner 1

¹²⁴ ‘Das ist zum Teil auch unterschiedlich organisiert, also es müsste jedenfalls die Luftreinhaltung gemeinsam mit der Verkehrsverwaltung machen.’ – Outsider 9

amount of discussions afterwards indicate that there is a low level of agreement which could possibly be minimised with a higher degree of integration during the development phase of the policy.

So, the local planners communicated during the process with other departments, but did not form a working group. Therefore, the level of departmental integration is low. Stakeholders as well as political representatives were not involved in the process. They could only make comments after the process had finished, and before the adoption of the plan. Therefore, the level of stakeholder integration is also low.

6.2.6.2 Critique on the low emission zone

The most controversially discussed instrument of the Clean Air Plan is the low emission zone. The low emission zone was implemented in 2011 and was divisive in its implementation drawing criticism and support. Planner 4 explained: '[The] low emission zone was rejected by people. Low emission zone gets stigmatised and it did not matter what you said, you were always the bad person if you tried to support it. That is to say Leipzig introduced the low emission zone to annoy car drivers. The health protection of citizens did not matter, the fact that there was a poor air quality situation that meant we had to react, interested nobody.'¹²⁵ So, the situation for car drivers was rated more important than the health of people, which is not supportive for an environmental topic.

Pol. Party 4 on the contrary complained that the planners did not look for real alternatives: 'We do not rate that [low emission zone] positively. ... The planners of Leipzig are legally on the right side but they let it happen instead of being proactive. If you take the example of Dresden, there Members of the Saxon parliament have worked with higher levels to find different solutions. They possibly do not get a low emission zone.'¹²⁶ This statement of Pol. Party 4 suggests that local planners should have worked together with planners or politicians of higher planning levels in order to avoid the low

¹²⁵ "Umweltzone ging überhaupt nicht. Umweltzone kriegt einen Stempel ab, das war völlig egal, was sie erzählt haben, sie waren immer der Böse. Die Stadt hat sozusagen die Umweltzone eingeführt, um die Autofahrer zu ärgern. Der Gesundheitsschutz der Bürger spielte überhaupt keine Rolle, dass wir eine Belastungssituation haben, reagieren mussten, interessierte überhaupt niemanden." – Planner 4

¹²⁶ "Das hat ja mehrere Gründe, warum wir das nicht positiv bewerten ... die Leipziger Verwaltung ist rechtlich auf der richtigen Seite, aber dass sie das einfach mit sich geschehen lassen, statt richtig aktiv zu agieren, das heißt zum Beispiel vergleichbar Dresden, die sind eben intensiv mit ihren Landtagsabgeordneten Richtung Land, Bund gegangen, eine andere Lösung herbeizuführen. Die werden höchstwahrscheinlich um die Umweltzone herumkommen." – Pol. Party 4

emission zone and to work with other measures. However, how far this was possible in the case of Leipzig is doubted by Stakeholder 1 as he explained that Leipzig had no other choice than introducing the zone: ‘No, it was pressed on them. It is only there because it had to be.’¹²⁷ And he went on to say how the local planners announced it: ‘The administration says officially: we had to do it, and you have to live with it. There is hardly any support [of the low emission zone].’¹²⁸ The responses show how differently an issue is rated in case of limited communication. The decision made by the local environmental planners to introduce the low emission zone, for whatever the reasons are, could not be comprehended by others. The high level of discussion afterwards is an argument why higher degrees of communication and integration are necessary.

Stakeholder 1 agreed on the need of higher degrees of stakeholder integration: ‘It is still going full speed – the debate of the low emission zone. Letters to the editor, politics, daily in the newspapers ... also because the city [local planners] does not communicate it well. It is a settled matter.’¹²⁹ A higher degree of communication would lead to a higher level of integration and therefore could increase the level of acceptance. As this was not done by the local planners Stakeholder 1 named the consequences: ‘Now there is the sticker’¹³⁰. And poorly informed people are asking – great now we have it, but why is the air not better? ... But in practice it is about certain measurements, things you do not notice with eyes or nose. That is badly explained. The mediation does not work well.’¹³¹

The success of the low emission zone was seen controversial among the interviewees, with some questioning whether traffic really is the main pollutant:

¹²⁷ ‘Nein, die ist ja aufgedrückt worden. Die gibt es nur, weil sie sein musste.’ – Stakeholder 1

¹²⁸ ‘Die Verwaltung sagt offiziell, ‘wir haben es halt machen müssen’ und müssen jetzt damit leben und so weiter. Also dahinter steht kaum jemand.’ – Stakeholder 1

¹²⁹ ‘Es läuft nach wie vor auf Hochtouren, diese Umweltzonendebatte. Leserbriefe, Politik, täglich in der Zeitung ... weil die Stadt eben auch nicht besonders gut kommuniziert. Das ist eben beschlossene Sache.’ – Stakeholder 1

¹³⁰ Every car needs a green sticker now otherwise the driver is not allowed to drive into the low emission zone.

¹³¹ ‘Jetzt ist es eben so mit der Plakette. Und laienhaft fragen die Leutenatürlich ,toll jetzt haben wir das und wieso ist die Luft nicht besser?’ Was auch immer sich manche darunter vorstellen, unter besserer Luft. Aber konkret ging es ja auch um bestimmte Messwerte, die man mit bloßem Auge, Nase nicht unbedingt mitbekommt. Das wird auch schlecht erklärt. Das ist diese Vermittlung, die nicht besonders gut läuft.’ – Stakeholder 1

- ‘The low emission zone is discussed fervently in Leipzig, also the use of it ... I have a more opposing opinion as this whole topic also depends on the weather and less – also the traffic.’¹³² (Planner 1)
- ‘You can take as many instruments and also have a low emission zone, it is the particulate matter that lead to an exceeding of the limits, which is caused by certain weather phenomena or particulate matter from out of town that is not produced in the city. That is a point and within the discussions ... this should always be considered.’¹³³ (Pol. Party 5)
- ‘I do not want to judge it. If you take a look at those numbers and compare them to last year, it is always a bit difficult. Whether that is now a reasonable measure or not that will show the experience in whole Germany. But they can do other things, too. If they [the planners] do not believe in the low emission zone themselves they have to think about other things how they can improve the measurements.’¹³⁴ (Stakeholder 1)

So, it seems that the lack of information is not only applicable to stakeholders but also to other planners and local politicians. The question here is whether a better level of communication from higher planning and policy levels could limit that and increase the level of understanding and acceptance.

As written above, some interviewees, for example Planner 1, Retail 2 and Pol. Party 5, blamed the weather for the high levels of particulate matter. In their eyes most measures including the low emission zone will not improve the air quality as the majority of the particulate matter comes from outside the city. Planner 5 agreed that a certain amount of it does, but also explained the difficulty of monitoring and the directives:

¹³² „Die Umweltzone ist sehr strittig in Leipzig, auch der Nutzen davon ... kann man geteilter Meinung sein zur Umweltzone, ich habe da ein bisschen eine abwehrende Meinung, weil es ja so ist, dass vor allen Dingen auch die Wetterlagen dieses ganze Thema bestimmen, weniger – also auch der Verkehr.“ – Planner 1

¹³³ „Da können sie noch so viele Instrumente zur Hand nehmen und eine Umweltzone haben, es ist Feinstaub, der zur Überschreitung der Grenzwerte führt, der auf bestimmte Wetterphänomene zurückzuführen ist oder eben dann einen Feinstaubeintrag von außerhalb, der nicht in der Stadt entsteht. Das ist der Punkt und ich denke bei der Diskussion ... sollte man sich bewusst sein, dass es das gibt.“ – Pol. Party 5

¹³⁴ „Ja, ich mag mir da jetzt auch kein Urteil anmaßen, wenn man auf diese bestimmten Zahlen guckt, nach einem Jahr vergleicht, ist immer ein bisschen schwierig. Ob das jetzt eine sinnvolle Maßnahme ist oder nicht, das wird generell deutschlandweit irgendwie dann die Erfahrung zeigen, aber man darf ja auch andere Sachen machen. Also wenn man selber nicht an die Umweltzone glaubt, na dann muss ich mir halt andere Sachen einfallen lassen, wie ich meine Werte besser hin bekomme.“ – Stakeholder 1

‘At first a critique on the EU, they invented a stupid measurement ... as they take melons¹³⁵, which are blown here by nature, as big particles in the PM₁₀ and measure them, but they do not harm anyone, and mix them with small table tennis balls, which float around, which are highly poisonous, which come somewhere from car emissions ... and as those people are dealing with compromises, they have put them all in one measurement. ... we cannot do anything against wind emissions, we cannot change the climate, we cannot change the weather, we have some options with domestic coal ... and we have motor emissions. Motor emissions are cancerous, the small table tennis balls, which fly around here. What can I do? Low emission zone! We introduced a low emission zone, with a green sticker, tighter is not possible and there are no other possibilities, and so many of the small table tennis balls are out now. What happens to the measurement? No change as the water melons are still in, which are blown around by nature. Great, the low emission zone does not work. But that we eliminated 95% of the small table tennis balls, which are highly cancerous, with the help of the low emission zone, is not interesting. For those [people] the measurement did not sink. ... They did not understand it and they are also not interested, because they can exploit that politically, those how are against it. And I say I am happy that the poisonous table tennis balls are out, but cannot explain it to anyone else ... very unfortunate with the communication and the discussion.’¹³⁶

So, it seems that it requires more communication of the details of the measurements so that other people would understand it better. However, there is numerous information

¹³⁵ *Planner 5 is working with an analogy: using melons to represent bigger particles and table tennis balls to represent smaller particles of 2.5µm or less.*

¹³⁶ *„Also zunächst einmal Kritik an der EU, die haben sich einen bescheuerten Messwert ausgedacht ... indem sie Melonen, die irgendwo von der Natur her geweht werden, als große Partikel in dieser PM10 noch mit drin messen, die aber eigentlich keinem was tun, mischen mit kleinen Tischtennisbällen, die da mit rumschwirren, die hochgiftig sind, die irgendwo aus den Kfz-Emissionen heraus kommen ... und weil alle Leute sich kompromissmäßig mit diesen Messwerten beschäftigen, haben sie das in einen Messwert reingepackt ... wir können nichts an der Windemission machen, wir können nichts am Klima machen, wir können nichts am Wetter machen, wir haben beim Hausbrand noch irgendwelche Möglichkeiten ... und wir haben das Thema Motoremission. Motoremissionen sind die cancerogenen, kleinen Tischtennisbälle, die hier mit rumfloppen. Was kann ich machen: Umweltzone. Umweltzone haben wir gemacht, grüne Plakette, schärfer gibt es nicht, gibt es keine andere Regelung, also sind viele von den kleinen Tischtennisbällen raus geflogen. Was passiert mit dem Messwert, hmm, man sieht gar nichts, es passiert nichts. Weil weiterhin die Wassermelonen drin liegen, die irgendwo in der Natur rumgepusht werden. Toll, Umweltzone funktioniert nicht. Dass wir 95% dieser kleinen Tischtennisbälle, die hochcancerogen sind, rausgeschmissen haben, mit der Umweltzone, interessiert die nicht. Für die ist der Messwert nicht gesunken. Also, die haben es nicht kapiert und es interessiert die auch nicht, weil sie politisch das instrumentalisieren, die dagegen sind. Und ich sage, ich bin da froh, dass die Tischtennisbälle, die giftigen Dinger, raus sind. Kann es aber draußen keinem erklären ... Also, sehr unglücklich in der Kommunikation und in der Diskussion draußen.“ – Planner 5*

provided from researchers and governments that give insights and details about the effectiveness of low emission zones (e.g. Umweltbundesamt, 2007). The 2007 report by the FEA which monitors all emission zones in Germany, reveals that low emission zones are effective measures for improving air quality (Umweltbundesamt, 2006, 2009a, 2012a). It seems that the lack of acceptance cannot only be linked to the low level of information provided by the planners but also to the lack of interest of people to inform themselves in available publications. Furthermore, the low emission zone is not only introduced to reduce the amount of particulate matter, but also other pollutants like for example NO_x, which are clearly from anthropogenic sources like traffic.

The FEA argues that when emissions are reduced in general, air pollution can be reduced in any way. Especially areas with high levels of motorised transport exceed the limits regularly (Umweltbundesamt, 2009a). However, it seems that this information of the FEA is not communicated by some stakeholders. That could be interpreted as a lack of information provided to the public, which is against the requirement of the directive.

The limited communication is not the only problem with the low emission zone. A further issue is one of the financial settings that could support the success of the low emission zone. Planner 1 explained the problem: “That are contradictions. On one side are the decisions to improve roads in the low emission zone [which would reduce emissions] but on the other side there are no financial provisions.”¹³⁷ This is a common problem that can be seen in policy making insofar as there are requirements based on laws which cannot be fulfilled in the intended way as there is insufficient financial resources available for implementation. However, Stakeholder 2 mentioned a far more critical problem that is not in the hands of local planners: ‘Saxony has said that Leipzig has to introduce the low emission zone otherwise there will be a penalty charge from the EU and they will let the city pay that. Saxony will not pay for it. So, Leipzig had to introduce the low emission zone. In parallel Saxony cut the funding for alternatives that allowed people to get into town by train and not by car. They cut the money and so the urban railway from Grünau to the city centre had to be closed.’¹³⁸ Public transport is

¹³⁷ „Also das sind so die Widersprüche, dass einerseits die Beschlusslage ist, in der Umweltzone Straßendecken zu verbessern, aber dass die Finanzen nicht bereitgestellt werden.“ – Planner 1

¹³⁸ „Das Land Sachsen sagt zum Beispiel der Stadt Leipzig, hier müsst ihr jetzt eine Umweltzone einführen, weil wenn ihr das nicht macht, drohen Strafzahlungen von der EU und die werden wir dann eins zu eins an euch weiter geben. Das Land Sachsen wird sich daran nicht beteiligen. Und dann musste die Stadt Leipzig die Umweltzone einführen. Und was macht das Land parallel, das streicht die Mittel für die Alternative, dass man halt mit dem Zug oder der S-Bahn in die Stadt kommt und nicht mit dem Auto. Und dann muss man die S-Bahn von Grünau in die Stadt stilllegen.“ – Stakeholder 2

subsidised to a certain extent by the federal states and if the funding is cut then certain routes have to be closed. However, this policy of cutting money for public transport contradicts the aims of improving air quality in cities which made the case difficult for planners in Leipzig. They had to introduce the low emission zone due to too high pollution levels, but could not reduce them further by fostering higher usage of public transport in the general public.

6.2.6.3 Economic-based critique on the low emission zone

When some interviewees criticised the low emission zone they do not only argue against it in general terms, but also criticised the extra pressure it places on the local economy. The arguments related to the economy are mainly based on the problem of getting exceptions to enter the low emission zone. These are only provided to owners of vehicles until 2014 (Stadt Leipzig, 2011d). So far exceptions are not allowed post 2014. Pol. Party 4 expressed concern that the special exemption for vehicles that do not meet the required particulate matter regulations means that: ‘special vehicles that cannot be easily converted will not be allowed to drive [after 2014].’¹³⁹ He referred this concern to the behaviour of planners before the announcement of the low emission zone: ‘they [the planners] provided a sense of security that there will not be a low emission zone in Leipzig ... they also informed the chambers [e.g. the CCI] and so there were investments done and then the low emission zone came.’¹⁴⁰ Again, the limited integration of stakeholders is cited as a reason for the poor acceptance of the low emission zone.

Pol. Party 3 and Pol. Party 5 also criticised the burden that was put on local companies by planners when introducing the low emission zone:

- ‘We have made suggestions ... especially as we cannot demand from the economy that they adapt their cars or their lorries or their special vehicles ... many of them had been purchased on credit and now they should only be usable for another

¹³⁹ „Wir sind in Sorge, dass man am Ende die Ausnahmen kassieren wird, das heißt, das Fahrzeuge, die Sonderaufbauten haben, die nicht so schnell umrüstbar sind, deswegen länger fahren durften, entfallen.“ – Pol. Party 4

¹⁴⁰ „Sie haben in Sicherheit gewogen, dass es mit der Stadt Leipzig keine Umweltzone gibt ... So werden Kammermitglieder informiert und mit diesem Sicherheitsgefühl wird eine Investition getätigt ... und ja, dann kam die Umweltzone.“ – Pol. Party 4

two years. However, that was difficult due to the legal framework and so for many, who use that for their profession, it is very difficult.¹⁴¹ (Pol. Party 3)

- 'Instead of a low emission zone and the related bureaucratic effort especially for businesspeople and entrepreneurs in this city ... instead of reverting to those drastic measures [as the low emission zone].¹⁴² (Pol. Party 5)

Again these two argue only for the local economy without relating to the need of better air quality in the city. Pol. Party 3 refers also to the legal framework as if things can only be done because the legal framework requires it and not the local circumstances.

Stakeholder 1 could not understand why environmental issues are not rated higher by economists: 'It discredits the environmental topic. And that is the annoying part. That generally the environment is seen as something that restricts us, it is that, what hinders the economy and what is negative in a certain way. And not the chance that it provides to make a city more liveable, friendlier, environmentally friendlier, and more sustainable. Not the chance is seen, but something negative, it is the usual picture of the conservationist as the objector.'¹⁴³

The low emission zone in Leipzig covers a large part of the city and has an impact on businesses within the zone, but it cannot be said precisely in what way. The question is whether the local planners could extend the exception period beyond 2014 and how they could otherwise secure the support of local businesses.

6.2.7. The clean air plan and its integration into other plans

Article 47 paragraph 6¹⁴⁴ of the Federal Immission Control Act states that regulations which are defined in the Clean Air Plan have to be taken into consideration in other

¹⁴¹ „Wir haben Vorschläge gemacht ... auch weil wir von der Wirtschaft nicht fordern können, dass sie von heute auf morgen ihre Pkws und Lieferfahrzeuge oder Spezialfahrzeuge umstellen ... die sind speziell ausgestattet und in vielen Fällen auf Kredit gekauft und dann sollen die nur noch zwei Jahre nutzbar sein. Aber das war schwierig, weil die Gesetzgebung eine andere ist und das ist für viele, die das jetzt beruflich machen müssen, schwierig.“ – Pol. Party 3

¹⁴² „Statt einer Umweltzone und dem damit verbundenen bürokratischen Aufwand, gerade für Gewerbetreibende und Unternehmer dieser Stadt ... anstelle einfach nur auf so drastische Mittel zurückzugreifen.“ – Pol. Party 5

¹⁴³ „Und das diskreditiert das Umweltthema. Und das ist das ärgerlich daran. Dass dann natürlich grundsätzlich Umwelt als was gesehen wird, was uns einschränkt, dass es etwas ist, was die Wirtschaft behindert und was in irgendeiner Art und Weise negativ ist. Und nicht die Chance, die darin besteht, eine Stadt lebenswerter, freundlicher, umweltgerechter, nachhaltiger zu machen. Das wird nicht als Chance gesehen, sondern als etwas Negatives, das ist das Bild von den Umweltschützern als den Verbinderern.“ – Stakeholder 1

¹⁴⁴ „... Sind in den Plänen planungsrechtliche Festlegungen vorgesehen, haben die zuständigen Planungsträger dies bei ihren Planungen zu berücksichtigen.“ – In case the plans require legal planning arrangements, the responsible planning levels/ departments have to consider them in their own plans.

sectoral plans. Planner 4 commented on the possibilities that this offers: ‘In article 47.6 [Federal Immission Control Act] is written that subsequent plans have to consider measures that are written in the Clean Air Plan. I can put pressure on them [other planners]. They have to provide funding then.’ ... ‘I know that the colleagues have problems in their own department. We will take care as we have the Clean Air Plan which has a certain power that the aims are not lessened in the Transport Urban Development Plan. Or the Cycling Plan.’¹⁴⁵

However, Stakeholder 1 sees some responsibility for the whole problem within the environmental department itself arguing that the environmental planners should take the initiative more often: ‘The environmental planning department is sorely afflicted ... they are usually treated as the last ones, asked as the last ones and have to agree [on other plans].’¹⁴⁶ This is a critique of Stakeholder 1 that the environmental planning department is not seen and treated as an equal department when it comes to non-environmental planning. Nevertheless, he also argued that the environmental planning department could sometimes take the initiative in non-environmental topics as well.

6.2.8. Conclusion of the Clean Air Plan

The clean air directive provides a strong basis for environmental objectives. It defines timeframes and thresholds, names measures and threatens with fines for the case where it is not implemented correctly. The analysis has shown that the environmental department could use the directives and the threat of being fined to achieve the objective of integrating the Clean Air Plan into other planning areas. Greater dissemination of information about the policy and the plan could have increased the acceptance of the plan and especially the low emission zone among other planners, stakeholders and citizens. However, it seems that the environmental department is not very adapting in using its influence to full potential.

The poor acceptance of the low emission zone in Leipzig has various reasons. Firstly, there is a low level of information and clarification from the environmental planners.

¹⁴⁵ „In § 47.6 steht drin, bei nachfolgenden Fachplanungen müssen die Maßnahmen, die im LRP enthalten sind, berücksichtigt werden. Da kann ich also Druck ausüben. Dafür muss auch Geld bereitgestellt werden. ... Ich weiß aber, dass die Kollegen da auch Probleme haben, schon im eigenen Haus. Wir werden aber natürlich darauf achten, wenn wir einen Luftreinhalteplan haben, der letztendlich auch eine gewisse Kraft hat, dass das Ziel im STEP Verkehr und öffentlicher Raum nicht abgeschwächt wird, oder im Radverkehrsentwicklungsplan.“ – Planner 4

¹⁴⁶ „Das Umweltamt – die sind leidgeprüft, die werden immer so als letzte mit behandelt, mit gefragt und müssen das abzeichnen.“ – Stakeholder 1

Secondly, some stakeholders argue against the low emission zone although their arguments are contradicted by scientific evidence. Thirdly, some stakeholders use only the information that supports their own interests, for example economic interests. To a certain extent this results from the limited level of integration. The local environmental planners could have integrated other planners, local politicians and stakeholders more in the development process of the plan and would possibly have increased the level of acceptance.

The low emission zone was discussed in Leipzig more than any other environmental topic. One reason could be that citizens are affected directly by it, particularly when they own a motor vehicle. Leipzig allows only vehicles with a green sticker to enter the zone and excludes all others. In combination with the low level and quality of information that is provided by planners and politicians the critical position of numerous stakeholders and citizens is unsurprising.

A success of the low emission zone, i.e. meeting the environmental pollution limits of the EU, could possibly help to increase the acceptance of the low emission zone. Another way of increasing the acceptance of environmental topics could be to integrate stakeholders and citizens into follow-up processes. The Clean Air Directive does not require public participation, but it also does not ban it. The environmental planners should consider a higher level of stakeholder integration when they develop future plans. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 6.3.

Indicators/Questions	Conceptual Framework 1993
Timeframe	
When did the integration of environmental issues start?	It is an environmental plan so environmental objectives played a role all the time.
When did the integration of other planning departments start?	Towards the end as it was mandatory.
When did the integration of stakeholders start?	Towards the end as it was mandatory.
Environmental objectives	
To what extent were environmental objectives discussed in the process?	It is an environmental plan so environmental objectives played a role all the time.
To what extent were environmental objectives integrated in the policy?	It is an environmental plan so environmental objectives played a role all the time.
Department/stakeholder integration	
To what extent were other departments/stakeholders integrated?	There was mainly only the involvement that was officially required.
How was the integration of other departments/stakeholders organised?	The mandatory process took place as required in the German law.
Communication	
What forms of communication were used?	Traditional forms of communication were used, like newspapers, the official journal and the city's web site.
How many people were reached by the announcements?	Mainly those who knew already about the project/process or those interested in the topic in general.
Was there a possibility for non-planners to get heard?	It was only possible to bring in opinions via the official mandatory process.
Level of EPI	+
Level of DI	-
Level of SI	-

Table 6. 3: Indicators and levels of integration for the analysed Clean Air Plan (0: no integration, -: low, o: medium, +: high integration)

6.3 Noise reduction planning

6.3.1. Introduction

In the last section the implementation of the European Clean Air Directive was analysed. This section deals with the implementation of the European Directives on Environmental Noise. The first part examines the general framework in noise reduction planning. It is followed by an analysis of noise reduction planning in Leipzig, both before and after the introduction of the directive. The final part of this section deals with the "Mach's leiser" (Make it quieter) project, which is an example for noise reduction planning with a higher degree of public participation.

6.3.2. Framework in noise reduction planning

In order to identify the level of noise exposure in urban areas and along main roads noise maps are prepared following assessment methods that are common in all member states. The maps form the basis of noise action plans that in turn set priorities and name measures on how to reduce the noise level (European Commission, 2002a). Member states have to define the level of harmful noise themselves. They can follow for example suggestions of the WHO or set their own. Member states also have to name the authorities that are responsible for the development of noise maps and noise action plans (European Commission, 2002a).

The directive was to be implemented in member states in two states. In the first phase, urban areas with more than 250 000 inhabitants and municipalities with roads with more than 6 million cars per annum had to prepare noise maps by June 2007 and action plans by July 2008. Following that, in a second phase, urban areas with more than 100 000 inhabitants and municipalities with main roads had to prepare maps by June 2012 and finish the action plans by July 2013. The maps and action plans have to be updated every five years (European Commission, 2002a).

The directive puts special emphasis on the information and the participation of the public. It states that member states have to “ensure that the public is consulted ..., given early and effective opportunities to participate in the preparation and review ..., that the results of that participation are taken into account and that the public is informed on the decisions taken.” (European Commission, 2002a, article 8 no. 7) The

information provided to the public have to be “clear, comprehensible and accessible” (European Commission, 2002a, article 9 no. 2).

In Germany the federal states define strategies of noise reduction planning. These strategies differ between the states in terms of responsibilities for mapping and measure planning as well as the trigger criterion, funding possibilities and assistance for planners. In most federal states the municipalities are responsible for mapping and the development of noise action plans (Bund/Länder-Arbeitsgemeinschaft für Immissionsschutz 2010).

There are no common criteria among the federal states that define standard trigger criteria for when noise action planning is required. Various noise limits are defined and suggested. The FEA suggests to use as minimum criteria 65dB (A) as a daily average and 55dB (A) at night in residential areas. The 16th Federal Immission Control Ordinance sets 49dB (day) and 49db (night). However, these limits are so far just applicable to new developments. The VLärmSchR¹⁴⁷ of 1997 defines 70dB (day) and 60dB (night). The SRU suggests 65db (day) and 55dB (night) (Stadt Leipzig, 2011b). In Saxony noise action planning is necessary when the 24h-level of 65dB (A) or the night level of 55dB (A) is exceeded (Stadt Leipzig, 2011b). Most federal states support municipalities in various ways including: giving technical advice, provision of data sources, mapping, financial support of noise planning, support of information and participation of the public, provision of material, and financial support of measures. The first three points are widely used in all federal states (Umweltbundesamt, 2011a).

The old article 47a of the Federal Immission Control Act did not specify any deadlines for mapping and action planning or any special requirements regarding noise reduction planning. There was also no pressure to submit noise levels to other planning levels and the involvement of citizens was also not required prior to the implementation of the directive in Germany in 2006. The environmental planners of Leipzig had set up noise levels as part of their environmental quality targets of 1996 and published them in their official journal (Stadt Leipzig, 1995).

¹⁴⁷ *Richtlinie für den Verkehrslärmschutz an Bundesfernstraßen in der Baulast des Bundes – Guideline for protection of traffic noise along main roads that are in the public easement of the union (German national level)*

6.3.3. Noise reduction planning after the adoption of the directive

After the implementation of the directive into German law the local planners started with an investigation of the current noise impact in the core area of the city (Map 6.4). They finished the noise mapping at the end of 2007 (Stadt Leipzig, 2011b).

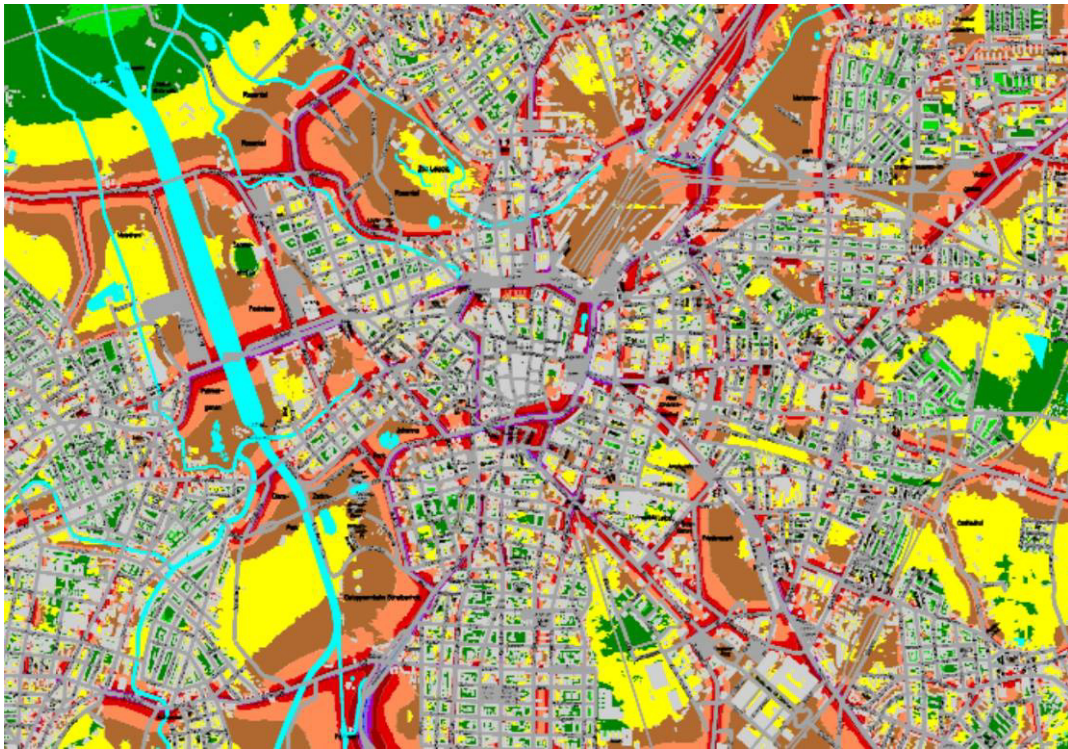


Map 6. 4: Different phases of noise mapping in Leipzig

Based on the noise levels defined by the German Council of Environmental Advisors (SRU) of 65dB in daytime and 55dB at night (SRU 2008), it was revealed that more than 20 000 residents of the city are exposed to a harmful noise level as is shown in Table 6.6 (Stadt Leipzig, 2011b).

DEN (24h) Motorised Transport											
Category	≤ 35 dB (A)	>35-40 dB (A)	>40-45 dB (A)	>45-50 dB (A)	>50-55 dB (A)	>55-60 dB (A)	>60-65 dB (A)	>65-70 dB (A)	>70-75 dB (A)	>75-80 dB (A)	>80-... dB (A)
Affected citizens	74 049	99 741	69 551	57 888	40 524	26 823	20 450	17 793	4 879	51	0
Night (8h) Motorised Transport											
Affected citizens	234 774	64 045	43 536	29 664	21 468	16 192	4 625	73	0	0	0

Table 6. 4: Affected citizens in Leipzig in daytime and at night (Stadt Leipzig, 2011b)



Map 6. 5: Detail of the noise mapping of the centre of Leipzig (Stadt Leipzig, 2011b) (red – areas of high noise levels, yellow – areas of medium noise levels, green – quiet areas, brown – buildings)

Following the results of the noise mapping (see Map 6.5), environmental planners started to prepare the Noise Action Plan in cooperation with the departments for urban planning and transport planning. Additionally, there was a consultation phase with local stakeholders, like members of the LVB and the CCI (Stadt Leipzig, 2011b).

The Noise Action Plan contains a section about noise reduction and planning, where it names potential planning policies that could support the aim of decreasing noise levels. These planning policies are for example: the integrated urban development concept (SEKo), urban development plans, the land use plan, building plans, the Clean Air Plan and special transport plans like the Cycling Plan and the car-sharing initiative (Stadt Leipzig, 2011b). Aims and measures defined in these plans could have an impact on the noise level in certain areas of the city and with this claim of considering other plans the level of integration of noise action planning could be increased.

Measures in noise reduction planning are based on three different strategies: reduction, avoidance and relocation. The local planners wrote in their Action Plan that these long term goals are non-attainable in terms of finances and technical possibilities (Stadt Leipzig, 2011b). The environmental planners referred to their own targets of 2003 and

published the table of 2003 in the Noise Action Plan (Stadt Leipzig, 2011b). Measures to reduce noise from road traffic include: silent asphalt, channelization of traffic on specific roads to discharge others, speed limits, increase of traffic flow, reduction of traffic amount, low emission zone, noise protection walls and passive protection like special windows. Speed limits are usually considered at night (Stadt Leipzig, 2011b). The planners listed some roads, where they aim to reduce the amount of traffic, but gave no specific measures on how to achieve that. The low emission zone is also included in the noise reduction plan. The planners argued that it does not only have an effect on air quality but also on the noise level (Stadt Leipzig, 2011b).

One aspect that was very important for local planners and mentioned several times in the Action Plan was funding and the security of finances to be able to implement the measures. Regarding the EU directive the implementation of the plan is not binding, so planners will only realise something, when funding and financial resources are available (Stadt Leipzig, 2011b). This sentence was only written in the first draft of the plan. In the final published version it was removed. However, the remark that funding has to be a precondition for changes does not indicate a strong interest in the plan.

6.3.4.1 Public participation

Public participation is an essential part of noise reduction planning. During the development process of the plan local planners dealt with various problems that were mentioned by citizens. Nine of the problems were presented in the Action Plan. One example is the high noise level in Karl-Liebknecht-Street, which is mainly caused by the tram. When the Action Plan was developed the planners could not include any information when they would be able to solve the problem. However, one year later a decision was made that the northern part of the street would be restructured entirely minimising the problem that way (see Chapter 7.3). Another example was the district Breitenfeld next to the motorway A14. Residents mentioned that too much noise could still be heard from the motorway. However, a noise protection wall was already built that led to a moderate noise level and therefore the local planners had no intention to put a focus on that area (Stadt Leipzig, 2011b). These two examples show how measured noise levels do not conform to individual sensation. Furthermore, from the example of Hans-Driesch-Street we can see that planners seem to give up in some cases arguing that the traffic is there and they cannot do anything.

The plan was available for comments and suggestions in various forms. The traditional public display lasted four weeks and was used by 17 people. A new form of participation offered by the planners via an online forum was available for nearly three months and was used by 223 people. Additionally, 485 citizens participated in an online survey. The Action Plan was also available for download. 67 people used this chance to give written feedback. In June 2011 a discussion event took place, where 40 people came to discuss the plan.

6.3.4.2 Results of the online forum

The online forum was open between the 6th of May and the 31st of July 2011. Participants had to register in order to take part. Registered participants could then rank measures of the Noise Action Plan. The categories 'building of new streets' and 'better road surface' were always linked to specific roads and are here only used as one general category. High priority and lots of clicks were given to 'Integration of results in urban development plans' (23) and 'SEKo' (24), 'building of new street' (15), 'better surface' (25) and 7 measures that are related to the LVB. High priority and medium number of clicks were given to 'electro mobility in public transport' (10), 'better windows' (12) and some measures of the LVB. High priority and only a few clicks were given to 'noise protection walls' (5), 'better surface' and some other measures of the LVB. Less priority was expressed for most noise protection walls, traffic calming suggestions and the new city tunnel for the urban railway (24). The low emission zone and electro mobility for city employees were discussed with neither high nor low priority. Additional suggestions by the participants were for example 'better cycling environment' (49) and measures that are related to the airport (1165).

The local planners did not provide any information about the people who participated. That would have been useful for the interpretation, so that conclusions could be drawn about local knowledge, whether participants are directly affected and what they know about the measures in detail. Nevertheless, it is interesting to see that the participants have a higher interest in integrated solutions and environmental modes of transport like cycling and the LVB.

6.3.4.3 Results of the online survey

485 people responded to the online survey. 374 of them said that they are heavily affected by noise. Asked about the main noise sources in their residential area 35%

answered motorised transport, 23% air traffic, 14 % tram traffic, 10% railway traffic, and the remaining 18% other local sources.

Participants were also asked about measures to reduce noise and which ones they would support. Reduction of speed limits from 50km/h to 30km/h 54% said yes and 26% no. Better traffic flow was wished by 50%, 24% said no. 60% agreed on the reduction of traffic and 21% were against. Noise reducing asphalt was supported by 60% and not by 19%. Asked for the general change of surface 46% of participants said yes and 124 no. Noise reduction windows were only wished by 34%, 26% said no. Noise reduction walls were only supported by 25% yes and 46% said no.

The local planners provided no information how the survey was conducted and how they found the participants. They published general information about the participants, what shows that half of the participants were between 30 and 49 and over two thirds were male. It is not possible to make any correlation between answers to find out in what area of the city people of certain answers live and how much they are affected by noise.

At the end of the survey participants were asked about future participation possibilities in noise action planning in Leipzig. 48% said 'online surveys', 45% said 'online forum', 33% said 'informal meeting', 27% said 'work groups', 26% said 'individual survey', 22% said 'workshops', and 9% said 'exhibitions'. It shows that people would like to be involved and ask mainly for new forms of participation. However, those people already answered a survey and so are potentially not representative of how people in Leipzig generally would like to get involved.

6.3.4. Critique on the legal framework and the Noise Action Plan

6.3.5.1 Critique on the legal framework

The change of the legal framework in Germany following the adoption of the directive was rated positive by Outsider 7: "There was already the commitment of noise reduction planning in the old article 47a, but that was very focused on sectoral planning and every municipality did that on its own. And also in that classical way – planners in the environmental planning department on their own and the others were not really involved. And it was seen that this was not really successful ... they [the planners] started with the mapping and some project development but then less was implemented.

... And the new directive aims to avoid those mistakes. Therefore, in the law deadlines are specified. It is also written that Noise Action Planning should not be done in only one department but with other planning departments, the public agency and also the public ... and not only to say: the plan is finished you can read on the third floor Tuesdays 10 to 12, but that already during the development of the plan participation has to take place.¹⁴⁸ This quote shows that the European directive has this intention of increasing the integration of noise action planning and that this is rated important to improve the implementation of noise reducing measures.

The legal framework of noise planning was also criticised, mainly with the arguments of limited strictness and vague guidelines. Planner 4 gave several examples where the legal framework was not supportive for local planners:

“The legislative body has left us a little bit alone. It is said that we have to map the noise and we have done that. So, we know exactly where it is loud and to what extent. We are supposed to think now what measures we are going to apply and where we will apply them. Without defining what that means [in the framework]. So, we had to think how we assess this and we did that on trigger values. So, we defined trigger values ourselves and said, when those are reached then there is a problem. And this caused a conflict with the administration [of Leipzig, i.e. other planning departments] that the trigger values are too low as there would be too many problems then and we should lift them. ... When it is about the implementation of measures – as the legislative body has said we need to map the noise and we need to make noise action planning, but without defining trigger values. ... And then you notice that the legislative body has left us alone as it has not said that the measures have to be implemented. It has said map, develop the plan, but the implementation is not included [in the law]. And all partners notice that quickly and say, oh then – there is no risk of treaty violation proceedings like in clean air planning, where the EU is threatening, we

148 „Wir hatten ja schon durch den alten § 47a im BImSchG immer die Verpflichtung zur Lärminderungsplanung. Aber das war wirklich dann sehr sektorbezogen und jede Gemeinde hat das dann für sich gemacht. Und auch so diese klassische kommunale Planung – das Umweltamt für sich und dann die anderen gar nicht groß beteiligt. Und das hat sich eben gezeigt, dass das nicht von Erfolg gekrönt ist ... Haben angefangen mit der Kartierung, dann wenige Projekte in die Maßnahmenplanung, das wurde also immer weniger und relativ wenig wurde nachher auch wirklich umgesetzt ... Und den Fehler will die Umgebungslärmrichtlinie nicht noch einmal machen. Da ist im Gesetz genau vorgeschrieben, es gibt genaue Fristen, es ist genau vorgeschrieben, dass das eben nicht im stillen Kämmerlein geschehen soll, sondern dass eben andere kommunale Behörden, Träger öffentlicher Belange mit einzubinden sind, aber auch die Öffentlichkeit ... nicht, der Plan liegt dann irgendwann mal aus, irgendwo 3. Hintergeschoss, Dienstag von 10 bis 12 Uhr, sondern dass schon bei der Aufstellung des Plans eine Mitwirkungspflicht da ist.“ – Outsider 7

chose not to act. And that is a very difficult starting position also for environmental planning.¹⁴⁹

Although it is positive that the directive claims higher levels of departmental and stakeholder integration, it does not provide any pressure possibilities for environmental planners to be able to develop plans that really help to reduce noise in the city. Furthermore, even if stricter trigger values are defined and ambitious measures are decided on, there is no requirement via the directive that those have to be implemented. The question could be asked why to set up health supporting trigger values and measures then.

Outsider 7 mentioned a further point that can influence the way municipalities think about noise action planning, which is their financial situation: ‘There are municipalities that clearly have other problems. They have financial difficulties and are not willing to pay for things that are not really necessary. And other municipalities say that despite the financial situation noise action planning is a topic that they need to deal with in the short and medium-term as it has to do with their future.’¹⁵⁰ Nevertheless, there are examples how measures that require a small budget can improve the situation significantly and one will be discussed below (see section 6.3.6).

In noise action planning the same argument is used as in other planning areas that the lack of finances could prevent project implementation. In this case the environmental planners do not have any public pressure so that they can argue why it is necessary to do something. It seems that they mainly wait or get other departments and stakeholders to

¹⁴⁹ „Da hat uns der Gesetzgeber ein bisschen allein gelassen. Der hat zum Beispiel gesagt, ihr müsst eine Lärmkartierung durchführen, das haben wir auch getan. Wir wissen also genau, wo es wie laut ist. Ihr müsst euch Gedanken machen, welche Maßnahmen ihr ergreift und Belastungsschwerpunkte. Ohne das wirklich zu definieren. Das heißt, man hat gesagt, ihr müsst euch da Gedanken machen, wie ihr das bewertet, das haben wir festgemacht an Auslösewerten. Wir haben also selber Auslösewerte definiert und haben gesagt, wenn der Wert erreicht ist, dann gibt es dort ein Problem. So, und da ging der Streit natürlich schon los in der Verwaltung. Die sind ja viel zu niedrig, da gibt es ja viel zu viele Probleme, ihr müsst die hoch setzen. ... Gerade wenn es um die Maßnahmenumsetzung geht, weil der Gesetzgeber gesagt hat, also ihr müsst eine Lärmkartierung durchführen, ihr müsst eine Lärmaktionsplanung durchführen, wie gerade erwähnt, ohne Grenzwerte vorzugeben. ... dann stellt man eben fest, und da hat uns der Gesetzgeber leider verlassen, der hat nämlich nicht gesagt, ihr müsst die Maßnahmen umsetzen. Der hat gesagt, ihr müsst das kartieren, ihr müsst einen Plan erarbeiten, aber die Umsetzung, die steht nicht drin. Und das kriegen natürlich alle Gesprächspartner ganz schnell mit und sagen, na da können wir uns ja – da gibt es auch kein Planverletzungsverfahren, wie beim Laufreihhalteplan, wo die EU vielleicht droht, da halten wir uns mal vornehm zurück. Und das ist natürlich eine ganz, ganz schwierige Ausgangslage, auch für uns jetzt als Umweltverwaltung.“ – Planner 4

¹⁵⁰ „Es gibt eben Kommunen, die haben ganz andere Probleme, die haben Haushaltsnotstand und sind jetzt nicht bereit, da irgendwie einen Euro für irgendetwas auszugeben, was nicht absolut sein muss. Und es gibt andere Kommunen, die sagen trotz aller Finanzprobleme ist das Thema Lärmschutz ein Thema, was uns lang- und mittelfristig beschäftigen wird, weil es hat etwas mit unserer Zukunft zu tun.“ – Outsider 7

develop their own interest and do something in cooperation. However, Outsider 7 named one positive thing about noise action planning in general: ‘The directive on environmental noise does not vanish ... it comes back every five years what means the topic is consistently on the table.’¹⁵¹ So, maybe the constant reminder of the topic could bring a higher awareness of it.

6.3.5.2 Critique on the Noise Action Plan

One weakness of Leipzig’s Noise Action Plan is linked to the pre-setting of the legal framework as Outsider 7 explained: ‘The Noise Action Plan is actually a plan that can do little on its own. It has an aim that is to create a noise reduced environment, but is has hardly any instruments if one at all. That means it needs other planning instruments, for example a transport development plan.’¹⁵² So, even if a plan was developed it needs instruments of other planning fields as there is nothing it can do from its own side. Outsider 7 named an example how this could work: ‘The classic example would be the environmental planning department develops the Noise Action Plan and when it is ready the planners go to the transport planning department and say: now do it. But they will be met with resistance. But if they meet from the beginning and say they want to discuss this together – this is the problem, how do we find a solution together – then the transport planning department considers the topic differently.’¹⁵³ This example shows even more clearly than other examples how dependent the Noise Action Plan is on departmental integration.

Stakeholder 1 criticised how the local environmental planners dealt with noise action planning: ‘Leipzig has waited for as long as possible and that is typical. In 2008 the plan was supposed to be finished and there is still no resolution [mid 2011]. The public participation ended now and at the beginning of next year there is supposed to be a resolution and the updating of the plan too. ... They did not [think] strategically and

¹⁵¹ „Also die Umgebungslärmrichtlinie verschwindet ja nicht von einem Tag auf den anderen, sondern die kommt ja alle fünf Jahre wieder, das heißt, von daher kommt das Thema immer wieder auf den Tisch.“ – Outsider 7

¹⁵² „Der Lärmaktionsplan ist ein Plan, der aus sich heraus relativ wenig bewegen kann. Der hat zwar ein Ziel, hat aber selber kaum Instrumente oder gar keine Instrumente. Er muss sich immer anderer Planungsinstrumente bedienen, zum Beispiel dem Verkehrsentwicklungsplan.“ – Outsider 7

¹⁵³ „Klassisches Beispiel: wenn jetzt die Umweltseite den Lärmaktionsplan in die Welt setzt und wenn der fertig ist und dann zur Verkehrsbehörde kommt und sagt ‚jetzt macht mir das‘, dann wird man eher auf Widerstände treffen, als wenn man sich am Anfang hinsetzt und sagt, wir wollen einfach jetzt mal zusammen diskutieren. Das ist das Problem, wie kriegen wir gemeinsam eine Lösung hin? Und dann ist ja auch die Verkehrsbehörde ganz anders gegenüber dem Thema aufgestellt, wenn sie bei dem Plan mitgearbeitet hat, als wenn sie den fertigen Plan vor die Nase gesetzt bekommt.“ – Outsider 7

start early to look for the best methods, they waited until the very end and have chosen then methods that are obvious and what everybody is doing, whereas they could have thought about something else at the beginning.¹⁵⁴ It seems that the environmental planners did not see the EU directive as a chance to change something in Leipzig, but as a must do. In case they had started early enough they could have had more time for an integrated process with other departments and stakeholders and could have developed different measures. The example shown in 6.3.6 names some alternative measures that were not considered by local planners beforehand.

Stakeholder 1 also criticised the set trigger values, which Planner 4 had named too low for some planners: “The trigger values, which are defined in the plan, are clearly too high and so they prioritise measures again that are very expensive and very singular without a wide-ranging impact and many small measures, which could minimise noise in the whole city, are not included as they are below the trigger values.”¹⁵⁵ He criticises what the analysis in part 6.3.3 had also revealed is that the local environmental planners rarely stick to their own noise levels, set in the past, and that they do not define them in a way that they protect their citizens. Additionally, it seems that small measures which would require small budgets are hardly considered. Those could be implemented easier and bring a noise reduction faster than larger measures, where the city does not have the necessary financial background.

Outsider 6 named transport as a significant contribution to noise in cities, but also lowered expectations that this could be solved quickly: “The main source of noise is traffic ... [but] it has to be seen that traffic is a problem which cannot be solved over night, but many small measures can improve the situation and that is what counts.”¹⁵⁶

¹⁵⁴ „Leipzig hat das Thema, und das ist durchaus typisch, so lange ausgesessen, bis es nicht mehr anders ging. Bei der Lärmaktionsplanung ist es so, dass 2008 der Plan hätte vorliegen müssen und mittlerweile gibt es immer noch keinen Beschluss. Die Bürgerbeteiligung ist jetzt gerade zu Ende gegangen, Anfang nächsten Jahres soll es einen Beschluss geben und die Fortschreibung schon im selben Moment für 2013 ... Also nicht strategisch, frühzeitig das Suchen nach der besten Methode, sondern man wartet so lange bis es nicht mehr anders geht und greift dann zu dem Mittel, was vielleicht naheliegender ist, was alle machen, aber man hätte im Vorfeld vielleicht auch überlegen können, zu anderen Mitteln zu greifen.“ – Stakeholder 1

¹⁵⁵ „Die Auslöserwerte, die dort festgelegt werden, liegen eigentlich deutlich zu hoch und aus dem Grund werden wieder Maßnahmen priorisiert, die sehr teuer sind, sehr singulär sind, nicht wirklich eine Breitenwirkung haben und dafür fallen viele Kleinmaßnahmen, die die Lärmmentlastung stadtweit bringen könnten, unter den Tisch, weil sie ja unterhalb der Auslöserwerte sind.“ – Stakeholder 1

¹⁵⁶ „Die Hauptlärmquelle ist Verkehr ... aber man muss eben schon sehen, dass der Verkehrslärm ein Problem ist, was wir nicht von heute auf morgen klein kriegen, aber eben durch viele, viele kleine Maßnahmen ist vieles besser geworden. Und darum geht es ja.“ – Outsider 6

The measures need to fit to local circumstances, something that could be achieved with integrated ways of defining those measures.

The critique of Pol. Party 1 goes one step further and deals with the integration of the aims of the Noise Action Plan in other plans: ‘We do not have a real integration of those environmental plans in other plans so far. That they [the planners] had said – ok here are restrictions from environmental plans and we have to consider them now in transport planning ... and you also notice that in financial discussions ... there is no budget point which follows directly the Clean Air Plan or the Noise Action Plan. ... There is often the motto: many things that we do anyway do have an effect on those too. So, we upgrade a road ... and an upgraded road has an effect on air and noise and is therefore good. But it has nothing to do with what those plans had defined and where the focus points are.’¹⁵⁷ These points are really important in terms of integration. Firstly, that the Noise Action Plan needs to be rated important by other planning departments and that its aims are integrated, so that coherent plans are developed in collaboration with different departments. This could also ensure that the development processes of planning policies are generally more integrated, specifically, in this case through a higher focus on departmental integration. Secondly, when decisions are made about the budget of a city and where to spend it, decision makers could make a clear commitment to environmental topics if they were to consider the provision of financial resources for these plans. Thirdly, to say that environmental objectives are achieved by means of other development projects is no real consideration of environmental objectives and does not indicate high levels of EPI.

In general, the weak points named by the interviewees here are the lack of integration of other departments in the process and vice versa the lack of integration in other planning areas. This weak integration and the additional weak financial situation seem to be obstacles for a successful implementation of the Noise Action Plan.

¹⁵⁷ „Und wir haben bisher in der Planung keine wirkliche Integration der Ergebnisse aus diesen Umweltplanungen. Dass man wirklich gesagt hat – ok, wir haben hier Restriktionen, die aus diesen Umweltplanungen herrühren und die müssen wir jetzt in der Verkehrsplanung auch tatsächlich berücksichtigen ... und das merken wir an Haushaltsdiskussionen ... es gibt keine Haushaltsposition, die sich direkt aus dem Luftreinhalteplan, aus dem Lärmaktionsplan speisen ... Das läuft nach wie vor unter dem Motto: vieles was wir sowieso machen, hat ja auch Auswirkungen darauf. Also wir machen Straßensanierung und eine sanierte Straße hat natürlich Auswirkungen auf Luft und auf Lärm und ist deswegen gut. Hat aber nichts damit zu tun, was diese Pläne definiert haben, wo die Schwerpunkte sind.“ – Pol. Party 1

6.3.5. The “Mach’s leiser” project – new ways of public participation

An example how the integration of citizens in noise action planning at the local level could work is the Mach’s leiser project that was initiated by the NGO Ökolöwe. In 2008 they submitted a proposal to the FEA with the aim to launch an alternative project in one part of the city to explore how public participation could be organised in noise planning. They argued that noise maps are generally calculated by software and cannot address specific local problems. Therefore, local experts (= residents) are necessary. The FEA accepted the application and funded the project for two years (Supplies et al., 2013). The underlying purpose of the project initiators was to achieve a rethinking in local politics and participation processes as well as enhancing the implementation and acceptance of noise abatement measures (Ökolöwe, 2014).

Outsider 7 explained why the FEA supported the project and their expectations: ‘For us the aim was to have an example how such things can be done. To show that planning is not always from administration for administration with some public participation, but that there are different ways that citizens are involved and that maybe better results can be achieved with the same financial budget and also we would like to promote that as an example in Germany and on the European level.’¹⁵⁸ He went on to indicate what makes this project different: ‘It is a different approach than the official process of the local planners. The Ökolöwe uses a basic-democratic approach to discuss from the bottom where [and] ... what local noise problems are and where, and from point of view [as citizens] are possibilities to solve them.’¹⁵⁹

The project ran alongside the official process of local planners. However, only a part of the city could be used as a model area due to the size of Leipzig and the aim to discuss everything in detail (Ökolöwe, 2014). Map 6.6 shows the project area in the north of Leipzig. Stakeholder 2 commented on the fact that only a part of Leipzig could be used

¹⁵⁸ „Für uns ist das Ziel, einfach mal an einer Beispielm Kommune zu zeigen, wie man so etwas machen kann. Also dass das nicht immer Planung nur von Verwaltung für Verwaltung sein muss, mit ein bisschen Öffentlichkeitsbeteiligung, -mitwirkung, sondern dass man das auch ganz anders aufziehen kann, dass man also, wenn man Bürgerinnen und Bürger da mit einbindet, ja vielleicht bei gleichem Mittelaufwand, wesentlich bessere Ergebnisse erzielen kann. Und wir möchten das Ganze natürlich dann sowohl in Deutschland als auch auf europäischer Ebene als Beispielprojekt promoten können.“ – Outsider 7

¹⁵⁹ „Das ist natürlich ein ganz anderer Ansatz, den die Stadt Leipzig als offizieller Lärmaktionsplan macht, als was der Ökolöwe macht. Also nämlich sozusagen basisdemokratisch von unten zu diskutieren, wo sind Lärmprobleme, wo seht ihr die Lärmprobleme vor Ort und wo sind aus eurer Sicht eigentlich Lösungsmöglichkeiten.“ Outsider 7

for this project: ‘We cannot deal with the whole of Leipzig as we do not have enough resources, but we took one part, the north of Leipzig.’¹⁶⁰

Stakeholder 6 and Outsider 7 emphasised why such detailed local work is so important for the project:

- ‘The first thing is always a review of the situation, that is something local planners like to forget, as to look what do those thousands of residents notice locally. And that is a different perspective as it is the perspective from the bottom. And local planners usually have the top-down perspective and see the general things.’¹⁶¹ (Stakeholder 6)
- ‘The message is: when you sit down and discuss the topic you already minimise noise. And that was the idea of the Ökolöwe: we look locally with local experts who know best where the problems are. Noise maps are usually calculated at the computer and cannot consider special local circumstances.’¹⁶² (Outsider 7)

The Ökolöwe created different possibilities for public participation. The first one, an online map, offered the possibility to submit ‘quiet points’ and ‘noise points’. It is still possible to report points and the input can be seen on the website of the project, so there is still a good interchange (Ökolöwe, 2014). The core of the project consisted of public information events and workshops with interested citizens (Ökolöwe, 2014, Supplies et al., 2013). In 2000 randomly selected residents of five districts in the north of Leipzig received a survey and invitations to take part. Approximately 100 of them expressed their interest in participating. They formed district related workgroups. The Ökolöwe emphasised that it was mainly important that participants had knowledge of the area (Supplies, 2012).

¹⁶⁰ „Wir können uns jetzt nicht ganz Leipzig angucken, das schaffen wir von den Ressourcen her nicht, da schauen wir uns jetzt einen Stadtteil an, im Leipziger Norden.“ – Stakeholder 2

¹⁶¹ „Das erste ist immer die Bestandsaufnahme, das vergisst die Stadt oft. Also gucken, was nehmen alle diese vielen tausend Bürger vor Ort wahr. Und das ist eine andere Perspektive, das ist nämlich die Perspektive von unten. Die Stadt hat immer die Perspektive bloß von oben und die sieht dann das große Allgemeine.“ – Stakeholder 6

¹⁶² „Die Botschaft ist eigentlich, sobald ich mich hinsetze und das diskutiere, habe ich schon eine Verminderung der Lärmbelastung. Und darum geht es bei dem Projekt des Ökolöwen: die lokalen Experten, die wissen ja am besten, wo Probleme sind. Die ganzen Lärmkarten werden ja nach einheitlichen Berechnungsmethoden erhoben, die können gar nicht auf spezielle Situationen vor Ort eingehen.“ – Outsider 7



Map 6. 6: Map of the project area in the north of Leipzig (Supplies et al., 2013)

Following an information event to kick off the project, a first round of small workgroup sessions commenced in the districts to get an initial overview of existing problems. It was followed by a larger workshop where the problems were analysed and grouped. In an iterative process of smaller workgroup sessions and larger workshops the participants discussed the problems and possible solutions. Sometimes experts like local planners, transport companies or engineers were invited to provide their expertise where necessary (Supplies, 2012, Supplies et al., 2013).

Stakeholder 2 explained the citizen participation in detail: ‘The bottom-up principle where the citizens set the topics themselves, but not only with writing letters to the editor, but with structured meetings. ... Workshop meetings took place with citizens ... at first an analysis of the problem in small working groups - citizens ... and at the beginning lots of them called for an upgrade of roads.’¹⁶³ Outsider 7 stated: ‘In the working groups were citizens and there were also some experts who were invited and

¹⁶³ „Dieses bottom-up Prinzip, dass quasi die Bürger selbst das Thema setzen, aber nicht einfach nur per Leserbrief das in die Öffentlichkeit schreien, sondern wirklich strukturiert ... es gab dieses Workshopverfahren der Bürger, da hatten wir 2000 Menschen per Zufallsauswahl angeschrieben und dann haben sich 100 gemeldet und haben gesagt ok, da machen wir mit ... am Anfang eine Problemanalyse in kleinen Workshopgruppen ... und am Anfang wurde viel Straßensanierung gefordert.“ – Stakeholder 2

who have some deeper knowledge.¹⁶⁴ So, the citizens could discuss in smaller groups their local circumstances, but also had experts in the group who could give some early feedback. At the end of this process catalogue of measures was formulated including rearrangements of traffic, more reductions of speed limits to 30km/h, transformation of concrete tram tracks into grass tram tracks, and new bicycle paths (Supplies et al., 2013, Ökolöwe, 2014).

Additionally to the citizens' integration a project advisory board was founded. It had 21 members who were key actors in planning. Members were: local planners of the department of urban renewal and housing promotion, the environmental planning department, the transport planning department, the urban planning department, Saxony ministry for the environment, agriculture and geology, members of the parties of the city council, trade association Saxony, FEA, LVB, German Bahn, LWB, various associations of districts, for tenants, house owners, and Grüne Liga, an environmental NGO (Ökolöwe, 2014). The task of the advisory board was to discuss the suggested measures and to create the preconditions for their implementation (Supplies et al., 2013). Stakeholder 2 went a step further and explained the task of the group: 'Additionally there was a group of experts, and they discussed what those suggestions [of the citizens] mean.'¹⁶⁵ The participant list reveals that a great variety of experts discussed the suggestions of citizens what leads to a high level of integration, also of departmental integration as various departments took part.

Stakeholder 2 explained why two separated groups were formed: 'The problem is: in case you invite the expert group to the working group meetings then those experts tend to dominate. They are used to discuss and the citizens would sit around say nothing. The interest groups would have argued against each other what the problems are, although they might not come from the area and are not affected, only because they are interested. And that is why there was the separation. So, we really have citizen suggestions and the experts have to discuss those and nothing else.'¹⁶⁶ This is an

¹⁶⁴ „In den Arbeitsgruppen sind die Bürger und man lädt sich dann Experten dazu mit ein, die Ahnung haben.“ – Outsider 7

¹⁶⁵ „Dann gab es eine Runde mit Fachexperten, ... und da wurde diskutiert, was das bedeutet“ – Stakeholder 2

¹⁶⁶ „Das Problem ist, wenn du Interessengruppen selbst gleich mit in diesen Workshoprunden gehabt hättest, dann hätten die sich quasi hervorgetan und – weil die ja solche Diskussionen gewohnt sind – dann sitzen quasi 20 Bürger rings rum und sagen nichts und die Interessensverbände argumentieren gegeneinander und diskutieren das Problem, obwohl die vielleicht gar nicht vor Ort wohnen und es sie gar nicht wirklich betrifft und die das einfach aus ihrem Interesse heraus beeinflussen wollen.“

interesting argument about integration. In order to increase the integration of a certain group a different group needs to meet separately otherwise the first group would not really be integrated. This point was considered by the Ökolöwe before the project started and implemented.

A problem that hinders the successful implementation of ideas as well as plans arising in every case so far has been funding. This is also the case in noise action planning and was discovered by participants of the Mach's leiser project as Stakeholder 2 pointed out: 'It was noticed quickly that the financial situation cannot provide the money [for certain suggestions] ... then a third round took place [where we explained the finance and though] how we need to deal with that ... as that is not what we want, to say: there is no money and we cannot do anything now. Then people started to think what would be possible within the financial framework. The result was a greater focus on traffic organising measures like reduced speed ... or a different marking of roads like in the Georg-Schuhmann-Street ... and then the task was to see how it could be made that the city council agrees on it.'¹⁶⁷ So, within this integration process the citizens could learn that local planners always have to keep an eye on financial resources. However, the results of the process show that the citizens were creative and found measures that require a low budget but would have a great impact. The suggestion of the re-marking of the Georg-Schuhmann-Street was implemented soon after the process as can be seen on Figure 6.2. This was also rated positively by Stakeholder 1: 'Interestingly, when I get feedback from local planners, they consider those [suggestions] and are interested.'¹⁶⁸

Und so hatte man die klare Trennung. Die Bürger selbst, das ist dann wirklich auch der Bürgervorschlag, und die Interessenverbände sprechen dann darüber und diskutieren das.“ – Stakeholder 2

¹⁶⁷ „Und da hat man ganz schnell gemerkt, dass der Haushalt das gar nicht bergibt ... und dann gab es eine dritte Runde, wo gesagt wurde, ok wie gehen wir jetzt damit um. Das ist ja sehr unbefriedigend, wenn man jetzt einfach sagt wir haben kein Geld und können nichts machen. Und dann haben die Leute dann schon bewusst geguckt, was halt im Rahmen der Möglichkeiten doch gemacht werden kann. Und sind dann so eher auf verkehrsorganisatorische Dinge gekommen oder wie in der Georg-Schuhmann-Straße da machen wir doch erst einmal eine Markierung ... und dann war die Aufgabe zu schauen, dass der Stadtrat die Maßnahmen beschließt.“ – Stakeholder 2

¹⁶⁸ „Und das ist auch interessanterweise, wenn ich so Signale aus der Verwaltung bekomme, dort auch auf offene Ohren gestoßen und auf Interesse gestoßen.“ – Stakeholder 1



Figure 6. 2: New marking of the Georg-Schumann-Street, now the street has only one lane per direction, a separate bicycle path and parking off the pavement

The question at this point is whether the local planners see the Mach's leiser project excluded from their own planning process. Outsider 7 talked about this issue: 'It is one idea of the project that the suggestions that were made during the project are integrated in the official Noise Action Plan ... In those suggestions is a greater value as compared to those that citizens suggested in the online forum ... Task of the local planners is to deal with the suggestions to remain reliable ... Of course the planners have an area of discretion, but also have legal and financial constraints ... otherwise if it only ends in talk then the willingness to get involved shrinks and therefore success needs to be communicated as well.'¹⁶⁹ So, it seems that integration can only work successfully and can only be repeated if involved parties see the success at the end.

¹⁶⁹ „Das ist auch für den Zweck des Vorhabens, dass also im Endeffekt die Vorschläge, die jetzt im Rahmen des Projekts ‚Mach's leiser‘ gemacht wurden, also auch in den offiziellen Lärmaktionsplan mit einfließen. Wobei – ich denke mal, in den Vorschlägen steckt jetzt eine ganz andere Gewichtung, als wenn das jetzt ein einzelner Vorschlag ist ... Aufgabe der Stadt Leipzig ist jetzt, mit den Vorschlägen, die aus dem Projekt kommen, entsprechend umzugehen. Um erst einmal glaubwürdig zu bleiben ... die Verwaltung selber, selbst wenn sie jetzt möchte, hat natürlich einen gewissen Ermessensspielraum, aber steckt natürlich auch in den ganzen rechtlichen und finanziellen Zwängen ... andererseits wenn das jetzt aber alles im Sand verläuft, ist natürlich diese Bereitschaft, sich einzubringen, in andere Planungsprozesse zum Beispiel, dann natürlich gefährdet. Also man muss, auch wenn es kleine Erfolge sind, aber Erfolge durchaus kommunizieren.“ – Outsider 7

Despite the positive experiences with the Mach's leiser project some interviewees also mentioned some critical points about integration of citizens and stakeholders in general:

- 'With all the commitment of citizens, disadvantaged groups are not discussing and do not sit at the table. It is instead well established middle class [who sit at the table] ... the challenge is to get disadvantaged groups integrated in the process ... It is also easy to listen to those first who shout the loudest to make them quiet, but what is with those who are more affected? ... environmental fairness and how to deal with it with regard to public participation that is not really – there is no real solution.'¹⁷⁰ (Outsider 7)
- 'The question that has to be raised is how far such a discussion process can and should go to not diverge and to still have a defensible and realisable solution at the end.'¹⁷¹ (Pol. Party 5)

These two responses show that integration processes are not easy and not always sustainable in terms of considering all social and economic groups. As Outsider 7 pointed out, usually those people participate who have an interest and still think they can change something. Mach's leiser did at least attempt full integration by inviting everyone. Research and practical planning need to find ways in the future to minimise this problem of exclusion. Pol. Party 5 conveyed that there must be an end point so that discussions do not go on and on. There is a limit on how many different opinions can be considered and how long such a process can go.

The Mach's leiser project was only done in the north of Leipzig. Stakeholder 2 talked about the possibility to extend it to the whole of the city: 'That would be desirable, but it is again a question of resources ... if you want citizen participation, if you want more democracy then you need to know what that costs ... in this case we talk about a sum with six digits for about two years. You need to pay the moderator ... the venues ... the project coordination ... print things ... public participation costs money. On the other side it leads to results that save money in the end ... as disorders of planning could be

¹⁷⁰ „Bei allem Bürgerengagement, das sind nicht die sozialen Randgruppen, die da diskutieren und mit am Tisch sitzen, sondern das ist durchaus gut etabliertes Bürgertum ... aber es gibt Bevölkerungsgruppen, die wesentlich höher belastet sind und da ist die Herausforderung, solche Gruppen – also auch mit in den ganzen Prozess mit zu integrieren ... es ist auch einfach auf die zu hören, die am lautesten rufen, dann hat man die sich vom Hals geschafft ... Umweltgerechtigkeit, wie man damit umgeht, im Rahmen der ganzen Öffentlichkeitsmitwirkung, da gibt es keine richtige Lösung.“ – Outsider 7

¹⁷¹ „Die Frage, die sich aber wirklich stellt, wie weit kann und soll ein Diskussionsprozess gehen, um nicht zu zerfasern und am Ende noch ein vertretbares und auch umsetzbares Ergebnis zu zeitigen.“ – Pol. Party 5

limited.¹⁷² Outsider 7 concluded similar things: ‘I have learnt that it needs a lot of energy and time ... normal processes are usually less elaborate ... [but in this case] something that has to be said: it takes a lot of time, so start early ... and you cannot get it for 0€ it has to be said that participation processes do cost money.’¹⁷³ These two responses show that not only the implementation of the plan needs financial resources, but also the integration process that leads to the plan. And it needs time to organise and conduct the process. These could be two points that discourage other planners to do such processes. Nevertheless Stakeholder 2 replied: ‘There are growing tendencies that participation processes are taken more serious.’¹⁷⁴ Future planning processes will show whether time and money are real obstacles to integration. Stakeholder 1 articulated that citizens do have a real interest: ‘Obviously there is an interest [of citizens to get involved].’¹⁷⁵

The Mach’s leiser project has shown that a lot of time, funding, and energy is needed for public participation. Therefore, municipalities should start participation processes early enough. The chosen methods were time-consuming and required the involvement of local planners and experts alongside of local residents and stakeholders. The project was initiated by the Ökolöwe and funded by the FEA, but it was also supported by local stakeholders and planners. That was necessary in order to have a model project under normal circumstances.

The project has shown that the acceptance and understanding of planning policies by citizens could increase through such involvement. At least it would be higher than following conventional processes. Furthermore, money and time could be saved after such a process due to support and locally suitable measures leading to high levels of environmental, departmental and stakeholder integration. Some of the suggested measures are already implemented and others are planned or will be progressed in the

¹⁷² „Das wäre wünschenswert, wenn es so käme. Das ist wieder eine Ressourcenfrage ...wenn man Bürgerbeteiligung will, wenn man mehr Demokratie will, muss man halt wissen, dass es was kostet ... In diesem Fall reden wir von einem sechsstelligen Betrag, was das über zwei Jahre kostet. Du brauchst das Honorar für den Moderator, du musst die Sitzungssäle mieten, du musst die Projektkoordination bezahlen, du musst Sachen drucken, also Bürgerbeteiligung kostet einfach Geld. Letztlich führt es zu Ergebnissen, die am Ende auch wieder Geld sparen ... letztlich kommt es dann nicht zu so einer Fehlsteuerung.“ – Stakeholder 2

¹⁷³ „Für mich persönlich ist es eine Lehre, dass man sehr viel Energie und Zeit reinstecken muss ... bei normalen Beteiligungsprozessen, also die im Verwaltungsrecht vorgeschrieben sind, mit Auslegung usw. das ist ja relativ unaufwendig ... eine Botschaft, die man ganz, ganz klar transportieren muss, es kostet viel Zeit, fangt also rechtzeitig damit an ... und das Ganze ist nicht für null Euro zu haben, sondern man muss also auch ehrlicherweise sagen, dass Beteiligungsprozesse auch Geld kosten.“ – Outsider 7

¹⁷⁴ „Aber es gibt immer mehr Tendenzen, dass halt diese Beteiligung ernster genommen wird.“ – Stakeholder 2

¹⁷⁵ „Offensichtlich ist da ein Interesse.“ – Stakeholder 1

future. It will be interesting to see whether the local planners will use this way of participation in future noise planning as well as other planning areas and whether they expand it to the full area of the city.

6.3.6. Conclusion of noise action planning

The directive on environmental noise provides a strong argument for environmental objectives, but only weak measures. There are only timeframes defined for the mapping and the development of noise action plans, but not for the implementation. There are no fines if the member states do not implement anything. The local environmental planners have no chance in this case to put pressure on other planning departments. Based on the directive noise action planning is more dependent on departmental integration than other plans especially referring to the lack of own implementation possibilities and the lack of pressure possibilities.

The directive does not define any noise levels. However, as noise is considered a serious problem higher planning levels should define noise levels for the local level. It seems that higher authorities shift the responsibility to citizens. In the directive it is suggested that citizens could complain about local noise levels and that local planners have to act in those cases. Interesting in that regard is how local environmental planners in Leipzig developed ambitious aims in 1995, but did not stick to them in later years. In the official discussions they always argue that they need the acceptance of other planners and stakeholders and therefore higher noise levels are easier agreed on.

When the local planners are asked why so few measures are implemented, they respond that the costs are so enormous and that they prevent them from acting. However, suggestions of citizens, NGOs and some political parties have shown that some smaller and cheaper measures could already have a big impact on local noise levels. Furthermore, the local planners could show their general interest of a higher consideration of noise with setting up a budget that is only used for noise related projects. So, a higher level of stakeholder integration could help to develop measures that are smaller and require less funding, but would have a significant impact.

During the official development process of noise mapping and action planning departmental integration hardly happened. Other departments were included in the measure developing part and could give their opinion at the end. Stakeholder integration

took place, but not in an active way, i.e. discussions. This integration increased during the ‘Mach’s leiser’ project. Various departments and stakeholders formed a project advisory board and discussed measures that were suggested by citizens. This format should be considered in following updating processes of the Noise Action Plan again as it increases the possibility to discuss noise related topics and could also increase the acceptance and implementation of noise reducing measures. The project has also generated some measures that were not considered by planners before and are already implemented to some extent.

In the official development process of the Noise Action Plan the local environmental planners asked citizens to participate in an online forum and an online survey. However, only a small number of citizens participated. Whether this was because of a lack of interest, a lack of information or the chosen methods was not analysed. However, the ‘Mach’s leiser’ project has shown that citizens do have an interest in getting involved. The detailed levels of integration of the Noise Action Plan and the Mach’s leiser project related to the indicators presented in Chapter 3 (Methods) are shown in table 6.7.

Indicators/Questions	Noise Action Plan	Mach's leiser
Timeframe		
When did the integration of environmental issues start?	It is an environmental plan so environmental objectives played a role all the time.	It is an environmental plan so environmental objectives played a role all the time.
When did the integration of other planning departments start?	Sometime in the middle of the process, when it became relevant	Right at the start
When did the integration of stakeholders start?	Sometime in the middle of the process, when it became relevant	Right at the start
Environmental objectives		
To what extent were environmental objectives discussed in the process?	It is an environmental plan so environmental objectives played a role all the time.	It is an environmental plan so environmental objectives played a role all the time.
To what extent were environmental objectives integrated in the policy?	It is an environmental plan so environmental objectives played a role all the time.	It is an environmental plan so environmental objectives played a role all the time.
Department/stakeholder integration		
To what extent were other departments/stakeholders integrated?	A variety of departments/stakeholders was involved at a certain times of the process	A big variety of departments/stakeholders was integrated all the time of the process
How was the integration of other departments/stakeholders organised?	Discussions for other departments were organised, for stakeholders: online forum, online survey	Different events and formats were offered to get as many people and opinions integrated as possible New formats were introduced
Communication		
What forms of communication were used?	Traditional forms of communication were used, like newspapers, the official journal and the city's web page	Traditional and new forms of communication were used, like traditional and new media, exhibitions, interactive web pages, leaflets
How many people were reached by the announcements?	Mainly those who new already about the project/ process or those interested in the topic in general	Theoretically everyone could read about the process and the projects
Was there a possibility for non-planners to get heard?	Everyone could bring in opinions	Everyone could bring in opinions/ they were discussed
Level of EPI	+	+
Level of DI	o	+
Level of SI	o	+

Table 6. 5: Indicators & levels of integration for the analysed Noise Action Plan & Mach's leiser (0: no integration, -: low, o: medium, +: high integration)

6.4 Conclusion

In this chapter the focus was on environmental plans on the strategic planning level in Leipzig. Two plans have been analysed that could have an impact on local mobility. The first one, the Clean Air Plan, achieved a high integration level of EPI, a weak integration level of DI and a weak integration level of SI. The second one, the Noise Action Plan, achieved a high integration level of EPI and a medium integration level of DI and SI. The Mach's leiser project which was a part of noise action planning achieved high levels of integration of EPI, DI and SI.

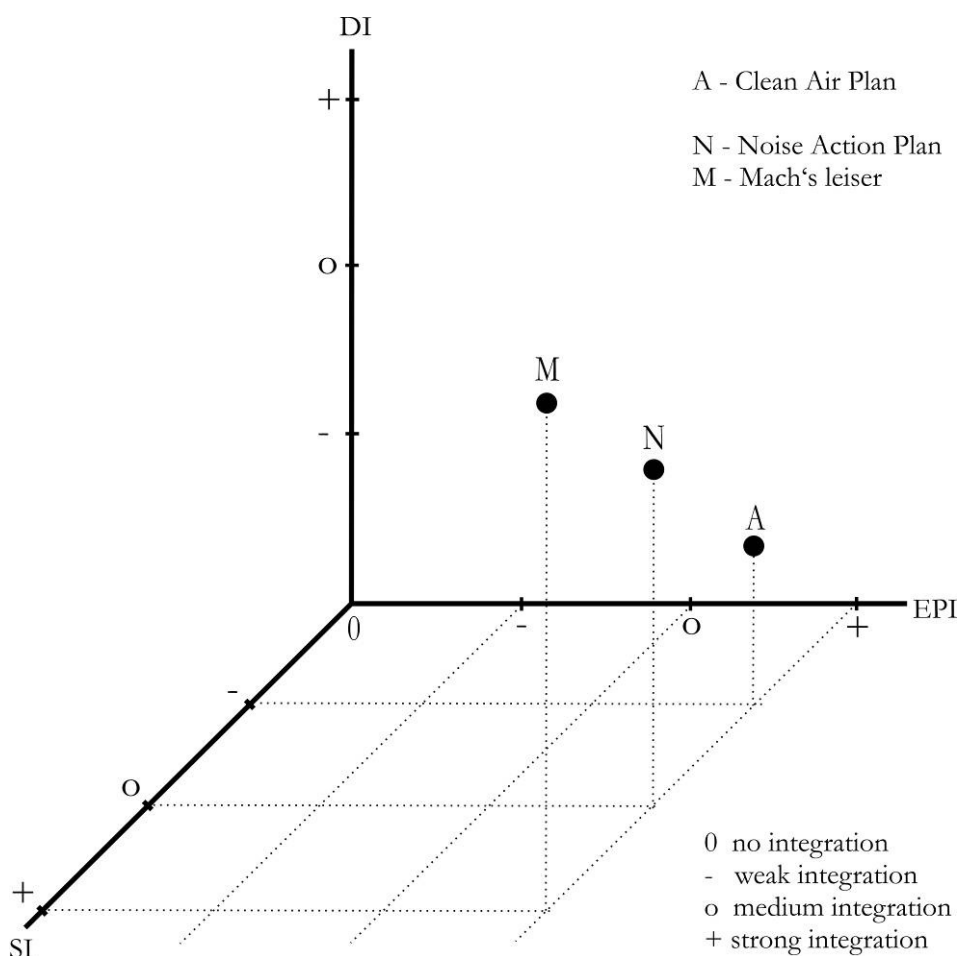


Diagram 6. 4: Levels of EPI, DI and SI of the two plans that were analysed in this chapter and the Mach's leiser project

The analysis has shown that integration levels are generally higher in plans which are developed mainly by the environmental planning department. Nevertheless, the integration levels of other departments and stakeholders vary. The Clean Air Plan and the Noise Action Plan do not involve working groups like the Centres Plan (see Chapter 5.2) but a closer coordination of measures with other departments. The highest levels of

departmental integration could be achieved by the Mach's leiser project. However, it was a model project and the question is whether intensive participation processes like this can be repeated in the future.

The same applies to stakeholder integration. The development of the Clean Air Plan was only done by the local planners. Citizens and NGOs were only integrated on a commentary level at the end. During the development process of the Noise Action Plan citizens were asked to give their opinion in an online forum and an online survey. These methods are problematic as they include a digitally literate and self-selecting audience only. Moreover, they were initiated only at a time when the draft of the plan was already finished. Furthermore, local stakeholders who have an interest in noise reduction were not involved. The highest level of stakeholder integration was achieved by the Mach's leiser project. In case of stakeholder integration the same arguments could be used as with departmental integration. It is a model project and was always planned as a project with a high level of citizen integration.

These two plans and the 'Mach's leiser' project have shown that EPI, DI and SI are possible at higher planning levels, but that it depends on supporting elements and obstacles how high the levels of integration are. Supporting elements are for example a strong institutional framework like the directives on clean air, threats like the ones set in the directives on clean air, local bottom-up initiatives like the Mach's leiser project, and new funding possibilities. Obstacles that hinder higher integration levels are mainly institutional frameworks like the lack of noise levels and weak time pressure from higher planning levels in noise action planning, and lacking implementation possibilities and lacking requirements of integration of both plans. These examples have shown again that integration needs time and extra funding. The examples have also shown again that a higher level of DI and SI increases the level of acceptance of the final plans.

The next chapter takes a closer look on projects and problems in Leipzig that are based on planning policies that were analysed in the last two chapters. Planners liked to say about the strategic planning level that it cannot be too precise as precision has to take place on the project level. So, the next chapter aims to find out whether the work on the project level gets higher or lower levels of integration, what supporting elements and obstacles can be found there, and how the level of acceptance is with regard to the level of integration.

Chapter 7: Analysis III – Projects and problems

7.1 Introduction

The last two chapters focussed on integration levels of planning policies at the strategic planning level in Leipzig (see Diagram 7.1). This chapter goes one step further and examines specific projects and problems in Leipzig and the levels of integration that were achieved. The development of the projects happened within the framework set at the strategic planning level discussed in the previous two chapters.

The first project is the development of the shopping centre “Höfe am Brühl”, which is not only a spatial planning related project, but also has implications for traffic and is linked to environmental concerns. The second project is the restructuring of the Karl-Liebnecht-Street, which is a project that deals mainly with transport related issues, but also reflects on spatial and environmental concerns. The third project concerns bicycle racks and how planners deal with the challenge of private investment in public spaces. The two problems investigated in this chapter are parking in residential areas and cycling on the “Ring”. Parking in residential areas was subject to heated discussions in Leipzig, as people also parked their cars on pavements and hence hindered pedestrian movements. The second problem case investigates how a change to the legal framework has affected cyclists around the city centre.

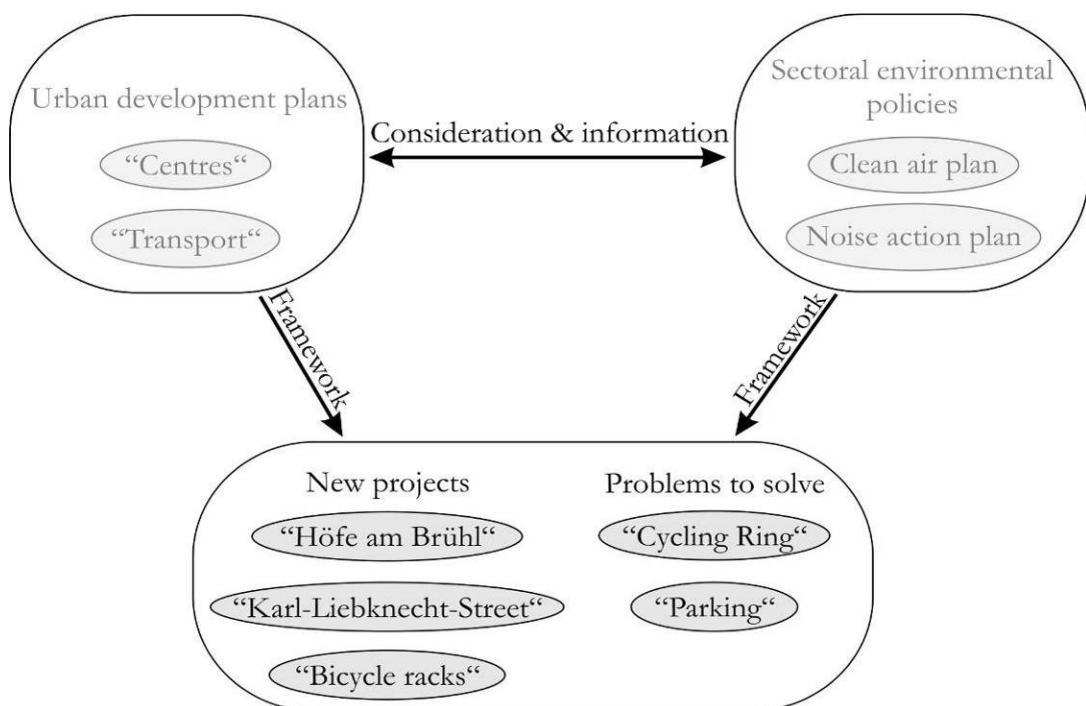


Diagram 7. 1: Scheme of planning policies and projects in Leipzig analysed in the three analysis chapters and their relations

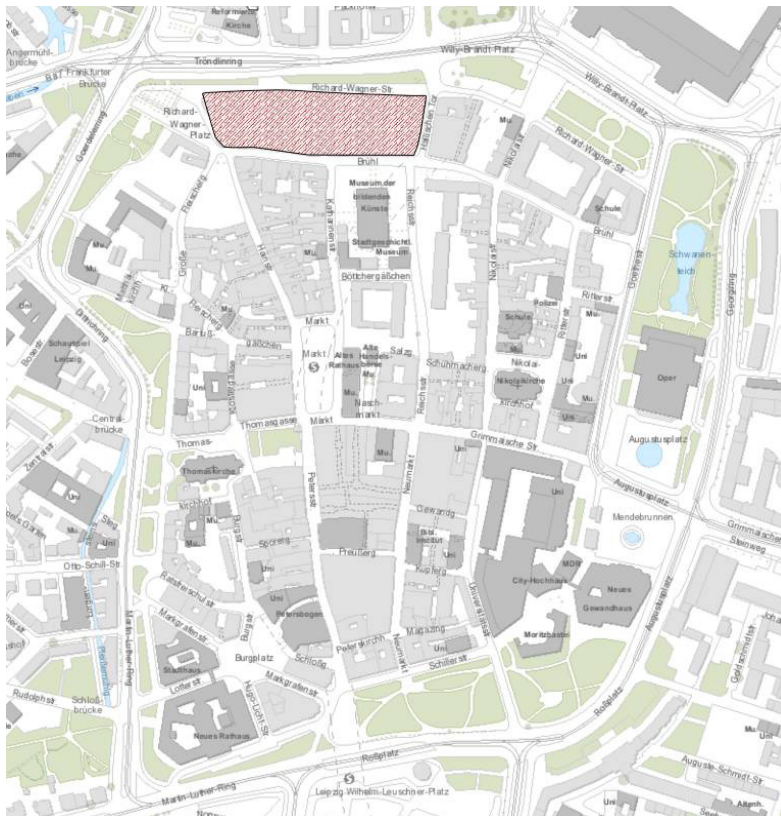
7.2 The shopping centre “Höfe am Brühl”

7.2.1 Introduction

This section deals with the building project “Höfe am Brühl” (Courtyards at Brühl), which was developed in the Leipzig city centre between 2010 and 2012. An increasing amount of traffic can be expected in that part of the city centre due to the size of the project. However, it is not only the size and the realisation that makes the project interesting for this research but its location being next to the measuring station for air quality, which is the one that always exceeds the set thresholds.

7.2.2 Project background

The development project "Höfe am Brühl" is situated at the northwest of the city centre on the street Brühl, as shown on map 7.1. The Brühl is one of the oldest streets in Leipzig. Once it had been very famous as the street of fur and played an important role for Leipzig as trade city (Fellmann, 1989). In 1908 a department store was opened at the western end of the street, but during the Second World War many buildings on the northern side of the Brühl were destroyed.



Map 7. 1: The city centre of Leipzig with the project “Höfe am Brühl” in the northwest (map basis: Stadt Leipzig, 2014c)

At the time of reunification this part of the Brühl was characterised by living and local shopping and a few parking spaces. After reunification discussions started to redevelop the Brühl and involved: the LWB¹⁷⁶ as the new owner of the flats, local planners, several investors, and the owner of the department store (Stadt Leipzig, 2006).

In 2003 the city council agreed on a redevelopment of the Brühl. As a first step a building plan was prepared as the legal basis providing detailed guidelines about the structure of the new development, the percentage of areas for living, shopping and parking and other relevant aspects (Stadt Leipzig, 2003). In 2006 the city council adopted a plan that had the aim to keep the local planning sovereignty, so that investors had to follow the regulations set by local planners and the city council (Stadt Leipzig, 2006). The aims of the local planners were to strengthen the city, but not at the expense of existing retailers (Stadt Leipzig, 2007b).

In order to inform interested residents, local planners, the LWB and the investor 'mfi' presented their development plans in a public event in January 2007. About 250 people attended and asked questions about the size of the retail areas, had reservations about the displacement of existing retailers and made suggestions about possible utilisation of the higher floors for education, culture and leisure time (Stadt Leipzig, 2007c).

In February 2010 the demolition of the old buildings started and in September 2012 the shopping centre was opened, including 120 shops with a total sales area of 27,500m², 820 parking spaces, and 31 flats (Rometsch and Decker, 2012, Kretz and Rometsch, 2012). Figures 7.2 and 7.3 show the Höfe am Brühl shortly after their opening.

¹⁷⁶ *Leipzig Housing Company*



Figure 7. 1: The new shopping centre “Höfe am Brühl” in September 2012

Before the development of this area there was one department store with a sales area of 11,500m² and three apartment buildings and only some parking spaces. When the “Höfe am Brühl” opened the sales area was increased significantly to 27,500m², the number of flats decreased to 31 and 820 parking spaces created. The higher number of the sales area, the high amount of parking spaces, and related environmental concerns had been topics of particular concern cited by many interviewees in 2011 and 2012

7.2.3 Spatial objectives, transport challenges and environmental concerns

7.2.3.1 Spatial objectives

Following the Centres Plan (discussed in Chapter 5.2) the development of shopping facilities should take place in one of the centres of Leipzig, with the size and kind of proposed developments having to be relative to the size of the centres in which they are to be located. Furthermore, the Centres Plan states that a shopping centre of this size and the diversity of facilities had to be developed in one of the three centres of the highest two categories (Stadt Leipzig, 2009c). The local planners and the city council had upheld this policy objective when they decided to develop this project in the city centre.

The necessity and the modalities of the project were discussed with great variation by the interviewees. Retail 2, Pol. Party 5 and Stakeholder 8 expressed that from their point of view the Höfe am Brühl is a chance for the city centre which they supported:

- 'I think the Höfe am Brühl is a great chance for the northern part of the city centre ... since the Höfe am Brühl has been built there is a change of the [neighbouring] Hainstreet ... and suddenly there is an investor for the corner of Hainstreet and Brühl¹⁷⁷ ... so despite all critics the Höfe am Brühl has already had an effect and stimulated their environment.'¹⁷⁸ (Pol. Party 5)
- 'For now it is a good solution and the northern part of the city centre is revaluated greatly. There are follow-up projects, investors are coming and closing gaps.'¹⁷⁹ (Stakeholder 8)

These two responses show how one development can cause other developments. A strengthening of the city centre is in the interest of the Centres Plan and could therefore be considered as supporting the spatial strategy of local planners. However, Retail 2 and Retail 3 put into perspective that the Höfe am Brühl could also risk the successful development of the city centre:

- 'The problem is that trade needs some time for consolidation and this is not given at the moment.'¹⁸⁰ (Retail 2)
- Retail 3 reflected on this point a bit more detailed: 'There had been a phase of growth of the retail area in the city centre and that was followed by a phase where the sales volume had to adapt. That means the consolidation was urgently required. And in this phase the wish was announced [by local authorities] to develop a shopping centre and the local authorities had a strong self-interest. The LWB, which is an affiliated company of the city, which also has some debts, did agree as there is a high commercial interest.'¹⁸¹

¹⁷⁷ *The building on this property was destroyed during the Second World War and not rebuilt.*

¹⁷⁸ *„Ich halte die Höfe am Brühl für eine große Chance ... die Nordecke des Zentrums ... seitdem die Höfe am Brühl errichtet werden ... gibt es eine Veränderung der Hainstraße ... und plötzlich findet sich ein Investor für die Hainspitze ... bei allen Diskussionen und auch Kritik haben die Höfe am Brühl schon eine Wirkung gezeigt und die benachbarte Umgebung belebt.“ – Pol. Party 5*

¹⁷⁹ *„Aber so ist es jetzt erst einmal eine gute Lösung und die nördliche Innenstadt wird dadurch auch extrem aufgewertet, also da gibt es jetzt schon Folgeprojekte, Investoren sind im Kommen und schließen Lücken.“ – Stakeholder 8*

¹⁸⁰ *„Das Problem ist halt, dass der Handel auch so eine gewisse Konsolidierungsphase braucht und die ist halt noch nicht gegeben.“ – Retail 2*

¹⁸¹ *„Es gab eine Phase des Wachstums in der Innenstadt an Fläche und dann gab es eine Phase, wo also dieses Wachstum an Fläche auch seine Umsätze suchte. Das heißt, es war dringend eine Konsolidierung erforderlich. Und in diese kam dann der Wunsch dort ein Einkaufszentrum zu errichten und die Stadt Leipzig hat natürlich erkennbarerweise ein starkes*

Following these two responses, it seems that the development of the Höfe came too early in the consolidation process. The city centre had faced enormous changes and the achievements of the last years could be at risk. However, Retail 3 indicated that the financial situation of the LWB also played a role in why the development was pushed so much by local authorities. A point that was also made by Retail 1: ‘I say this [development] was not useful. They could have built other things there. Many institutions would need a new building, like the public library or the natural history museum, the adult education centre or the technical town hall ... That are institutions that would have had enough space there. But it was a political decision, which is also related to the debt situation of the LWB. We did not agree with that.’¹⁸² So, the initiative to develop the Höfe came from the administration which also dictated the nature of the development. There was no public discussion or discussion amongst various planning departments as to what could be planned in that part of the city centre. Although this is a very prominent part of the city and a variety of uses would have been possible, there was no open consideration of all options.



Figure 7. 2: The “Höfe am Brühl” on the second day of its opening

Eigeninteresse. Die Leipziger Wohnungs- und Baugesellschaft (LWB), eine Tochter der Stadt Leipzig, auch nicht gering verschuldet, und da war denen das natürlich Recht, weil dort ein hohes kommerzielles Interesse dahinter war.“ – Retail 3
¹⁸² „Ich sage, das war nicht sinnvoll. Man hätte dort auch andere Dinge hin bauen können. Es gibt viele Institutionen, die eine neue Stätte benötigt hätten, zum Beispiel die Stadtbibliothek, das Naturkundemuseum, die Volkshochschule oder so ein Frequenzbringer wie das Technische Rathaus ... Das sind solche Objekte, die dort Platz ohne Ende gehabt hätten, aber es ist halt eine politische Entscheidung gewesen, was auch mit dem Schuldenstand der kommunalen Wohnungsbaugesellschaft zusammen hängt und damit haben wir uns abgefunden.“ – Retail 1

Retail 1 explained that when the aims of the development had been announced the local spatial planners put the project on top of their list: ‘They had announced that the Höfe am Brühl would have a special priority and so some things had to be ignored or the topics had to be handled separately. And in some cases some departments could not stick to deadlines – and then the investor was putting pressure on them [the local planners] at one point and then it became difficult.’¹⁸³ It seems that some local planners did aim to please the investor without taking into account that some other planning departments could not contribute easily. This was mainly the case in terms of environmental concerns that will be presented in the next section. However, with respect to departmental integration in this case, Retail 1 described his observations: ‘There is not one strong person, there are many and that is why the departments could not arrive at an agreement ... some did not meet the deadlines and therefore the intended kindergarten is not built or the space for cultural activities not realised. It is only about shopping, parking and some flats now.’¹⁸⁴ This response indicates that in case of the Höfe the various departments were asked to contribute to the project, but there was no working group or other form of departmental integration and in case one department handed its contribution in too late, it was not considered further.

Although the planners stuck to their own policy, the Centres Plan, the implementation of the Höfe am Brühl project was seen in mixed ways. On one side the development could help to strengthen the city centre and its meaning. On the other side a range of alternative uses could also have strengthened the city centre. The size of the retail area and its impact on other parts of the city centre were seen critically by some stakeholders. Interviewees also criticised how the different planning departments were involved into the process. In this respect it seems that there was only a low level of integration, which also applies to the level of stakeholder integration.

¹⁸³ „Es wurde halt die Direktive herausgegeben, dass die Höfe am Brühl besondere Priorität haben und da muss man manche Sachen erst einmal aufsen vor lassen und Themen gesondert bearbeitet werden. Und wenn dann bestimmte Ämter dann diese Zeiten nicht einhalten können – macht der Investor dann irgendwann da ist das dann schwierig, wenn nicht alle mitzugeben.“ – Retail 1

¹⁸⁴ „Es gibt nicht einen König, sondern es gibt viele Könige und deshalb konnten sich dort Ämter auch nicht einigen. Also da hingen einige sehr stark hinterher mit der Bearbeitung dieses Prestigeobjektes und deshalb wurde die vorgesehene Kindertagesstätte nicht gebaut, ebenso wie Räumlichkeiten für Kultur. Es ist runter gefahren worden auf Einkaufen, Parken und oben Wohnen.“ – Retail 1

7.2.3.2 Transport challenges and environmental concerns

According to the Centres Plan the city centre has excellent conditions for pedestrians, relatively good conditions for cyclists that would need some improvement, and is well connected to public transport. The tram station Goerdelerring for example is directly across from the Höfe. Cars can access the city centre via the Ring¹⁸⁵, to which all multi-storey car parks are connected (Stadt Leipzig, 2009c).

The development of the Höfe includes a multi-storey car park. The entrance and exit of it is on the eastern side of the development. A critical point about this position is the location of the central measuring station for air quality, which is about 50m north of the entrance (see Figure 7.4). As described in chapter 6.2, since 2003 the measuring station reports high concentrations of NO₂ and PM₁₀. So, many years before the opening of the car park the air quality in this part of Leipzig was considered to be poor. An intense debate started during the development process whether a car park of this dimension was needed.

Initially it is necessary to find out whether the car park was necessary at this point of the city centre or whether there are more environmentally friendly possibilities of mobility. Pol. Party 1 and Stakeholder 4 facilitated information about public transport:

- "There is hardly any other place in Leipzig that is better accessible by public transport as nearly every tram line stops there."¹⁸⁶ (Pol. Party 1)
- "Höfe am Brühl – there is the tram stop of the tram network with the second highest passenger numbers. And if they build a multi-storey car park with 800 spaces next to it, it is an urban structural mistake. It is such an important interchange, why do they need so many parking spaces? I would be pleased if there could be a change [of perception]."¹⁸⁷ (Stakeholder 4)

Both interviewees refer to the tram stop "Goerdelerring", which is next to the Höfe am Brühl. As the project is well situated next to this frequently used tram stop there would have been a good possibility for local planners to put more emphasis on eco-mobility

¹⁸⁵ *The Ring is the main road that surrounds the city centre.*

¹⁸⁶ *„Es gibt so gut wie keine Stelle in der Stadt, die besser mit dem ÖPNV erschlossen ist, fast jede Straßenbahnlinie kommt dort vorbei.“ – Pol. Party 1*

¹⁸⁷ *„Höfe am Brühl – wenn ich an der Haltestelle im ÖPNV Netz, die nach dem Hauptbahnhof die höchste Fahrgastzahl hat, ein Parkhaus baue mit 800 Stellplätzen, dann ist das schon eigentlich ein stadtgestalterischer Missgriff. An so einem Verkehrsknoten, wo alle Linien, bis auf zwei, wozu brauche ich dann diese Menge von Stellplätzen. Und das ist was, würde mich freuen, wenn es ... da mal ein Umdenken geben würde.“ – Stakeholder 4*

and to demonstrate that they have a real interest in promoting eco-mobility. They could also have integrated parking spaces for bicycles, i.e. in form of a bicycle park house, to improve the situation for cyclists. Leipzig has no parking house for bicycles so far (see also part 7.4). However, Pol. Party 1 presented a reason why the number of parking spaces had been built: ‘It [the car park] was realised as the investor demanded it.’¹⁸⁸ On Figure 7.4 the poster is shown that promotes cheap parking in the Höfe.

There are several multi-storey car parks situated around the city centre with a total number of 6 848 parking spaces, including the Höfe am Brühl (Stadt Leipzig, 2016). Pol. Party 5 and Pol. Party 3 discussed whether the 820 additional parking spaces of the Höfe had been necessary:

- ‘Of course there are parking problems in the city centre ... there are people who want to have a car free city centre, not only a car reduced city centre, but a city centre needs to be accessible. Of course there is public transport, the LVB, what you can use to get to the Ring ... but that there is no parking problem is a lie.’¹⁸⁹ (Pol. Party 5)
- ‘The Höfe is not a critical project [with regard to parking]. They [visitors] shall use multi-storey car parks and there are enough and they are all well priced ... and the new development can take lots of cars as well [and it is good] as they can drive directly in from the Ring.’¹⁹⁰ (Pol. Party 3)

¹⁸⁸ „Trotzdem hat man es gemacht, weil der Investor das wollte.“ – Pol Party 1

¹⁸⁹ „Natürlich gibt es Parkprobleme in der Leipziger Innenstadt ... Natürlich gibt es starke Stimmen, die am liebsten eine autofreie, nicht nur eine autoarme Innenstadt haben wollen, aber eine Innenstadt muss erreichbar sein. Es gibt natürlich öffentlichen Personennahverkehr, die LVB, mit der man bis an den Ring heranzufahren kann ... aber dass es keine Parkprobleme in der Innenstadt gäbe, halte ich schlichtweg für eine Lüge.“ – Pol. Party 5

¹⁹⁰ „Die Höfe am Brühl sind nicht kritisch. Sie sollen in die Parkhäuser fahren und es gibt genug Parkhäuser, die sind auch preisgünstig ... Und das Parkhaus da vorne, das nimmt noch einmal wesentlichen Parkverkehr auf, weil sie ja praktisch vom Ring dann direkt rein fahren können.“ – Pol. Party 3



Figure 7. 3: Advertising poster promoting cheap and numerous parking spaces

Both responses show the level of importance that is given to visitors who come by car. Pol. Party 5 went one step further and said that the attractiveness of a city centre depends on parking spaces for cars. However, he also said that the legal framework puts pressure on local planners and cannot be avoided: ‘And of course a big centre, in order to be attractive, needs parking spaces. Especially as there are legal requirements regarding how many parking spaces have to be provided per retail unit. There is no way, especially no legal way to not provide parking spaces. For me, this is an ideological debate and does not fit to reality.’¹⁹¹ The arguments of Pol. Party 5 show that it is still often the case that parking spaces and therefore accessibility by car are rated as more attractive than the availability of bicycle racks or proximity of tram stops. The legal framework that requires a certain amount of parking spaces per housing or retail unit is further investigated in part 7.5.

The location of the car park entrance was also discussed by various interviewees. Pol. Party 4 and Pol. Party 1 explained why this is a big topic:

¹⁹¹ „Und natürlich braucht so ein großes Zentrum, damit es attraktiv ist, auch Stellplätze, das ist ganz klar, zumal es auch gesetzliche Vorschriften gibt, für welche Einzelhandelsflächen in welcher Größe Stellplätze nachzuweisen oder auch abzulösen sind. Also es geht gar kein Weg, auch rechtlich gar kein Weg daran vorbei, die Stellplätze da zu errichten und Parkmöglichkeiten zur Verfügung zu stellen. Und ich halte das für eine rein ideologische Debatte, an den Lebenswirklichkeiten vorbei.“ – Pol. Party 5

- 'It is difficult that on one side [of the road] is the entrance to a multi-storey car park and on the other side the measuring station [for air quality]. It will be interesting to see the effect.'¹⁹² (Pol. Party 4)
- 'There is a measuring station for air quality, which also permanently exceeds [the set limits] and is a reason why we [Leipzig] had to introduce the low emission zone ... and there is the entrance to the car park.'¹⁹³ (Pol. Party 1)

In Chapter 6.2 the air quality situation of Leipzig was analysed as well as one of the measures to improve the quality, the low emission zone. The problem with the development of the Höfe am Brühl in terms of air quality is that another pollution source was created next to one of the measuring stations. However, Pol. Party 5 noted that this is no argument to not realise the project: 'I can set up a measuring station for air quality and then say how often the limits are exceeded and then I say this is the reason for the low emission zone ... The question is whether the car park is the problem or the station next to the car park. I think it is the latter one.'¹⁹⁴ So, the interviewee does not deny that there is an air quality problem, but for him the solution is to move the station to a location where there is less pollution and therefore the limits would not be exceeded. However, this would not be in the interest of environmental planning and would be against environmental integration. On Figure 7.5 the measuring station is shown.

¹⁹² „Es ist natürlich absolut schräg, wenn man dort den Eingang zu einem Parkhaus hat und gleich gegenüber ist die Messstation. Da darf man gespannt sein, wie sich das auswirkt.“ – Pol. Party 4

¹⁹³ „Wir haben exakt dort, wo das Ding steht, eine Luftmessstation. Die auch permanent Überschreitungen hat und sozusagen mit ursächlich dafür ist, dass wir die Umweltzone einrichten mussten ... dort liegt die Einfahrt zu den Stellplätzen.“ – Pol Party 1

¹⁹⁴ „Ich kann natürlich eine Messstation zum Feststellen der Luftverschmutzung aufstellen und kann dann sagen, an diesem Punkt habe ich so und so viele Überschreitungen im Jahr und mache das zum Maßstab für die Umweltzone ... Es ist natürlich die Frage, ist die Tiefgarage an den Höfen am Brühl das Problem oder ist die Messstelle in unmittelbarer Nähe zur Tiefgarage das Problem. Ich glaube es ist eher letzteres.“ – Pol. Party 5



Figure 7. 4: View from the entrance of the car park towards the measuring station (arrow)

A repositioning of the measuring station was also suggested by Stakeholder 1 although he did not agree in general with the project of the Höfe and the car park: ‘Generally the Höfe am Brühl are a topic of discussions, but if it has to be accepted, also with the number of parking spaces, then the entrance to the car park at that side [where it is now] is possibly the best ... Maybe the position of the measuring station is kind of irony of fate ... and they need to relocate it.’¹⁹⁵ However, the station cannot be relocated easily, even if it were in the interest of local planners, as Planner 5 explained: ‘The station is positioned there because it has to. We cannot move it around. There is too much consulting necessary. It is a station of the federal state ... but it [the situation] could not be worse than what happened now with the car park ... as there are additional cold start emissions ... The area [around the measuring station] will be redesigned and then the station will be moved away 50m.’¹⁹⁶ A relocation of 50m will have no influence

¹⁹⁵ „Generell kann man sich immer streiten, ich bin kein Freund der Höfe, aber wenn man akzeptieren muss, dass es so ist und auch mit dem Umfang dort der Stellplätze, dann ist die Zufahrt an der jetzigen Stelle wahrscheinlich eine verträglichere ... Und da ist die Lage der Messstation dort einfach Rache des Schicksals, also da muss man sie eben umlegen.“ – Stakeholder 1

¹⁹⁶ „Die Station steht da, weil sie da stehen soll bzw. muss. Wir können auch nicht die Station hin und her bewegen, da sind viele Abstimmungen notwendig, das ist auch eine Station vom Freistaat, die da platziert wird. Und die Emissionen können dort nicht schlimmer sein als das was wir jetzt noch machen mit dem Parkhaus. Da kommen dann noch Kaltstartemissionen dazu ... Der Platz wird umgestaltet, soviel ich weiß, wird diese Messstation dann 50 Meter bewegt.“ – Planner 5

on the measures and therefore is still in the interest of environmental consideration. The response of Planner 5 indicates more that it is an urban design topic that led to the planned move.

Planner 5 had also talked about cold start emissions and that they will further worsen the air quality next to the Höfe even more. So, the question arises why planners did not consider that during the development process? Pol. Party 1 provided an insight in the problems that planners of different departments, urban and environmental planners, had during this process with the amount of parking spaces:

[During the planning process] this [air pollution] was weighted and concluded that it has no influence on the number of parking spaces. It is also not possible to handle that within the process of the development of a building plan. [Urban planners said:] clean air planning has to deal with that. But clean air planning cannot do anything as they do not have an instrument that says where how many parking spaces can be built. That is a topic for the building plan. And a problem cannot be solved in the way that one planning department refers to another planning department ... the knowledge of one department should be taken serious and considered in other departments. And [the solution is] not to step back into old habits and say: there are superior interests that we deal with and the rest can [later] be done by other planners – although they know that other planners cannot do anything due to lacking instruments.¹⁹⁷

This problem with various departments with their differing responsibilities and instruments could be solved, for example, with a working group process, which would equate to a higher degree of departmental integration. In the case of the Höfe, this would have also led to a higher level of environmental integration as the environmental department would have been actively involved in the process. Additionally, when talking about the strategic planning level, planners had noted that they leave more detailed discussions to the project planning level (see Chapter 5.2). The Höfe am Brühl project

¹⁹⁷ „Das hat man abgewogen, dass das keinen weiteren Einfluss auf die zu genehmigende Stellplatzanzahl hat, das ist im Rahmen des Bauleitplanverfahrens nicht zu händeln, darum muss sich dann die Luftreinhalteplanung kümmern. Was natürlich der größte Witz ist, weil die Luftreinhalteplanung sagt: eigentlich können wir nicht wirklich etwas machen, weil uns die Instrumente, nämlich wo entstehen wie viel Stellplätze, als Wesen zur Regulation, gar nicht zugänglich sind. Die passieren in der Bauleitplanung. Und man sozusagen das Problem dadurch nicht lösen, indem man auf jeweils die andere Planung verweist ... bzw. muss man das, was die Erkenntnisse der einen sind, in der anderen auch wirklich ernst nehmen und berücksichtigen. Und dann nicht im alten Denken wegwägen und sagen ‚da gibt es übergeordnete Belange jetzt, die machen wir und für das andere gibt es dann eine andere Planung‘, wohl wissend, dass die andere Planung nichts mehr ändern kann, weil ihr die Instrumente dazu fehlen.“ – Pol. Party 1

and the related building plan are on the project planning level, so this should be the point where detailed discussions take place, according to the planners themselves.

Pol. Party 4 expressed that the development has positive effects: “There is most likely more traffic [following the development], but this concentration of retail in the city centre is also an answer to greenfield development and secures a functioning city centre. You have to weight what is more important. That is why even some members of the Green Party did vote for the Höfe. We want a lively city centre and so you have to accept other things.”¹⁹⁸ So, with a development advantages and disadvantages are occurring. The impact of greenfield developments was analysed in Chapter 5.2 and it was concluded that the inner development of the centres in Leipzig is more environmentally friendly. So, in the end the development of the Höfe is a project that follows environmental objectives. What reduces the level of EPI in the end is the high consideration of car users and the limited consideration of public transport and cyclists.

7.2.4 Conclusion of the “Höfe am Brühl” project

The decision to develop the “Höfe am Brühl” was conform to the aims of the Centres Plan. Following the aims of planners it could also strengthen the city centre and therefore inner city retail areas in contrast to retail areas on greenfield sites. Nevertheless, the development of more than 800 parking spaces as part of the project could minimise the positive impact on environmental issues. The Höfe needs to be accessible by all modes of transport, but it cannot be concluded whether a high number of parking spaces was necessary. A higher focus on modes of eco-mobility could have been a signal that local planners aim for more environmentally friendly transport solutions. However, it cannot be disregarded that the investor aimed for even more parking spaces and that the planners wanted to find a compromise in order to secure the investment.

The way the parking was discussed and implemented could also be explained by the lack of integration of departments and stakeholders. The various departments shifted responsibilities to each other and in the end the environmental planners could not use

¹⁹⁸ „Man zieht sicherlich Verkehr rein, aber wiederum ist ja durch all diese Aktivitäten, sprich dass man Einzelhandel in der Innenstadt konzentriert, das ist ja auch eine Antwort auf die grüne Wiese und für die Sicherung einer funktionierenden Innenstadt. Man muss abwägen, was will man. Daher haben auch bei den Grünen einige mit dafür gestimmt. Das wollen wir, eine lebendige Innenstadt und dabei muss man manche Dinge auch mit in Kauf nehmen.“ – Pol. Party 4

the weight of their argument with the measuring station and the possible threat of fines. The main participation of other departments, stakeholders and citizens only took place during the public layout of the building plan. It would have been interesting to see how a compromise worked out by a working group of planners and stakeholders would have been discussed with the investor. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 7.2.

Indicators/Questions	Project “Höfe am Brühl”
Timeframe	
When did the integration of environmental issues start?	At the end when it was thought necessary/ mandatory/requested by reviewers
When did the integration of other planning departments start?	During the process, but rather legwork than round table discussions
When did the integration of stakeholders start?	Towards the end as it was mandatory
Environmental objectives	
To what extent were environmental objectives discussed in the process?	It was just discussed to a small extent
To what extent were environmental objectives integrated in the policy?	Only to a small extent, more indirectly (strengthening of city centre)
Department/stakeholder integration	
To what extent were other departments/stakeholders integrated?	Some departments/ stakeholders were involved at a certain time of the process
How was the integration of other departments/stakeholders organised?	Some discussions with other departments took place and information events with the public, otherwise the mandatory process
Communication	
What forms of communication were used?	Traditional forms of communication were used, like newspapers, the official journal and the city’s web page
How many people were reached by the announcements?	Only people linked to the process and project were reached
Was there a possibility for non-planners to get heard?	Opinions could be announced
Level of EPI	o
Level of DI	o
Level of SI	-

Table 7. 1: Indicators & levels of integration for the analysed project ‘Höfe am Brühl’ (0: no integration, -: low, o: medium, +: high integration)

7.3 Restructuring of the Karl-Liebknecht-Street

7.3.1 Introduction

The previous section dealt with a retail development project that has an impact on environmental and transport issues. This section deals with the restructuring of the Karl-Liebknecht-Street (short: Karli). This project is a more transport focused one, but might also have an impact on spatial issues of the neighbouring areas. An urgent matter to be solved was the competing interests of the different modes of transport.

The special character of the street caused an extensive debate on how to develop it. Additionally, numerous interests were brought together in this debate including: those of shop owners, residents, the local transport company, local planners and various lobby groups. The focus of this part is on the planning process and the analysis is based on the different participation possibilities, the challenges of the competing interests, and the constraints imposed by the legal framework. At the beginning the project outline is presented, followed by the investigation of the various participation processes.

7.3.2 Project outline

The Karli is a main road in Leipzig, running from the Ring¹⁹⁹ in the north southwards. In the Centres Plan the Karli is described as a multi-functional centre along a main road with a high quality for visitors and various uses (Stadt Leipzig, 2009c). According to the description the Karli is more than 2.1km long and surrounded by high density residential areas. In some parts of the street is a concentration of pubs and cafes. The southern part of the street has already been restructured and has a separate tram track and cycle paths. The northern part has cycle paths in some parts, an integrated tram track, and parking along the road. Crossing the road is in some parts not convenient (Stadt Leipzig, 2009c). The condition of the northern part and the conflicts between the different modes of transport made it necessary that the local planners put the Karli on their agenda.

¹⁹⁹ *The Ring is the road around the city centre.*



Figure 7. 5: Section of the northern part of the Karli

The Karli is a street with an integrated tram track in the middle and one lane for motorised transport per direction. Cyclists mainly cycle on the road and parking is allowed in most parts along the road. The pavements are very wide and are partly used by shop owners to display their goods and by cafes and pubs for outdoor sitting areas. Stakeholder 1 described the Karli: ‘In comparison to all other main roads in Leipzig it the one that comes closest to a boulevard.’²⁰⁰ Stakeholder 2 named in this connection a previous initiative in the 1990s where the environmental NGO Ökolöwe successfully prevented that the Karli were to be transformed into an only-car focussed street: ‘There had been plans in the 1990s to change it to four lanes to the city centre. The Ökolöwe had made a huge campaign and suggested alternatives for example the cycling lanes that are now available. And they [the Ökolöwe] have shown that there are three streets running in parallel and therefore the Karli does not need four lanes ... but without that commitment the Karli would be different now.’²⁰¹ This shows that stakeholder interference already played a significant role in the 1990s. The following part will show why stakeholder integration in case of the Karli is an important component of the restructuring process.

²⁰⁰ „Im Vergleich zu allen anderen Leipziger Hauptstraßen mit Abstand diejenige, die den Boulevardanspruch am besten erfüllt.“ – Stakeholder 1

²⁰¹ „Da gab es in den 1990er Jahren Pläne, die Karli vierspurig in die Stadt zu führen. Da war es halt der Ökolöwe, der hat eine riesengroße Kampagne gemacht und hat quasi auch eine Alternative angeboten, mit den Radfahrstreifen, wie sie jetzt dort sind. Hat dort aufgezeigt, dort sind [3 andere Straßen] wir brauchen keine vierspurige Karli ... und wenn es das Engagement nicht gegeben hätte, hätten wir jetzt eine vierspurige Karli.“ – Stakeholder 2

7.3.2.1 Challenges of the project

The Karli is not the first main road in Leipzig that gets restructured, but Stakeholder 1 explained why the situation was special this time: ‘From the outset a wide range of citizens approached this with great emotion and there had been great expectations ... from the beginning people were looking mistrustful at the plans like: we can see the need, but we want to be involved and basically nothing shall change ... so many people and lobby groups were there right at the start ... and that was possibly the reason why it was done in public and not only to present the newest plan to a hundred people where nothing can be discussed in detail. So, it is a jump in quality.’²⁰² So Stakeholder 1 sees the reason for a higher level of stakeholder integration in the high interest that people addressed when the project was announced.

Stakeholder 6 indicated that the reason could also be found in experiences that the LVB had made with previous projects and planners who changed their normal procedure: ‘All parties involved knew that the Karli is complex and the LVB had learnt during their building projects that the restructuring of such a road could also influence surrounding urban areas and that new developments can follow and people use the tram as it is close and barrier free ... it is all a learning process ... So, this project is a pilot scheme how far transport planners could go to integrate citizens. Maybe they will go even further in the future, but it was already further than what was done before to get people integrated.’²⁰³ According to Stakeholder 6 the experiences of official participants plays a significant role as well. In a way the LVB function in this project as official participant, but it is also has the position of a stakeholder.

²⁰² „Es ist eine Straße, wo von vornherein die breite Bürgerschaft mit starken Emotionen herangegangen ist, dass es eine ganz große Erwartungshaltung gegeben hat ... da ist von der ersten Minute an alles beargwöhnt worden, ja, der Bedarf ist erkennbar, aber wir wollen unbedingt mit Argusaugen drauf gucken und mitreden und eigentlich soll sich gar nichts verändern’ und so weiter und so fort ... da waren viele, viele Leute und Lobby einfach gleich auf dem Plan und das hat anfangs große Wellen geschlagen und war dann eben der Grund für die Entscheidung, wahrscheinlich, das also offiziell durchzuführen und nicht immer nur mit irgendwelchen überarbeiteten Amtsvarianten rein zu geben, über die man mit hundert Leuten im Raum überhaupt nicht sprechen kann, eigentlich, im Detail. Also das ist schon ein Qualitätssprung.“ – Stakeholder 1

²⁰³ „Den Beteiligten war sehr wohl bewusst, dass es in der Karli sehr komplex ist und die LVB haben ja auch gelernt, mit ihren ganzen Bauprojekten, dass der Umbau einer solchen Straße sehr wohl Einfluss auf das umliegende Stadtgebiet hat und dass man, wenn man die Straße richtig umbaut, auch sehr viel dafür tun kann, dass sich neue Läden und Gastronomie ansiedeln, dass dort Leben rein kommt und andererseits dann viele Bürger auch animiert werden, zusätzlich in die Straßenbahn zu steigen, weil das auf einmal alles fußnah ist, es ist barrierefrei ... das sind alles Lernprozesse ... also für sich ist dieses Projekt ein Pilotprojekt, also wie weit man von Stadtseite oder eben Verkehrsplanerseite geben kann, die Bürger mit rein zu holen. Vielleicht wird es in Zukunft noch viel weiter gehen, also es ist schon deutlich über das hinausgehend, was bisher gemacht wurde, um die Bürger mit rein zu nehmen.“ – Stakeholder 6

The experiences with previous projects and the high interest of residents and stakeholders may be two factors why local planners decided to have a wider public participation than usual. However, some forms of the public participation were not planned at the beginning of the process and introduced later and there are also new forms of participation in building processes like this one.

7.3.3 Planning cooperation and public participation

7.3.3.1 The project group and coordination group

A new procedure for the Karli was that local planners worked together on the plan with the local transport company from the beginning of the planning process. According to Stakeholder 6 'it was the first time that there was a project group of LVB and local planners. That means it was different to other projects and local planners did not work out the plan and the LVB had to implement it ... But the initiative came from the LVB who wanted a joint project and who also wanted public participation.'²⁰⁴ So, a stakeholder initiated the idea of a project group and also requested higher levels of public participation than is usually the case. However, what was rated positively by Stakeholder 6 was criticised by Stakeholder 2:

'It means from all users of street space only the LVB was involved for one and a half years ... and the result is that we have a tram track which suits the LVB, but on the other side trees have to be cut down and the width of pavements is halved in some parts. So, the pedestrians are disadvantaged, because the LVB could get its position in ... imagine what would have happened if the local planners would have worked together with the lobby group for pedestrians for one and a half years? And they would have said that the Karli is turned into a pedestrian zone and the tram being relocated to a different road? People would also have complained.'²⁰⁵

²⁰⁴ „Es gab zum ersten Mal eine Projektgruppe LVB-Stadt, das heißt, anders als bei anderen Projekten dieser Art, hat nicht die Stadt gesagt, wir machen das jetzt so und die LVB setzt das dann einfach um ... in dem Fall hat die LVB bei der Stadt deutlich gesagt: wir wollen ein gemeinsames Projekt, in dem wir versuchen, die ganzen Interessenlagen zusammen zu kriegen und wir wollen Bürgerbeteiligung.“ – Stakeholder 6

²⁰⁵ „Das heißt, von den Straßennutzern saß letztlich nur die LVB bis jetzt anderthalb Jahre mit am Tisch ... und als Ergebnis haben wir jetzt diesen Gleiskörper, der der LVB entgegen kommt, aber letztlich müssen dafür die Bäume weichen und die Gehwege werden halbiert, teilweise. Das heißt, die Fußgänger beißen quasi in den sauren Apfel, weil die LVB in den Verhandlungen jetzt mit durchgesetzt hat ... was wäre denn gewesen, wenn die Stadt sich nicht mit der LVB hingesetzt hätte, sondern sich mit dem Fachverband Fußverkehr anderthalb Jahre hingesetzt hätte. Und die wären zu dem Ergebnis gekommen, wir machen dort jetzt eine Fußgängerzone und die Gleise werden in eine andere Straße verlegt ... da wäre der Aufschrei doch genauso gewesen.“ – Stakeholder 2

Although the LVB represents an environmentally friendly mode of transport not everyone is satisfied that they were allowed to bring in their position on the development to that extent. Planner 5 responded to this critique and explained that even in such a case the product of the project group would have been a compromise, which would have required further discussion: ‘There was the suspicion that we do not want to listen, but we listened and have taken a lot of input. The problem is now that we cannot take everything into account. But that is natural, when developing a plan: it is always a compromise, unless I accomplish an individual interest. But we did not manage that with the LVB as that was already a compromise.’²⁰⁶ Stakeholder 6 could also remember some critical voices: ‘Some people criticised that they only produced one plan and not several and that this plan was already a compromise ... where the project group had tried to get all observable problems and conflicts handled.’²⁰⁷

These comments show how differentiated cooperation in planning is seen by various stakeholders. The members of the project group emphasised the novelty of their work and that this is a new approach to planning. Non-involved stakeholders mainly toned down this step and criticised why only the LVB was involved and no other interest group. From the legal position the local planners are responsible for the plans and also have planning sovereignty. From a financial perspective the local planners and the LVB are the ones who have to fund it and also apply for funding. From these two positions it made sense to have a project group of these two to clarify technical details and the legal and financial framework. The question is how far it would be useful to integrate other interest groups into that phase. Nevertheless, so far this is an example of high stakeholder integration, as the LVB was integrated right from the start, although it was not required.

During the time of the preparation and construction work a coordination group was meeting at irregularly intervals. Stakeholder 1 named some details of this group: ‘There is the coordination group ... where almost everyone attends, who is related to building

²⁰⁶ „Da war ja der Verdacht: die wollen uns nicht hören – und wir haben gehört und wir haben viele Sachen aufgenommen. Das Problem ist jetzt bei einzelnen, dass man nicht alles aufnehmen kann. Das liegt aber an der Natur der Sache, wenn man einen Plan erstellt, dann kommt im Ergebnis immer ein Kompromiss raus. Es sei denn, ich setze nur ein Einzelinteresse durch. Aber das haben wir mit der LVB alleine schon nicht hingekriegt. Das war ja da schon ein Kompromiss.“ – Planner 5

²⁰⁷ „Ein Kritikpunkt kam auch von einigen Bürgern, dass den Bürgern nicht unterschiedliche Alternativen zur Entscheidung vorgelegt wurden, sondern nur eine Alternative, die aber schon ein Kompromiss war ... wo die Projektgruppe gemeinsam versucht hat, die für sie wahrnehmbaren Probleme und Konflikte alle zu verarbeiten.“ – Stakeholder 6

preparation, planning and others ... less detailed things are discussed like appointments, progress, who needs to get what by whom, when are the next coordination talks, internal working groups and more.²⁰⁸ Those meetings were not criticised. It appears that a higher degree of participation is only requested in structural planning but not in case of technicalities and chronological order. However, the local planners seem to aim to keep it as transparent as possible and created a separate web site on their web platform where they provide many information about the different phases of the restructuring process, information about the interest advisory board and their work, the final plan as well as latest news and detailed information how to get to the Karli during the time of the construction works (Stadt Leipzig, 2014d).

7.3.3.2 The interest advisory board

In March 2012 the interest advisory board was formed. It has 15 members: representatives of ADFC, Fuss e.V., ADAC, Ökolöwe, association for the handicapped, passenger advisory board, gastronomy, retail, property owners, residents, CCI, business, advisory council of the urban districts south and city centre, and DEHOGA (Stadt Leipzig, 2014d). The task of the board is to discuss the interests and concerns of residents and submit them to the project group. The aim is to have this board until the end of the restructuring process. Information about the board members and their tasks and procedures are published on the website of the local planners (Stadt Leipzig, 2014d).

Planner 5 pointed out how the work of the group added to the process: ‘The process with the interest advisory board led to a wider compromise ... everyone could bring in interests and then see how they are considered.’²⁰⁹ Pol. Party 5 provided some more details: ‘There had been five planning versions of the Karli and the interest advisory board discussed those. The result of these discussions was a new planning version of the Karli, the so-called version 6.’²¹⁰ So, the interest advisory board could be seen as an

²⁰⁸ „Da ist die Koordinierungsrunde ... wo so gut wie alle möglichen Beteiligten in der Bauvorbereitung, Planung und so weiter an einen Tisch kommen ... dort werden keine Details im Klein-Klein besprochen, sondern grundsätzliche Sachen: Termine, Fortschritte, wer arbeitet wem wann was zu, wann sind die nächsten Abstimmungsgespräche, interne Arbeitsgruppen und mehr.“ – Stakeholder 1

²⁰⁹ „Durch das Verfahren mit dem Interessenbeirat ist eben daraus ein breiterer Kompromiss geworden, aber nach wie vor ein Kompromiss. Und da kann nicht ein Einzelner sein Interesse bis zu Letzt durchsetzen, sondern nur einbringen und dann gucken, wie es vertreten werden kann.“ – Planner 5

²¹⁰ „Es gab fünf Planungsvarianten für die Karli und ein Interessenbeirat hat die diskutiert. Dort ist eine neue Modellvariante entstanden für die Karli, die sogenannte Variante 6.“ – Pol. Party 5

example how to involve a variety of stakeholders in an organised way. They had written down the rules of their work and the number of members. So, they made sure that there are a fixed number of participants and that all interest groups have a member. How those members form their position was not explained in the interviews. Nevertheless, this was a step forward to a higher degree of public and stakeholder integration.

7.3.3.3 Different forms of public participation

The LVB had expressed a request to the planners to get citizens involved into the restructuring process. So, several information and discussion events took place as Stakeholder 6 specified: ‘Four big information events took place.’ ... ‘There have been separate meetings for retailers and business people.’²¹¹ According to Stakeholder 6 the objective of the events had been that ‘They [the project group] have tried hard in the information events to explain to the people the compromises.’²¹² So, local planners and the LVB together presented their plan and explained how they had developed it. Nevertheless, this does not explain how far interested people could get involved. Stakeholder 4 indicated that there had been some smaller group meetings: ‘Many interest groups sat at the table at the beginning ... we did not talk about the technical details but street design ... nevertheless there were complaints at the end. That is a shame.’²¹³ It can be assumed that most participants are not interested in technical details but in design issues. However, despite the possibility to talk about those issues not all participants seem to have agreed with the result in the end.

With respect to a higher consideration of eco-mobility in order to reach a higher level of environmental integration an equal consideration of all modes of transport means that cars are rated as important as the public transport, cycling and walking. However, Transport 2 expressed a different opinion and argued that eco-mobility needs to be considered more: ‘Parts of eco-mobility are played off against each other ... so no support of eco-mobility, rather an improvement of the conditions for car-drivers as they

²¹¹ „Es haben vier große Informationsforen stattgefunden“ ... „Sie haben auch extra Foren für Händler und die Gewerbetreibenden gemacht.“ – Stakeholder 6

²¹² „Sie haben sich in den Informationsveranstaltungen auch die Mühe gegeben, den Leute zu erklären, warum welche Kompromisse wie ausgefallen sind.“ – Stakeholder 6

²¹³ „Bei der Straße war das praktisch so, da saßen auch viele Verbände gleich von Anfang an mit am Tisch bei den Planungen ... also es ging jetzt nicht so sehr um technische Sachen, sondern um die Gestaltung, wie soll es aussehen ... trotzdem gab es hinterher diesen Gegenwind. Das ist schade.“ – Stakeholder 4

[seem] to get their own lane. So, the situation does not get worse for them and therefore it is no support of eco-mobility, only a shift within.²¹⁴

Related to the argument of Transport 2, Pol. Party 1 indicated that this is not only a problem of planning, but also how the lobby groups are organised: 'It is a topic that the lobby groups need to deal with – how the whole system of eco-mobility can be strengthened ... it does not make sense to have changes of the modal split only within eco-mobility, it needs shift from car use to eco-mobility.'²¹⁵ What he suggests is that the lobby groups for cycling and walking collaborate more. So far there is no lobby group for passengers of public transport, but possibly the Ökolöwe and the LVB could cooperate on the behalf of passengers. If those four would then form a position together, it would be easier to support eco-mobility. However, Stakeholder 4 and Pol. Party 2 indicated that there are some issues that prevent such close cooperation at the moment:

- 'Sometimes questions could be solved in the preparation [of such plans] but it is difficult with the [transport] lobby groups, particularly as it seems that some dislike others. There are reservations or different opinions.'²¹⁶ (Stakeholder 4)
- 'Something I concede to the lobby groups is that they represent their own interests. But if that turns into bossiness and it is disregarded that other lobby groups have the same rights, I do not agree.'²¹⁷ (Pol. Party 2)

So, it seems that the transport related lobby groups need to have their own integration process first, before they can represent eco-mobility as a group. In case they do overcome their difficulties the position of eco-mobility could be strengthened and the risk that one part of it is developed on the expense of another be minimised.

²¹⁴ „Dadurch wird der Umweltverbund jetzt auch gegenseitig etwas ausgespielt ... das finde ich jetzt mal keine Förderung des Umweltverbundes, da unterm Strich die die Bedingungen für den Autoverkehr verbessern. Also für den Autoverkehr wird es definitiv nicht schlechter, das ist jetzt für mich keine Bevorzugung des Umweltverbundes, innerhalb des Umweltverbundes gibt es Verschiebungen.“ – Transport 2

²¹⁵ „Das ist ein Thema, dem sich auch die Verbände neu stellen müssen, wie das Gesamtsystem, auch des Umweltverbundes gemeinsam gestärkt wird ... Es macht wenig Sinn, wenn die Veränderung des Modal Splits nur innerhalb des Umweltverbundes stattfindet und nicht vom Umweltverbund zum motorisierten Individualverkehr hin was verändert.“ – Pol. Party 1

²¹⁶ „Man kann natürlich auch die Fragen schon im Vorfeld klären ... das ist eben mit den Verbänden sehr schwierig, zumal auch die Verbände sich oftmals untereinander nicht grün zu sein scheinen. Also es gibt da sehr viele Vorbehalte oder andere Ansichten.“ – Stakeholder 4

²¹⁷ „Was ich den Lobbyverbänden sehr wohl zugestehe, dass sie ihre Interessen vertreten und auch geltend machen. Die Grenze ist für mich bloß überschritten, wenn das dann in eine Rechthaberei ausschlägt und man für die anderen, die genauso berechnete Interessen haben, die dann missachtet werden.“ – Pol. Party 2

The participation process was something new compared to similar projects. However, Stakeholder 2 and Transport 4 also raised some critical points:

- 'It is an improvement to former times, but it is by far no public participation. When I try to present my plan four times and only name the advantages ... that is no participation that is promotion. Ideally they listen beforehand in which direction it should go. That would be the bottom-up principle ... but at least presenting several versions and then explaining advantages and disadvantages of each ... consider that and then make a decision. That would be real integration and in the best case as early as possible to integrate critical voices in the development process and not afterwards.'²¹⁸ (Stakeholder 2)
- 'They could invite [people] beforehand to real workshops with experts and interest groups and citizens and where is said what the aims are and the final goal.'²¹⁹ (Transport 4)

The criticism of Stakeholder 2 tried to show that there are several levels of participation. The level chosen by the project group went beyond the usual process. Nevertheless, a level as for example in the Mach's leiser project could not be achieved. A problem here could be that citizens are often interested in developments of their local area but have a lack of knowledge of planning procedures. Stakeholders on the other hand have not only an interest but also a certain level of knowledge. That could be a reason why higher levels of participation are requested. However, as other cases of this research have shown, for example Mach's leiser (see Chapter 6.3), integration processes cost money, which was also indicated by Stakeholder 1: 'The LVB had to pay a lot of money ... they also paid a moderator ... I think they had eight public events ... and additionally smaller meetings with special topics, for example with retailers, pub owners, property owners, various interest groups ... so a lot of input.'²²⁰ As the section related to funding dependency will show, the financial situation of Leipzig is not so comfortable that they

²¹⁸ „Das ist ja schon ein Fortschritt gegenüber dem Ansatz, wie er früher gemacht wurde, aber Bürgerbeteiligung ist es eben noch lange nicht. Wenn ich viermal versuche, meinen Plan, den ich ausgearbeitet habe, darzustellen und nur Vorteile erzähle ... ja das ist keine Beteiligung, das ist einfach Werbung. Idealerweise könnte man vorher schon mal hören, wo soll es denn überhaupt hingehen, also das wäre dann dieses bottom-up Prinzip ... aber zumindest schon einmal verschiedene Varianten zu zeigen und Vor- und Nachteile von jeder ... bedenkt dieses und dann fasst einen Beschluss. Ja, das wäre rechte Beteiligung. Und das möglichst so frühzeitig, dass man eigentlich im Entstehungsprozess schon die kritischen Akteure mit einbindet und nicht erst hinterher.“ – Stakeholder 2

²¹⁹ „Dass sie nicht vorher einmal groß einladen zu richtigen Workshops, wo Fachleute und auch Interessengruppen, Bürger dazu geholt werden, wo man sich hin setzt und sagt, was will man denn eigentlich und wo will man hin.“ – Transport 4

²²⁰ „Also der LVB hat das richtig Geld gekostet ... einen Moderator bezahlt ... ich glaube acht öffentlicher Runden ... zusätzlich gab es kleinere Runden, zu ganz speziellen Themen, wie zu Gewerbetreibende, zu Kneipen, zu Hauseigentümern, einzelne Interessenverbände ... es gab da sehr viel Input.“ – Stakeholder 1

could have an intense working group process for every project that they are working on. Local planners have to set priorities and they already went further with participation in case of the Karli compared to any other road restructuring process in Leipzig so far.

The process of finding a compromise implies that different interest groups and people get involved into the process. So, a certain level of stakeholder integration is a pre-setting for a compromise. The Karli is a project with exact details and precise costs at the end. Early public participation is desirable in any case. However, the level, form and intensity of participation should possibly be chosen regarding to the type of plan, development or project. Nevertheless, the discussions of the Karli during the participation process have shown that it was necessary for planners to find a compromise

7.3.3.4 A separate tram track and funding dependency

At the beginning of this section it was explained why the Karli has a special meaning for many people. Stakeholder 4 explained why the LVB had such an interest in the development of the street: ‘Tram lines 10 and 11 in the southern part [i.e. on the Karli] are the highest used part of the whole tram network in Leipzig. It is really used by crowds of people at 5-minute-intervals.’ ... ‘We aim to have a separate tram track ... to improve the situation.’²²¹ So, it can be concluded that the improvement of the situation of the tram on the Karli is essential to keep passenger numbers high. However, Pol. Party 5 explained that there are numerous people, like local residents and retailers who are ‘against a separate tram track as this would change the character of the whole street.’²²² The separate tram track was one of the topics that to be discussed and where a compromise had to be found. On Figure 7.7 a detail of the plan is shown including a separate tram track. On Figure 7.8 the current situation is shown without a separate tram track.

²²¹ „Die Linie 10/11 im Südabschnitt – das ist eigentlich der am stärksten belastete Abschnitt im ganzen Leipziger Streckennetz. Dort fahren wirklich Menschenmassen im 5-Minuten-Takt lang.“ ... „Wir wollen zum Teil einen separierten Bahnkörper ... wir brauchen zwingend eine Verbesserung.“ – Stakeholder 4

²²² „gegen diese Variante der Stadtbahntrasse, weil sie den Charakter der Straße verändern wird.“ – Pol. Party 5

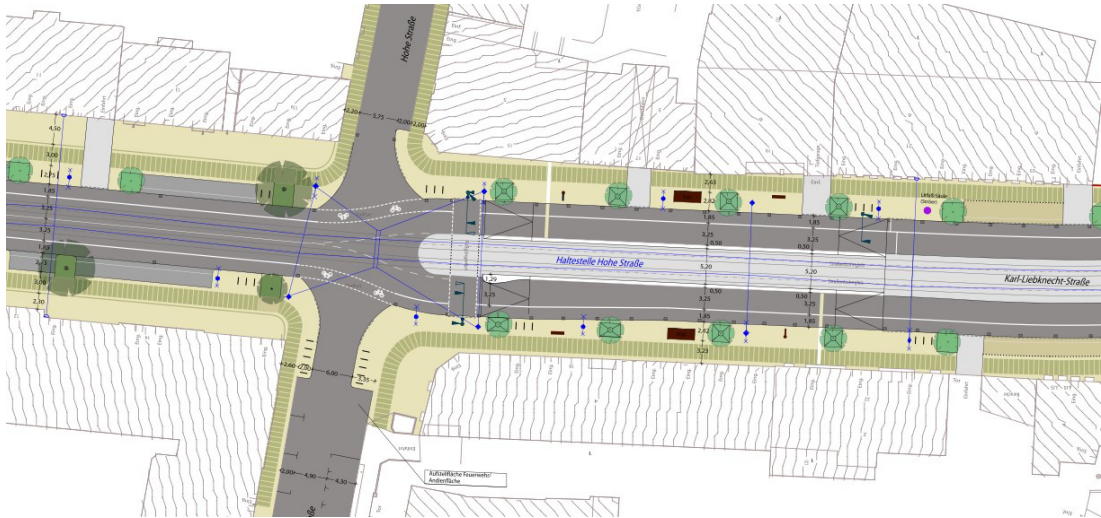


Figure 7. 6: Detail of the draft of the restructuring plan (state of work: October 2012) (Stadt Leipzig et al., 2012)

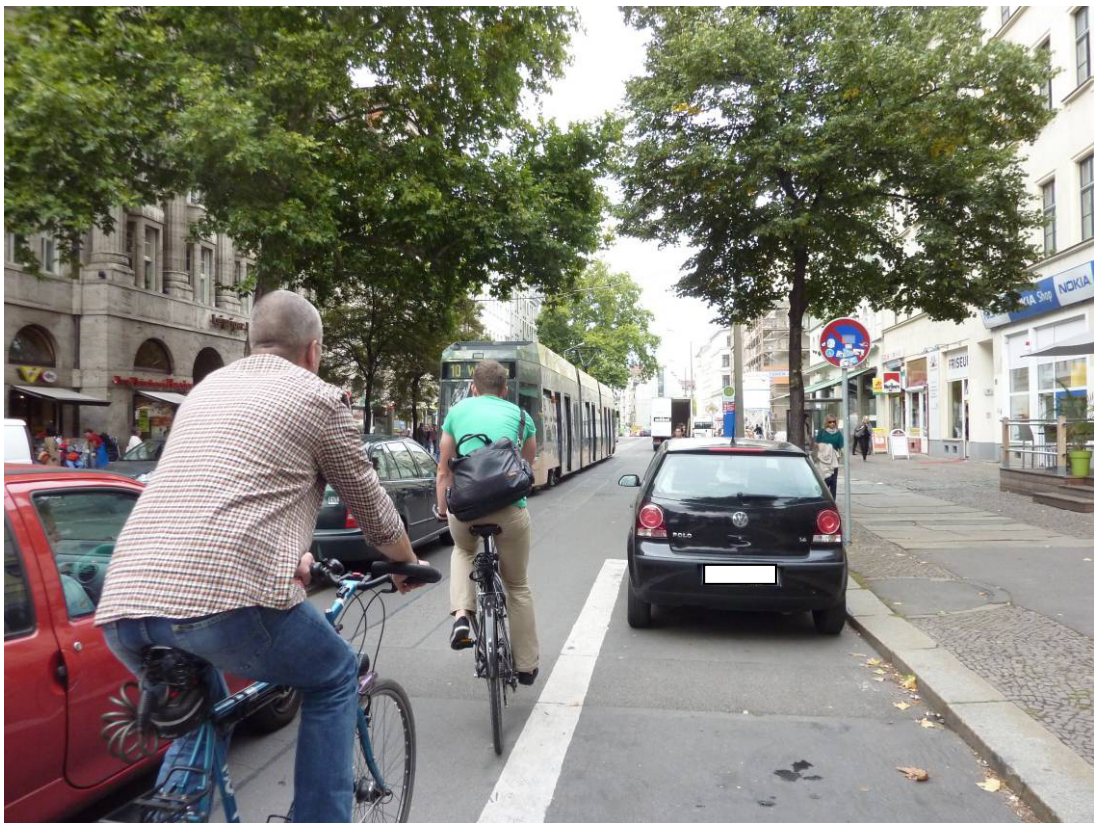


Figure 7. 7: The situation of the old street design next to a tram stop: cars and cyclists have to wait for people who want to use or used the tram

The Ökolöwe also published a flyer where they informed the public about the restructuring plans, presented before and after photos how the plans would change the Karli and also suggested own ideas for restructuring (Ökolöwe, 2011).



Figure 7. 8: Before and after: comparison of the planned restructuring (Ökolöwe, 2011)

The design and funding of trams is regulated with several guidelines. The regulation on building and operation of trams (BOStrab) sets the legal framework for the development of tram infrastructure and trams as well as tram companies in Germany. Important are §3 paragraph 5 that claims accessibility for all citizens and §15 paragraph 6 that says tracks should be separate and special (BMJV, 2007).

The second one is the law on funding of the national government to improve the transport conditions in municipalities (GVFG). In §2 paragraph 1 is said that the federal states can fund projects of no. 2 the building or upgrading of trams, ... when they are used for public transport and are operating on separate tracks²²³. In §3 the requirements of the funding are specified. In no. 1 is said that the requirements to get funding following §2 is that the project a) is urgently necessary to improve transport conditions ... c) is considering the principle of economic efficiency ... d) meets the demand of barrier free access²²⁴ (BMJV, 2011).

The LVB announced that they have the interest of a separate tram track so that the local situation of the tram could be improved, but that is not the only reason. The other one is funding as Pol. Party 5 explained: ‘At this point you can see the dilemma of Leipzig. In case of the Karli they want to use subsidies of the national and federal level – so to optimise the redevelopment and also the funding of such a street project. And that leads to the point where they [the planners] have to follow the requirements of the funding

²²³ §2 Abs. 1 Die Länder können folgende Vorhaben durch Zuwendungen aus den Finanzhilfen fördern: 2. Bau oder Ausbau von Verkehrswegen der a) Straßenbahnen, ... soweit sie dem öffentlichen Personennahverkehr dienen, und auf besonderem Bahnkörper geführt werden.

²²⁴ §3 Voraussetzungen für die Förderung nach §2 ist, dass 1. das Vorhaben a) ... zur Verbesserung der Verkehrsverhältnisse dringend erforderlich ist ... c) ... unter Beachtung des Grundsatzes der Wirtschaftlichkeit und Sparsamkeit geplant ist, d) ... den Anforderungen der Barrierefreiheit möglichst weitreichend entspricht.

providers ... a variation from those requirements leads to the point that the tram track is not eligible.²²⁵ He went on to say: ‘This case shows the problems of a city of the size of Leipzig with this level of debts. There is hardly any possibility to say where to invest without looking simultaneously at funding in order to optimise funding and reduce the own financial input.’²²⁶ In Germany the building of tram tracks receives funding only when the track is separated from other road infrastructure. As Leipzig and the LVB are depended on funding, they have to plan as many tram tracks as possible in a separated way. However, that does not always fit to the local circumstances as the discussion of the Karli has shown. Transport 4 and Pol. Party 3 gave some reasons:

- ‘The LVB aims for a separate tram track ... then the great pavements get narrower ... so in the end it is an urban deterioration, because they implicitly want subsidies or because they really want subsidies they accept the urban deterioration.’²²⁷ (Transport 4)
- ‘We know exactly: if we have a separate tram track then it will be difficult in some parts to cross the road – what [now] gives the boulevard character. [But if we do not have the separate tram track] then the subsidies provider says we get no money.’²²⁸ (Pol. Party 3)

Stakeholder 1 indicated where the cause of it is: ‘In Berlin [i.e. the German government] they believed that it is a good way to tell the municipalities how to speed up public transport, what means to have a separate tram track so that cars cannot hinder trams any more. However, that leads to unfavourable street designs. Those rigid regulations are wrong, it is better to find solutions that fit the local circumstances.’²²⁹ The case of the separate tram track shows again how strict funding guidelines can be and how local

²²⁵ „An dem Punkt kann man auch ein Dilemma unserer Stadt erkennen, da im Fall der Karli versucht wird, durch Inanspruchnahme von vielfältigen Fördermittelmaßnahmen auf Bundesebene, auf Landesebene, im Prinzip die Finanzierung des Ausbaus einer solchen Trasse und der Umgestaltung einer Straße zu optimieren. Und das führt natürlich dazu, dass man sich dann an die Vorschriften, die die Fördermittelgeber aufstellen, halten muss ... und ein Abweichen von den Vorgaben der Fördermittelgeber dann eben dazu führt, dass sie nicht mehr als Stadtbahntrasse förderfähig ist.“ – Pol. Party 5

²²⁶ „Der Fall zeigt, welche Probleme eine Stadt der Größe wie Leipzig hat, mit dem Verschuldungsstand. Es gibt kaum eigene Spielräume um zu sagen, wir investieren hier oder wir investieren dort ohne zugleich auch auf Fördermittel zu schauen, um die Finanzierung eben zu optimieren und den eigenen Mitteleinsatz so gering wie möglich zu halten.“ – Pol. Party 5

²²⁷ „Die LVB wollen dort einen separaten Gleiskörper ... dann werden diese schönen breiten Gehwege erheblich schmaler ... also insgesamt stellt es eine städtebauliche Verschlechterung dar, weil man unbedingt Fördermittel haben möchte, nimmt man eine städtebauliche Verschlechterung in Kauf.“ – Transport 4

²²⁸ „Wir wissen genau, wenn wir dort einen separaten Gleiskörper haben, dann wird es an manchen Stellen schwierig, die Straße zu überqueren, das ist ja dieser Boulevardcharakter. Da sagt aber dann der Fördermittelgeber: nein, wenn ihr es so ausbaut, gibt es kein Geld.“ – Pol. Party 3

²²⁹ „Man hat auch mal geglaubt, in Berlin entscheiden zu können und den Kommunen vorzuschreiben, wie man am besten den öffentlichen Nahverkehr beschleunigt, in dem alle Straßenbahnkörper separat zu führen sind, damit der Autoverkehr den Straßenbahnverkehr nicht behindert. Aber das führt zu negativ gestalteten Straßenräumen. Diese starren Regeln sind falsch, weil es vor Ort viel besser entschieden werden kann.“ – Stakeholder 1

planners act in order to get funding. Cities like Leipzig are depending on extra money and therefore plans are developed in a way that they fit to the criteria. The final compromise of the Karli did not have a separate tram track everywhere as planners, the LVB and stakeholders agreed that other modes should have priority in certain areas, especially pedestrians. A solution of the funding problem could be that the funding providers change their framework and allow different solutions in cases where the special urban character and other modes of transport are as important as a functioning public transport.

7.3.4 Conclusion of the Karli-project

Although the overall response to the development process was rather positive, there is no guarantee for next projects that local planners will pursue such an effort again. The Karli was a special case and people were reacting on special circumstances. Future projects could only work, when affected people try to get integrated into the process from the beginning. Some interviewees expressed that the project had been good for learning. Whether the character of the Karli could be kept can be observed when the project is finished.

From the beginning the restructuring of the Karli was accompanied by emotions of local residents and stakeholders. The high level of attention could be one reason why local planners decided to have a wider participation process than in other comparable projects. Nevertheless, a real change of the usual approach was initiated by the LVB who claimed to be involved in the project right from the start and who also requested public participation. The cooperation of local planners and the LVB in a project group can be described as high stakeholder integration.

Some interviewees regarded that as biased integration as other transport groups were not involved from the beginning. However, in case of a street development project the arguments for an early participation of all stakeholders needs to be weighted carefully as the project needs to remain practicable and fundable.

The project group aimed to have discussion possibilities after the draft had been finished. Due to the high interest of other stakeholders and the citizens they agreed on the foundation of the advisory board and introduced more events and also events with more specific topics. Especially the advisory boards could secure that all groups who

have a special interest in the restructuring also have a voice. The way the participation went, a compromise could be found that most people could agree on. This process already took a long time. Whether more intense discussions in working groups would have led to a compromise with higher acceptance cannot be said. So, in the end stakeholder integration achieved a high level.

One point that came out of the analysis was the topic of eco-mobility. It is often articulated by the local transport planners that they support eco-mobility. However, the project of the Karli has shown that the three modes are not seen as a unit. It seemed that there was hardly any discussion about bicycle paths. Possibly everyone agreed that cyclists need their own path. On the contrary there was an intense discussion about the tram track and the width of pavements. It appeared that one could only be developed on the expense of the other. When it comes to a higher consideration of environmental objectives the modes of eco-mobility should not compete with each other. There should rather be a development of them as a unit in order to achieve a modal shift with less car use. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 7.3.

Indicators/Questions	Restructuring of Karl-Liebkecht-Street
Timeframe	
When did the integration of environmental issues start?	Sometime in the process (except the issues related to public transport, those started right at the beginning, but all others during the process)
When did the integration of other planning departments start?	Sometime in the middle of the process, when it became relevant
When did the integration of stakeholders start?	Sometime in the middle of the process, when it became relevant (except the LVB they were involved right from the start)
Environmental objectives	
To what extent were environmental objectives discussed in the process?	There was a significant discussion at certain times of the process
To what extent were environmental objectives integrated in the policy?	There is a section where environmental objectives and the topic are brought together
Department/stakeholder integration	
To what extent were other departments/stakeholders integrated?	One stakeholder was involved all the time AND some departments/ a variety of stakeholders was involved at a certain time of the process
How was the integration of other departments/stakeholders organised?	Different events and formats were offered to get locally affected and interested people involved, like information events, an interest advisory board, a project group and a coordination group
Communication	
What forms of communication were used?	Traditional forms of communication were used, like newspapers, the official journal and the city's web page
How many people were reached by the announcements?	Mainly those who new already about the project/process or those interested in the topic in general (mainly from the area around the Karli)
Was there a possibility for non-planners to get heard?	Opinions could be announced and discussed to a certain extent
Level of EPI	o
Level of DI	o
Level of SI	o

Table 7. 2: Indicators & levels of integration for the analysed project 'Karli' (0: no integration, -: low, o: medium, +: high integration)

7.4 Project bicycle racks

7.4.1 Introduction

This section deals with a cycling related project, the building of bicycle racks. With this project the local transport planners developed a possibility to construct bicycle racks funded by non-public investors in public space. The aim of the planners was to increase the number of bicycle racks especially where house owners, retailers or other stakeholders identified a need. Therefore, this special support was set up. First the situation of bicycle racks in Leipzig is investigated, followed by the analysis of the project with view to integration processes.

7.4.2 Current situation of bicycle racks in Leipzig

According to the bicycle commissioner Leipzig had 3250 bicycle racks in 2012. 650 of them were funded by non-public investors (Stadt Leipzig, 2012c). On the bicycle website of Leipzig is written that there are more than 1000 bicycle racks in the city centre. Additionally two bicycle garages were built underneath the new university buildings with space for 600 and 1100 bicycles (Stadt Leipzig, 2014b).

Nevertheless, Pol. Party 3 and Transport 4 expressed that there is a lack of bicycle racks:

- "There are now bicycle racks, but there are also some missing and there are always suggestions out of experience where things can be improved ... where bicycles can be parked."²³⁰ (Pol. Party 3)
- "There is a shortage of bicycle racks everywhere ... next to the city centre the situation is quite comfortable ... there are more than 1000 ... but the further away you go away the less you find possibilities to park a bike."²³¹ (Transport 4)

Although the local planners have improved the situation significantly in the last years in the city centre, they did not improve the situation in Leipzig generally. Here the introduction of a working group process following the example of Mach's leiser could be helpful, to find areas in the city where the shortage of bicycle racks is apparent.

²³⁰ „Da sind jetzt Fahrradbügel, aber da fehlen welche zum Beispiel und es gibt immer wieder den Hinweis aus Erfahrungen heraus, wo man noch etwas verbessern kann, wo noch Fahrräder abgestellt werden könnten.“ – Pol. Party 3

²³¹ „Es mangelt überall an Fahrradbügel ... in Zentrumsnähe ist die Situation noch relativ komfortabel ... es gibt schon weit über 1000 Bügel ... aber je weiter man weg kommt, desto weniger finden wir überhaupt Angebote zum Fahrradparken.“ – Transport 4

Planner 5 indicated a different possibility that could at least in the city centre improve the situation further, but would require help from private investors: ‘We focus at the moment on bicycle racks in public space, but multi-storey bicycle parks are not a topic at the moment. That is a necessary discussion, where we need partners, but areas in the city centre are expensive and outside the city centre it possibly makes no sense. So, that is rather a private topic.’²³² His response shows how dependent planners are in those cases on private funding. Nevertheless, a multi-storey bicycle park is a big investment whereas the building of bicycle racks requires relatively small funding.

Since 1990 the proportion of cycling in Leipzig has tripled (Stadt Leipzig, 2012b). This growing number of bicycles also requires more bicycle racks. Local planners invested in the last years to increase the number at least in the city centre. Furthermore, developments that were supposed to lead to a high number of cyclists like the new university building had to create additional parking capacities for bicycles. However, there is still a lack of racks especially in residential areas and next to facilities outside the city centre. Nevertheless, the way parking issues for cyclists are considered shows a medium level of environmental integration in general.

7.4.3 The bicycle racks project for non-public investors

The local transport planners developed a project to get more bicycle racks in Leipzig. The idea was to get private investors to fund those racks in public spaces. The aims and the procedure of this project are presented in a flyer that is available in paper form and online (Stadt Leipzig, 2012a). In the flyer the local planners describe that cycling has a growing popularity in Leipzig and that they expect a continuing growth of cyclists. They estimate that by 2020 the proportion of cycling would rise to 20% and the ownership of bicycles would increase to 470 000. Therefore they conclude that more bicycle racks are necessary. On the back of the flyer they describe the procedure. The costs in 2013 are 160€ per bicycle rack (Stadt Leipzig, 2012a).

In the Bicycle Transport Development Plan the project is mentioned, but no further information is provided. It is only stated that private interested stakeholders can apply

²³² „Wir konzentrieren uns im Moment darauf, Stellplätze im öffentlichen Raum für den Radverkehr vorzusehen und Fahrradparkhäuser verfolgen wir im Moment noch nicht. Das ist eine Diskussion, die ich mal anregen wollte, da auch Partner zu finden, aber das ist auch eine Sache. Quadratmeter in der Innenstadt sind teuer und ein Fahrradparkhaus außerhalb der Innenstadt wird wahrscheinlich nicht wirklich etwas nutzen. Das ist eher ein privates Thema.“ – Planner 5

for these bicycle racks (Stadt Leipzig, 2012b). The ADFC gives information who can apply for bicycle racks in public space and about the costs and they also provide a link to the website of the city where the application form can be downloaded (ADFC Leipzig, 2014). So, the bicycle lobby group does support the project. Maybe local planners should consider a cooperating with the bicycle lobby to raise the awareness of the scheme to the public. This could also work with the integration of other stakeholders like the CCI and the LWB or other planning departments. Examples of privately financed bicycle racks are shown on Figures 7.11 to 7.13.



Figure 7. 9: Bicycle racks in public space (Markgrafenstreet) initiated by the travel agency



Figure 7. 10: Bicycle racks in public space (Markgrafenstreet) initiated by the companies that use the mobility point, for example LVB, DB, next bike, Stadtwerke²³³ Leipzig

²³³ *Municipal utilities*



Figure 7. 11: Bicycle racks in public space initiated by house owners (Stadt Leipzig, 2012a)

Planner 5 explained the procedure and the advantages from his point of view: “There is the possibility that private house owners can apply for bicycle racks being built in front of their house on public ground. It costs 160€, we build it and we also maintain it. And in case something happens to it, we also replace it. So, it is a one-time investment.”²³⁴ In his argumentation the investor has only the issue with paying all other issues are solved by the planners, even if they come up later.

Transport 4 seemed not entirely satisfied with the implementation of the project and complained that the applications are not always accepted: “There is often the argument against bicycle racks because of parking pressure [for cars], which is absurd as there is rather parking pressure for bicycles. That is why people apply for bicycle racks ... that provides an insight how planners still think ... as for many, park pressure is only related to cars, but that the parking pressure for bicycles is higher ... but it plays a minor role.”²³⁵ His response mainly relates to parking problems in Gründerzeit-quarters, a case that is analysed in more detail in the next section. Planner 5 had a different view on this than Transport 4 as he expressed his intention directly to those quarters: “I expected more [applications], especially in the Gründerzeit-quarters, that a landlord offers to

²³⁴ „Ansonsten haben wir die Möglichkeit, dass private Hauseigentümer, wenn sie vor ihrem Haus im öffentlichen Raum Fahrradbügel aufgestellt haben wollen, dass sie das bei uns beantragen können. Dann kostet der Bügel 160€, wird von uns hingestellt und auch gewartet. Und wenn dann mal was dran kommt, dann wird der auch wieder ersetzt. Also es ist eine einmalige Investition.“ – Planner 5

²³⁵ „Ein Argument dagegen, zum Beispiel auf der Fabrbahn, ist Parkdruck, was vollkommen absurd ist, da der Parkdruck eher für das Fahrrad da ist, weshalb die Leute ja Fahrradbügel bei der Stadt beantragen ... Daran merkt man, welche Denkprozesse da noch bei den Planern ablaufen. Also Parkdruck bedeutet für viele in der Stadtverwaltung nur, für das Kfz. Dass der Parkdruck für die Räder wesentlich höher ist und das auch ist, was sie fördern wollen, das spielt dabei dann eine untergeordnete Rolle.“ – Transport 4

build some in front of the house in case other space in the house is not sufficient.²³⁶ It seems that the project is not promoted enough or that the value of it is not seen by private investors so far. Although the ADFC support and promote the project and it is included in various planning policies of the city, it is no big success so far, as Planner 5 concluded: ‘We had had expected a different reaction. One argument that I did not expect is that it costs money. It always costs money. Another request was whether adverts can be put on the bicycle racks. But we said no, we do not want that, but we want a new offer for customers who come by bicycle.’²³⁷

It seems that so far not many house owners and facility operators could be convinced that an investment in bicycle parking could increase their attractiveness for cyclists. So far it appears that especially shop owners use the wish for advertising as a precondition for investment. Other potential applicants argued that it costs money and would possibly aim for funding of local planners. However, the financial situation of Leipzig makes it difficult to build bicycle racks next to every apartment house, especially when those houses are owned by private people or companies.

7.4.4 Conclusion of the bicycle racks project

In general it is difficult to have private investments in public space. These two legal forms are separated. The bicycle racks project of the planners aim to reduce those difficulties and to make it easier for people who see a necessity of bicycle racks to get them built. The project indicates that the local transport planners had an interest to support a green mode of transport so the level of EPI is high.

The biggest problem of the project appears to be the limited interest. Additionally, people who know the project request advertising possibilities or they do not see the necessity of non-public funding. A possibility to solve the latter two problems could be a discussion with other departments and stakeholders to find out what ways there are to attract potential investors and whether there are possibilities to make the project more attractive for facility operators especially shop owners. In this process with other

²³⁶ „Ich habe auch mehr Resonanz erwartet, also in den Gründerzeitquartieren. Das unter Umständen auch ein Vermieter, wenn er merkt, er kriegt das nicht mehr im Hausflur unter, sagt, ich stell mir ein paar Bügel vor die Tür.“ – Planner 5

²³⁷ „Wir haben deutlich andere Reaktionen erwartet. Ein Argument, mit dem ich nicht gerechnet habe, ist, dass es Geld kostet. Aber das kann es nicht sein, weil es immer Geld kostet. Eine Anfrage war auch: kann man da Werbung dran machen? Da haben wir nein gesagt, wir wollen die Stadt nicht verunstalten, wir wollen ein neues Angebot für Fahrradkunden.“ – Planner 5

departments and stakeholders also possibilities could be discussed to raise the awareness and interest in the city. So far the level of DI and SI are low, as the main work is done by the transport planners with hardly any integration of other departments and stakeholders. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 7.4.

Indicators/Questions	Project bicycle racks
Timeframe	
When did the integration of environmental issues start?	Right at the start
When did the integration of other planning departments start?	Towards the end
When did the integration of stakeholders start?	Towards the end
Environmental objectives	
To what extent were environmental objectives discussed in the process?	Environmental objectives were discussed at every stage of the process
To what extent were environmental objectives integrated in the policy?	Environmental objectives are integrated everywhere in the project
Department/stakeholder integration	
To what extent were other departments/stakeholders integrated?	There was only some involvement of other departments and stakeholder
How was the integration of other departments/stakeholders organised?	Short meetings/correspondence
Communication	
What forms of communication were used?	Only some information announced, e.g. on the website – at the end a flyer was published, the project is also presented on the website of the ADFC
How many people were reached by the announcements?	Only people linked to the process and project were reached
Was there a possibility for non-planners to get heard?	Hardly any possibility (lack of information)
Level of EPI	+
Level of DI	-
Level of SI	-

Table 7. 3: Indicators & levels of integration for the analysed project bicycle racks (0: no integration, -: low, o: medium, +: high integration)

7.5 Parking problem

7.5.1 Introduction

This section deals with a problem that was mentioned in section 7.4. In some residential areas of Leipzig there is a high demand for car parking. That leads to parking in areas where it is not allowed, for example parking on pavements or in curves. The topic is highly discussed in Leipzig, on one side by people who ask for more parking spaces and on the other side by people who ask for more restrictions for car users and more consideration of pedestrians and cyclists. However, in some cases the local planners have no possibilities to restrict parking spaces as there is a legal framework set by the federal government.

7.5.2 Legal framework for parking in Saxony

The highest law for transport related issues in Germany is the Traffic Regulations (StVO). §12 deals with the standing and parking regulations²³⁸. In paragraph 3 is written that parking is not allowed 1. before and after crossroads for 5m²³⁹. Following §12 paragraph 4a in cases where it is allowed to park on pavements it has to be the right one, only in one-way roads it is allowed to park on either the right or left side²⁴⁰. Parking on pavements is only allowed with requisite signage as shown on Figure 7.14 (Verkehrsportal, 2014).



Figure 7. 12: Sign 315 parking on pavements (Kaube- Verkehrsfachseminare, 2013)

The requirements that have to be considered when parking spaces, garages and parking areas for bicycles are planned are set in §49 of the State Building Code of Saxony (SächsBO). 1. Parking spaces and garages in required volume have to be built on the

²³⁸ §12 Halten und Parken

²³⁹ §12 (3) Das Parken ist unzulässig 1. vor und hinter Kreuzungen und Einmündungen bis zu je 5 m

²⁴⁰ §12 (4a) Ist das Parken auf dem Gehweg erlaubt, ist hierzu nur der rechte Gehweg, in Einbahnstraßen der rechte oder linke Gehweg, zu benutzen.

property or in reasonable distance ... Parking areas for bicycles are required for apartment buildings with more than six flats. The number ... of necessary parking spaces has to be calculated considering security ... of traffic ...²⁴¹ 2. In case the required volume of parking spaces cannot be realised adequately the municipality can decide whether and how much money the obligated builder... can pay instead (parking space transfer money)²⁴² (SMI, 2014). In the Administrative Regulation on the State Building Code a table is added, see Table 7.5, that provides the required minimum amount of parking spaces for cars and bicycle racks for developments (SMI, 2012). More technical requirements are described in the Saxon Regulation for Garages and Parking Spaces (SächsGarStellplVO) (SMI, 2011).

Traffic source	Amount of parking spaces for cars	Amount of bicycle racks
Single family and apartment houses	1-2 per flat	1-2 per flat
Office buildings	1 per 30-40m ²	1 per 40-80m ²
Buildings with many visitors, e.g. doctors	1 per 20-30m ²	1 per 30-60m ²
Shops	1 per 30-40m ² , at least 2	1 per 60-80m ² , at least 2
Large scale shopping facilities outside centres	1 per 10-20m ²	1 per 150m ²
Restaurants	1 per 6-12 seats	1 per 8-12 seats

Table 7. 4: Abridgement of the guiding value table for parking spaces and bicycle racks of the administrative regulation on the state building code (SMI, 2012)

In sum, legal framework provides detailed information about the modalities and the amount of parking spaces. Figure 7.15 shows the relation of parking spaces for cars to bicycle racks next to a local shopping centre. The way the legal framework is designed at the moment does not make it possible to create houses without parking spaces for cars, even if the investor or developer would have the intention to create a car-free development. So, the level of EPI of this legal framework is low.

²⁴¹ (1) Für Anlagen ... sind Stellplätze und Garagen in dem erforderlichen Umfang auf dem Baugrundstück oder in zumutbarer Entfernung davon ... herzustellen ... Abstellmöglichkeiten für Fahrräder sind für Wohngebäude mit mehr als sechs Wohneinheiten zu schaffen ... Die Zahl ... der notwendigen Stellplätze ... ist zu bestimmen unter Berücksichtigung der Sicherheit ... des Verkehrs ...

²⁴² Ist die Herstellung der notwendigen Stellplätze aus tatsächlichen Gründen nicht ... möglich, so kann die Gemeinde ... bestimmen, ob und in welcher Höhe ... der zur Herstellung Verpflichtete ... einen Geldbetrag zu zahlen hat (Stellplatzablöse).



Figure 7. 13: Photo of the parking area of the Paunsdorf Centre in the east of Leipzig. The photo was made from a multi-storey car park. In the background of the photo a second multi-storey car park can be seen. The arrow indicates where bicycles can be parked.

7.5.3 Parking problems in Gründerzeit-quarters - the example of Schleußig

Gründerzeit-quarters are areas that were built between 1835/40 and the First World War. Those extensions of urban areas were usually realised in form of apartment houses with an average of five storeys. They were often arranged around a courtyard (see Figure 7.16) (Heineberg, 2000). Leipzig was facing moderate destruction during the Second World War and has retained a significant number of these quarters (Bode, 2005).

The biggest transport related spatial problem in these quarters is parking. When the quarters were built, the private car was not yet intended. Instead the city had a very dense tram network (Julke, 2013c). The streets have wide pavements as walking played a prominent role. Since the early 1990s the mobility behaviour of people changed and more and more households own a car with a growing numbers also owning two cars. Additionally, many Gründerzeit-quarters have experienced considerable gentrification with a conversion of houses into flats to accommodate more households. Since there are increasingly more cars that need to be parked, car owners are step by step taking over public space. As the streets do not provide enough space cars are also parked on pavements encroaching on pedestrian mobility (Verkehrs- und Tiefbauamt, 2009).

These problems can be observed in all Gründerzeit-quarters of Leipzig with little vacancies (Verkehrs- und Tiefbauamt, 2009).

The district Schleußig was chosen for this analysis as one example how the situation is handled. It is one of the districts where the problem is hotly debated. Schleußig is situated about two km southwest of the city centre. An aerial view of a part of it is shown on Figure 7.16. Schleußig has 12463 inhabitants and nearly 3900 private cars. That is nearly 319 cars per 1000 inhabitants. The average in Leipzig is 345 cars (Julke, 2013c, Stadt Leipzig, 2013c). The local planners describe the district as being restored to a good level, good address, few parking spaces on streets, wide pavements, many trees, good public transport connection, and a higher number of car-sharing users. Problems are illegally parked cars and unordered parking of bicycles (Stadt Leipzig, 2009d). The situation and discussions will be explained in chronological order.



Figure 7. 14: Aerial view on parts of Schleußig with its narrow roads and many trees (Microsoft, 2014a)

7.5.3.1 Public participation & research projects dealing with the parking problem

In order to find a solution for this problem a public participation process started in 2007 involving the citizens association of Schleußig, the LVB, TeilAuto, and students of the HTWK (Stadt Leipzig, 2013b). Students were to analyse the parking situation of a

part of Schleußig and to find alternative street designs to increase the number of parking spaces. The results indicated that the number of parking spaces could be increased but only with significant financial investment and incurring the loss of trees and pavement width (HTWK Leipzig, 2007). Local planners countered that this would lead to a totally new street design and that they would not consider those ideas as they would lead for example to less security and would also be very expensive (Verkehrs- und Tiefbauamt, 2009).

In 2008 the L-IZ announced that an opinion survey would be conducted in Schleußig (Redaktion, 2008) to find out how residents think about the parking problem in their district and what solutions they would suggest (Harms et al., 2009). About 4000 questionnaires were distributed in the area. 1082 were sent back. Additionally, the researchers tested with ten voluntary households alternative mobility solutions and the parking outside of the district (Harms et al., 2009). This questionnaire was not conducted by local planners, but they used the results after they were published. So, it is not a direct form of stakeholder integration, but still shows how the local opinion could be ascertained.

The report found that most residents do not want that parking on pavements is punished (p. 19). They would rather endorse the use of empty brownfield sites for parking, but did not want green spaces to be transformed into parking spaces. Most residents are against cutting down trees to get space for parking (p. 20). The residents would accept an average of five minutes to get to a parking space (p. 29). At the time of the investigation nearly three quarters of the households did not pay anything for parking. Asked how much they would pay 19% said 'nothing', 48% said up to 20€ per month, 23% up to 40€, and 11% would accept higher costs (p. 31) (Harms et al., 2008). The rather theoretical considerations of the students of the HTWK revealed that more parking spaces for cars could be created but it would require high investment and complete change of the street design. The study of the Ufz showed that the majority of residents do not want a change of the street design. Furthermore, the majority of residents would also pay for a parking space. The project with the households revealed that under certain circumstances people would not need a car parked close to their house. In terms of the level of EPI this research reveals that private mobility concerns are rated very high. So, a change of mobility behaviour or at least the sale of the own car seems to be no possibility for residents.

Local planners argue that it is not their task to create enough parking spaces, this is the task of property owners and car owners respectively (Verkehrs- und Tiefbauamt, 2009). Nevertheless, planners announced that they also have an interest to change the situation in Schleußig. In 2007 their aim had been to introduce more strictly monitoring by the office of public order, but intense reactions from the public and a collection of signatures resulted in less intense monitoring. So, in order to find a solution for the parking problem the local planners met ten times with the local citizen association for discussions. Local planners in these meetings came from the transport planning department, the department for urban planning and the office of public order. Some of the meetings were also open for the public (Verkehrs- und Tiefbauamt, 2009). So, in order to find a solution they did not make a decision internally, they discussed the issue with local stakeholders and other departments and occasionally citizens. The level of departmental and stakeholder integration at this stage is medium.

Transport planners analysed local parking fees and provided some more information about the costs of parking. In 2009 the rent for a private parking space in the area was between 70 and 90€. A new multi-storey car park would have costs of 120€ per space and month. The planners remarked that they would support ideas, but the initiatives for changes needs to come from the residents (Verkehrs- und Tiefbauamt, 2009). So, the planners provide information and make suggestions, but provided the possibility for residents to vote for a decision, which suggests a high level of stakeholder integration.

Some months later the L-IZ wrote an article about the topic, where they refer to the study of the Ufz. In the article it is concluded that only multi-storey car parks could solve the problem, but that the city does not have the money to build them and therefore private investors would be necessary. The reporter asked the rhetoric question 'who would pay for a parking space when parking on the street is for free'. He went on to explain that the district is well connected to the city centre so a change to other modes of transport would not be that problematic (Julke, 2009). This article reveals the dilemma that the study of the Ufz and the information of the local planners had already indicated. The study had found that most residents would pay for parking, but only 11% said more than 40€. However, the costs that were presented by planners were clearly higher, 70-120€. That could mean that even in the case of a multi-storey car park, people would possibly not use it, especially when parking is still for free on the street. So, one option could be to increase fines for parking offenders and to hope that some

residents would then use the car park or to find a way to convince residents that eco-mobility would be a better choice. The latter one is the bigger challenge, but would increase the level of environmentally friendly modes of mobility.

In March 2009 a public workshop took place with the aim to discuss the suggestions with local residents (Stadt Leipzig, 2013c). At the beginning the suggestions were presented by the planners. Subsequently general aims related to parking in Schleußig were formulated by all participants. Those aims were used as a framework for the following discussion of problems and solutions in working groups. At the end of the day the results were discussed again by all participants. In the outcome of the day was formulated that the district needs a mix of solutions. A closer look on the list of measures reveals that the participants aimed for better conditions for eco-mobility and for parking (Stadt Leipzig, 2013c). This public workshop is an example for high stakeholder integration. Local planners discussed intensely local problems and allowed residents to get involved.

The research projects, the analysis of the local transport planners and the discussions with other departments, stakeholders and residents can be seen as a comprehensive examination of the topic while considering local circumstances. This leads to high levels of departmental and stakeholder integration as the transport planners also use new forms of getting information and of participation. However, the focus is still too much on finding solutions for car owners than on discussing alternative ways of moving, so environmental topics play only a medium role.

7.5.3.2 Obstacles for higher consideration of environmental concerns

The fact that it seems possible to park a car almost everywhere in Schleußig (examples are shown on Figure 7.17 and 7.18) and the weak attempt of the administration of Leipzig to support modes of eco-mobility, especially pedestrians, does not support environmentally friendly mobility. The local planners had explained their aims to increase monitoring in the area, but did not realise it as they had too many protests (Verkehrs- und Tiefbauamt, 2009). This way of dealing with the problem was heavily criticised by various interviewees:

- ‘Then we unfortunately have an office for public order that is not working ... they only do something in areas where they definitely can hand out parking violation tickets, but they do not deal with the rest.’²⁴³ (Transport 1)
- ‘In Schleußig parking on the pavement is officially tolerated ... they [the monitoring team] possibly want peace with the people in Schleußig ... but parking a bike is not allowed on the pavements although the bicycle is the only means of transportation that is allowed to be parked on the pavement.’²⁴⁴ (Transport 4)
- ‘There are some districts where parking is a real problem or is exposed as a problem by residents who have two cars and cannot park it on the street [due to a lack of space] ... they refer to an unwritten law that parking is allowed on pavements ... arguing that the car has to be parked on the pavements and that it is allowed as there is an agreement with the office for public order ... but that is a distortion of facts. They formulate a legitimate claim out of a regulatory offence.’²⁴⁵ (Transport 3)

The general opinion is: if something is not legal then there have to be restrictions. In this case the local administration could easily support environmentally friendly modes of transport if they were strict with parking offenders and they would also announce a high interest in those modes.

²⁴³ „Dann haben wir bedauerlicherweise ein nicht funktionierendes Ordnungsamt ... die unternehmen nur etwas an Stellen, wo sie mit Sicherheit Knöllchen verteilen können, aber kümmern sich nicht um den Rest.“ – Transport 1

²⁴⁴ „In Schleußig wird offiziell das Parken auf Gehwegen geduldet ... man möchte hier wahrscheinlich Frieden mit den Menschen in Schleußig halten, weshalb dann sogar das Fahrradparken auf dem Gehweg nicht erlaubt wird, obwohl das Fahrrad ja das einzige Verkehrsmittel ist, was dort parken darf.“ – Transport 4

²⁴⁵ „Es gibt hier ein paar Ortsteile, wo das Parken ziemlich problematisch ist oder problematisiert wird, von den Anwohnern, die zwei Autos haben und die nicht auf der Straße abgestellt kriegen ... die beziehen sich auf das ungeschriebene Gesetz, dass praktisch Gehwegparken berechtigt ist ... man muss eben das Auto auf dem Gehweg abstellen und man darf das ja auch, weil es ja die Übereinkunft mit dem Ordnungsamt gibt. So wird da formuliert und das ist ja wirklich eine Verdrehung von Tatsachen. Da wird aus einer Ordnungswidrigkeit ein Rechtsanspruch formuliert.“ – Transport 3



Figure 7. 15: Parking situation in Schleußig (Reiher, 2010)

In February 2013 the LVZ announced that the office of public order would increase the monitoring in Schleußig (Tappert, 2013a). This was criticised by the local citizens association (Tappert, 2013a) and by the FDP (Maf, 2013). The L-IZ stated that the advisory council of the district had made that decision to stop parking on pavements in March. The tacit agreement from 2008 to not punish parking offenders should no longer work (Julke, 2013a). Only a week later it was reported that for the present the monitoring would not be increased. As an explanation was said that the local planners aimed for a more accepted solution (Jr, 2013). So, in May 2013 parking on pavements was still tolerated (Julke, 2013b).



Figure 7. 16: Parking situation in Schleußig (Borriss, 2012)

In early 2013, the LVZ presented the suggestions of citizens on how the situation could be changed which were submitted as part of the public competition linked to the new Transport Plan (see chapter 5.3). Suggestions included that Schleußig could be a model area for car-sharing or that the amount of official parking spaces should be reduced step by step and at the same time public transport be promoted and the conditions for cycling and car-sharing be improved. A third suggestion was to build more bicycle racks

especially at points where cars were used to drive on pavements. Finally, someone suggested building more multi-storey car parks and force people to use them (Tappert, 2013b).

All suggestions indicate that parking on the pavements is not accepted. Some citizens claimed a focus on modes of eco-mobility including car-sharing, whereas others asked for more parking spaces. The latter ones argued that more parking spaces would reduce the parking pressure. However, a reduced pressure could also lead to more cars in the area as parking would get easier and that would start the discussion again. It seems that the district needs a mix of projects as indicated by the citizens association of Schleußig. A higher focus on eco-mobility and a reduced number of cars could take off the parking pressure and give pavements back to pedestrians. This would pose a higher consideration of environmental concerns. As those suggestions also came from citizens and were discussed by local planners it is again a good example of stakeholder integration.

A summary of the situation and future projects were presented in the official journal of Leipzig in September 2013 (Stadt Leipzig, 2013b). New off-limit areas would be created on the roads with bicycle racks to stop illegal driving (examples are shown on Figure 7.19). Parking offenders would get two weeks with warnings and then punishment would start (Stadt Leipzig, 2013b). The decision to take action against parking on pavements was confirmed again in November 2013 by the building mayor of Leipzig. He said the parking did hamper pedestrians and that is not acceptable to the local authority (Vehn, 2013). In January 2014 the public was informed via the official journal of Leipzig that the monitoring was working fully. They also provided information about the costs for parking offenders: parking on pavements cost 20€ and with hampering pedestrians 30€ (Stadt Leipzig, 2014e, Verband für bürgernahe Verkehrspolitik e.V., 2014).



Figure 7. 17: Measures to stop parking in certain areas (Zeyen, 2013, Zeyen, 2014)

In the public competition related to the new Transport Plan someone made the suggestion to create so called “Gehwegnasen²⁴⁶” with bicycle racks on to get more safety for pedestrians. As parking offenders often block areas that are meant for pedestrians to cross roads safely those Gehwegnasen could prevent that and improve the situation (Stadt Leipzig, 2013a). If this could be realised two groups of eco-mobility could be supported with one measure on the expense of motorised transport, which is clearly in the interest of more environmentally friendly mobility. That this is not a theoretical consideration can be seen on Figure 7.19.

So, finally in 2013 and 2014 action was taken to reduce the parking problem in Schleußig. The used measures were a mix of solutions. The planners intended to build a car park and also created additional parking spaces with a restructuring of some roads. Furthermore, they increased the situation for cyclists as more bicycle racks were set up in the area. The measures and the higher degree of monitoring could possibly reduce the amount of cars parked on pavements and therefore improve the situation of pedestrians.

7.5.4 Conclusion of the problem “Parking on pavements”

The legal framework of Saxony defines, for example, the amount of parking spaces that have to be created for developments. In case of flats 1-2 spaces are required. Most of the Gründerzeit-quarters of Leipzig do not have the space next to the apartment houses that this amount of cars could be parked. So, in case residents could not find a close

²⁴⁶ *Literal translation: pavement nose*

parking space they also used pavements. This procedure was criticised especially by users of other modes of transport and environmental stakeholders.

In order to find a solution local planners first initiated several public events and later a one-day workshop. Additionally, they used findings of two research projects. As result a mix of measures was presented mostly ranging from creation of additional spaces and building of car parks to increasing the quality and use of eco-mobility, including car-sharing. All involved planners, stakeholders and residents agreed that pavements should be open only for pedestrians. However, sometimes it appears that there is a lack of consideration that walking is a mode of transport as well.

Residents were asked about parking fees and how much they would pay. The small amount of money that they would accept shows how much they take it for granted that they can park their car in public space. The best way in terms of environmental issues to solve the problem would be to reduce the amount of cars. However, that would require a modal shift towards eco-mobility. In the workshop the participants discussed how the parking situation should be changed. It might be useful to have another workshop of that kind and discuss the possibilities how to bring people to change their mobility behaviour.

In the end the problem is as yet unresolved, but it is still a good example on how departmental and stakeholder integration can work in problem solving. Both came to high levels in this case. The intention to find ways to park cars are still higher than supporting alternative modes of transports, and so the level of EPI is rated medium. At least all involved parties discussed topics related to environmental concerns all the time. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 7.6.

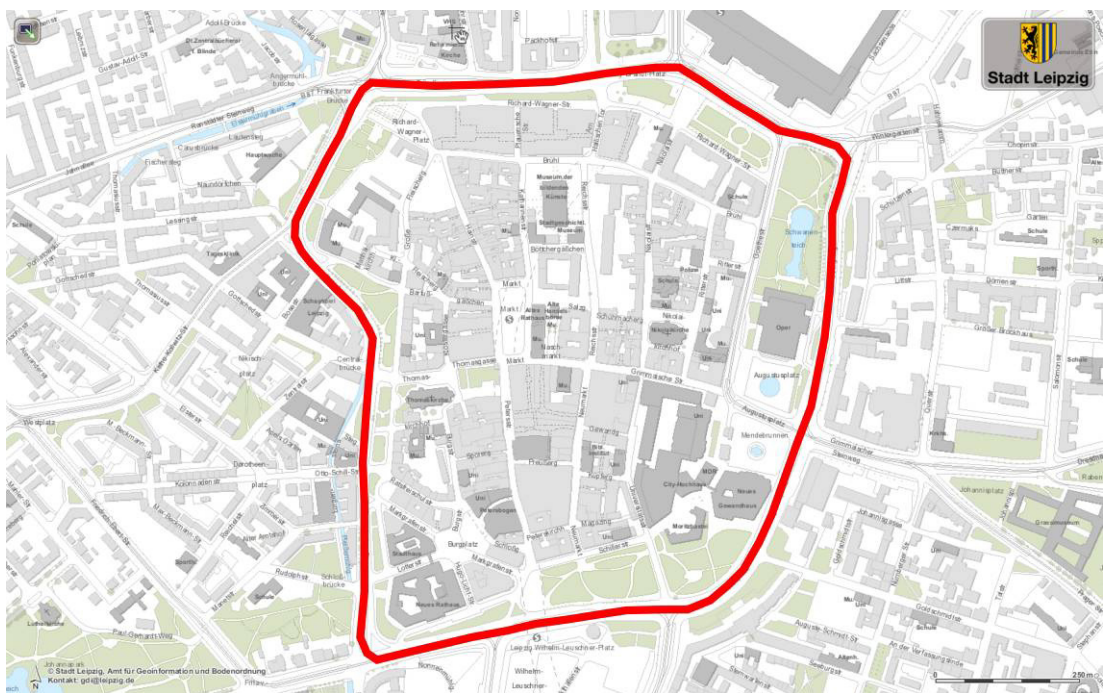
Indicators/Questions	Problem parking
Timeframe	
When did the integration of environmental issues start?	When other stakeholders claimed it/ sometime in the process
When did the integration of other planning departments start?	Sometime in the middle of the process, when it became relevant
When did the integration of stakeholders start?	Right at the start
Environmental objectives	
To what extent were environmental objectives discussed in the process?	There was a significant discussion at certain times of the process
To what extent were environmental objectives integrated in the policy?	There is a section where environmental objectives and the topic are brought together
Department/stakeholder integration	
To what extent were other departments/stakeholders integrated?	A big variety of departments/stakeholders was integrated all the time of the process
How was the integration of other departments/stakeholders organised?	Round table discussions, information events and discussions
Communication	
What forms of communication were used?	Traditional and new forms of communication were used, like traditional and new media, leaflets
How many people were reached by the announcements?	Theoretically everyone could read about the process and the problem
Was there a possibility for non-planners to get heard?	Everyone could bring in opinions and they were discussed
Level of EPI	o
Level of DI	+
Level of SI	+

Table 7. 5: Indicators & levels of integration for the analysed problem parking (0: no integration, -: low, o: medium, +: high integration)

7.6 Cycling on the “Ring”

7.6.1 Introduction

The final case of this chapter deals with the problem of cycling on the so-called “Ring”. The Ring is a main road and surrounds the city centre of Leipzig as can be seen on map 7.2. For many years a minimum speed of 40km/h was mandatory on the Ring, which theoretically excluded cycling as most people do not cycle so fast. A change of the related legal framework of Germany in 2005 overturned the speed minimum and consequently changed the situation for cyclists. However, until today it is not possible for cyclists to use the Ring despite various stakeholders trying to change the situation.



Map 7. 2: The so-called Ring around the city centre (map basis: Stadt Leipzig, 2014c)

7.6.2 Problem description and change of the legal framework

Until 2011 there were signs set up around the Ring that announced a minimum-speed of 40km/h. An example of this sign is shown on Figure 7.20. Those signs had to be taken down due a change of the legal framework of Germany. Shortly after, the local planners erected signs on the Ring that forbid cycling. An example of this sign is also shown on Figure 7.20.



Figure 7. 18: Following the StVO sign 275 sets a minimum speed (in this case of 40km/h) and sign 254 prohibits cycling (Brewes GmbH, 2014)

In the Administrative Regulation on Traffic Regulations the use of the sign 275 'legal minimum speed' is defined (BMVBS, 2009). In the version of 2005 is written: 2. ... on other streets not more than 30km/h should be requested. 3. The signs should not be used within built-up areas. 6. Before a minimum speed is set for a whole street it has to be considered that in any case entire modes of transport, e.g. cycling, ... are excluded (BMVBS, 2005)²⁴⁷. In the version of 2009 it is changed to 1. The sign is only allowed on certain lanes and never on the right one. 3. Within built-up areas the signs must not be used (BMVBS, 2009)²⁴⁸. So, the legal framework clearly says that the sign 275 is not allowed in cities anymore.

Pol. Party 1 explained the history of this case and efforts to change the situation: 'From the time of the GDR, Leipzig had the minimum speed limit signs, which meant basically the exclusion of cyclists on the Ring ... for at least 15 years there are efforts, especially by the lobby group for cyclists, to abolish this regulation, but Planners have always refused and said it is necessary and right [the old way] ... until someone threatened them with going to court ... there is an example of another city where a legal investigation turned out that the road traffic regulations define that cycling takes place on the road and can only be prohibited in special exceptional cases. Additionally, the order of minimum speeds within cities is only possible in some special cases.'²⁴⁹ So, the

²⁴⁷ 2. ... auf anderen Straßen nicht mehr als 30km/h verlangt werden. 3. Innerhalb geschlossener Ortschaften sollten die Zeichen nicht aufgestellt werden. 6. Bevor eine Mindestgeschwindigkeit für eine ganze Fahrbahn angeordnet wird, ist zu bedenken, dass damit in jedem Fall ganze Verkehrsarten (z.B. Radfahrer) ... abgedrängt werden.

²⁴⁸ 1. Das Zeichen darf nur fahrbahnenbezogen, niemals aber auf dem rechten von mehreren Fahrbahnen, angeordnet werden. 3. Innerhalb geschlossener Ortschaften dürfen die Zeichen nicht angeordnet werden.

²⁴⁹ „Leipzig hat noch aus DDR-Zeiten einen, zwar nicht rechtlichen, aber defakto Ausschuss des Radverkehrs auf dem Ring um die Innenstadt ... Seit mindestens 15 Jahren gibt es Bemühungen, vor allem Seitens des Fahrradclubs, diese

legal framework strengthens the rights of cyclists and therefore supports an environmentally friendly mode of transport.

7.6.3 The changing status of cycling on the Ring and search for alternatives

Following the change of the legal framework, local planners had to take down the speed minimum signs. Pol. Party 1 articulated what that would mean for cyclists: ‘Now cycling would be allowed.’²⁵⁰ However, at the same time as the old signs were taken down, new ones, now prohibiting cycling on the Ring, were put on (an example is shown on Figure 7.21) . Planner 5 talked about the reasons: ‘What happens at the Ring at the moment with the prohibition signs – we had to adjust the situation as the old one was not applicable anymore ... it has to be seen that the Ring does not offer attractive routes for cyclists so far, therefore at the moment it is the right decision [to prohibit it]. What the future brings will be discussed in the updating process of the Transport Plan [see chapter 5.3]. It is something that can be discussed.’²⁵¹ This quote shows that the planners only reacted on the change of the legal framework and did not intent to improve the situation for cyclists. This is generally questioned by Stakeholder 1: ‘The Cycling Plan of 2002 comprises a cycling ring ... it was claimed to possibly build cycle paths on both sides of the Ring [inner and outer side] to reduce the necessity of crossing it ... it was never realised ... for 10 years we talked about it as well as the lobby group for cyclists ... there is no way.’²⁵² So, although a development was included into a plan it was then not realised. The analysis of the transport planning situation in Leipzig in Chapter 5.3 had shown that there is a working group cycling and that cycling related topics are usually discussed intensely and regularly. However, the problem of the Rings seems to be excluded from those discussions.

Regelung aufzugeben. Da hat sich die Verwaltung immer verweigert, das wäre nicht notwendig und richtig so ... bis einer eine Klage angedroht hat ... da ist der Fall einer Klage in einer anderen Stadt, wo die Rechtsprechung ergeben hat, dass die StVO regelt, dass der Radverkehr auf der Straße stattfindet und der Ausschluss des Radverkehrs nur in besonderen Fällen möglich ist. Die Anordnung von Mindestgeschwindigkeiten innerhalb geschlossener Ortschaften ist fast unmöglich, nur in klar definierten Ausnahmefällen.“ – Pol. Party 1

²⁵⁰ „Das heißt, jeder Radfahrer kann jetzt die Fahrbahn benutzen.“ – Pol. Party 1

²⁵¹ „Was im Augenblick jetzt auf dem Ring passiert mit den Radverbotsschildern – es musste neu geregelt werden, da es die alte Regelung nicht mehr gibt ... Man muss das im Verhältnis sehen und wenn man überlegt, dass der Ring heute keine attraktive Führung für den Radverkehr darstellt, ist das zum heutigen Zeitpunkt sicherlich der richtige Schritt. Ob das die endgültige Perspektive des Umgangs mit dem Ring ist, werden wir letztlich in den Diskussionen mit der Fortschreibung des Verkehrskonzeptes erleben. Das ist eine Sache, die kann man diskutieren.“ – Planner 5

²⁵² „Im alten Radverkehrskonzept von 2002 ist ein sogenannter Fahrradstraßenring beinhaltet ... die Forderung um den Ring, möglichst auf beiden Seiten um ihn nicht queren zu müssen, Fahrradfahren zu ermöglichen ... damals eigentlich beschlossen worden aber nie umgesetzt ... wenn man das angesprochen hat, zehn Jahre lang, da hat sich auch die Lobby die Zähne dran ausgebissen, führte kein Weg rein.“ – Stakeholder 1



Figure 7. 19: Cyclists at the Augustusplatz with the sign that prohibits cycling on the Ring

Pol. Party 1 talked about the procedure: ‘[There are] internal discussions how to deal with it ... public discussions ... the transport planners need to find a solution that is internally accepted and then see what the citizens say ... and their first step now was to put prohibition signs up ... that will lead again to the point where people will try to find out whether that is legal ... it is an example how they deal with a problem internally.’²⁵³

In case of the parking problem local planners had published their internal findings and therefore had made the problem solving process more transparent. In this case here this seems not wanted or not seen as necessary. However, it could increase the understanding of why planners acted in that way. It could also increase the understanding of who is involved in those internal discussions and how the possibilities are that the internal discussion process is opened and stakeholders could participate as well.

Transport 4 and Stakeholder 1 brought in thoughts on how a reduced traffic on the Ring could lead to a reorganisation of it:

²⁵³ „Da gibt es auch innerhalb der Verwaltung eine heftige Diskussion, wie man damit umgeht ... auch eine öffentliche Debatte ... und dann muss die Fachverwaltung sehen, welche Lösung sozusagen durch die Verwaltung durch geht, mit der Gefahr, dass es seitens der Bürger wieder andere Reaktionen gibt ... es werden jetzt größtenteils auf dem Ring Fahrradverbotschilder aufgestellt. Was mit großer Wahrscheinlichkeit dazu führen wird, dass es Leute geben wird ... die überprüfen lassen, ob das rechtmäßig ist ... Das ist so eine Sache, die dann auf verwaltungsinterner Ebene abläuft.“ – Pol. Party 1

- 'It is always said: when the northern road is built then there will be less cars on the Ring and then there will be cycle paths ... but now this road is finished and there is one third less cars on the Ring and it has three lanes ... so the traffic should fit on two lanes.'²⁵⁴ (Transport 4)
- 'The Ring has space problems, but space could be taken from one lane and I assume that this was never checked [by local planners] ... if local planners had an interest they could do more ... Planners say: as long as traffic is not shrinking there is no space, but it is also a question of supply and possibilities ... there is the example of the Georg-Schuhmann-Street [see chapter 6.3.6] were it worked.'²⁵⁵ (Stakeholder 1)

Stakeholder 1 is referring to the example where the marking of a road was changed in order to find out whether it would still fit to the needs of all modes of transport without an expensive transformation. This possibility could also be considered in case of the Ring. If it does not work, the costs are not too high and it can be reversed easily. However, both quotes have shown that the planners made promises years ago that they would alter the situation, but now when it is possible they do not instigate changes.

An article in the L-IZ criticised how most political parties of the city council can ask for an integrated Transport Plan and a good Cycling Plan, but when they can take the opportunity to change something, they do not act (Julke, 2011). Their inaction could increase the level of integration in this case and could also show that the planning policies of Leipzig that all have to be agreed on by the city council also have the political backing. This is another example of how planning is regarded with a lack of integration processes. The working group cycling and the lobby group cycling would be necessary stakeholders to be involved into such a development process.

²⁵⁴ „Es heißt dann immer: wenn die Nordtangente fertig ist, dann haben wir hier weniger Autos und dann bekommt ihr eure Radverkehrsanlagen ... also jetzt ist aber diese Nordtangente fertig, es gibt ein Drittel weniger Autos, auf drei Fahrspuren ... also müssten die Autos doch jetzt auf zwei Spuren drauf passen.“ – Transport 4

²⁵⁵ „Es gibt ein Platzproblem auf dem Ring und man könnte Platz von einer Spur wegnehmen, aber ich unterstelle, dass das nie richtig geprüft wurde ... wo ich denke, wenn die Verwaltung wollte, könnte sie da vielleicht ein bisschen mehr machen ... Die Straßenverkehrsbehörde sagt, so lange der Verkehr nicht von selbst zurück geht, haben wir da keine Platzverfügung. Aber auf der anderen Seite ist es nur eine Frage von Angebot und Möglichkeit. ... Bei der Georg-Schuhmann-Straße wird es aktuell umgesetzt, die wird von vier- auf zweispurig ummarkiert.“ – Stakeholder 1

7.6.4 Conclusion of the problem “Cycling on the Ring”

Cycling on the Ring was theoretically excluded since the 1970s without a convenient alternative for cyclists. When the legal framework was changed in 2009 local planners were forced to change the situation. However, they did not really change the situation for cyclists and continued to legally exclude cycling on the Ring. That approach was heavily criticised especially by local cycling stakeholders. Various transport lobby groups tried to find solutions together, but their ideas were not considered by local transport planners. The planners came up with an idea themselves, the cycling ring within the Ring. However, it can be criticised that this development was conceived and planned without the integration of stakeholders. The implementation of the cycling ring could also be criticised as it does not cover the whole area along the Ring but only some parts.

Local planners and politicians like to express that they aim for a higher consideration of eco-mobility. The problem of cycling around the city centre would have been a chance to show that they aim to support all modes of eco-mobility. The city centre itself is mainly a pedestrian zone. So, the conditions for walking are good. All tram lines operate on the Ring. So, public transport is easily accessible. Only cycling into and around the city centre is restricted heavily without a convenient alternative. So, a differently chosen approach in this case could have led to at least a medium level of EPI, but in this case it is low. The partly realised cycle roads within the city centre are no example for a full concept.

To what extent other planning departments are involved in problem finding in this case cannot be said without fail as the whole process is not transparent at all. Therefore, a low level is presumed. Stakeholders were hardly involved in the process too, although it can be assumed that the topic was discussed in the working group cycling. The detailed levels of integration related to the indicators presented in Chapter 3 (Methods) are shown in table 7.7.

Indicators/Questions	Problem cycling on the Ring
Timeframe	
When did the integration of environmental issues start?	At the end when it was thought necessary/ mandatory/requested
When did the integration of other planning departments start?	Possibly only for information towards the end
When did the integration of stakeholders start?	Sometime in the process (there is a permanent working group)
Environmental objectives	
To what extent were environmental objectives discussed in the process?	It was just discussed marginally
To what extent were environmental objectives integrated in the policy?	Not considered to an expected extent
Department/stakeholder integration	
To what extent were other departments/stakeholders integrated?	Possibly only for information towards the end
How was the integration of other departments/stakeholders organised?	It was not published, some of them in form of a working group (but that deals with all topics related to cycling not just the Ring)
Communication	
What forms of communication were used?	Information were provided on the city's web side and the official journal, one local newspaper informed intensely
How many people were reached by the announcements?	Mainly people linked to the process and being interested in a solution
Was there a possibility for non-planners to get heard?	It seems that this was very difficult
Level of EPI	-
Level of DI	-
Level of SI	-

Table 7. 6: Indicators & levels of integration for the analysed problem cycling on the Ring (0: no integration, -: low, o: medium, +: high integration)

7.7 Conclusion

The aim of this chapter was to investigate integration levels at the project planning level and with regard to transport related problems. The three projects analysed are the development of the “Höfe am Brühl”, the restructuring of the Karl-Liebknecht-Street (Karli), and the possibility for non-public funders to build bicycle racks in public space. The two problems are parking on pavements and cycling on the Ring.

The Höfe achieved a medium level of environmental integration. The project strengthens the city centre which is good for the spatial development and could prevent journeys to greenfield shopping centres. However, at the same time a big multi-storey car park was realised in close proximity to the measuring station, despite the fact that the Höfe are very well connected to the public transport network. This minimises the positive environmental effect of the spatial considerations. The level of departmental integration is only medium as arguments raised by the environmental planning department were not considered appropriately. The integration of stakeholders was weak as they only had the chance to get heard in public presentation events.

The Karli achieved a medium level of environmental integration. It can be criticised that some modes of eco-mobility were considered more than others and that eco-mobility was not seen as a unit. Departmental and stakeholder integration were achieved on a medium level. Especially the latter one was done in a new way. Firstly, a stakeholder, the LVB, and local planners worked on the restructuring straight from the start. Secondly, an advisory board was founded that represented all stakeholders of the area and discussed the ideas of the project group. Thirdly, there was also the chance for residents and other stakeholders to discuss the project in public events. Although the process was still criticised by some people the various forms of involvement and the fact that in the end a new version for the restructuring was formulated shows the high level of integration.

The project of the bicycle racks was developed by local transport planners. Their aim to increase the number of racks in Leipzig reveals a high degree of environmental integration. Other departments are only involved to a certain extent what leads to a weak level of integration. Stakeholders were not integrated at all. However, in this case

the implementation of the project seems a crucial issue, but that was not part of this research.

In case of the two problems the approach of the local planners to solve them was analysed regarding integration levels. In terms of the parking problem everyone seemed to agree that the pavements should be kept free for pedestrians and that green spaces and trees should be preserved. Nevertheless, the high consideration of cars and the many objections to higher costs and a higher consideration of eco-mobility only lead to a medium level of environmental integration. The issue was discussed for a long time with other departments that is a high level of integration. The level of stakeholder integration is also high based on the discussion events that planners offered and especially on the full day workshop.

The problem of cycling on the Ring achieved a weak level of environmental integration. Cycling is the only mode of eco-mobility that is completely excluded on the Ring. However, the planners started to provide an alternative and will have the issue on their agenda for further development from 2015 onwards. The level of departmental integration is also weak. The level of stakeholder integration is also weak as only a small number of stakeholders were showing an interest, but were hardly integrated into the solution finding process.

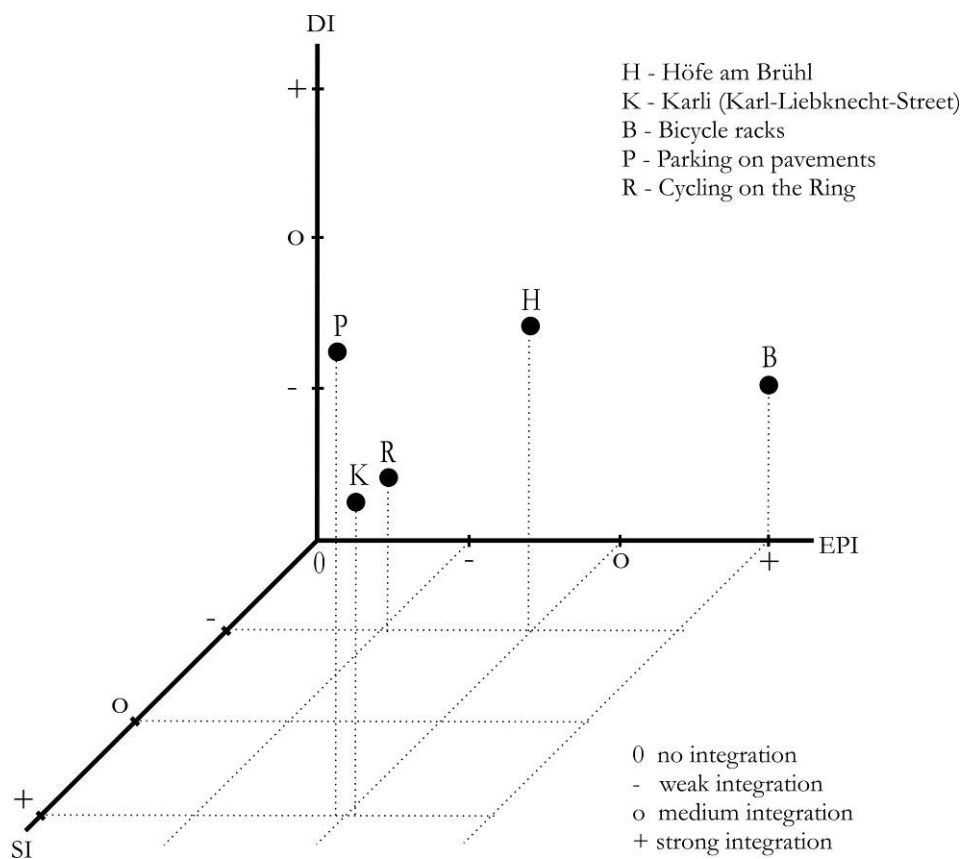


Diagram 7. 2: Levels of EPI, DI and SI of the three projects and two problems that were analysed in this chapter

The analysis of the projects and problems has shown that the approaches differ and that various supporting elements and obstacles influence the integration levels. Supporting elements are for example bottom-up initiatives like the ones of stakeholders and citizens in the cases of the Karli or the parking problem. Additionally, top-down processes like the changes of the legal framework can have an influence. That could be seen in the cases of the parking and cycling on the Ring. The project of the bicycle racks was initiated by planners due to the lack of racks in the city. The idea itself did work even with weak or low levels of DI and SI. However, the implementation seems to require higher levels of DI and SI.

Obstacles that hindered higher levels of integration are also found in the legal framework as the parking policy of Saxony has shown. Other obstacles are the dependency on investors and a weak position of the environmental department like in the case of the Höfe, a poor promotion of a project as the implementation of the bicycle racks has shown, and the insistence on old habits as could be seen in case of the Ring. A general problem that hampered higher levels of environmental integration was

that the modes of eco-mobility were not seen as a unit. This could also be a topic for discussions of the lobby groups.

It can be concluded that higher levels of departmental and especially stakeholder integration increase again the level of acceptance. However, a complete agreement on projects cannot be achieved even with high levels of integration as the cases of the Karli and parking have shown.

The three analysis chapters took a closer look on plans, projects and problem solving at the local planning level. The aim was to find out what levels of EPI, DI and SI could be achieved in transport related or influencing planning and what supporting elements and obstacles have an influence. In the next chapter, the results are brought together and discussed with regard to the theoretical framework that was set in Chapter 2.

Chapter 8: Discussion of empirical findings and concluding remarks

8.1 Introduction

This chapter collates the findings of the three analysis chapters in order to evaluate the research questions and the theoretical considerations that are set out in Chapter 2.

In the three empirical chapters plans, processes, projects, and local problems in planning within Leipzig were analysed with regard to levels of environmental policy integration (EPI), departmental integration (DI), and stakeholder integration (SI). Furthermore, supporting elements that strengthen, and obstacles that weaken, integration approaches were identified. In order to better understand levels of EPI, DI and SI, the research involved various German planning levels as they unfold in Leipzig and in particular how these levels are interpreted and implemented by planners and various stakeholders.

The review of the literature in Chapter 2 had shown that, so far, the research on EPI is focussing on theoretical considerations. Furthermore, the majority of research is focussed on policies and processes at the supranational and national level. Most of the literature on EPI discussed at the EU or national levels refer to the importance of EPI in local level planning. Nevertheless, there is a limited amount of literature available that investigates EPI at the local level and is predominantly focussed on theoretical topics rather than practical applications and examples.

The review of the literature identified that horizontal integration is regarded as a key factor to successfully achieve strong levels of EPI. Therefore, the focus of this research was on planning policies at one planning level, the local level, to gain an in-depth analysis of the processes and also to identify whether the supporting elements and obstacles stem from the local level or other, higher planning levels. Experiences and considerations of EPI at higher planning levels had only been part of the research framework in order to better understand their influence on the local level.

Another gap identified in the literature is the lack of indicators and measures that can be used to identify EPI in order to distinguish between strong and weak levels of integration. The level of integration expresses what planning paradigm is used and how it is implemented. Additionally, in case obstacles are identified that keep the level of EPI

weak, the possibility is provided to improve the level of EPI. During the review of the literature it became evident that EPI is more nuanced than could be contained within a single metric. Specifically, integration along departmental and stakeholder axes became evidently important because they support the minimisation of contradictions between different planning fields and are key to achieve higher levels of acceptance of planning policies. As this research was advanced and EPI had been split into three integration approaches, adding DI and SI, indicators had to be developed that help to measure the level of integration of all three integration approaches.

The review of the literature had revealed that there is no empirical research at the moment that investigates the link between mobility and EPI. Mobility-related integration research focuses only on horizontal integration process of transport and spatial planning. The consideration of vertical integration processes and the integration of environmental objectives are, so far, not covered by research.

Research aims were developed to address some of the identified research gaps shown in the review of the literature. They were presented in Chapter 1 and are as follows:

- a) to develop an indicator framework to measure the levels of the three integration approaches
- b) to evaluate how the different integration approaches are implemented
- c) to assess what support mechanisms and obstacles are provided by the political framework and/or different interest groups and also why they are formed
- d) to draw lessons whether these approaches are conducive to promote more environmentally friendly mobility.

In Chapter 3, the methodology chapter, the indicator framework was developed, based on factors suggested in the literature and identified in the analysis. According to the literature, factors required to achieve higher levels of integration are: the time when integration takes place in the process (Jordan and Lenschow, 2008c, Lafferty and Hovden, 2003), the variation of interest groups that are involved (Selim, 2014, Owens, 2004), variations of methods how integration takes place (Baker et al., 1997, Selim, 2014), and variation of communication possibilities (Selim, 2014, Lafferty and Hovden, 2003). The analysis revealed what factors and methods are provided by the legal framework and local initiatives. Their generalisation led to the specification of the indicators when weak, medium and high levels of integration are achieved. The

indicators and their specifications were used to address the aims b) to d) in the three analysis chapters, Chapter 5-7.

Following the research aims and the gaps identified in the review of the literature, research questions were formulated. They were presented in Chapter 1 and are as follows:

- What is the level of integration that can be found in planning processes at the local level in Leipzig? How are the different kinds of integration achieved?
- Why is integration occurring or not? Why is it successful or not?
- What support mechanisms and obstacles are formed by the political framework and/or different interest groups within these planning processes to support or hinder integration? Why?
- What measures would support a higher level of integration within the planning processes?
- To what degree is integration instrumental for improving planning outputs? How effective are integration approaches in promoting more environmentally friendly mobility at the local level?

A set of nine cases embedded in the case study of Leipzig was selected and analysed. In order to help to compare these nine cases, their levels of EPI, DI and SI and the related supporting elements and obstacles were investigated. See Table 8.1 and Diagram 8.1, discussed in detail in section 8.2.2, which provide an overview of the findings. In addition to the nine cases, the Mach's leiser project is included in the Table, Diagram and this conclusion. This represents an alternative approach to noise reduction planning and was analysed subsequently to the official noise reduction planning process in Leipzig. Mach's leiser is included here as it achieved high levels of EPI, DI and SI, which makes it a suitable case for comparison.

This final chapter is divided into three main parts. Firstly, key findings are presented and related to the wider body of knowledge reviewed in Chapter 2. The structure of this part follows the research questions presented above. Secondly, the contribution of the research to the field of EPI is presented which discusses how this research contributes and builds upon the existing knowledge of EPI. The final part presents the research limitations and proposes further questions and topics for future research in this field.

8.2 Level of integration within planning processes

8.2.1 Indicator framework for measuring integration levels

One of the principal aims of this research was to develop an indicator framework that would operate as a rigorous analysis tool to define and assess the various levels of EPI, DI and SI. So far, the literature on EPI does not differentiate between the integration of environmental objectives and the integration of departments or stakeholders. However, this splitting of EPI and the inclusion of separate indicators for DI and SI was necessary to add analytical depth in order to better understand the complexities and challenges of integration approaches and processes at the local level. The distinction was also necessary for identifying supporting elements for and obstacles against higher levels of integration as well as measuring the success of integration with regard to more environmentally friendly mobility in cities.

The review of the literature in Chapter 2 revealed that there is no set of indicators at the moment to measure the level of EPI at the local level. Lafferty and Hovden (2003) presented theoretical indicators for horizontal and vertical integration but did not specify how those could be measured and how those indicators would be implemented at the different levels of the multi-level governance system. In terms of horizontal integration, Lafferty and Hovden suggest, for example, the introduction of a central authority for supervision and coordination of the integration and the implementation of a long-term sustainable development strategy. Following the results of the analysis of this research, some questions arise relating to these two suggested indicators. Firstly, could an authority that only supervises integration, increase the levels of integration in applied planning although it does not take part in the policy development processes? Secondly, is this authority able to state when high levels of integration are achieved? Thirdly, do local authorities have the financial resources to set up an authority that is only there for supervision and coordination and could these financial resources be utilised in other ways, specifically, to support the integration process itself?

The development of a long-term sustainable development strategy already takes place in numerous municipalities. Local planners of Leipzig, for example, developed the SEKo (Integrated Urban Development Concept) which is the overall planning strategy of the city that ought to consider all other plans. However, whereas this plan can increase the level of integration of different planning areas, it is not clear how this could

increase the integration of environmental objectives. Lafferty and Hovden claim a sustainability strategy to achieve higher levels of EPI, although other research has shown that a focus on sustainability does not necessarily increase the level of EPI (Jordan and Lenschow, 2010). The suggested indicators from Lafferty and Hovden are currently too broad to measure levels of EPI at the local level.

Watson et al. (2008), Nilsson et al. (2009), and Weber and Driessen (2010) analysed EPI at the local level in different fields than mobility. Watson et al. (2008) had examined municipal waste policies in the UK, Nilsson et al. (2009) investigated waste management in Swedish cities, and Weber and Driessen (2010) analysed noise management in spatial planning in the Netherlands. All came to the conclusion that EPI had failed. However, none of them provided a framework of how they had measured it and what indicators they had used so that they could say why EPI had failed. Only Weber and Driessen provided in their conclusion that communication structures, funding and stakeholder integration were factors that influenced the level of EPI. However, the extent to which they influence the level, and what could increase the level, was not answered.

The indicator framework developed as part of this research, which is presented in Chapter 3, provides the analytical depth to measure the levels of all three integration approaches at the local level. Jordan and Lenschow (2010) stated that the evidence base related to the concept of EPI is fragmented and that it is necessary to investigate day to day practices of EPI (2008b). The indicator framework developed in this thesis sets out a basis for developing an evidence base and for measuring day to day planning processes with regard to EPI and the two related integration approaches, DI and SI. Therefore, detailed conclusions can be drawn about the different levels of integration and the results of this research are more nuanced and rigorously comparable. Where other research, that applied the indicator framework, is conducted in the future in other circumstances or policy fields, the levels of integration and the factors influencing the levels of integration will be more easily comparable.

8.2.2 Levels of integration within planning processes

This part addresses the first set of research questions, namely: *What is the level of integration – EPI, DI, SI – that can be found in planning processes at the local level in Leipzig? How are the different kinds of integration achieved?*

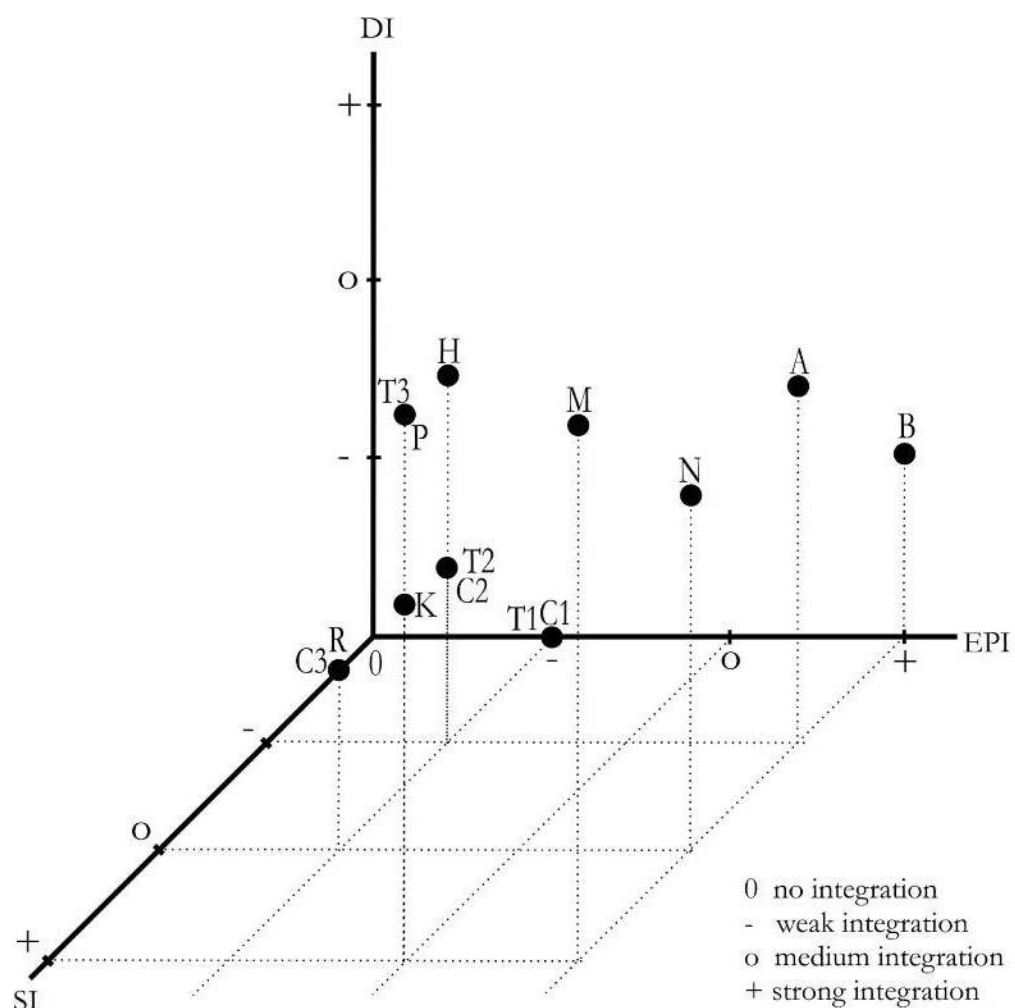
In the three empirical chapters nine case studies have been analysed based on the indicator framework. The level of the three integration approaches is presented at the end of each case. A summary of the case studies and investigated integration levels is shown in Table 8.1 and in Diagram 8.1. Both present clearly the various integration levels and allow the cases to also be compared. The “Mach’s leiser” project is an example how high levels of integration can be achieved at the local level.

The analysis revealed that different integration levels are achieved with different policy making processes. Two cases feature a **weak** level of integration with regard to EPI: the Centres Plan 2009 and the problem of cycling on the Ring. In those cases environmental objectives are mentioned but hardly implemented in the sector specific aims and measures. Rhetoric is used that states the importance of environmental objectives without addressing them adequately. In case of the Centres Plan economic objectives are still rated more highly.

A **medium** level of EPI was measured in four cases: the Transport Plan 2014, “Höfe am Brühl” (Höfe) project, the “Karl-Liebknecht-Street” (Karli) project and the problem of parking on pavements. Three of these cases are directly related to transport, on to spatial planning. The medium level of EPI is based on the consideration of eco-mobility, which preferences environmentally friendly modes of transport. However, as car infrastructure is still rated equal to eco-mobility or higher, a high level of EPI could not be achieved. A high level of EPI in transport planning does not imply that car use should be banned from planning, but that the focus should be on eco-mobility. The medium level of EPI in case of the Höfe is related to the strong focus on inner city development that reduces the need of greenfield development and offers the possibility that people can visit with modes of eco-mobility.

Case	Level of EPI	Level of DI	Level of SI	Supporting elements	Obstacles
<i>Conceptual Framework 1993</i>	-	0	0	- Legal framework	- Institutional framework
<i>Centres Plan 1999</i>	-	-	-	- Institutional framework	- Strong lobby groups
Centres Plan 2009	-	-	o		- Dependency on funding
<i>Transport Guidelines 1992</i>	-	0	0	- Funding for process	- Strong lobby groups
<i>Transport Plan 2003</i>	-	-	-	- Cycling group	- Traditional approach
Transport Plan 2014 (Process)	o	+	+		- Dependency on funding - Lacking consideration of eco-mobility as entity
Clean Air Plan	+	-	-	- Strong institutional framework - Threats	- Limited participation - No details on integration - Institutional framework
Noise Action Plan	+	o	o	- Institutional framework - Participation requirement	- Institutional framework - Weak time pressure - No given noise levels
Mach's leiser	+	+	+	- Bottom-up initiative - Funding possibilities	- Follow-up?
Höfe am Brühl	o	o	-	- Institutional framework	- Legal framework - Dependency on funding - Sectoral segregation
Karl-Liebknecht-Street	o	o	+	- Bottom-up processes	- Dependency on funding - Legal framework
Bicycle racks	+	-	0	- Legal framework	- Poor promotion
Parking on pavements	o	+	+	- Bottom-up initiatives - Top-down pressure of legal framework	- Legal framework - Personal interests
Cycling on the Ring	-	-	-	- Pressure of legal framework	- Old habits

Table 8. 1: Overview of levels of EPI, DI and SI as well as supporting elements and obstacles ('0' – no integration, '-' – weak integration, 'o' – medium integration, '+' – high integration) (the table also contains sub-cases, that were analysed to better see the development of integration levels)



C1 - Conceptual framework 1993
 C2 - Centres Plan 1999
 C3 - Centres Plan 2009

T1 - Transport guidelines 1992
 T2 - Transport Plan 2003
 T3 - Transport Plan 2014

A - Clean Air Plan

N - Noise Action Plan

M - Mach's leiser

H - Höfe am Brühl

K - Karli (Karl-Liebknecht-Street)

B - Bicycle racks

P - Parking on pavements

R - Cycling on the Ring

Diagram 8. 1: The levels of EPI, DI and SI of the cases that were analysed in this thesis

High levels of EPI were measured in three cases and the “Mach’s leiser project”: the Clean Air Plan, the Noise Action Plan, and the bicycle racks project. The Clean Air Plan and the Noise Action plan are both based on environmental directives of the EU and are also developed in the environmental planning department. A high level of EPI was therefore expected. The project Mach’s leiser, which was related to noise action planning, features also a high level of EPI, due to the main aim of improving the environmental situation. The only case based outside the environmental planning department that could achieve a high level of EPI is the bicycle racks project. The focus of this project is entirely on bicycle users and it also provides the possibility that parking spaces originally intended for cars can be transformed into parking spaces for bicycles.

The analysis of the level of EPI shows that medium and high considerations of environmental objectives do not only occur within planning processes that are based in the environmental planning department. The mobility related plans and projects that achieved medium levels are all based in the transport planning department and show the increasing role that environmental topics play in transport planning. However, there are also projects in the transport planning department where more traditional approaches are still chosen and, therefore, environmental topics play only a minor role. The same applies, so far, to plans and projects that are based in the spatial planning department.

Weak levels of DI were found in four cases: the Centres Plan 2009, the Clean Air Plan, the bicycle racks project and the problem of cycling on the Ring. In all these cases planners from other departments than the one in charge are not integrated into the development process of the plan. Other planning departments are only involved towards the end of the process when it was officially required by the legal framework. These cases have their origin in three different planning departments, the spatial, the transport and the environmental planning department and in all cases the planners did not open the process to other departments.

However, that this is not always the case could be seen in terms of the cases Noise Action Plan, the Höfe project and the Karli project. They are also based in one of these three planning departments, but this time a **medium** level of DI could be measured. In case of the Noise Action Plan the legal framework required the integration of other departments, whereas in case of the two projects DI went beyond the required level and other departments were integrated into the discussion process. However, higher levels

of DI were not achieved in any of the three cases as the integration of other departments did not start at the beginning of the processes.

A **high** level of DI was measured in two cases and the Mach's leiser project: the updating process of the Transport Plan 2014 and the problem of parking on pavements. In the case of the Transport Plan local planners have chosen an entirely new approach to developing a strategic planning policy and in terms of the parking problem they decided to find a solution together with other planning departments. In both cases the planning department in charge is the transport planning department. The Mach's leiser project, on the contrary, is an example of a bottom-up process and is not based in any planning department. However, the initiators had a strong focus on DI from the beginning.

The analysis of the level of DI shows that there is no trend in which the planning department aims more to integrate other departments than others. So far, the medium and high levels of DI depend on the plan or project and cannot be related to a change of the procedure of planners.

In terms of SI, there was a high level of variation amongst the nine cases. In one case no integration of stakeholders took place: the bicycle racks project. The transport planners had seen no need to integrate any stakeholder in the development process. A **weak** level of SI was measured in three cases: the Clean Air Plan, the Höfe project and the problem of cycling on the Ring. In the first two cases local planners only informed the public and displayed the plan for some time. Neither the environmental planners nor the spatial planners aimed for a higher level of SI. In case of the cycling problem the transport planners made decisions without a real integration of stakeholders.

A **medium** level of SI was measured in two cases: the Centres Plan 2009 and the Noise Action Plan. Within the updating process of the Centres Plan spatial planners introduced a working group but only with stakeholders with a retail background that led to a medium level of integration. The integration of other stakeholders in the working group would result in a high level of SI. In case of the Noise Action Plan local planners are forced by the legal framework to integrate stakeholders. So, the planners followed the framework, but only in asking for opinions and suggestion later in the process.

During the development of the plan the integration of stakeholders did not play any role and so a higher level of SI was not achieved.

High levels of SI were measured in three cases and the Mach's leiser project: the Transport Plan 2014, the Karli project and the problem of parking on pavements. The new approach of the Transport Plan puts a strong focus on stakeholder integration right from the start. In case of the Karli, the local transport company, which is a stakeholder, was integrated into the development process from the start. Other stakeholders were integrated later in the process. Although not all stakeholders were integrated right from the start, this project is still rated with high SI as the later process resulted in the final version of the project plan. In order to solve the parking problem various events, including a full day workshop, were held by the transport planners where a wide range of stakeholders could participate. The Mach's leiser project was initiated by a stakeholder, the Ökolöwe, with the aim to increase stakeholder integration in noise reduction planning and to start the process as early as possible. So, a high level of SI was also intended in this bottom-up process from the start.

The analysis of the level of SI shows that there is a distinct variation. Plans and projects based in the transport planning department featured no, weak, medium and high integration levels. So, there seems to be no strategy in the department on whether and how stakeholders could be integrated into related processes. In terms of the environmental and the spatial planning department the trend is between weak and medium integration levels.

In section 8.2.1 it was argued that there is a lack of empirical evidence so far on what levels of integration are achieved at the local level in day to day planning. The analysis presented in this thesis provides detailed measures in mobility related planning and thus, in part provides progress to fulfilling the gap in empirical evidence. The case studies are not only based on one planning department but on three, and the analysis has shown that there is a wide spectrum of EPI, DI and SI. The Transport Plan 2014, the project Mach's leiser and the problem of parking on the pavements have achieved very high levels of integration in all three integration approaches. All case studies achieved at least some low level of integration, but some have the potential to reach higher levels of integration with relatively little input. The next section takes a closer look at why integration is occurring or not.

8.2.3 Reasons for integration

This part addresses the next part of research questions: *Why is integration occurring or not? Why is it successful or not?*

When the interviews were conducted the interviewees were asked at the beginning about their understanding of sustainability and whether they think that mobility in Leipzig is sustainable. The answers of interviewees revealed a huge variety of understanding of what sustainability means and how environmental objectives could contribute towards more environmentally friendly mobility in Leipzig. Most interviewees did not express a deeper understanding of the meaning of environmental objectives with the respect to EPI nor had they shown an awareness of the concept. So, it can be inferred that the occurrence of EPI in Leipzig must be based on other factors than the concept of EPI. A closer look at the three cases with the highest levels of EPI, DI and SI, the Transport Plan 2014, the Mach's leiser project and the parking problem reveals that two of them were implemented because of how the funding framework was constructed. The transport planning department received funding from the German government to follow a more integrated approach. The project Mach's leiser was funded by the FEA. It was initiated by the local environmental NGO Ökolöwe and both the NGO and the FEA had a high aim in examining integration approaches in local noise planning. In the third case, the parking problem, high levels of integration were based on local initiatives of citizens and other stakeholders, the legal framework that forbids parking on pavements, and the approach chosen by local planners to find a compromise and solve the problem. So, in addition to financial considerations, bottom-up processes initiated by local stakeholder such as citizens and NGOs, can lead to higher levels of integration.

Bottom-up processes also played a role in the case of the Karli project. The local transport company requested a working group process together with transport planners. This initiative and the possibility for other stakeholders to get integrated into the process also led to a high level of integration.

Looking at the other cases there are numerous reasons why SI occurred. In case of the Clean Air Plan and the Noise Action Plan the legal framework required integration of stakeholders in the process. In case of the Karli project the special local circumstances required a broader integration of citizens and local stakeholders. The German Building

Law requires the involvement of departments and stakeholders at the end of planning processes, so a weak level of integration is achieved in all planning processes at the local level. The Höfe project and the problem of cycling on the Ring are two cases where only this minimum required amount of integration took place. In case of the bicycle racks no SI could be measured. In this case integration did not take place, because the local transport planners did not see a need to get anyone involved.

So, SI depends on bottom-up processes, financial backgrounds, local circumstances, and in some cases also personal preferences of responsible planners whether the low level of SI gets to a medium or high level.

DI occurred in some cases on a **medium** level. During the development of the Noise Action Plan, local environmental planners integrated other departments to follow the legal framework and to increase the level of acceptance of the Noise Plan. Spatial planners integrated transport planners in the Brühl and Karli projects due to the local circumstances and vice versa. So again, local circumstances can lead to higher levels of integration. The Centres Plan, the Clean Air Plan, and the problem of cycling on the Ring featured only a **weak** level of DI. In those cases local planners followed the legal framework of the German Building Law and integrated other planning departments towards the end of the process as to the law required. In case of the bicycle racks project local transport planners again did not see the need to integrate other planners beyond general discussions.

The level of EPI is **high** in all cases that are based in the environmental planning department. This was expected, as those cases follow the tradition to set up policies to protect the natural environment or the environment of citizens. In case of the bicycle racks, a high level of EPI was measured as well. Although this case does not relate to strong environmental considerations in the first place, a **high** level of EPI occurred as bicycle parking spaces are valued higher in this project than car parking spaces. Planners argue that the shortage of bicycle racks in the city led to that decision. So, high integration took place because of local circumstances and an initiative of local planners.

A **medium** level of EPI was measured in three cases that are related to the transport planning department. The Karli project achieved a medium level of EPI due to the high level of SI, as local stakeholders were claiming a high consideration of eco-mobility,

which is environmentally friendly. In the other two cases, the Transport Plan and the problem of parking on pavements, the medium level of EPI is related to input from stakeholders and other departments, but also to a change of planning behaviour of local transport planners.

However, this change of planning behaviour of transport planners did not apply to the problem of cycling on the Ring, where only a **weak** level of EPI could be measured. In this case the local transport planners retained their traditional planning approach where the car is rated higher than the bicycle. The other two cases, where a weak level of EPI was measured, are the Centres Plan and the Höfe project where the local spatial planners kept to the legal framework and did not rate environmental objectives higher. Especially in case of the Höfe project the weak level of influence of environmental planners hindered a higher level of EPI.

In summary, there are numerous reasons why integration occurs or not. Some factors, like the legal framework, can support higher levels of EPI, DI and SI. However, the analysis has shown that in some cases the legal framework can also hinder higher levels of integration, when planners refer to it and argue that they do what is required not more. This shows that there is often no change of perception in planning, especially when planners refer to the legal framework and what it requires.

Additionally, local circumstances need to be taken into consideration, like special situations of local stakeholders or specific projects. Those local factors can have a significant impact on the level of integration, especially when formed into bottom up-initiatives. Bottom-up initiatives are a factor where higher levels of integration are observed and in those cases higher levels of SI and in the end often also a higher level of EPI are achieved. Another factor endorsing integration is funding programmes that request higher levels of stakeholder integration or that is specifically set up to support higher levels of stakeholder integration.

This research could not answer the question whether integration is successful or not. The analytical framework did not offer the possibility as a different set of indicators is necessary to define when a process or policy is successful or not. It would have required a definition of what successful means in terms of EPI, DI and SI and how it can be differentiated. Furthermore, the output of the processes and policies would have been

required as only the implementation of policies and processes can prove whether something is successful or not.

The following section will take a closer look at elements that support higher levels of integration and obstacles that hinder higher levels of integration.

8.2.4 Supporting elements and obstacles to integration

This part addresses the question: *What support mechanisms and obstacles are formed by the political framework and/or different interest groups within these planning processes to support or hinder integration?*

The levels of EPI, DI and SI varied amongst the cases. This is not only related to supporting elements of integration but also to obstacles that hinder higher levels of integration. Jacob et al. (2008) has criticised the concept of EPI and its importance, arguing that it is often cited by key stakeholders as being important and yet no structures or instruments are developed to increase the level of EPI. The analysis of the empirical evidence has shown how supporting elements can endorse the levels of integration and, furthermore, provided examples of obstacles that hinder higher levels of integration. This evidence suggests opportunities where it is possible to alter existing planning structures and instruments or even develop new approaches that increase levels of EPI, DI and SI. An example for a new approach is the updating process of the Transport Plan. A new approach and new instruments were also implemented in the case of the Mach's leiser project. By extending the EPI concept into supporting DI and SI elements, this thesis has provided an analytically more nuanced approach to addressing the concept of EPI than has featured in previous research into EPI.

Supporting elements that strengthen, and obstacles that weaken, the three integration approaches emerge in vertical and horizontal processes. Börkey and Lévêque (2000) had cited the legal frameworks and regulations as traditional instruments to influence policy making. In terms of vertical EPI, this research has shown that legal regulation does also have an impact on the level of integration. The European environmental directives on clean air and environmental noise, and their related German laws, are two examples how regulation can influence planning processes at the local level. However, so far, higher levels of EPI are mainly supported within the environmental sector itself. They are implemented by environmental planners and their direct impact on other planning areas

is limited. Nevertheless, the peculiarity of the ambient air directive is that penalties can be imposed in cases where the set limits are exceeded. In terms of vertical DI and SI no support of the legal framework was found. None of the European directives and no law of Germany claimed the integration of various departments on the respective level or the integration of stakeholders.

In terms of horizontal DI and SI especially, the requirement of the directive on environmental noise that local participation has to take place, increased the level of DI and SI significantly. The directive on clean air did not require such participation and therefore failed in achieving higher levels of integration.

Müller (2002) had argued that the Environmental Minister cannot achieve higher levels of EPI on his own as many related topics remain conceptual. He suggested that a stronger EU framework would help to increase the level of EPI. The two cases of the Noise Action Plan and Clean Air Plan have shown that the EU can indirectly influence policy making at the local level. However, this framework of the EU mainly improves the level of EPI with regard to environmental objectives, as a closer look at the two European directives reveals that even policies with such a strong environmental background can pose obstacles to departmental and stakeholder integration processes. Whereas the clean air directive has a strong incentive to implement environmental objectives as otherwise penalties would be imposed, it does not have a real incentive to integration of other departments and stakeholders. It leaves it mainly to the implementation of the member states how the limits are defined. The noise directive, on the contrary, does not have a strong incentive to integrate environmental topics into other departments or to achieve any goals as there are no penalties involved. However, the noise directive requests a high level of DI and SI. So, with regard to EPI, DI and SI a mix of both directives with a focus on the variables that support integration could form a stronger legal framework.

Other obstacles to integration posed by the legal framework were found in the Federal Regional Planning Act and the Building Law. Both claim the consideration of environmental objectives, but not to what extent or how they should be implemented. A stronger focus on environmental concerns and on integration processes, i.e. when to start and who to integrate, would be necessary to increase integration levels. However, the obstacle becomes more apparent with other laws. The Saxony Building Law defines

the amount of parking spaces per housing unit and retail unit. This is entirely counterproductive as no specifications are made regarding public transport and walking and the law favours car users and cyclists. Especially the case of walking is crucial as it often seems that walking is not considered as a mode of transport and as the mode that connects every other mode of transport. The requirement of the law also implies the commitment to build a certain amount of parking spaces even in cases where they are not needed or wished. It may be difficult to develop a legal framework for walking alone, but the legal framework of the other modes of transport could be transformed into a more integrated policy that considers the needs of pedestrians.

However, the German Building Law can also form a strong framework for urban planning and especially the requirement of participation. A minimum participation of departments and stakeholders is mandatory towards the end of planning processes at the moment. This provides the possibility for interested planners and stakeholders to get involved. However, so far the participation process starts when the planning policy is already developed and therefore does not include any basic and structural considerations. A change of the German Building Law could set an earlier time when local participation has to start and also open the formal process, so that interested planners and stakeholders can be integrated earlier and in different formats, depending on the policies and projects.

Lafferty and Hovden (2003) also cited the legal framework in Germany as a potential means to strengthen vertical EPI and proposed that the federal structure of Germany is advantageous to EPI as, for example, the Conference of Environmental Ministers meets to coordinate strategies and policies across all levels. However, this research could not find evidence of how the Conference can increase the level of DI and SI as the Environmental Ministers mainly focus on environmental topics, which excludes other departments, and only deal with matters at the ministerial level, which excludes the wider cohort of interested stakeholders.

The consideration of planning policies of various planning departments is claimed, for example, in the German Sustainability Strategy (2002) and the Federal Development Plan of Saxony (2013). However, there is no specification as to how integration should be done and how its success could be measured. That could be one reason why the integration of environmental objectives is interpreted so diverse by planners and policy

makers. Within this research, planners expressed in many cases that they think they integrated environmental objectives but further investigation revealed that they had only named environmental aims without integrating them into their own framework and own methods. It was mainly observed in cases related to the official planning process, like the Centres Plan, the old Transport Plan, and the development of the Höfe. So, a better understanding of environmental concerns and their relation to other sectors of planning in general and a more detailed consideration in higher level policies could provide a basis for higher EPI in planning processes at the local level.

Furthermore, there seemed to be a lack of understanding of what integration is. Planners often expressed that they work with other departments or stakeholders. However, the variety of interviewees and the in-depth analysis has shown that only in a small number of cases, which are the Transport Plan of 2014, the Mach's leiser project and the parking on pavements problem, departmental integration took place on a high level. In those cases departments and stakeholders had been integrated from the beginning in planning and decision making processes and not only asked for their opinion sometime in the process.

One of the strongest supporting factors of all three integration approaches is funding. The cases of the Transport Plan 2014 and the project Mach's leiser have shown that provided funding increases the level of integration significantly. Several interviewees had remarked that participation processes are time consuming and cost money, so funding schemes of higher levels could be introduced to support higher levels of integration. However, as much as financial incentives can support integration, they can also hinder integration. One example was named in the case of the Karl-Liebkecht-Street where a separate tram track can get funding from the national government and an integrated tram track does not get any funding. So, as the financial situation of most municipalities is dependent on external funding, local planners aim for solutions that fit to the funding scheme. The dependency on external funding becomes also apparent with respect to retail projects. The case "Höfe am Brühl" has shown how an investor can shape a development of this size and location as local planners feared that he would lose interest otherwise. The case of the Centres Plan revealed a subliminal consideration of financial issues. The plan is made coherent to retail requirements what can be related on the working group that has only retail related members. Bottom-up pressure is put on planners by retailers but also by retail representatives.

Bottom-up initiatives are, on the contrary, also very successful elements to increase the level of integration. The work of NGOs and local lobby groups can support the levels of all three integration approaches. The best case to prove that was the Mach's leiser project, which was initiated by a local NGO and achieved high levels of EPI, DI and SI. Another example is the working group cycling that had been founded 25 years ago and that discusses cycling related topics on a regular basis. The findings of the group are implemented in planning policies and projects and as they were discussed intensively beforehand they support EPI, DI and SI.

The cases of the Karli and the parking problem have shown the supporting mechanism of local transport lobby groups. Especially in cases where the eco-mobility related lobby groups work together high levels of EPI and SI are possible. However, the research has shown that there are still differences when the lobby groups are integrated in planning processes. In cases where they had been integrated as early as possible the levels of EPI and SI had been high.

The introduction of the working group for the Centres Plan 2009 also supports higher levels of integration. The working group had started its work early in the process and discussed all intermediate steps. However, the one-sided focus on retail related issues limits the integration effect significantly. Urban planners should possibly consider a broader approach next time they update the policy, maybe following the example of transport planners. As the link between transport and spatial structure was highlighted regularly, at least the integration of transport planners and transport lobby groups should be considered. This link is also promoted by the Federal Regional Planning Act which could therefore work as a legal supporting element to increase DI and SI. In order to increase also the level of EPI, local environmental NGOs are possible participants to bring environmental topics on the agenda.

One obstacle that was hardly mentioned is the traditional approach of planning. This could also be seen on the diagram as traditional approaches do not achieve as high integration levels as alternative ones. An example that shows the change is the development of Urban Development Plans. The two plans of 1992 and 1993 achieved the same levels of integration as the two plans of 1999 and 2003. The development of all four plans had followed the traditional approach of strategic planning. However, this procedure had changed with the most recent plans. With the Centres Plan the level of SI

was increased to medium integration. In case of the Transport Plan and the chosen new participation approach the levels of EPI, DI and SI were increased significantly, in terms of DI and SI to the level of high integration.

8.2.5 Possibilities to increase the level of integration

This section deals with the research questions: *What measures would support a higher level of integration within the planning processes?*

The previous section has shown that the variety of obstacles is greater than the variety of supporting elements. It seems that the factors that support higher levels of integration are clearer defined and can be identified easier. Following this, there is the possibility to increase the knowledge of these factors, why they occur and how they can be strengthened, so that higher levels of integration can be achieved in the overall planning experience. In terms of obstacles, specific methods need to be developed that help to identify them easier and that better explain why obstacles occur. Based on these, instruments and methods could be developed that help to minimise the obstacles.

This research has identified obstacles and supporting elements in practical planning. So, higher policy and planning levels as well as local departments and local stakeholders could work with the findings in order to minimise the negative effect of factors that minimise integration and to increase the effect of elements that support integration. The different cases have shown that it is more difficult to achieve higher levels of integration in strategic planning than in project related planning and problem solving. In strategic planning, local planners stick more to the traditional planning paradigm. An exception is the new Transport Plan, which could be used now as an example how integration processes can work in local strategic planning. In the case of the Höfe project, the planners also followed the legal framework, but they also followed their own framework which led to a medium level of EPI. The case of the Karli project has shown that a different approach on how to start a planning process could also increase the level of integration, although planners had to stick to the legal framework as well. There is no generally applicable answer whether the legal framework supports or hinders integration, as the especially the Karli and Höfe project, the Noise Action Plan and the parking on pavements problem have shown that the legal framework can support higher levels of integration. In the case of the Clean Air Plan, the legal framework puts extra

pressure on local planners to integrate the goals of the directive in planning policies at the local level as otherwise fines were imposed.

The Mach's leiser project and the parking on pavements problem have shown that bottom-up initiatives can significantly increase the level of integration. In the case of Mach's leiser, all three integration approaches achieved high levels. Mach's leiser and the new Transport Plan have also proven that financial incentives can also support high levels of integration. So, special funding programmes together with local initiatives have the potential to bring a change to integration approaches in local planning.

Related to bottom-up initiatives is the work of lobby-groups. Especially lobby groups that perform at the local level know problems and concerns of citizens. With regard to mobility, an integrated approach of the eco-mobility related lobby groups could strengthen their position and lift the awareness of eco-mobility in spatial, transport and environmental related planning. When the respective lobby groups work only with their own interests in mind it is very likely that the modes of eco-mobility are developed at the expense of each other. An integrated approach of them all would increase the strength of their arguments and would lead to a stronger consideration of eco-mobility in planning processes.

With respect to urban development a close cooperation of the urban development department and the transport department seems necessary to strengthen the link between the spatial structure and the accessibility of centres. A consideration of mixed uses, polycentric developments of cities and the related links by public transport and bicycle lanes could set the basis for environmentally friendly mobility. As economic and social aspects are still considered it could result in a sustainable urban structure connected by sustainable mobility. The Höfe project is an example, how the link of spatial and transport planning can be strengthened, as it was realised in a dedicated centre that is well connected to all modes of eco-mobility.

In order to strengthen the consideration of environmental issues it would be worth considering integrating environmental offices in every department. So far, this is mainly a theoretical concept, but the implementation of environmental planners in all other planning departments could increase communication structures and support the integration of environmental issues that are then no longer 'external'.

8.2.6 Environmentally friendly mobility at the local level

This section deals with the final set of questions: *To what degree is integration instrumental for improving planning outputs? How effective are integration approaches in promoting more environmentally friendly mobility at the local level?*

Several interviewees indicated that higher levels of departmental and stakeholder integration can increase the level of acceptance of the policy. This could be observed in several cases with different meaning. In the case of the Centres Plan, the integration of retail related stakeholders increased the acceptance amongst retailers and stakeholders who are concerned about economic issues. In the case of the Transport Plan, the integration of stakeholders and citizens during the updating process of the most recent plan increased the level of acceptance as well. Furthermore, it also increased the awareness of citizens of this overall planning strategy. The case of the Höfe project follows the Centres Plan and the analysis has shown that the legal basis led to the medium level of EPI. This might be surprising as the Centres Plan itself only achieved a weak level of EPI. However, the Höfe project minimises the need to visit greenfield developments and was realised in an area that is well connected and so it could achieve a higher level of EPI than its legal basis.

The Clean Air Plan was developed mainly by planners and with minimum stakeholder integration. When the low emission zone was introduced in 2011 local politicians, retailers and citizens were protesting but they had not chance. As the Clean Air Plan was officially adopted and the low emission zone posed the key measure of it, the low emission zone, was not stopped. This is an example how higher stakeholder integration could have raised the level of acceptance. Owens (2004) and Skogstad (2003) had highlighted how important participant integration is for consensus finding and for achieving higher levels of acceptance of policy outputs. This research comes to the same conclusion. Especially the Mach's leiser project has shown how high levels of integration can be achieved with SI. The project was also rated highly by participants. Another example of high SI is the updating of the Transport Plan. Whether the plan will increase the acceptance of citizens in the end could not be analysed.

Some of the measures that were developed during the Mach's leiser project were integrated into the Noise Action Plan and some of them are already implemented. So, there was already an output that improved the noise situation of local residents. Furthermore, this project is an example how stakeholder integration with a special focus

on citizens can help to save money. Many of the projects that were set up require a small budget and small effort. The example of the Georg-Schumann-Street has shown that, with a simple re-marking of a street, the character of the street can be changed entirely and a stronger focus be put on eco-mobility. The integration of citizens and stakeholders increases also the consideration of local issues and that they are adequately addressed. This might not always be useful on the strategic planning level, but more on the project and problem solving level.

The analysis has shown that there are numerous elements that support integration approaches that can also promote a more environmentally friendly mobility. However, sometimes it is difficult to measure to what extent those elements promote more environmentally friendly mobility. At the end of section 8.2.3 it was stated that this research could not measure the success of the integration approaches. Nevertheless this research has shown that integration processes in planning can help to create an environment that offers the possibility of environmentally friendly mobility. The measures developed during the Mach's leiser project mostly focus on eco-mobility. Several mobility related measures of the Clean Air Plan and the Noise Action Plan also claim a shift towards eco-mobility and the updating process of the Transport Plan has shown that stakeholders and local planners aim to address eco-mobility and related infrastructure more in the final plan. The bottom-up initiatives of the NGO Ökolöwe, and of several transport lobby groups, have raised awareness of environmental topics in mobility related planning and they also work closely with local planners.

All cases achieved certain levels of integration, some weaker and some stronger ones. None of the cases excludes or hinders eco-mobility. In all relevant cases, spatial objectives played a role that support walking and cycling. So, an integrated approach to spatial and transport planning together with the consideration of environmental objectives can promote environmentally friendly mobility. However, the integration of the various departments alone does not achieve a high quality of environmentally friendly mobility. It also requires the integration of local stakeholders. So, EPI, DI and SI are required as a set in order to achieve environmentally friendly mobility.

It can be concluded that integration at the local level happens to a certain extent although most of the plans and projects do not follow the approach of integration directly. Supporting elements and obstacles vary and sometimes a supporting element can turn into an obstacle and vice versa. In the end, a variety of factors influences the

various levels of integration and, depending on the objectives of a policy or project, the factors need to be evaluated. Therefore, a comprehensive set of integration indicators is necessary. Additionally, local actors and their chosen approaches play an important role in integration processes and whether a traditional paradigm is applied or an alternative paradigm. However, especially the integration of stakeholders can add higher levels of environmental integration and therefore change planning towards alternative planning paradigms.

8.3 Contribution of the research

This thesis investigated integration approaches at the local level with respect to environmentally friendly mobility. Specifically, this research has focused on the levels of environmental policy integration, departmental integration and stakeholder integration. Furthermore, supporting elements that strengthen, and obstacles that weaken, integration approaches were analysed.

The literature on EPI in the European context is mainly embedded in the European multi-level governance system. Vertical and horizontal dimensions were presented for an analytical framework. The horizontal dimension within this research was addressed with Leipzig as planning policies of various local planning departments were analysed. The focus of these departments on environmental objectives, inter-sectoral cooperation and integration of stakeholders formed the key part of this thesis.

The objective of this research is to contribute to the conceptual framework of EPI, departmental integration in planning and sustainable urban development. First of all, the contribution of the research can be related to the gaps in existing literature that had been identified in Chapter 2.

The analysis of the literature related to the concept of EPI had revealed that there is a strong focus on the supranational level of the EU or the national level of European member states. The local level, which is the level closest to the people and usually also closest to environmental problems, had hardly been addressed in previous EPI research. This research has done an in-depth analysis of EPI processes at the local level. It has revealed that EPI could happen in top-down processes, when higher planning and policy levels put pressure on the local level with their institutional framework. However,

it is more likely that bottom-up processes initiate EPI. These bottom-up processes could even achieve higher levels of EPI than processes that had started at higher planning levels, as in cases where local organisations, citizens and planners have a real interest on a change of the local planning framework, their input is usually much higher.

The analysis of the literature further revealed that EPI is not only about integrating environmental objectives in non-environmental policy fields but also about reducing the segregated nature of planning and increasing the participation of citizens and stakeholders. However, so far, the concept of EPI does not provide the conceptual framework to really differentiate between the different integration approaches related to EPI. Therefore, this research extended the concept of EPI and added the dimensions of DI (departmental integration) and SI (stakeholder integration). This will help to better understand integration processes and to differentiate, in particular when it comes to supporting elements and obstacles. When there are smaller conceptual entities, the whole concept of EPI can be better unpacked and understood.

This was one of the main findings of the research. Additionally the research has shown that a higher level of EPI, and subsequently DI and SI, needs to go hand in hand with the change of behaviour of local planners. If the planners stick to traditional planning approaches, it is very difficult to achieve medium or higher levels of EPI, DI and SI. Due to the German planning system, all policies have to fulfil either an EIA or a SEA. However, so far there is no assessment required that measures the involvement and level of DI and SI. So, as the requirement of EIA and SEA provides at least a certain level of EPI, an extension of the legal framework could also increase the integration level of DI and SI. However, bottom-up processes and changes of the planning behaviour that have their origin in the planning departments, will possibly achieve higher integration levels than top-down initiatives.

The critique of Jordan and Lenschow (2008b) had revealed that the existing literature provides only a fragmented evidence base of every day practices of EPI. This research has a strong focus on planning practices and the investigation of the levels of EPI, DI and SI in planning processes at the local level was one of the main aims. It was very striking to see that EPI, DI and SI take place, although involved planners and stakeholders did not know that or did not think about integration processes in the first place. Integration just happened. Maybe this needs to be considered in the theoretical

conceptualisation of EPI that particularly at the local level integration processes occur that have no certain origin. Sometimes the participation of citizens is related to a certain topic, sometimes it is related to a personal interest. It is difficult to find an explanation that fits to all reasons. In this case, EPI research needs to find answers in other research fields, for example bottom-up research or general public participation research.

Furthermore, the practical orientation of this research has provided an insight into local integration processes that are hard to gain with theoretical considerations, in particular, when it comes to supporting elements and obstacles that are not related to the legal/institutional framework or financial backgrounds. This is also an example, where EPI research needs to work with other research fields in order to find answers or at least starting points in how to minimise obstacles to integration and how to improve supporting elements. This research could only show what supporting elements and obstacles occur at the local level but could not trace them back.

Lafferty and Hovden (2003) and Lenschow (1997) have identified indicators for achieving EPI at higher political levels. However, the literature could not provide a detailed set of indicators to measure EPI, nor indicators that help to analyse EPI related processes at the local level. One of the main conceptual contributions of this research is the indicator framework that was developed as part of the empirical studies. In order to measure the levels of EPI, DI and SI, it had been necessary to create indicators and to set up variables in order to make the empirical cases of this research comparable and to draw robust conclusions. This indicator framework needs to be tested in other research but it is a starting point in practical EPI research, so that the concept of EPI can be enlarged in terms of practical implementation.

Another research gap that was discovered in the review of the literature is related to mobility research. So far, the link between mobility research and EPI was not investigated. There is a long tradition of research on the integration of spatial and transport planning (see for example Meyer and Miller 2001 and Hull 2008). However, the influence of environmental concerns in integrated spatial and transport planning was not addressed. The findings of this research contribute to this research field of mobility related planning and EPI. The research also provides evidence for both parts of EPI; horizontal and vertical.

So, this research contributes to the analytical and methodological considerations of EPI research and departmental integration in planning. As both can also be part of sustainable urban development, the findings of this research also contribute to a better understanding of practical planning in respect to the concept sustainability.

8.4 Research limitations and further research

This research presented a detailed analysis of policies and policy making processes at the local planning level in Germany. During the conceptualisation and realisation of the research several topics and issues occurred that could not be addressed. They could be topics of further research.

Firstly, as stated above, the question could not be answered of how successful the integration approaches are. This would have required a different set of methods and indicators. However, it seems necessary that the processes and influencing factors of EPI are better understood before the success can be measured. Otherwise it would be difficult to identify factors that would relate to success. So, a related question is: Where do the boundaries of EPI lie? Not every achievement of high levels of EPI leads to an improvement of the environmental situation. In this case, we would also need a differentiated view at the related topic and what success means in its respect.

Secondly, as this research has shown, integration approaches are not always obvious and need to be discovered. This is linked to the question: How can practical planners recognise EPI? In most of the cases in this research, planners and stakeholders did not know that they were part of an integration approach. Nevertheless, EPI, DI and SI occurred on different levels. A related question is: How high would the levels of EPI, DI and SI be in a case where those three integration approaches are announced openly? However, this would be difficult to investigate in practical research, as it possibly needs to take place under special circumstances.

Thirdly, although the vertical dimension of EPI was included as the institutional framework of this research, a detailed analysis of all implications and top-down and bottom-up processes could not be addressed. This was not possible in the given time. The same applies to the identified supporting elements and obstacles. This would require a different methodology and more time to investigate each of those supporting

elements and obstacles, their origin and level of influence. So, further research could focus on supporting elements and obstacles of EPI, DI and SI and trace them through all levels of governance. Furthermore, an in-depth study could compare the identified supporting elements and obstacles of cities in different countries to find out how the different planning paradigms and traditions of countries and local preferences influence integration approaches.

Fourthly, another limitation that could be addressed in further research is the link between policy output and policy outcome. A different approach with a more detailed focus on mobility behaviour of citizens could help to evaluate and improve EPI processes. This further knowledge could then be used to refine the EPI-DI-SI model that was introduced in this research and add more value to the levels of weak, medium and strong integration. The evaluation of policies and their development process is only one side. The implementation and 'use' by citizens could complete this view.

Fifthly, the newly introduced indicator framework needs to be tested. It was introduced for this research that has a very strong focus on practical planning. Further research needs to find out, whether the indicators are robust and whether they have to be extended (1) in terms of differentiation, (2) in terms of more indicators, and (3) in terms of measurability. Furthermore, the indicators need to be tested in different planning environments, i.e. in other countries, at different planning levels, in a different planning field. Additionally, the research perspective could be changed. This research was looking in detail at practical planning projects. A more theoretical approach would use a completely different methodology, but could possibly use the same indicators to measure EPI.

Strictly speaking, most of the cases achieved only a weak level of EPI. However, planning is a very complex process. The focus on only one aspect, in this case the integration of environmental objectives, does not provide justice to planning. Further research could address the level of EPI and what levels of it are achievable at the local level and what levels of it are supportive in addressing local projects and problems. This further research could also address the previously mentioned boundaries to and of EPI. A related question is, whether a high level of EPI is desirable in any case.

Finally, future research can investigate the levels of EPI, DI and SI and their defined indicators further. The indicators were developed for this research. However, they need to be tested and possibly refined in other contexts, other areas of planning, and other levels of governance.

Bibliography

- ADFC LEIPZIG (2014) Fahrradabstellanlagen. Available at: <http://www.adfc-leipzig.de/diebstahlschutz> (Accessed: October 2014).
- ADRIAN, H. (1983) Stadterneuerung und Stadtumbau. IN ARL (Ed.) *Grundriß der Stadtplanung*. Hannover, Vincentz.
- ALBERS, G. (1997) Nachhaltige Stadt - Lippenbekenntnis oder Handlungskonzept? *Die alte Stadt*, 24, 283-293.
- ARNSTEIN, S. R. (1969) A ladder of citizen participation *Journal of the American Institute of Planners*, 35, 216-224.
- ASTLEITHNER, F., HAMEDINGER, A., HOLMAN, N. & RYDIN, Y. (2004) Institutions and indicators – The discourse about indicators in the context of sustainability. *Journal of Housing and the Built Environment*, 19, 7-24.
- BAILEY, I. (2003) *New environmental policy instruments in the European Union: politics, economics, and the implementation of the packaging waste directive*, Aldershot, Ashgate Pub.
- BAKER, S. (1993) Environmental policy of the European Community: a critical review. *Paradigms*, 7, 8-29.
- BAKER, S. (1997) The evolution of European Union environmental policy. From growth to sustainable development? IN BAKER, S., KOUSIS, M., RICHARDSON, D. & YOUNG, S. (Eds.) *The politics of sustainable development*. London, Routledge.
- BAKER, S. (2006) *Sustainable development*, London, Routledge.
- BAKER, S., KOUSIS, M., RICHARDSON, D. & YOUNG, S. (1997) Introduction. The theory and practice of sustainable development in EU perspective. IN BAKER, S., KOUSIS, M., RICHARDSON, D. & YOUNG, S. (Eds.) *The politics of sustainable development*. London, Routledge.
- BANISTER, D. (2002) *Transport Planning*, New York, Spon Press.
- BANISTER, D. (2005) *Unsustainable Transport: City Transport in the New Century*, London, Routledge.
- BANISTER, D. (2008) The sustainable mobility paradigm. *Transport Policy*, 15, 73-80.
- BAUMOL, W. J. & OATES, W. E. (1988) *The theory of environmental policy*, Cambridge, Cambridge University Press
- BAZELEY, P. (2011) *Qualitative data analysis with NVivo*, London, Sage.
- BEATLEY, T. (1995) Planning and sustainability: the elements of a new (improved?) paradigm *Journal of Planning Literature*, 9, 383-395.
- BECKMANN, J. (2001) Automobility - a social problem and theoretical concept. *Environment and Planning D: Society and Space*, 19, 593-607.
- BEDER, S. (1996) Charging the earth: the promotion of price-based measures for pollution control. *Ecological Economics*, 16, 51-63.
- BENSON, D. & JORDAN, A. (2008) Understanding task allocation in the European Union: exploring the value of federal theory. *Journal of European Public Policy*, 15, 78-97.
- BENSON, D. & JORDAN, A. (2010a) Environmental policy. IN CINI, M. & BORRAGÁN, N. P.-S. (Eds.) *European Union politics*. Oxford, Oxford University Press.
- BENSON, D. & JORDAN, A. (2010b) European Union environmental policy after the Lisbon Treaty: plus ca change, plus c'est la même chose? *Environmental Politics*, 19, 468-474.
- BERGMANN, E. & WIEGANDT, C.-C. (1996) Nachhaltige Stadtentwicklung - Herausforderungen an einen ressourcenschonenden und umweltverträglichen Städtebau. *Standort (Berlin)*, 20, 20-25.

- BERKE, P. R. (2002) Does sustainable development offer a new direction for planning? Challenges for the twenty-first century. *Journal of Planning Literature*, 17, 21-36.
- BERTOLINI, L. & CLERCQ, F. L. (2003) Urban development without more mobility by car? Lessons from Amsterdam, a multimodal urban region. *Environment and Planning A*, 35, 575-589.
- BETKER, F. (1992) *Ökologische Stadterneuerung. Ein neues Leitbild der Stadtentwicklung? Mit einer Fallstudie zur kommunalen Planung in Saarbrücken, Aachen, Alano.*
- BEYME, K. V., DURTH, W., GUTSCHOW, N., NERDINGER, W. & TOPFSTEDT, T. (1992) *Neue Städte aus Ruinen. Deutscher Städtebau der Nachkriegszeit*, München, Prestel.
- BINA, O. (2008) Strategic Environmental Assessment. IN JORDAN, A. J. & LENSCHOW, A. (Eds.) *Innovation in environmental policy? Integrating the environment for sustainability*. Cheltenham, Northampton, Edward Elgar Publishing Limited.
- BLOTEVOGEL, H. H. & SCHELHAAS, B. (2011) Geschichte der Raumordnung. IN BORCHARD, K., BUCHNER, W., MÜLLER, W., PRIEB, A., SCHOLICH, D. & SINZ, M. (Eds.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- BMJV (2007) Verordnung über den Bau und Betrieb der Straßenbahnen (Straßenbahn-Bau- und Betriebsordnung - BOStrab). Available at: http://www.gesetze-im-internet.de/strabbo_1987/BJNR026480987.html (Accessed: October 2014). IN BUNDESMINISTERIUM DER JUSTIZ UND FÜR VERBRAUCHERSCHUTZ (Ed.).
- BMJV (2011) Gesetz über Finanzhilfen des Bundes zur Verbesserung der Verkehrsverhältnisse der Gemeinden (Gemeindeverkehrsfinanzierungsgesetz - GVFG) Available at: <http://www.gesetze-im-internet.de/gvfg/BJNR002390971.html> (Accessed: October 2014). IN BUNDESMINISTERIUM DER JUSTIZ UND FÜR VERBRAUCHERSCHUTZ (Ed.).
- BMSW (1971) Gesetz über städtebauliche Sanierungs- und Entwicklungsmaßnahmen in den Gemeinden. IN WOHNUNGSWESEN, B. F. S. U. (Ed.) München, Beck.
- BMUB (2007) Nationale Strategie zur biologischen Vielfalt. Available at: http://www.bmub.bund.de/service/publikationen/downloads/details/artikel/bmu-broschuere-nationale-strategie-zur-biologischen-vielfalt/?tx_ttnews%5BbackPid%5D=452 (Accessed: November 2014).
- BMUB (2010) Neue EU-Luftqualitätsrichtlinie in deutsches Recht umgesetzt. Available at: <http://www.bmub.bund.de/bmub/presse-reden/pressemitteilungen/pm/artikel/neue-eu-luftqualitaetsrichtlinie-in-deutsches-recht-umgesetzt/> (Accessed: October 2014). Berlin, Bundesministerium für Umwelt Naturschutz Bau und Reaktorsicherheit,.
- BMUB (2013) Nationale Nachhaltigkeitsstrategie "Perspektiven für Deutschland". Available at: <http://www.bmub.bund.de/themen/strategien-bilanzen-gesetze/nachhaltige-entwicklung/strategie-und-umsetzung/nachhaltigkeitsstrategie/> (Accessed: November 214). IN BUNDESMINISTERIUM FÜR UMWELT NATURSCHUTZ BAU UND REAKORSICHERHEIT (Ed.).
- BMVBS (2005) Allgemeine Verwaltungsvorschrift zur Straßenverkehrs-Ordnung (VwV-StVO) Available at: http://www.expertas.de/000_traffic_signs/vwv-stvo.htm (Accessed: October 2014). IN BUNDESMINISTERIUM FÜR VERKEHR BAU- UND STADTENTWICKLUNG (Ed.).
- BMVBS (2008) Raumordnungsgesetz. München, Beck.

- BMVBS (2009) Allgemeine Verwaltungsvorschrift zur Straßenverkehrs-Ordnung (VwV-StVO) Available at: http://www.verwaltungsvorschriften-im-internet.de/bsvwvbund_26012001_S3236420014.htm (Accessed: October 2014). IN BUNDESMINISTERIUM FÜR VERKEHR BAU- UND STADTENTWICKLUNG (Ed.).
- BMVBW (2003) Bundesverkehrswegeplan 2003. IN BUNDESMINISTERIUM FÜR VERKEHR BAU- UND WOHNUNGSWESEN (Ed.) Bonn, Druckerei des BMVBW,.
- BMVBW (2005) Städtebaulicher Bericht der Bundesregierung - Nachhaltige Stadtentwicklung: ein Gemeinschaftswerk. Bonn, Bundesministerium für Verkehr, Bau- und Wohnungswesen,.
- BMWB (1950) Erstes Wohnungsbaugesetz mit Begründung sowie Gesetz über die Aufschliessung von Wohnsiedlungsgebieten, Gesetz über einstweilige Massnahmen zur Ordnung des deutschen Siedlungswesens, Wohnungsgemeinnützigkeitsgesetz, Wohnungsgesetz u. deren Durchführungsverordnungen. IN BUNDESMINISTERIUM FÜR WOHNUNGSBAU (Ed.) München, Berlin, Beck.
- BMWB (1956) Zweites Wohnungsbaugesetz (Wohnungsbau- und Familienheimgesetz) vom 27. Juni 1956. IN BUNDESMINISTERIUM FÜR WOHNUNGSBAU (Ed.) Düsseldorf, Werner.
- BMWB (1960) Baugesetzbuch (BauGB). IN WOHNUNGSBAU, B. F. (Ed.) München, Berlin, Beck.
- BMWI (2014) Das Erneuerbare-Energien-Gesetz. Available at: http://www.erneuerbare-energien.de/EE/Navigation/DE/Gesetze/Das_EEG/das_eeg.html (Accessed: November 2014). IN BUNDESMINISTERIUM FÜR WIRTSCHAFT UND ENERGIE (Ed.).
- BOCK, S., HINZEN, A. & LIBBE, J. (2011) *Nachhaltiges Flächenmanagement - ein Handbuch für die Praxis. Ergebnisse aus der REFINA-Forschung*, Berlin, Deutsches Institut für Urbanistik.
- BODE, V. (2005) Der Luftkrieg gegen Leipzig. IN SCHMIDT, H., MAYER, G., WIKTORIN, D., TZSCHASCHEL, S. & BLENCK, J. (Eds.) *Der Leipzig Atlas*. Leipzig, Emons.
- BOGNER, A., LITIG, B. & MENZ, W. (Eds.) (2009) *Experteninterviews. Theorien, Methoden, Anwendungsfelder*, Wiesbaden, VS Verlag für Sozialwissenschaften.
- BOOHER, D. E. & INNES, J. E. (2002) Network power in collaborative planning. *Journal of Planning Education and Research*, 21, 221-236
- BOOTH, P., BREUILLARD, M., FRASER, C. & PARIS, D. (Eds.) (2007) *Spatial Planning Systems of Britain and France. A comparative analysis*, London, Routledge.
- BORCHARD, K., BUCHNER, W., MÜLLER, W., PRIEBS, A., SCHOLICH, D. & SINZ, M. (Eds.) (2011) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung. Red.-Ausschuss Klaus Borchard (Leitung)*, Hannover, Akademie für Raumforschung und Landesplanung.
- BÖRKEY, P. & LÉVÊQUE, F. (2000) Voluntary approaches for environmental protection in the EU - a survey. *European Environment*, 10, 35-54.
- BOROWSKY, P. (1998) Tendenzwende Anfang der siebziger Jahre. *Informationen zur politischen Bildung*, 258.
- BORRISS, G. (2012) Parksituation in der Brockhausstraße in Schleußig. Aus: Parken in Schleußig: Alles bleibt beim Alten. Leipzig, Leipziger Internet Zeitung. Available at: <http://www.l-iz.de/Politik/Brennpunkt/2012/08/Parken-in-Leipzig-Schleussig-Alles-bleibt-beim-Alten-43086.html#> (Date: 04.08.2012; Accessed: October 2014).

- BOSSERHOFF, D. (2004) Umsetzung der Integration von Raumplanung und Verkehr in Hessen. Rahmenbedingungen, Erfahrungen und Beispiel. *Raumforschung und Raumordnung*, 62, 309-318.
- BRACHER, T. (2008) KfZ-Verkehr und städtische Lebensqualität. IN BRACHER, T. (Ed.) *Steuerung des städtischen Kfz-Verkehrs: Parkraummanagement, City-Maut und Umweltzonen*. Berlin, Deutsches Institut für Urbanistik.
- BREHENY, M. (Ed.) (1992) *Sustainable development and urban form*, London Pion.
- BREWES GMBH (2014) Verkehrsschilder "Vorgeschriebene Mindestgeschwindigkeit 40 km/h" - Verkehrszeichen 275-51 nach StVO. Available at: <http://www.brewes.de/verkehrsschilder/verkehrsschilder-geschwindigkeitsschilder/verkehrsschilder-vorgeschriebene-mindestgeschwindigkeit/verkehrsschilder-vorgeschriebene-mindestgeschwindigkeit-40-kmh.html> (Accessed: October 2014). Markersdorf.
- BRUNAZZO, M. (2010) Regional Europe. IN CINI, M. & BORRAGÁN, N. P.-S. (Eds.) *European Union Politics*. Oxford, Oxford University Press.
- BUITENKAMP, M. (1999) Ten benchmarks for environmental policy integration. EEB position paper on targets, indicators and timetables, tabled for the Helsinki Summit. European Environmental Bureau (EEB).
- BULKELEY, H., WATSON, M., HUDSON, R. & WEAVER, P. (2005) Governing municipal waste: towards a new analytical framework. *Journal of Environmental Policy & Planning*, 7, 1-23.
- BUND/LÄNDER-ARBEITSGEMEINSCHAFT FÜR IMMISSIONSSCHUTZ (2010) Umsetzung der Richtlinie 2002/49/EG über die Bewertung und Bekämpfung von Umgebungslärm in Deutschland. Bericht über die Erfahrungen aus dem Vollzug der ersten Phase der Lärmkartierung und -aktionsplanung nach Bundes-Immissionsschutzgesetz unter Einbindung der kommunalen Ebene und Vorschlag für die Gestaltung der zweiten Phase
- BUNDESMINISTERIUM FÜR VERKEHR, BAU UND STADTENTWICKLUNG (2008) Raumordnungsgesetz. München, Beck.
- BUNDESMINISTERIUM FÜR WOHNUNGSBAU (2014) Baugesetzbuch (BauGB). IN BUNDESMINISTERIUM FÜR WOHNUNGSBAU (Ed.) München, Berlin, Beck.
- CAMBRIDGE CITY COUNCIL (2013) Statement of community involvement. Available at: <https://www.cambridge.gov.uk/statement-of-community-involvement> (Accessed: August 2016).
- CAMPBELL, S. (1996) Green cities, growing cities, just cities? Urban planning and the contradictions of sustainable development. *Journal of the American Planning Association*, 62, 296-312.
- CARTER, N. (2007) *The politics of the environment: ideas, activism, policy*, Cambridge, Cambridge University Press.
- CERVERO, R. (1998) *The Transit Metropolis: A Global Inquiry*, Washington, DC, Island Press.
- CHAMBERS, R. (1994) Participatory Rural Appraisal (PRA): challenges, potentials and paradigm. *World Development*, 22, 1437-1454.
- CHRISTALLER, W. (1933) *Die zentralen Orte in Süddeutschland : eine ökonomisch-geographische Untersuchung über die Gesetzmäßigkeit der Verbreitung und Entwicklung der Siedlungen mit städtischen Funktionen*, Jena, Fischer.
- CINI, M. & BORRAGÁN, N. P.-S. (Eds.) (2010) *European Union politics*, Oxford, Oxford University Press.
- COLLIER, U. (1994) *Energy and environment in the European Union: the challenge of integration*, Aldershot, Hampshire, Avebury.

- CONNELLY, J. & SMITH, G. (2003) *Politics and the environment. From theory to practice*, London, Routledge.
- CONROY, M. M. & BERKE, P. R. (2004) What makes a good sustainable development plan? An analysis of factors that influence principles of sustainable development. *Environment and Planning A*, 36, 1381-1396.
- CRESWELL, J. W. (2009) *Research design: Qualitative, quantitative, and mixed methods approaches*, London, Sage Publications.
- CULLINGWORTH, B., NADIN, V., HART, T., DAVOUDI, S., PENDLEBURY, J., VIGAR, G., WEBB, D. & TOWNSHEND, T. (Eds.) (2015) *Town and Country Planning in the UK*, London, Routledge.
- DENSCOMBE, M. (2007) *The good research guide for small-scale social research projects*, Maidenhead, Open University Press.
- DEUTSCHER STÄDTETAG (2004) Zukunftssicherung durch integrierte Stadtentwicklungsplanung und kooperatives Stadtentwicklungsmanagement. *Informationen zur Raumentwicklung*, 321-323.
- DHONDT, N. (2003) *Integration of environmental protection into other EC policies: legal theory and practice*, Groningen, Europa Law Pub. .
- DIE BUNDESREGIERUNG (2002) Perspektiven für Deutschland. Unsere Strategie für eine nachhaltige Entwicklung. Available at: https://www.bundesregierung.de/Webs/Breg/DE/Themen/Nachhaltigkeitsstrategie/1-die-nationale-nachhaltigkeitsstrategie/nachhaltigkeitsstrategie/_node.html (Accessed: August 2016).
- DIEGMANN, V., PFÄFFLIN, F. & WURSTHORN, H. (2014) Bestandsaufnahme und Wirksamkeit von Maßnahmen der Luftreinhaltung. Available at: <http://www.umweltbundesamt.de/publikationen/bestandsaufnahme-wirksamkeit-von-massnahmen-der> (Accessed: November 2014).
- DIFU (2004) Difu-Berichte 1/2004 - Integrierte Konzepte der Stadtentwicklungsplanung - ein Workshop-Bericht. Available at: <http://www.difu.de/publikationen/difu-berichte-12004/integrierte-konzepte-der-stadtentwicklungsplanung-ein.html> (Accessed: November 2014).
- DOERNBERG, S. (1954) Die Deutsche Demokratische Republik - die Zukunft der deutschen Nation. *Weltall, Erde, Mensch*. Berlin, Verlag Neues Leben.
- DOMHARDT, H.-J., BENZEL, L., KIWITT, T., PROSKE, M., SCHECK, C. & WEICK, T. (2011) Konzepte und Inhalte der Raumordnung. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- DOSCH, F. (2002) Auf dem Weg zu einer nachhaltigen Flächennutzung. *Informationen zur Raumentwicklung*, 31-45.
- DÜHR, S. (2011) Raumplanung in europäischen Nachbarländern. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- DURNER, W., GREIVING, S. & REITZIG, F. (2011) Rechtlicher und institutioneller Rahmen der Raumplanung. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- ECKART, K. (1989) *DDR*, Stuttgart, Klett.
- EEA (2005) Environmental policy integration in Europe. State of play and an evaluation framework. Available at:

- http://www.eea.europa.eu/publications/technical_report_2005_2 (Accessed: November 2014).
- EEA (2014) Air pollution still harming Europe's ecosystems, despite reduced emissions. Available at: <http://www.eea.europa.eu/highlights/air-pollution-still-harming-europe2019s> (Accessed: November 2014).
- EEC (1957) Treaty of Rome. European Economic Community.
- EKINS, P. (1999) European environmental taxes and charges: recent experience, issues and trends. *Ecological Economics*, 31, 39-62.
- ELKIN, T., MCLAREN, D. & HILLMAN, M. (1991) *Reviving the city: towards sustainable urban development*, London, Friends of the Earth.
- ENGSTRÖM, R., NILSSON, M. & FINNVEDEN, G. (2008) Which environmental problems get policy attention? Examining energy and agricultural sector policies in Sweden. *Environmental Impact Assessment Review*, 28, 241-255.
- ETHERINGTON, L. (2006) Digging beneath the surface: transposition, implementation and evaluation of European Environmental Law. *Journal of Environmental Policy & Planning*, 8, 107-133.
- EUROPEAN COMMISSION (1973) Declaration of the Council of the European Communities and of the Representatives of the Governments of the Member States Meeting in the Council of 22 November 1973 on the Programme for Action of the European Communities on the Environment (First EAP 1973-1976). *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities.
- EUROPEAN COMMISSION (1977) Resolution of the Council of the European Communities and of the Representatives of the Governments of the Member States Meeting within the Council of 17 May 1977 on the continuation and implementation of an European Community Policy and Action Programme on the Environment (Second EAP 1977-1981). *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities.
- EUROPEAN COMMISSION (1983) Resolution of the Council of the European Communities and of the Representatives of the Governments of the Member States Meeting within the Council of 7 February 1983 on the continuation and implementation of an European Community Policy and Action Programme on the Environment (Third EAP 1982-1986). *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities.
- EUROPEAN COMMISSION (1987) Resolution of the Council of the European Communities and of the representatives of the governments of the member states, meeting with the Council of 19 October 1987 on the continuation and implementation of a European Community policy and action programme on the environment (1987-1992) (87/C 328/01). *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities,.
- EUROPEAN COMMISSION (1993) Resolution of the Council and the Representatives of the Governments of the Member States, meeting within the Council of 1 February 1993 on a Community programme of policy and action in relation to the environment and sustainable development. *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities,.
- EUROPEAN COMMISSION (1996) Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31996L0062&qid=1414672671549&from=EN> (Accessed: October 2014). Council of the European Union. Official Journal L 296 , 21/11/1996 P. 0055 - 0063

- EUROPEAN COMMISSION (1999a) ESDP - European Spatial Development Perspective. Towards balanced and sustainable development of the territory of the European Union. Office for official publications of the European Communities. Available at: http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/som_en.htm (Accessed: November 2014).
- EUROPEAN COMMISSION (1999b) Europe's environment: What directions for the future? The global assessment of the European Community programme of policy and action in relation to the environment and sustainable development, 'Towards sustainability'. *Communication from the Commission*.
- EUROPEAN COMMISSION (2001) A sustainable Europe for a better world: a European Union Strategy for Sustainable Development. Brussels.
- EUROPEAN COMMISSION (2002a) Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32002L0049&qid=1414672739678&from=EN> (Accessed: October 2014). Council of the European Union.
- EUROPEAN COMMISSION (2002b) Environment 2010: Our future, our choice. *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities.
- EUROPEAN COMMISSION (2006) Thematic strategy on the urban environment. Available at: http://ec.europa.eu/environment/urban/home_en.htm (Accessed: November 2014). Brussels.
- EUROPEAN COMMISSION (2008) Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32008L0050&qid=1414672800278&from=EN> (Accessed: October 2014). Council of the European Union. Official Journal L 152 , 11/06/2008 P. 0001 - 0044.
- EUROPEAN COMMISSION (2009a) Mainstreaming sustainable development into EU policies: 2009 review of the European Union Strategy for Sustainable Development. Brussels.
- EUROPEAN COMMISSION (2009b) Press release: Commission takes stock of progress on sustainable development. Available at: http://europa.eu/rapid/press-release_IP-09-1188_en.htm?locale=en (Accessed: November 2014).
- EUROPEAN COMMISSION (2011) White Paper: Roadmap to a single European transport area - towards a competitive and resource efficient transport system. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52011DC0144&from=DE> (Accessed: November 2014).
- EUROPEAN COMMISSION (2014) Infrastructure - TEN-T - Connecting Europe. Available at: http://ec.europa.eu/transport/themes/infrastructure/index_en.htm (Accessed: November 2014).
- EUROPEAN COMMISSION (2015) Sustainable Development Indicators. Available at: <http://ec.europa.eu/eurostat/web/sdi/indicators> (Accessed: August 2016).
- EUROPEAN COMMUNITY (1987) Single European Act. *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities.

- EUROPEAN COUNCIL (1992) Treaty on European Union (Maastricht Treaty). *Official Journal of the European Communities*. Brussels, Publications Office of the European Communities.
- EUROPEAN COUNCIL (1997) Treaty of Amsterdam amending the Treaty on European Union, the treaties establishing the European Communities and related Acts (Amsterdam Treaty). *Official Journal of the European Communities*. Brussels, Publications Office of the European Union.
- EUROPEAN COUNCIL (2006) Review of the EU Sustainable Development Strategy - Renewed strategy. Brussels.
- EUROPEAN COUNCIL (2007) *Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007*, Brussels, Publications Office of the European Communities.
- EUROPEAN ENVIRONMENT AGENCY (2003) Europe's environment: the third assessment. Available at: http://www.eea.europa.eu/publications/environmental_assessment_report_2003_10-sum/download (accessed: November 2014).
- EUROPEAN ENVIRONMENT BUREAU (2011) Press release: Traffic noise health impacts second only to air pollution, new WHO report says. Brussels.
- EUROPEAN ENVIRONMENTAL BUREAU (1999) Ten Benchmarks for environmental policy integration.
- EUROPEAN UNION (2007) Leipzig Charter. Leipzig.
- EUROPEAN UNION (2013) *EU transport in figures. Statistical pocketbook 2013*, Luxembourg, Publications Office of the European Union. Available at: http://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2013_en.htm (Accessed: November 2014).
- EVANS, B., JOAS, M., SUNDBACK, S. & THEOBALD, K. (2005) *Governing sustainable cities*, London, Earthscan.
- FANGOHR, H. (1988) Großwohnsiedlungen in der Diskussion. Am besten alles abreißen? *Geographische Rundschau*, 40, 26-32.
- FEINDT, P. H. & FLYNN, A. (2009) Policy stretching and institutional layering: British food policy between security, safety, quality, health and climate change. *British Politics*, 4, 386-414.
- FELLMANN, W. (1989) *Der Leipziger Brühl. Geschichte und Geschichten des Rauchwarenhandels*, Leipzig, VEB Fachbuchverlag Leipzig.
- FISCHER, F. (2002) *Citizens, experts, and the environment: the politics of local knowledge*, Durham, Duke University Press.
- FLYVBJERG, B. (2006) Five misunderstandings about case-study research. *Qualitative Inquiry*, 12, 219-245.
- FRIEDRICH, B. (2009) Verkehr und öffentlicher Raum. Stadtraum als Spiegel der Gesellschaft. IN FRIEDRICH, B. (Ed.) *Bewegung im Raum - Raum in Bewegung*, Frankfurt am Main.
- FUCHS, T. (2011) BauGB. Baugesetzbuch (BauGB) vom 23. Juni 1960. Historisch-synoptische Edition 1960-2011. Available at: <http://lexetius.com/leges/BauGB/> (Accessed: November 2014).
- FÜRST, D. & MÄDING, H. (2011) Raumplanung unter veränderten Verhältnissen. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- FÜRST, D. & SCHOLLES, F. (2008) Das System der räumlichen Planung in Deutschland. IN FÜRST, D. & SCHOLLES, F. (Eds.) *Handbuch Theorien und Methoden der Raum- und Umweltplanung*. Dortmund, Rohn.

- GEBHARDT, D., JOOS, M. & MARTIN, N. (2005) Living the compact city? - Planning paradigm and real-life mobility. *Die Erde*, 136, 267-290.
- GEOGRAPHISCH-KARTOGRAPHISCHE ANSTALT (1972) *Atlas der Erdkunde*, Gotha/Leipzig, VEB Hermann Haack.
- GEOGRAPHISCHE GESELLSCHAFT DER DDR (Ed.) (1973) *Entwicklung der Siedlungsstruktur der DDR : Vortragsthesen zur Arbeitstagung / Forschungsleitstelle für Territorialplanung der Staatlichen Plankomm. Fachverband der Berufsgeographen der Geographischen Gesellschaft der DDR*, Leipzig, Geographische Ges. der DDR.
- GIDDENS, A. (1994) *Beyond left and right: the future of radical politics*, Cambridge, Polity Press.
- GRAZI, F., BERGH, J. C. J. M. V. D. & OMMEREN, J. N. V. (2008) An empirical analysis of urban form, transport and global warming. *An Energy Journal*, 29, 97-122.
- GRIX, J. (2001) *Demystifying Postgraduate Research; From MA to PhD*, Birmingham, University of Birmingham Press.
- GÜLDENBERG, E., PREISING, T. & SCHOLLES, F. (Eds.) (2009) *Europäische Raumentwicklung: Metropolen und periphere Regionen*, Frankfurt am Main, Lang.
- GÜTHER, H., KRAUSE, L. & THURMANN, C. (1989) Stadtentwicklung in der DDR - Probleme heute und morgen. *Informationen zur Raumentwicklung*, (1989) 11/12, S. 869-879.
- HAASE, D., HAASE, A., KABISCH, S. & BISCHOFF, P. (2008) Guidelines for the "perfect inner city". Discussing the appropriateness of monitoring approaches for reurbanization. *European Planning Studies*, 16, 1075-1100.
- HACKER, J. S. (2004) Privatizing risk without privatizing the welfare state: The hidden politics of social policy retrenchment in the United States. *American Political Science Review*, 98, 243-260.
- HAHNE, U. (2002) Lokale Agenda 21 als Basis nachhaltiger Regionalentwicklung - Dilemmata eines neuen Politiktypus. *Geographische Revue*, 4, 21-33.
- HAIGH, N. (Ed.) (1992) *Manual of Environmental Policy: The European Community and Britain*, London, Longman.
- HAIGH, N. (2005) *Manual of European environmental policy: The EU and Britain*, Leeds, Maney Publishing.
- HALL, P. & PFEIFFER, U. (2000) *Urban 21. Der Expertenbericht zur Zukunft der Städte*, Stuttgart, München, Deutsche Verlags-Anstalt GmbH.
- HANDY, S. (1996) Methodologies for exploring the link between urban form and travel behaviour. *Transport Research Part D*, 1, 151-165.
- HANSJÜRGENS, B. & LÜBBE-WOLFF, G. (Eds.) (2000) *Symbolische Umweltpolitik*, Frankfurt, Suhrkamp Taschenbuch Wissenschaft.
- HARLANDER, T. (1998) Stadtplanung und Stadtentwicklung in der Bundesrepublik Deutschland: Entwicklungsphasen seit 1945. *DISP*, 132, 4-9.
- HARMS, S., KVIESE, R., DOMBROWSKI, F., HÖER, S., KUSSATZ, A. & ROSENAU, E. (2008) Parkraumprobleme in Schleußig: Anwohnerbefragung und Evaluation freiwilliger Verhaltensänderungen während eines Testzeitraumes. [Online] Available at: http://www.ufz.de/export/data/1/25777_Projekt_Schleussig.pdf (Accessed: October 2014). Leipzig, Helmholtz-Zentrum für Umweltforschung GmbH – UFZ. Department Stadtökologie, Umweltplanung und Verkehr
- HARMS, S., KVIESE, R., DOMBROWSKI, F., HÖER, S., KUSSATZ, A. & ROSENAU, E. (2009) Parkraumprobleme in wachsenden Stadtteilen. Anwohnerbefragung und Evaluation freiwilliger Verhaltensänderungen zur Lösung des Parkraumproblems in Leipzig-Schleußig. [Online] Available at: http://www.ufz.de/export/data/1/25780_9_2009_Harms_Parkraumprobleme.

- [pdf](#) (Accessed: October 2014). Leipzig, Helmholtz-Zentrum für Umweltforschung GmbH - UFZ. Department Stadtökologie, Umweltplanung und Verkehr.
- HARRIS, N. (2005) Best practice guidelines for regional development strategies. Available at: http://www.espon-interstrat.eu/library_details.php?idnews=46&powrot=library_new.php (Accessed: August 2016). Cardiff.
- HART, T., VIGAR, G. & DAVOUDI, S. (2015) The nature of planning. IN CULLINGWORTH, B., NADIN, V., HART, T., DAVOUDI, S., PENDLEBURY, J., VIGAR, G., WEBB, D. & TOWNSHEND, T. (Eds.) *Town and Country Planning in the UK*. London, Routledge.
- HAUG, C., RAYNER, T., JORDAN, A., HILDINGSSON, R., STRIPPLE, J., MONNI, S., HUITEMA, D., MASSEY, E., VAN ASSELT, H. & BERKHOUT, F. (2010) Navigating the dilemmas of climate policy in Europe: evidence from policy evaluation studies. *Climatic Change*, 101, 427-445.
- HEALEY, P. (1997) *Collaborative planning: shaping places in fragmented societies*, Basingstoke, Macmillan.
- HEDIGER, W. (1999) Reconciling "weak" and "strong" sustainability. *International Journal of Social Economics*, 26, 1120-1143.
- HEINEBERG, H. (2000) *Grundriss Allgemeine Geographie: Stadtgeographie*, Paderborn, München, Wien, Zürich, Schöningh.
- HEINEBERG, H. (2006) *Grundriss Allgemeine Geographie: Stadtgeographie*, Paderborn, München, Wien, Zürich, Schöningh.
- HEINELT, H., MALEK, T., SMITH, R. & TÖLLER, A. E. (Eds.) (2001) *European Union environment policy and new forms of governance: a study of the implementation of the environmental impact assessment directive and the eco-management and audit scheme regulation in three member states*, Aldershot, Ashgate Publishing Limited.
- HEINELT, H. & NIEDERHAFNER, S. (2008) Cities and organised interest intermediation in the EU multi-level system. *European Urban and Regional Studies*, 15, 173-187.
- HERTIN, J. & BERKHOUT, F. (2003) Analysing institutional strategies for environmental policy integration: the case of EU enterprise policy *Journal of Environmental Policy and Planning*, 5, 39-56.
- HERTIN, J., JACOB, K. & VOLKERY, A. (2008) Policy appraisal. IN JORDAN, A. J. & LENSCHOW, A. (Eds.) *Innovation in environmental policy? Integrating the environment for sustainability*. Cheltenham, Northampton, Edward Elgar Publishing Limited.
- HESSE, M. & TROSTORFF, B. (2000) Raumstrukturen, Siedlungsentwicklung und Verkehr. Interaktionen und Integrationsmöglichkeiten. Diskussionspapier Nr. 2 des Querschnittsprojekts "Raum-Zeit-Strukturen, Mobilität und Verkehr im Modernisierungsprozess". *IRS-Working Papers 1/00*. Erkner.
- HEWITT, K., NIPPER, J. & NUTZ, M. (1993) Städte nach dem Krieg. Aspekte des Wiederaufbaus in Deutschland. *Geographische Rundschau*, 45, 438-445.
- HEY, C. (2002) Why does environmental policy integration fail? The case of environmental taxation for heavy goods vehicles. IN LENSCHOW, A. (Ed.) *Environmental policy integration: Greening sectoral policies in Europe*. London, Earthscan.
- HILDEBRAND, P. M. (2002) The European Community's Environmental Policy, 1957 to '1992': From incidental measures to an international regime? IN JORDAN, A. (Ed.) *Environmental policy in the European Union: actors, institutions and processes*. London, Earthscan Publications Ltd.
- HILL, J. & JORDAN, A. J. (1993) The greening of government: lessons from the White Paper process. *ECOS*, 14, 3-9.

- HOLZ-RAU, C. (1996) Integrierte Verkehrsplanung - die herausgeforderte Fachplanung. *Informationen zur Raumentwicklung*, 391-415.
- HOLZ-RAU, C. (2007) Nachhaltige Raum- und Verkehrsplanung. *Aus Politik und Zeitgeschichte*, 29.
- HOLZ-RAU, C. & KUTTER, E. (1995) Verkehrsvermeidung. Siedlungsstrukturelle und organisatorische Konzepte. *Materialien zur Raumentwicklung*, 73.
- HOPPMANN, M. & AXTNER, M. (2005) Wie Phönix aus der Asche - Geschäftspassagen und Handel in der City. IN SCHMIDT, H., MAYER, G., WIKTORIN, D., TZSCHASCHEL, S. & BLENCK, J. (Eds.) *Der Leipzig Atlas*. Leipzig, Emons.
- HTWK LEIPZIG (2007) Parken in Schleichig [Online] Available at: <http://www.l-iz.de/html/downloads/Bericht-HTWK.pdf> (Accessed: October 2014). Leipzig.
- HUHN, H. & HESSE, M. (2006) *Verkehrsgeographie*, Paderborn, Schöningh.
- HULL, A. (2008) Policy integration: what will it take to achieve more sustainable transport solutions in cities? *Transport Policy*, 15, 94-103.
- HULL, A. & TRICKER, R. (2006) *Findings of the 'Phase 1' Survey on the Barriers to the Delivery of Sustainable Transport Solutions*, Bristol, UWE.
- IFAD (2007) *Städte- und Wohnungsbau der DDR. Ideologie, Politik, Realität*, Berlin, Institut für angewandte Demographie.
- IPSEN, D. (1992) Über den Zeitgeist der Stadterneuerung. *Die alte Stadt*, 19, 16-29.
- IUCN (2006) The Future of Sustainability. Re-thinking Environment and Development in the Twenty-first Century. Report of the IUCN Renowned Thinkers Meeting, 29-31 January 2006. IN IUCN THE WORLD CONSERVATION UNION (Ed.) Cambridge.
- JACOB, K., VOLKERY, A. & LENSCHOW, A. (2008) Instruments for environmental policy integration in 30 OECD countries. IN JORDAN, A. & LENSCHOW, A. (Eds.) *Innovation in environmental policy? Integrating the environment for sustainability*. Cheltenham, Northampton, Edward Elgar Publishing Limited.
- JENKS, M., BURTON, E. & WILLIAMS, K. (2000a) Compact cities and sustainability: an introduction. IN JENKS, M., BURTON, E. & WILLIAMS, K. (Eds.) *The compact city: a sustainable urban form?* London, E & FN Spon.
- JENKS, M., BURTON, E. & WILLIAMS, K. (Eds.) (2000b) *The compact city: a sustainable urban form?*, London, E & FN Spon.
- JEPPESEN, T. (Ed.) (2002) *Environmental regulation in a federal system: Framing environmental policy in the European Union*, Cheltenham, Edward Elgar.
- JOHNSON, S. P. (Ed.) (1993) *The Earth Summit. The United Nations Conference on Environment and Development (UNCED)*, London, Graham & Trotman Limited.
- JORDAN, A. (2000) The politics of multilevel environmental governance: subsidiarity and environmental policy in the European Union. *Environment and Planning A*, 32, 1307-1324.
- JORDAN, A. (Ed.) (2002) *Environmental policy in the European Union: actors, institutions and processes*, London, Earthscan Publications Ltd.
- JORDAN, A. (2008) The governance of sustainable development: taking stock looking forward. *Environment and Planning C*, 26, 17-33.
- JORDAN, A., BROUWER, R. & NOBLE, E. (1999) Innovative and responsive? A longitudinal analysis of the speed of EU environmental policy-making, 1967-97. *Journal of European Public Policy*, 6, 376-398.
- JORDAN, A. & LENSCHOW, A. (2000) 'Greening' the European Union: what can be learned from the 'leaders' of EU environmental policy. *European Environment*, 10, 109-120.
- JORDAN, A. & LENSCHOW, A. (2008a) Environmental policy integration: an innovation in environmental policy? IN JORDAN, A. & LENSCHOW, A.

- (Eds.) *Innovation in environmental policy? Integrating the environment for sustainability*. Cheltenham, Northampton, Edward Elgar Publishing Limited.
- JORDAN, A. & LENSCHOW, A. (2008b) *Innovation in environmental policy? Integrating the environment for sustainability*, Cheltenham, Northampton, Edward Elgar Publishing Limited.
- JORDAN, A. & LENSCHOW, A. (2008c) Integrating the environment for sustainable development: an introduction. *Innovation in environmental policy? Integrating the environment for sustainability*. Cheltenham, Northampton, Edward Elgar Publishing Limited.
- JORDAN, A. & LENSCHOW, A. (2010) Policy Paper. Environmental policy integration: a state of the art review. *Environmental Policy and Governancy*, 20, 147-158.
- JORDAN, A. & SCHOUT, A. (2006) *The coordination of the European Union: exploring the capacities for networked governance*, Oxford, Oxford University Press.
- JORDAN, A., WURZEL, R., ZITO, A. R. & BRÜCKNER, L. (2003) European governance and the transfer of 'new' environmental policy instruments (NEPIs) in the European Union. *Public Administration*, 81, 555-574.
- JR (2013) Vorerst keine Strafen für Gehwegparker. *Leipziger Volkszeitung*. 21.03.2013.
- JULKE, R. (2009) Parkraumsituation in Schleußig: Ein Zwischenbericht zur motorisierten Bequemlichkeit. Available at: <http://www.l-iz.de/> (Accessed: June 2013). *Leipziger Internet Zeitung*. Leipzig.
- JULKE, R. (2011) ADFC Leipzig verstärkt Kritik: Der Promenadenring muss stadtvträglich gestaltet werden Available at: <http://www.l-iz.de/Wirtschaft/Mobilität/2011/12/ADFC-Leipzig-verstaerkt-Kritik-an-Verbotsschildern-30796.html> (Accessed: October 2014). *Leipziger Internet Zeitung*. Leipzig.
- JULKE, R. (2013a) Parkchaos in Schleußig: Höchste Zeit für eine moderierte Bürgerwerkstatt. Available at: <http://www.l-iz.de/Politik/Brennpunkt/2013/03/Zeit-fuer-moderierte-Buergerwerkstatt-in-Schleussig-47130.html> (Accessed: October 2014). *Leipziger Internet Zeitung*. Leipzig.
- JULKE, R. (2013b) Parkchaos in Schleußig: Stadtbezirksbeirat macht das Thema zur "Wichtigen Angelegenheit". Available at: <http://www.l-iz.de/Politik/Brennpunkt/2013/05/Parkchaos-in-Schleussig-Stadtbezirksbeirat-48370.html> (Accessed: October 2014). *Leipziger Internet Zeitung*. Leipzig.
- JULKE, R. (2013c) Planung für Schleußig: Eine Quartiersgarage für die Rochlitzstraße. Available at: <http://www.l-iz.de/Politik/Brennpunkt/2013/05/Quartiersgarage-fuer-Schleussig-48041.html> (Accessed: October 2014). *Leipziger Internet Zeitung*. Leipzig.
- JUNTTI, M., RUSSEL, D. & TURNPENNY, J. (2009) Evidence, politics and power in public policy for the environment. *Environmental Science and Policy*, 12, 207-215.
- KAUBE- VERKEHRSFACHSEMINARE (2013) Sichere Straßen.de - Zeichen 315 Parken auf Gehwegen. Available at: <http://www.sicherestrassen.de/VKZKatalog/Frameaufbau.htm?http://www.sicherestrassen.de/VKZKatalog/Kat315.htm> (Accessed: October 2014). Dresden.
- KEGLER, H. (2010) Gewonnene Planlosigkeit. IN ALTROCK, U., HUNING, S., KUDER, T., NUISSL, H. & PETERS, D. (Eds.) *Zwanzig Jahre Planung im vereinigten Deutschland*. Kassel, Altrock.
- KNILL, C. & LENSCHOW, A. (1999) Neue Konzepte - alte Probleme? Die institutionellen Grenzen effektiver Implementation. *Politische Vierteljahresschrift*, 40, 591-617.

- KOCH, R. & STEIN, A. (2005) Strategien für die integrierte Entwicklung von Siedlung und Verkehr. *RaumPlanung*, 77-81.
- KÖHLER, G. & SCHÄFERS, B. (1986) Leitbilder der Stadtentwicklung in der Bundesrepublik Deutschland. *Politik und Zeitgeschehen. Beilage zu "Das Parlament"*, 46-47, 29-39.
- KRETZ, F. & ROMETSCH, J. (2012) Mehr als 100 000 Besucher am ersten Tag: Höfe am Brühl erleben Kundenansturm. *Leipziger Volkszeitung*, 26.09.2012.
- KRISTEN, T. (1988) Stadtplanung und Stadterneuerung in der DDR. *Arbeitsberichte des Fachbereichs Stadtplanung und Landschaftsplanung Kassel*.
- KUBIS, A. & HARTMANN, M. (2007) Analysis of location of large-scale shopping centres. A probabilistic gravity model for the Halle-Leipzig area. *Jahrbuch für Regionalwissenschaft*, 27, 43-57.
- KUKLA, A. (2000) *Social Constructivism and the Philosophy of Science*, London, Routledge.
- KULTURSTIFTUNG DES BUNDES (2008) Shrinking Cities. Available at: http://kulturstiftung-des-bundes.de/cms/en/programme/kunst_und_stadt/archiv/shrinking_cities.html (Accessed: November 2014).
- KÜSTER, H. (2009) Mobilität aus ökologischer Sicht. IN FRIEDRICH, B. (Ed.) *Bewegung im Raum - Raum in Bewegung*. Frankfurt am Main.
- LAFFERTY, W. M. (2004) *Governance for sustainable development. The challenge of adapting form to function*, Cheltenham, Edward Elgar Publishing Ltd.
- LAFFERTY, W. M. & HOVDEN, E. (2003) Environmental policy integration: towards an analytical framework. *Environmental Politics*, 12, 1-22.
- LAFFERTY, W. M. & MEADOWCROFT, J. M. (2000) *Implementing sustainable development: strategies and initiatives in high consumption societies*, Oxford, Oxford University Press.
- LANGHAGEN-ROHRBACH, C. (2011) Verkehr und Raumentwicklung. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- LÄPPLE, D. (1997) Grenzen der Automobilität. *Prokla*, 107, 21-38.
- LÉLÉ, S. M. (1991) Sustainable development: a critical review. *World Development*, 19, 607-621.
- LENSCHOW, A. (1997) Variation in EC environmental policy integration: agency push within complex institutional structures. *Journal of European Public Policy*, 4, 109-127.
- LENSCHOW, A. (2002a) *Environmental policy integration: Greening sectoral policies in Europe*, London, Earthscan.
- LENSCHOW, A. (2002b) Greening the European Union: an introduction. IN LENSCHOW, A. (Ed.) *Environmental policy integration: Greening sectoral policies in Europe*. London, Earthscan.
- LENSCHOW, A. (2005) Environmental policy. IN WALLACE, H., WALLACE, W. & POLLACK, M. (Eds.) *Policy-making in the European Union*. Oxford, Oxford University Press.
- LESER, H. (Ed.) (1997) *Diercke Wörterbuch allgemeine Geographie*, München, Braunschweig, dtv.
- LESER, H. (Ed.) (2011) *Diercke Wörterbuch Geographie*, Braunschweig, Westermann.
- LFUG (2005) Luftreinhalteplan für die Stadt Leipzig. IN LANDESAMT FÜR UMWELT UND GEOLOGIE. ABTEILUNG INTEGRATIVER UMWELTSCHUTZ LUFT KLIMA STRAHLEN. REFERAT LUFTQUALITÄT (Ed.), Ed. Sächsisches Landesamt für Umwelt und Geologie. Öffentlichkeitsarbeit.

- LIBERATORE, A. (1997) The integration of sustainable development objectives into EU-policy making: barriers and prospects. IN BAKER, S., KOUSIS, M., RICHARDSON, D. & YOUNG, S. (Eds.) *The politics of sustainable development*. London, Routledge.
- LICHTENBERGER, E. (1998) *Stadtgeographie, Bd. 1. Begriffe, Konzepte, Modelle, Prozesse*, Stuttgart, Leipzig, Teubner.
- LIEBERMAN, R. C. (2002) Ideas, institutions, and political order: Explaining political change. *American Political Science Review*, 96, 697-712.
- LIEFFERINK, D. & ANDERSEN, M. S. (2002) Strategies of the "Green" member states in EU environmental policy-making. IN JORDAN, A. (Ed.) *Environmental policy in the European Union*. London, Earthscan Publications.
- LOSKE, R. (1996) *Klimapolitik : im Spannungsfeld von Kurzzeitinteressen und Langzeiterfordernissen*, Marburg, Metropolis Verlag.
- LÖTSCHER, L. & KÜHMICHEL, K. (1998) Lokale Agenda 21 - partizipative Planung nachhaltiger Stadtentwicklung? *Geographica Helvetica*, 53, 135-143.
- LOZANO, R. (2008) Envisioning sustainability three-dimensionally. *Journal of Cleaner Production*, 16, 1838-1846.
- LÜTKE DALDRUP, E. (2008) Die LEIPZIG CHARTA 2007 - neue Rahmenbedingungen für die zukünftige Stadtentwicklung. IN BATTIS, U., SÖFKER, W. & STÜER, B. (Eds.) *Nachhaltige Stadt- und Raumentwicklung: Festschrift für Michael Krautzberger zum 65. Geburtstag*. München, Beck.
- MAF (2013) Knöllchen in Schleußig: Leipziger FDP-Fraktion kritisiert Bußgeld-Verschärfung. *Leipziger Volkszeitung*, 27.02.2013.
- MAYRING, P. (2010) *Qualitative Inhaltsanalyse. Grundlagen und Techniken*, Weinheim, Basel, Beltz Verlag.
- MCCORMICK, J. (2001) *Environmental Policy in the European Union*, Basingstoke, Palgrave.
- MCNEILL, J. R. (2001) *Something new under the sun: an environmental history of the twentieth century*, London, Penguin Books.
- MEADOWCROFT, J. (2000) Sustainable development: a new(ish) idea for a new century? *Political Studies*, 48, 370-387.
- MEURER, M. (1998) Ansatzpunkte für eine nachhaltige Stadtentwicklung. *Praxis Geographie*, 4-9.
- MEYER, M. D. & MILLER, E. J. (2001) *Urban Transportation Planning: A Decision-Oriented Approach*, New York, McGraw-Hill.
- MEZGHANI, M. (2003) From public transport to integrated mobility. *Public Transport International*, 52, 36-38.
- MICROSOFT (2014a) Aerial view of Schleußig. Available at www.bing.com/maps/ (Accessed: November 2014).
- MICROSOFT (2014b) Bing maps. Available at: <http://www.bing.com/maps/?FORM=Z9LH3> (Accessed: November 2014).
- MILAKIS, D., VLASTOS, T. & BARBOPOULOS, N. (2008) Relationships between urban form and travel behaviour in Athens, Greece. A comparison with Western European and North American results. *Ejtir*, 8, 201-215.
- MILLER, D. & DE ROO, G. (2005) *Urban environmental planning: policies, instruments, and methods in an international perspective*, Aldershot, Avebury.
- MOORE, P. (2000) Transport and land use planning. *Public Transport International*, 49, 16-19.
- MOORE RUBLE YUDELL ARCHITECTS & PLANNERS (2014) Peek & Cloppenberg Department Store. Available at: <http://www.mryarchitects.com/projects/peek-cloppenberg-department-store#> (Accessed: October 2014).

- MÜLLER, E. (2002) Environmental policy integration as a political principle: The German case and the implications of European Policy. IN LENSCHOW, A. (Ed.) *Environmental policy integration: greening sectoral policies in Europe*. London, Earthscan Publications.
- NAESS, A. (1997) Sustainable development and the deep ecology movement. IN BAKER, S., KOUSIS, M., RICHARDSON, D. & YOUNG, S. (Eds.) *The politics of sustainable development*. London, Routledge.
- NELSON, A. (1994) How could scientific facts be socially constructed? *Studies in History and Philosophy of Science A*, 25, 535-547.
- NEWMAN, P. (1994) Urban design, transportation and greenhouse. IN SAMUELS, R. & PRASAD, D. K. (Eds.) *Global warming and the built environment*. London, E & FN Spon.
- NIJKAMP, P. & PERRELS, A. (2009) *Sustainable cities in Europe*, Abingdon, Routledge.
- NILSSON, M. & ECKERBERG, K. (2009) *Environmental policy integration in practice: Shaping institutions for learning*, London, Earthscan.
- NILSSON, M., EKLUND, M. & TYSKENG, S. (2009) Environmental integration and policy implementation: competing governance modes in waste management decision making. *Environment and Planning C: Government and Policy*, 27, 1-18.
- NILSSON, M. & PERSSON, A. (2003) Framework for analysing environmental policy integration. *Journal of Environmental Policy & Planning*, 5, 333-359.
- NUNAN, F. (1999) Barriers to the use of voluntary agreements: a case study of the development of packaging waste regulations in the UK. *European Environment*, 9, 238-248.
- O'RIORDAN, T. (1994) Environmental taxation. *Working Paper - CSERGE (Centre for Social and Economic Research on the Global Environment)*, 1-13.
- OECD (2002) Governance for sustainable development. Five OECD case studies. Paris, OECD (Organisation for Economic Cooperation and Development).
- ÖKOLÖWE (2011) Flyer - Es wird eng auf der Karli. Flaniermeile statt Stadtbahntrasse! Leipzig.
- ÖKOLÖWE (2014) Mach's leiser. Mitwirken bei der Lärmaktionsplanung in Leipzig. Available at: <http://www.machsleiser.de/> (Accessed: October 2014). Leipzig.
- OLIVER, P. (2008) *Writing your thesis*, London, Sage Publications.
- OPSCHOOR, J. B. (1996) Institutional change and development towards sustainability. IN COSTANZA, R., SEGURA, O. & MARTÍNEZ-ALIER, J. (Eds.) *Getting down to earth: practical applications of ecological economics*. Washington, Island Press.
- OWENS, S. (1992) Energy, environmental sustainability and land-use planning. IN BREHENY, M. (Ed.) *Sustainable development and urban form*. London, Pion.
- OWENS, S. (2004) Siting, sustainable development and social priorities. *Journal of Risk Research*, 7, 101-114.
- OWENS, S. & COWELL, R. (2011) *Land and limits: interpreting sustainability in the planning process*, Abingdon, Routledge.
- PARKIN, J., RYLEY, T. & JONES, T. (2007) Barriers to cycling: An exploration of quantitative analyses. *Cycling and Society*, 67-82.
- PARLIAMENT OF THE UNITED KINGDOM (2004) Planning and Compulsory Purchase Act 2004. Available at: <http://www.legislation.gov.uk/ukpga/2004/5> (Accessed: August 2016).
- PENN-BRESSEL, G. (2003) Reduzierung der Flächeninanspruchnahme durch Siedlung und Verkehr. Available at: <http://www.umweltbundesamt.de/publikationen/reduzierung-flaecheninanspruchnahme-durch-siedlung> (Accessed: November 2014).

- PETERS, B. G. (1998) *Managing horizontal governance: the politics of coordination*. Canadian Centre for Management Development. Research Paper 21, Ottawa, Canada School of Public Service.
- PINTO, C. C. & POURBAIX, J. (2007) Integration of public transport and urban planning: the key to sustainable mobility. *Public Transport International*, 56, 5-10.
- PLYMOUTH CITY COUNCIL (2009) How we consult with you. Plymouth's Statement of Community Involvement and Compact Code of Practice. Available at: <http://www.plymouth.gov.uk/homepage/environmentandplanning/planning/planningpolicy/sci.htm> (Accessed: August 2016).
- PRETTY, J. N. (1995) Participatory learning for sustainable agriculture *World Development*, 23, 1247-1263.
- PREUß, T. & FLOETING, H. (Eds.) (2010) *Folgekosten der Siedlungsentwicklung. Bewertungsansätze, Modelle und Werkzeuge der Kosten-Nutzen-Betrachtung. Beiträge aus der REFINA-Forschung. Band III.*, Berlin, Deutsches Institut für Urbanistik.
- PRIEBES, A. (2009) Vergleich der Raumplanung in Dänemark und Deutschland. IN GÜLDENBERG, E., PREISING, T. & SCHOLLES, F. (Eds.) *Europäische Raumentwicklung. Metropolen und periphere Regionen*. Frankfurt a. Main, Lang.
- RADKAU, J. (2011) *Die Ära der Ökologie. Eine Weltgeschichte*, München, C. H. Beck oHG.
- RAUTERBERG-WULFF, A. & LUTZ, M. (2011) Wirkungsuntersuchungen zur Umweltzone Berlin. *Umwelt und Mensch - Informationsdienst (UMID)*.
- RAYNER, J. & HOWLETT, M. (2009) Introduction: Understanding integrated policy strategies and their evolution. *Policy and Society*, 28, 99-109.
- REDAKTION (2008) Umfrage zum Blech-Notstand gestartet: Wie löst man das Parkproblem in Schleußig? Available at: <http://www.l-iz.de/Politik/Brennpunkt/2008/04/Umfrage-zum-Blech-Notstand-ges-200804220010.html> (Accessed: October 2014). *Leipziger Internet Zeitung*. Leipzig.
- REGIONALER PLANUNGSVERBAND WESTSACHSEN (2008) Regionalplan Westsachsen 2008. Available at: <http://rpv-vestsachsen.de/regionalplanung/der-regionalplan/download-oder-bestellung.html> (Accessed: October 2014).
- REIHER, B. (2010) Parkraumsituation in Schleußig bleibt weiter ungeklärt. Aus: Leute mehr sensibilisieren: Tobias Hönemann, Schleußiger Parkproblem, Bürgerverein. Available at: <http://www.l-iz.de/> (Accessed: October 2014). Leipzig, Leipziger Internet Zeitung.
- RINK, D. & GRAHL, R. (1993) *Die Entwicklung der Stadtregion Leipzig zwischen 1945 und 1992. Vom Versuch des Wiederanknüpfens an Traditionen nach 1945 über den verhinderten Strukturwandel in der DDR-Zeit zum Strukturbruch nach 1989*, Leipzig.
- ROEDENBECK, I. A. E., ESSWEIN, H. & KÖHLER, W. (2005) Landschaftszerschneidung in Hessen : Entwicklung, Vergleich zu Baden-Württemberg und Trendanalyse als Grundlage für ein landesweites Monitoring. *Naturschutz und Landschaftsplanung*, 37, 293-300.
- ROESLER, J. (2006) *Umweltprobleme und Umweltpolitik in der DDR*, Erfurt, Landeszentrale für politische Bildung Thüringen.
- ROMETSCH, J. & DECKER, K. (2012) Höfe am Brühl: Leipzigs modernstes Einkaufszentrum öffnet heute. *Leipziger Volkszeitung*. 25.09.2012.
- ROSAMOND, B. (2010) New theories of European integration. IN CINI, M. & BORRAGÁN, N. P.-S. (Eds.) *European Union politics*. Oxford, Oxford University Press.
- ROSELAND, M. (2000) Sustainable community development: Integrating environmental, economic, and social objectives. *Progress in Planning*, 54, 73-132.

- ROSENFELD, M. T. W. (2010) Kommunalfinanzen in Ostdeutschland – Entwicklung, strukturelle Probleme und mögliche Lösungsansätze. *Wirtschaft im Wandel*, 16, 113-123.
- ROSENFELD, M. T. W., FRANZ, P., HAUG, P., HEIMPOLD, G., HORNYCH, C., SCHWARTZ, M. & WEIß, D. (2011) Wirtschaftliche Perspektiven für Leipzig: Wachstumspotenziale im Städtevergleich und mögliche Entwicklungsstrategien IN INSTITUT FÜR WIRTSCHAFTSFORSCHUNG HALLE (Ed.) Halle.
- ROYAL TOWN PLANNING INSTITUTE (2001) A new vision for planning. Delivering sustainable communities, settlements and places. Available at: <http://www.rtpi.org.uk/media/9321/RTPI-New-Vision-for-Planning.pdf> (Accessed: August 2016).
- RUDDY, T. F. & HILTY, L. M. (2008) Impact assessment and policy learning in the European Commission. *Environmental Impact Assessment Review*, 28, 90-105.
- RUNHAAR, H. (2016) Tools for integrating environmental objectives into policy and practice: What works where? *Environmental Impact Assessment Review*, 59, 1-9.
- RUSSEL, D. & JORDAN, A. (2009) Joining up or pulling apart? The use of appraisal to coordinate policy making for sustainable development. *Environment and Planning A*, 41, 1201-1216.
- RYDIN, Y. (1999) Can we talk ourselves into sustainability? The role of discourse in the environmental policy process. *Environmental Values*, 8, 467-484.
- RYDIN, Y. & GREIG, A. (1995) Talking past each other: local environmentalists in different organisational contexts. *Environmental Politics*, 4, 271-294.
- SABATIER, P. A. (1986) Top-down and bottom-up approaches to implementation research: a critical analysis and suggested synthesis. *Journal of Public Policy*, 6, 21-48.
- SÄCHSISCHE STAATSKANZLEI (2014) Gesetz zur Raumordnung und Landesplanung des Freistaates Sachsen (Landesplanungsgesetz - SächsLPlG). Available at: <http://www.revosax.sachsen.de/Details.do?sid=8830230359788> (Accessed: November 2014).
- SCHEINER, J. (2006a) Does individualisation of travel behaviour exist? Determinants and determination of travel participation and mode choice in West Germany, 1976-2002. *Die Erde*, 137, 355-377.
- SCHEINER, J. (2006b) Housing mobility and travel behaviour: a process-oriented approach to spatial mobility. Evidence from a new research field in Germany. *Journal of Transport Geography*, 14, 287-298.
- SCHELHAAS, B. (2011) Räumliche Planung in der SBZ und DDR 1945 bis 1990. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.
- SCHICKLER, E. (2001) *Disjointed Pluralism: Institutional innovation and the development of the U.S. Congress*, Princeton, Princeton University Press.
- SCHLIEPHAKE, K. (1991) Personenmobilität und Verkehrsplanung in Würzburg und Umland: Aktuelle und potentielle Bewegung, Aufteilung auf die Verkehrsträger und Konzepte zur Angebotsverbesserung im öffentlichen Verkehr auf Schiene und Straße mit dem Beispiel des Achse Würzburg-Marktbreit/Frickenhäusen. *Würzburger geographische Manuskripte*. Würzburg.
- SCHMIDT-EICHSTAEDT, G., STEINEBACH, G. & VALLÉE, D. (2011) Umsetzung der Raumplanung. IN RED.-AUSSCHUSS KLAUS BORCHARD (LEITUNG) (Ed.) *Grundriss der Raumordnung und Raumentwicklung / Akademie für Raumforschung und Landesplanung*. Hannover, Akademie für Raumforschung und Landesplanung.

- SCHMIDT, H. & FLIEGE, S. (1997) Der Saalepark-Günthersdorf ein Megaprojekt des Dienstleistungssektors im suburbanen Raum Leipzig-Halle: Wirkungen und Probleme. *Materialien 21*. Frankfurt am Main.
- SCHMITZ, S. (2001) Nachhaltige Stadtentwicklung - Herausforderungen, Leitbilder, Strategien und Umsetzungsprobleme. *Petermanns Geographische Mitteilungen*, 145, 6-15.
- SCHÖLLER, P. (1986) *Städtepolitik, Stadtbau und Stadterhaltung in der DDR*, Stuttgart, Steiner-Verlag-Wiesbaden-GmbH.
- SCHOLLES, F. (2009) Vergleich der Raumplanung und Regionalentwicklung in Deutschland und Frankreich. IN GÜLDENBERG, E., PREISING, T. & SCHOLLES, F. (Eds.) *Europäische Raumentwicklung. Metropolen und periphere Regionen*. Frankfurt a. Main, Lang.
- SCHOOFF, H. (1999) Wechselnde Perspektiven in Ausbildung und Beruf von Raumplanern. IN SCHMALS, K. M. (Ed.) *Was ist Raumplanung?* Dortmund, Informationskreis für Raumplanung.
- SCHOUT, A., JORDAN, A. & TWENA, M. (2010) From 'old' to 'new' governance in the EU: explaining a diagnostic deficit. *West European Politics*, 33, 154-170.
- SCOTT, J. (2000) Flexibility in the implementation of EC environmental law. IN SOMSEN, H. (Ed.) *Yearbook of European Environmental Law 1*. Oxford, Oxford University Press.
- SEGERSON, K. & MICELI, T. J. (1998) Voluntary environmental agreements: good or bad news for environmental protection? *Journal of Environmental Economics and Management*, 36, 109-130.
- SELIM, Y. (2014) The opportunities and challenges of participation in transitional justice: examples from Nepal. *Journal of International Development*. Wiley Online Library, Available at: <http://onlinelibrary.wiley.com/doi/10.1002/jid.3001/abstract?deniedAccessCustomisedMessage=&userIsAuthenticated=false> (Accessed: November 2014).
- SELLE, K. (2011) Neue Planungskultur - Raumplanung auf dem Weg zum kooperativen Handeln? IN SCHMALS, K. M. (Ed.) *Was ist Raumplanung? Dortmunder Beiträge zur Raumplanung 89*. Dortmund, IRPUD.
- SELMAN, P. (2000) A sideways look at Local Agenda 21. *Journal of Environmental Policy & Planning*, 2, 39-53.
- SHAW, D. & LORD, A. (2009) From land-use to 'spatial planning'. Reflections on the reform of the English planning system. *Town Planning Review*, 80, 415-435.
- SIEBER, N. (1995) Vermeidung von Personenverkehr durch veränderte Siedlungsstrukturen. *Raumforschung und Raumordnung*, 53, 94-101.
- SIEDENTOP, S. & KAUSCH, S. (2003) Die siedlungsstrukturelle Dimension der Schrumpfung - Räumliche Trends der Bevölkerungsentwicklung in Ostdeutschland nach der Wende. IN MÜLLER, B. & SIEDENTOP, S. (Eds.) *Räumliche Konsequenzen des demographischen Wandels. Schrumpfung - Neue Herausforderungen für die Regionalentwicklung in Sachsen/ Sachsen-Anhalt und Thüringen*. Hannover, Akademie für Raumforschung und Landesplanung.
- SIEVERTS, T. & IRION, I. (1994) Neue Städte und Großsiedlungen der Epoche 1950-1975: schon Baugeschichte oder noch aktuell? *DISP*, 117, 3-10.
- SIMEONOVA, V. & VAN DER VALK, A. (2009) The need for a communicative approach to improve environmental policy integration in urban land use planning. *Journal of Planning Literature*, 23, 241-261.
- SIMSCH, K., BRÜGGEMANN, J. & LIETMANN, C. (2000) Handlungsempfehlungen für ein effektives Flächenrecycling. Available at: <http://www.umweltbundesamt.de/publikationen/handlungsempfehlungen-fuer-ein-effektives> (Accessed: November 2014).

- SINNING, H. (2008) Integrierte Stadtentwicklung in Europa. *RaumPlanung*, 140, 193-198.
- SKOGSTAD, G. (2003) Legitimacy and/or policy effectiveness?: network governance and GMO regulation in the European Union. *Journal of European Public Policy*, 10, 321-338.
- SMI (2011) Verordnung des Sächsischen Staatsministeriums des Innern über Garagen und Stellplätze (Sächsische Garagen- und Stellplatzverordnung – SächsGarStellpVO). Available at: <http://www.revosax.sachsen.de/Details.do?sid=7221114739710> (Accessed: October 2014).
- SMI (2012) Verwaltungsvorschrift des Sächsischen Staatsministeriums des Innern zur Sächsischen Bauordnung (VwVSächsBO). Available at: <http://www.revosax.sachsen.de/Details.do?sid=2381115541511> (Accessed: October 2014).
- SMI (2013) Landesentwicklungsplan 2013. Available at: <http://www.landesentwicklung.sachsen.de/11117.htm> (Accessed: October 2014).
- SMI (2014) Sächsische Bauordnung (SächsBO). Available at: <http://www.revosax.sachsen.de/Details.do?sid=3511330363113&jlink=a1> (Accessed: October 2014). IN SÄCHSISCHE STAATSKANZLEI (Ed.).
- SMUL (2014a) Aktuelle Messwerte. Available at: <http://www.umwelt.sachsen.de/umwelt/luft/3654.htm> (Accessed: October 2014). IN SÄCHSISCHES LANDESAMT FÜR UMWELT LANDWIRTSCHAFT UND GEOLOGIE (Ed.) Dresden.
- SMUL (2014b) Datenrecherche. Luftmessnetz. Available at: <http://www.umwelt.sachsen.de/umwelt/infosysteme/luftonline/recherche.aspx> (Accessed: October 2014). IN SÄCHSISCHES LANDESAMT FÜR UMWELT LANDWIRTSCHAFT UND GEOLOGIE (Ed.) Dresden.
- SPINNEY, J. (2009) Cycling the city: movement, meaning and method. *Geography Compass*, 3, 817-835.
- STADT LEIPZIG (1992) Verkehrspolitische Leitlinien für Leipzig. Zeitweiliger Ausschuss "Verkehr" der Stadtverordnetenversammlung.
- STADT LEIPZIG (1993a) *Flächennutzungsplan Stadt Leipzig : Entwurf November 1993*, Leipzig.
- STADT LEIPZIG (1993b) Rahmenkonzeption zur Entwicklung des Einzelhandels in Leipzig. IN STADTPLANUNGSAMT (Ed.).
- STADT LEIPZIG (1995) Umweltqualitätsziele und -standards für die Stadt Leipzig (Entwurf). Leipzig: Amtsblatt 15 (22 July 1995).
- STADT LEIPZIG (2000) Stadtentwicklungsplan Zentren. Beiträge zur Stadtentwicklung 28. Der Oberbürgermeister, Dezernat Planung und Bau, Stadtplanungsamt.
- STADT LEIPZIG (2003) Grünes Licht für Neubau am Brühl. *Amtsblatt vom 26.04.2003*. Leipzig.
- STADT LEIPZIG (2004) Stadtentwicklungsplan Verkehr und öffentlicher Raum. Beiträge zur Stadtentwicklung 40. Dezernat Stadtentwicklung und Bau. Amt für Verkehrsplanung.
- STADT LEIPZIG (2005) Wer braucht schon ein Stadtteilzentrum?!. Werkstattssitzung vom 30.06.2005. Der Oberbürgermeister, Dezernat Stadtentwicklung und Bau.
- STADT LEIPZIG (2006) Brühl: Denkmalgeschützte Warenhaus-Fassade besitzt Priorität. *Amtsblatt vom 12.08.2006*. Leipzig.

- STADT LEIPZIG (2007a) Nahverkehrsplan. Available at: <http://www.leipzig.de/umwelt-und-verkehr/verkehrsplanung/oeffentlicher-personenverkehr/> (Accessed: November 2014).
- STADT LEIPZIG (2007b) Neues Leben am Brühl: Magnet für City soll entstehen. *Amtsblatt vom 06.01.2007. Leipzig.*
- STADT LEIPZIG (2007c) Vorlagen zur "Brühlbebauung" im Februar im Stadtrat. *Amtsblatt vom 20.01.2007. Leipzig.*
- STADT LEIPZIG (2008a) "Höfe am Brühl" diskutiert. *Amtsblatt vom 23.08.2008. Leipzig.*
- STADT LEIPZIG (2008b) Unterwegs in Richtung Zukunft. Mobilität in Leipzig und Umland. IN VERKEHRS- UND TIEFBAUAMT (Ed.), Stadt Leipzig.
- STADT LEIPZIG (2009a) Das integrierte Stadtentwicklungskonzept (SEKo). Available at: <http://www.leipzig.de/bauen-und-wohnen/stadtentwicklung/stadtentwicklungskonzept-seko/> (Accessed: November 2014).
- STADT LEIPZIG (2009b) Luftreinhalteplan für die Stadt Leipzig. Available at: <http://www.leipzig.de/umwelt-und-verkehr/luft-und-laerm/luftreinhaltung/luftreinhalteplan-der-stadt-leipzig/> (Accessed: October 2014). IN OBERBÜRGERMEISTER, D. & UMWELTSCHUTZ, A. F. (Eds.).
- STADT LEIPZIG (2009c) Stadtentwicklungsplan Zentren. Beiträge zur Stadtentwicklung 49. Dezernat Stadtentwicklung und Bau, Stadtplanungsamt.
- STADT LEIPZIG (2009d) Stand der Untersuchung zur Parkraumsituation in Schleußig. Vorstellung im Stadtbezirksbeirat Südwest. Available at: http://www.leipzig.de/fileadmin/mediendatenbank/leipzig.de/Stadt/02.6_Dez6_Stadtentwicklung_Bau/66_Verkehr_und_Tiefbauamt/Stand_der_Untersuchungen_zur_Parkraumsituation.pdf?L=0 (Accessed: October 2014). IN DEZERNAT STADTENTWICKLUNG UND BAU (Ed.), Verkehrs- und Tiefbauamt,.
- STADT LEIPZIG (2011a) Interview zur Umweltzone: Bürgermeister Rosenthal im Gespräch. Available at: <http://www.leipzig.de/news/news/interview-zur-umweltzone-brgermeister-rosenthal-im-gesprch/> (Accessed: August 2011).
- STADT LEIPZIG (2011b) Lärmaktionsplan der Stadt Leipzig. Available at: <http://www.leipzig.de/umwelt-und-verkehr/luft-und-laerm/laermschutz/> (Accessed: October 2014). Dezernat Umwelt, Ordnung, Sport; Amt für Umweltschutz; Abteilung Umweltvorsorge.
- STADT LEIPZIG (2011c) Mobilität 2020. Stadtentwicklungsplan Verkehr und öffentlicher Raum. Grundlagen für die Fortschreibung. Dezernat Stadtentwicklung und Bau. Verkehrs- und Tiefbauamt.
- STADT LEIPZIG (2011d) Umweltzone - Fragen und Antworten zu Ausnahmeregelungen. Available at: www.leipzig.de/de/buerger/umwelt/luft/umweltzone_leipzig_ausnahmen_vom_fahrverbot_druck.shtml (Accessed: August 2011). Leipzig.
- STADT LEIPZIG (2012a) Fahrradbügel für Leipzig (Flyer). IN DEZERNAT STADTENTWICKLUNG UND BAU (Ed.), Verkehrs- und Tiefbauamt & Amt für Umweltschutz.
- STADT LEIPZIG (2012b) Radverkehrsentwicklungsplan 2010-2020 der Stadt Leipzig, beschlossene Fassung vom 20.06.2012. Available at: <http://www.leipzig.de/umwelt-und-verkehr/verkehrsplanung/radverkehr/> (Accessed: October 2014). IN DEZERNAT STADTENTWICKLUNG UND BAU (Ed.), Verkehrs- und Tiefbauamt.
- STADT LEIPZIG (2012c) Vorgestellt: Der Bericht des Radverkehrsbeauftragten. Available at: <http://www.leipzig.de/news/news/vorgestellt-der-bericht-des->

- [radverkehrsbeauftragten/](#) (Accessed: October 2014). IN DEZERNAT STADTENTWICKLUNG UND BAU (Ed.).
- STADT LEIPZIG (2013a) Dokumentation Leipziger Bürgerwettbewerb: Ideen für den Stadtverkehr. Available at: http://www.leipzig.de/fileadmin/mediendatenbank/leipzig-de/Stadt/02.6_Dez6_Stadtentwicklung_Bau/66_Verkehrs_und_Tiefbauamt/Buergerwettbewerb_Ideensammlung.pdf?L=0 (Accessed: October 2014). IN DEZERNAT STADTENTWICKLUNG UND BAU (Ed.), Verkehrs- und Tiefbauamt.
- STADT LEIPZIG (2013b) Erste Entspannung: 40 neue Parkplätze für Schleußig. *Amtsblatt vom 07.09.2013. Leipzig.*
- STADT LEIPZIG (2013c) Protokoll zum Bürgerworkshop "Parken in Quartieren am Beispiel Schleußig". Available at: http://www.leipzig.de/fileadmin/mediendatenbank/leipzig-de/Stadt/02.6_Dez6_Stadtentwicklung_Bau/66_Verkehrs_und_Tiefbauamt/Protokoll_Workshop_Schleussig.pdf?L=0 (Accessed: October 2014). Leipzig, Dezernat Stadtentwicklung und Bau. Verkehrs- und Tiefbauamt.
- STADT LEIPZIG (2014a) Ortschaftsräte. Available at: <http://www.leipzig.de/buergerservice-und-verwaltung/stadtrat/ortschaftsraete/> (Accessed: November 2014).
- STADT LEIPZIG (2014b) Radfahren in Leipzig. Available at: <http://www.leipzig.de/umwelt-und-verkehr/unterwegs-in-leipzig/fahrrad/> (Accessed: October 2014).
- STADT LEIPZIG (2014c) Stadtplan Leipzig. Available at: <http://stadtplan.leipzig.de/WebOffice/synserver?project=Geoportal&client=flex> (Accessed: November 2014). Leipzig.
- STADT LEIPZIG (2014d) Verkehrsbauvorhaben Peterssteinweg/Karl-Liebknecht-Straße "KARLI". Available at: <http://www.leipzig.de/umwelt-und-verkehr/unterwegs-in-leipzig/karl-liebknecht-strasse/#c30398> (Accessed: October 2014).
- STADT LEIPZIG (2014e) Verwarngeld für Parksünder. *Amtsblatt vom 18.01.2014.*
- STADT LEIPZIG (2016) Verkehrsinformation Leipzig. Available at: <http://verkehrsinformationssystem.leipzig.de/WebOffice/synserver?project=VIS&client=flex> (Accessed: February 2016). Leipzig.
- STADT LEIPZIG, TRÖGER, T. & NEUMANN, K. (2012) Umbau Peterssteinweg/Karl-Liebknecht-Straße. Gestaltungsplan (Entwurf). Available at: <http://www.leipzig.de/umwelt-und-verkehr/unterwegs-in-leipzig/karl-liebknecht-strasse/> (Accessed: October 2014). IN DEZERNAT STADTENTWICKLUNG UND BAU (Ed.), Verkehrs- und Tiefbauamt,.
- STATISTISCHES BUNDESAMT DEUTSCHLAND (2010) Straßenlänge: Deutschland, Stichtag, Straßenklasse/Ortslage. Available at: www-genesis.destatis.de/genesis/online;jsessionid=BAC58EB9F5CBAA44AC5AF7910E7D272F.tomcat_GO_1_1 (Accessed: November 2011). Berlin.
- STATISTISCHES BUNDESAMT DEUTSCHLAND (2013) Städte nach Fläche, Bevölkerung und Bevölkerungsdichte am 31.12.2012. Available at: https://www.destatis.de/DE/ZahlenFakten/LaenderRegionen/Regionales/Gemeindeverzeichnis/Administrativ/Archiv/Standardtabellen/05_StaedteVorjahr.html (Accessed: November 2014). Berlin.
- STATISTISCHES BUNDESAMT DEUTSCHLAND (2016) Nachhaltigkeit. Available at: <https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/Umwelt>

- [/UmweltoekonomisheGesamtrechnungen/Nachhaltigkeit/Tabellen/Indikatoren.html](#) (Accessed: August 2016).
- STEAD, D., GEERLINGS, H. & MEIJERS, E. (2004) *Policy Integration in Practice: The Integration of Land Use Planning, Transport and Environmental Policy-Making in Denmark, England and Germany*, Delft, Delft University Press.
- STEAD, D. & MARSHALL, S. (2001) The relationship between urban form and travel patterns: An international review and evaluation. *European Journal of Transport and Infrastructure Research*, 1, 113-141.
- STIFTUNG HAUS DER GESCHICHTE DER BUNDESREPUBLIK DEUTSCHLAND (2010) Weltwirtschaftskrise: Ölkrise. Available at: <http://www.hdg.de/lemo/html/DasGeteilteDeutschland/NeueHerausforderungen/Weltwirtschaftskrise/oelkrise.html> (Accessed: September 2010). Bonn.
- SUPPLIES, T. (2012) Leuchttürme der Umgebungslärmrichtlinie. Informationsübersicht zum Leuchtturm Nr. 16. Leipzig: Mach's leiser, frühzeitige Bürgermitwirkung. Available at: <http://www.machsleiser.de/news/leuchttuerme-der-umgebungslaermrichtlinie> (Accessed: October 2014). IN GRÜNE LIGA (Ed.) Leipzig.
- SUPPLIES, T., ELSÄSSER, R. & MOTHE, F. (2013) Lärminderung durch Bürgerbeteiligung. Das Modellprojekt: Mach's leiser - Mitwirken bei der Lärmaktionsplanung in Leipzig. Available at: <http://www.umweltbundesamt.de/publikationen/laermminderung-durch-buergerbeteiligung> (Accessed: October 2014). IN UMWELTBUNDESAMT (Ed.) *Sondervorhaben des Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit*. Dessau-Roßlau, Umweltbundesamt.
- SUSTAINABLE MEASURES (2010) A better view of sustainable community. Available at: <http://www.sustainablemeasures.com/node/26> (Accessed: March 2016). West Hartford.
- TAPPERT, A. (2013a) Das wird einen Krieg geben. Bürgerverein Schleußig warnt davor, ab 1. April hunderte Gehwegparker abzustrafen. *Leipziger Volkszeitung*, 25.02.2013.
- TAPPERT, A. (2013b) Parkchaos Schleußig: Lösung in Sicht *Leipziger Volkszeitung*, 04.01.2013.
- TRIEB, M. (1983) *Stadtgestaltung. Theorie und Praxis*, Braunschweig/Wiesbaden, Friedr. Vieweg & Sohn.
- TURNPENNY, J., NILSSON, M., RUSSEL, D., JORDAN, A., HERTIN, J. & NYKVIST, B. (2008) Why is integrating policy assessment so hard? A comparative analysis of the institutional capacities and constraints. *Journal of Environmental Planning and Management*, 51, 759-775.
- UBA, K. (2010) Who formulates renewable-energy policy? A Swedish example. *Energy Policy*, 38, 6674-6683.
- UMWELTBUNDESAMT (2006) Verkehrliche Maßnahmen zur Reduzierung von Feinstaub - Möglichkeiten und Minderungspotentiale. Available at: <http://www.umweltbundesamt.de/publikationen/verkehrliche-massnahmen-zur-reduzierung-von> (Accessed: October 2014).
- UMWELTBUNDESAMT (2007) Emissionen und Maßnahmenanalyse Feinstaub 2000-2020. Available at: <http://www.umweltbundesamt.de/publikationen/emissionen-massnahmenanalyse-feinstaub-2000-2020> (Accessed: October 2014).
- UMWELTBUNDESAMT (2009a) Feinstaubbelastung in Deutschland. Available at: <http://www.umweltbundesamt.de/publikationen/feinstaubbelastung-in-deutschland> (Accessed: October 2014).

- UMWELTBUNDESAMT (2009b) Flächenverbrauch einschränken – jetzt handeln. Available at: <http://www.umweltbundesamt.de/publikationen/flaechenverbrauch-einschraenken-jetzt-handeln> (Accessed: August 2016).
- UMWELTBUNDESAMT (2009c) Verringerung der Flächeninanspruchnahme durch Siedlungen und Verkehr. Available at: <http://www.umweltbundesamt.de/publikationen/verringderung-flaecheninanspruchnahme-durch> (Accessed: August 2016).
- UMWELTBUNDESAMT (2011a) Lärmbilanz 2010. Untersuchung der Entscheidungskriterien für festzulegende Lärminderungsmaßnahmen in Lärmaktionsplänen nach der Umgebungslärmrichtlinie 2002/49/EG. Available at: <http://www.umweltbundesamt.de/publikationen/laermbilanz-2010> (Accessed: October 2014).
- UMWELTBUNDESAMT (2011b) Leitkonzept - Stadt und Region der kurzen Wege. Available at: <http://www.umweltbundesamt.de/publikationen/leitkonzept-stadt-region-kurzen-wege> (Accessed: August 2016).
- UMWELTBUNDESAMT (2012a) Strategien zur Verminderung der Feinstaubbelastung. Zusammenfassender Abschlussbericht. Available at: <http://www.umweltbundesamt.de/publikationen/strategien-zur-verminderung-feinstaubbelastung> (Accessed: October 2014).
- UMWELTBUNDESAMT (2012b) Verkehrslärm. Available at: <http://www.umweltbundesamt.de/themen/verkehr-laerm/verkehrslaerm> (Accessed: November 2014).
- UMWELTBUNDESAMT (2014) Das Umweltbundesamt wird 40. Available at: <http://www.umweltbundesamt.de/themen/das-umweltbundesamt-wird-40> (Accessed: November 2014).
- UMWELTBUNDESAMT (2016) Siedlungs- und Verkehrsfläche. Available at: <http://www.umweltbundesamt.de/daten/flaechennutzung/siedlungs-verkehrsflaeche> (Accessed: August 2016). Dessau.
- UNITED NATIONS (1987) Our common future. Report of the World Commission on Environment and Development. New York, World Commission on Environment and Development.
- UNITED NATIONS (1992a) Agenda 21. The United Nations programme of Action from Rio. New York, CreateSpace.
- UNITED NATIONS (1992b) Rio Declaration on Environment and Development. Available at: <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163> (Accessed: November 2014).
- URWIN, K. & JORDAN, A. (2008) Does public policy support or undermine climate change adaptation? Exploring policy interplay across different scales of governance. *Global Environmental Change*, 18, 180-191.
- USBECK, H. (1990) Entwicklungstendenzen von Großstadtreionen in der DDR *Wissenschaftliche Mitteilungen / Institut für Geographie und Geoökologie der Akademie der Wissenschaften der DDR*, 34 (1990), S. 35 - 49.
- VEHN, E. T. (2013) Leipzigs Baubürgermeisterin Dubrau verteidigt Parkverbote auf Gehwegen in Schleußig. *Leipziger Volkszeitung*, 21.11.2013.
- VERBAND FÜR BÜRGERNAHE VERKEHRSPOLITIK E.V. (2014) Bußgeldkatalog 2014. Available at: <https://www.bussgeldkatalog.org/> (Accessed: October 2014).
- VERKEHRS- UND TIEFBAUAMT (2009) Parkplatzsituation in Schleußig. Available at: http://www.leipzig.de/fileadmin/mediendatenbank/leipzig-de/Stadt/02.6_Dez6_Stadtentwicklung_Bau/66_Verkehr_und_Tiefbauamt/In

- [formationsvorlage_Parkplatzsituation_in_Schleussig.pdf?L=0](#) (Accessed: October 2014).
- VERKEHRSPORTAL (2014) Straßenverkehrs-Ordnung (StVO). Available at: http://www.verkehrsportal.de/stvo/stvo_12.php (Accessed: October 2014). IN GRUNERT + TJARDES VERKEHRSPORTAL.DE GBR (Ed.).
- VLACHOU, A. (2014) The European Union's emissions trading system. *Cambridge Journal of Economics*, 38, 127-152.
- VON HOMEYER, I. (2009) European Policy Brief. Environmental Policy Integration and Multi-level Governance. Available at: <http://www.ecologic.eu/de/7770> (Accessed: November 2014). Berlin.
- WARLEIGH-LACK, A. & DRACHENBERG, R. (2010) Policy making in the European Union. IN CINI, M. & BORRAGÁN, N. P.-S. (Eds.) *European Union politics*. Oxford, Oxford University Press.
- WATSON, M., BULKELEY, H. & HUDSON, R. (2008) Unpicking environmental policy integration with tales from waste management. *Environment and Planning C: Government and Policy*, 26, 481-498.
- WEALE, A., PRIDHAM, G., CINI, M., KONSTADAKOPULOS, D., PORTER, M. & FLYNN, B. (2000) *Environmental governance in Europe*, Oxford, Oxford University Press.
- WEALE, A. & WILLIAMS, A. (1993) Between economy and ecology? The single market and the integration of environmental policy. IN JUDGE, D. (Ed.) *A green dimension for the European Community: political issues and processes*. London, Frank Cass.
- WEBER, B. (1998) Umweltforschung in der Kommunalpolitik - eine Brücke zwischen Wissenschaft und Umsetzung IN SCHMIDT, M. & HÖPFNER, U. (Eds.) *20 Jahre ifeu-Institut. Engagement für die Umwelt zwischen Wissenschaft und Politik*. Braunschweig/Wiesbaden, Friedr. Vieweg & Sohn.
- WEBER, M. & DRIESSEN, P. P. J. (2010) Environmental policy integration: The role of policy windows in the integration of noise and spatial planning. *Environment and Planning C: Government and Policy*, 28, 1120-1134.
- WEILAND, U. (2001) Planungszyklus für eine zukunftsfähige Entwicklung von Stadtregionen. *Raumforschung und Raumordnung*, 59, 392-401.
- WEILAND, U. & WOHLLEBER-FELLER, S. (2007) *Einführung in die Raum- und Umweltplanung* Paderborn, Schöningh.
- WERNER, F. (1981) *Stadt, Städtebau, Architektur in der DDR. Aspekte der Stadtgeographie, Stadtplanung und Forschungspolitik*, Erlangen, Verlag Deutsche Gesellschaft für zeitgeschichtliche Fragen e.V.
- WESTERMANN (Ed.) (1990) *Sachunterricht - Themenauswahl für den Heimatkundeunterricht*, Braunschweig, Westermann.
- WHITE, S. C. (1996) Depoliticising development: the uses and abuses of participation. *Development in practice*, 6, 6-15.
- WHO (2014) 7 million premature deaths annually linked to air pollution. Available at: <http://www.who.int/mediacentre/news/releases/2014/air-pollution/en/> (Accessed: October 2014). IN WORLD HEALTH ORGANIZATION (Ed.).
- WICKOP, E. (1999) Qualitätsziele für eine nachhaltige Stadtentwicklung - methodische Aspekte eines Konzeptes für Stadtstrukturtypen am Beispiel der Stadt Leipzig. *Zeitschrift für angewandte Umweltforschung*, 12, 98-111.
- WILKINSON, D. (1997) Towards sustainability in the European Union? Steps within the European Commission towards integrating the environment into other European Union policy sectors. *Environmental Politics*, 6, 153-173.
- WILLIAMS, K. (2005) *Spatial planning, urban form and sustainable transport*, Aldershot, Ashgate.

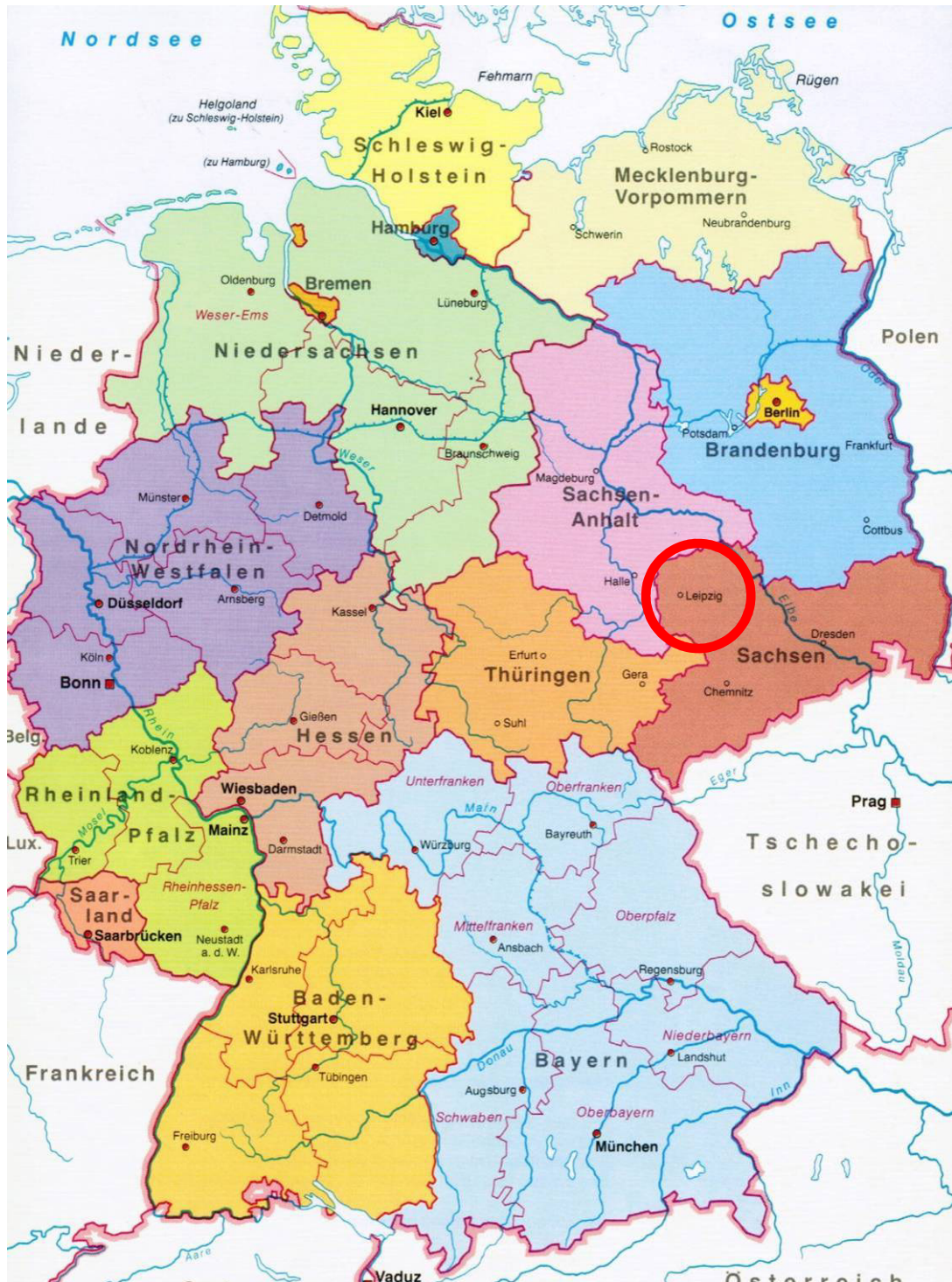
- WONDOLLEK, J. M. & YAFFEE, S. L. (2000) *Making collaboration work: lessons from innovation in natural resource management*, Washington D.C., Island Press.
- WONG, C., BAKER, M. & KIDD, S. (2006) Monitoring spatial strategies: the case of local development documents in England. *Environment and Planning C: Government and Policy*, 24, 533-552.
- WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT (1987) *Our common future*, Oxford, Oxford University Press.
- YIN, R. K. (2003) *Case study research: design and methods*, London, Sage Publications.
- YLI-PELKONEN, V. & NIEMELÄ, J. (2005) Linking ecological and social systems in cities: urban planning in Finland as a case. *Biodiversity and Conservation*, 14, 1947-1967.
- YLI-PELKONEN, V. & NIEMELÄ, J. (2005) Linking ecological and social systems in cities: urban planning in Finland as a case. *Biodiversity and Conservation*, 14, 1947-1967.
- ZEYEN, W. (2013) Straßenmarkierungen und Fahrradbügel sollen die Schleußiger daran hindern, an Kreuzungen wild zu parken. Aus: Bürgerforum in Schleußig: Initiative „Pro Parkplatz“ und Grüne holen Dubrau aufs Podium. Leipzig, Leipziger Volkszeitung. 28.11.2013.
- ZEYEN, W. (2014) Neue Straßenmarkierungen in der Brockhausstraße in Schleußig sollen Autofahrer vom Falschparken abhalten. Aus: Ende des „Höflichkeitszettels“: Leipziger Politessen vergeben Knöllchen in Schleußig. Leipzig, Leipziger Volkszeitung. 13.01.2014.

Appendix 1 – Glossary

District Boards	District boards are local representatives in 14 districts of Leipzig that had been incorporated after 1990. They represent the level under the city council.
Eco-mobility	public transport, cycling and walking
Federal Land Utilisation Ordinance	Baunutzungsverordnung (BauNVO)
Federal Regional Planning Act	Bundesraumordnungsgesetz
German Building Law	Baugesetzbuch (BauGB)
Gründerzeit	An economic phase in Germany starting in the middle of the 19th century. Literal translation: Founder Epoch. Despite the link to the economy it is often used in Germany to describe a phase of urban development.
Guideline for urban roads (RAST)	Richtlinie zur Anlage von Stadtstraßen von 2006
Immission Control Act	Bundesimmissionsschutzgesetz – in German the word immission is used to express the impact that something has (in this case for example pollution and noise) – compared to emission, which focuses on the source of something
Law on funding of the national government to improve the transport conditions in municipalities	Gesetz über Finanzhilfen des Bundes zur Verbesserung der Verkehrsverhältnisse der Gemeinden (Gemeindeverkehrsfinanzierungsgesetz GVFG)
Light rail	A tram on its own track (Stadtbahn)
Local business tax	Gewerbesteuer
Local planning sovereignty	Kommunale Planungshoheit
Low emission zone	Umweltzone (literal translation: environmental zone)
Ökolöwe	Environmental NGO in Leipzig
Parking space transfer money	planning charge payable when a development provides less than the required number of parking spaces
Public Agency	These are members of the administration. Examples are regional authorities, fire service, rescue service, energy companies, housing associations, and the police. Based on Article 4 of the BauGB they have to be involved in planning processes. (Träger öffentlicher Belange)
Regulation on building and operation of trams	Verordnung über den Bau und Betrieb der Straßenbahnen (Straßenbahn-Bau- und Betriebsordnung - BOStrab)
Round Table Cycling	Runder Tisch Radverkehr

Spatial planning commission	A group of planners who discusses spatial related topics of the region Halle-Leipzig beyond the frontiers of the federal states of Saxony and Saxony-Anhalt
Stadtforum	The 'Stadtforum' is a platform for citizens and associations in Leipzig, who want to get actively involved in a cautious and sustainable urban regeneration.
State directorate	The state directorate is responsible for funding applications on the local level. After the legitimation of the policy by the city council it will be used by the state directorate in building law related statements (following article 1 paragraph 6 number 11 of the building law) and will also include it as objection authority in objection decisions.
System of representative traffic surveys	Those surveys are conducted by researchers of the transport department of Dresden University. Questionnaires are sent out and citizens are asked about their mobility behaviour on Tuesdays and Wednesdays or Thursdays as these are traffic intensive days.
TeilAuto	Car-Sharing company in Leipzig
Tram	A tram that has an integrated the track with the road (Straßenbahn)
Urban railway	S-Bahn

Appendix 2 – Map of Germany



The federal structure of Germany and the position of Leipzig (Westermann, 1990)

Appendix 3 – Overview interviewees

Interview no.	Function	Date	Details
01	Independent Planners	September 2011	-
02	Planner Leipzig	September 2011	Transport planning
03	Planner Leipzig	September 2011	Urban development
04	Planner Leipzig	September 2011	Urban regeneration
05	Political Party	November 2011	Bündnis 90/Grüne
06	Planner Leipzig	November 2011	Urban development
07	Political Party	November 2011	Die Linke
08	Planner WS	December 2011	Regional Planning Association
09	Lobby group – transport	December 2011	ADAC
10	Planner Leipzig	December 2011	Environment planning
11	Planner Leipzig	December 2011	Transport planning
12	Lobby group – transport	December 2011	Fuss e.V,
13	Lobby Group – retail	December 2011	City Marketing
14	Political Party	December 2011	SPD
15	Retail agent	December 2011	CCI (IHK)
16	Lobby group – transport	December 2011	Fuss e.V.
17	Lobby group – environment	December 2011	Ökolöwe
18	Retail agent	December 2011	Trade Association
19	Political Party	December 2011	CDU
20	Transport Group	December 2011	Car Sharing
21	Lobby group – transport	December 2011	ADFC
22	Transport Group	December 2011	LVB
23	Planner WS	December 2011	North Saxony
24	Planner S	December 2011	Environment Ministry
25	Planner S	December 2011	Urban Development Ministry
26	Planner WS	December 2011	Leipzig
27	Transport Group	December 2011	ZVNL
28	Environment	December 2011	FEA
29	Environment	December 2011	FEA
30	Newspaper	January 2012	L-IZ
31	Transport Group	January 2012	MDV
32	Political Party	April 2012	FDP
33	Planner Saxony	April 2012	State directorate
34	Newspaper	April 2012	LVZ
35	Environment	April 2012	FEA
36	Planner Leipzig	April 2012	Transport planning
37	Independent Planners	April 2012	-

Appendix 4 – Examples of interview schedules

The format of semi-structured interviews was chosen for this research. Here are some examples of questions that were used to structure the interviews. They are translated from German.

Initiative interviews:

- What developments could be observed in spatial and transport planning in the last twenty years?
- How important are environmental topics in planning? Was there a change in the last twenty years?
- What are driving forces in transport planning/spatial planning?
- What are the main problems that transport planners/spatial planners have to address?
- Is there an integration of spatial and transport related planning in Leipzig?
- If so, when did it start? How did it change perceptions? Did new conflicts arise?
- How far does the SEKo go with integration? Are environmental considerations integrated too?
- Who are key actors in planning in Leipzig – departments, NGOs, stakeholders, citizens, politicians?
- Should certain groups get more influence in planning processes?
- Are the same stakeholders active in transport and spatial planning?
- What competences do local planners have in environmental, spatial and transport planning?
- How is the relationship with surrounding municipalities and the federal state?
- Is there an inter-communal working relationship?
- How do local planners announce future development aims? What forms of “success-measuring” do they have?
- What future development aims should local planners have?
- What stakeholders are important in future development in Leipzig?
- Can local planners deal with the higher request for integrated planning solutions?

Main interview phase:

- What is sustainability and sustainable mobility?
- Is there an integrative planning approach in Leipzig? How far does integration go?

- How are your interests represented in planning?
- What are driving forces/arguments/interests in Leipzig?
- What are environmental/spatial/transport problems in Leipzig?
- How are environmental topics represented in spatial/transport planning?
- Is there a difference between the planning process and final planning policies?
- How do planning ideas are developed and implemented?
- What methods and instruments are available in environmental/spatial/transport planning?
- Who is involved in those processes? How do people deal with conflicts? What methods are used for communication/participation?
- How do planners/stakeholders organise processes?
- Who and how many people get involved in planning? How far do they have the possibility to be heard?
- How are the results of communication processes used in the planning process?
- What are political/economic factors?
- How is the relation to the next higher planning levels? How is the pressure from higher planning levels?
- In terms of environmental objectives: Are these honest interests? Is this only a phrase/greening/ticking a box?
- Are there alternative approaches used in planning?
- Does the German planning framework support or hinder higher participation?
- How does the media influence planning in Leipzig? Is there a possibility to influence planning processes via the media?

Further questions were asked depending on the interviewee, topic or stated problem of planning. As they depended on the context of the interview they are not stated here.

Appendix 5 – Codes of the analysis in NVivo

Integration

- Integration (general)
- Level of Integration - Departmental Integration
- Level of Integration - EPI
- Level of Integration - Stakeholder Integration

Legal framework

- Administrative regulations
- GDR related issues
- Development after reunification
- EU influence
- Guidance by political frame (name+reason)

Different planning levels

- Strategic and project level
- Strategic level
- Regional Development Plan
- Federal Development Plan
- Research FEA
- Surrounding municipalities

Participation

- Cooperation with local planners
- Cooperation of different planning departments
- Formal processes
- Guidance by interest groups (name+reason)
- Inter-local cooperation
- Procedures in departments
- Participation experiences
- Bottom-up initiatives
- Top-down pressure
- Starting point of integration

Case related

- Clean Air Plan
- Low Emission Zone
- Noise Action Plan
- Mach's Leiser
- Bicycle racks - Private investor in public space
- Cycling Ring - City Centre
- Parking on pavements
- Karl-Liebknecht-Street
- Höfe am Brühl
- Centres Urban Development Plan
- Transport Urban Development Plan

- Integrated Urban Development Concept (SEKo)
- Factory Outlet Centre Wiedemar
- Parking Spaces - Shopping Centres

Supporting elements

Aims to achieve integration
Environmental value
Legal framework (name+reason)
Local initiatives (name+reason)

Obstacles

Obstacles by administration
Obstacles by interest groups (name+reference)
Obstacles by political frame (name+reason)

Others

Sustainable behaviour Leipzig
Sustainable mobility
Rhetoric

Appendix 6 – Participants of the city workshop “Who needs a local centre?”

More than 60 people with different backgrounds participated²⁵⁶ (Stadt Leipzig, 2005):

- Mayor of Leipzig
- Local planners of various departments:
 - o Department of planning and building²⁵⁷ (2)
 - o Department of urban planning/department of urban development planning²⁵⁸ (16)
 - o Department of transport planning (1)
 - o Department of building regulations and historic preservation (1)
- Members of the city council of Leipzig:
 - o SPD (1)
 - o CDU (2)
 - o Green Party (1)
 - o PDS (1)
- Local members of chambers and associations:
 - o Chamber of Commerce and Industry (1)
 - o Chamber of Crafts (1)
 - o Architectural association (1)
 - o Trade association of Saxony (1)
 - o Retail cooperative (3)
- Regional council Leipzig (2)
- Planners of surrounding municipalities: Halle (1), Großpösna (2), Schkeuditz (1)
- Independent planners from Leipzig (3)²⁵⁹
- Participants with an interest in housing:
 - o Leipzig residential building cooperative – LWB (1)
 - o Building cooperative ‘Kontakt’ (1)
 - o Association for house owners ‘Haus und Grund’ (1)
- Retail companies: REWE (2), Plus (2), Lidl (1)
- Experts from outside Leipzig:
 - o Independent planner from Munich (1)
 - o Planner of the department of urban planning Bochum (1)
 - o Consultancy (?) Planersocietät Dortmund (1)
 - o Planning community Berlin (2)
- Other experts:
 - o Association for market research (GMA) (2)
 - o Urban planner of the University of Leipzig (1)
 - o Treuhandanstalt (trust agency) (1)
 - o Business consulting (2)
 - o Not specified (2)

²⁵⁶ The number in brackets refers to the number of participants

²⁵⁷ The Department of Planning and Building is the superior level to the Departments of Urban Planning, Transport Planning, and Building Regulations and Historic Preservation

²⁵⁸ The Department of Urban Development is a part of the Department of Urban Planning

²⁵⁹ Büro für urbane Projekte (Office for Urban Projects), Initiative zur Förderung zeitgenössischer Planungskultur (Initiative to promote a contemporary planning culture)