

A photograph of a person on a bicycle, seen from behind, holding a large, diamond-shaped map. The person is wearing a dark jacket and dark pants. The background shows a city street with cobblestones, a building with a red roof, and a person walking in the distance. The overall tone is slightly desaturated with a blueish tint.

URBAN PLANNING AND ENVIRONMENT



# Governing Urban Sustainability

Comparing Cities in the USA and Germany

Lisa Pettibone

# GOVERNING URBAN SUSTAINABILITY

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# Governing Urban Sustainability

## Comparing Cities in the USA and Germany

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# List of Abbreviations and Acronyms

German institutions' own translations of their names are used.

APA	American Planning Association
BMBF	German Ministry for Education and Research ( <i>Bundesministerium für Bildung und Forschung</i> )
BMVBS	Federal Ministry of Transport, Building and Urban Development ( <i>Bundesministerium für Verkehr, Bau und Stadtentwicklung</i> )
B-Nax	Berlin Sustainability Index ( <i>Berliner Nachhaltigkeitsindex</i> )
BPA	Bonneville Power Administration
BPS	Portland Bureau of Planning and Sustainability
BROG	German Federal Land-Use Law ( <i>Bundesraumordnungsgesetz</i> )
BSU	Agency for Urban Development and Environment ( <i>Behörde für Stadtentwicklung und Umwelt Hamburg</i> )
BUND	Friends of the Earth Germany ( <i>Bund für Umwelt und Naturschutz Deutschland e.V.</i> )
CBD	Convention on Biological Diversity
CDU	Christian Democratic Union
CEMR	Council of European Municipalities and Regions
CLF	Coalition for a Livable Future
CNU	The Council for the New Urbanism
CSD	UN Commission on Sustainable Development
DBU	German Environmental Foundation ( <i>Deutsche Bundesstiftung Umwelt</i> )
DLCD	Oregon Department of Land Conservation and Development
DOT	U.S. Department of Transportation
DPD	Seattle Department of Planning and Development
EDF	Environmental Defense Fund
EJ	environmental justice
EPA	U.S. Environmental Protection Agency
ESD	education for sustainable development
FDP	Free Democrat Party
FEST	Protestant Institute for Interdisciplinary Research ( <i>Forschungsstätte der Evangelischen Studiengemeinschaft e.V.</i> )
GAL	Green Allied Left, Hamburg's Green party
GDP	Gross Domestic Product
HEINZ	Hamburg's Indicators of Sustainable Development ( <i>Hamburger Entwicklungs-Indikatoren Zukunftsfähigkeit</i> )

HUD	U.S. Department of Housing and Urban Development
IASS	Institute for Advanced Sustainability Studies
ICLEI	International Council for Local Environmental Initiatives
IFEU	Institute for Energy and Environment Research ( <i>Institut für Energie und Umweltforschung Heidelberg GmbH</i> )
JESSICA	Joint European Support for Sustainable Investment in City Areas
LA21	Local Agenda 21
LULUs	Locally Unwanted Land Uses
MUE-25	Managing Urban Europe 25
NABU	Nature and Biodiversity Conservation Union ( <i>Naturschutzbund Deutschland e.V.</i> )
NLC	National League of Cities
NRDC	Natural Resources Defense Council
NYC EJA	New York City Environmental Justice Alliance
OLTPS	New York Office of Long-Term Planning and Sustainability
PBNE	Parliamentary Advisory Council on Sustainable Development ( <i>Parlamentarischer Beirat für Nachhaltige Entwicklung</i> )
PCSD	U.S. President's Council on Sustainable Development
PoSI	Portland Sustainability Institute; now EcoDistricts
PSC	Partnership for Sustainable Communities
RNE	German Council for Sustainable Development ( <i>Rat für Nachhaltige Entwicklung</i> )
SPD	Social Democratic Party
SRU	German Advisory Council on the Environment ( <i>Sachverständigenrat für Umweltfragen</i> )
SSBX	Sustainable South Bronx
SSU	Berlin Senatsverwaltung für Stadtentwicklung und Umwelt
STEP	Urban Development Plan ( <i>Stadtentwicklungsplan</i> )
SWMP	Solid Waste Management Plan
UfU	Independent Institute for Environmental Issues ( <i>Unabhängigen Institut für Umweltfragen</i> )
UGB	Urban Growth Boundary
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCHE	United Nations Conference on the Human Environment
UNFCCC	United Nations Framework Convention on Climate Change
USGBC	U.S. Green Building Council
WBGU	German Advisory Council on Global Change ( <i>Wissenschaftlicher Beirat der Bundesregierung Globale Umweltänderungen</i> )
WCED	World Commission on Environment and Development
WPPSS	Washington Public Power Supply System
WWSCI	<i>WirtschaftsWoche</i> Sustainable City Index

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# PART I

## Defining Urban Sustainability

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# Chapter 1

## A New Framework for Urban Sustainability Governance

Decision-makers today are faced with a number of interconnected challenges: a complex ecological crisis that includes biodiversity loss, multiple forms of pollution, and climate change; an increasingly precarious global financial system that has led to two recent crises, increased inequality, and growing social unrest; and growing tension between the Global South and the Global North about how to address these issues. But these challenges have been increasingly linked to solutions called for by sustainability, a worldview that has emerged from outside traditional policymaking channels and reframes these problems in a new way (Lafferty, 2004). Sustainability uses a reflexive, deliberative, systems-based approach to advance solutions that work within the long-term and acknowledge ecological limits. To achieve this, sustainability calls for a massive societal transformation (for example, McCormick et al., 2013; WBGU, 2011).

Such a transformation entails dramatic restructuring of social, political, and technical systems and institutions in order to reduce wasteful resource use, promote equity and inclusion, all while maintaining a good quality of life and without collapsing economic or ecological systems (WBGU, 2011). This tall order is the focus of research on sustainability governance, which focuses on transforming socio-political structures and processes within the framework of a broader transition to sustainability (Lafferty, 2004; Meadowcroft, Farrell, and Spangenberg, 2005). Sustainability governance requires new forms of decision-making to reframe problems and work in new ways to resolve them (Adger and Jordan, 2009; Voß, Bauknecht, and Kemp, 2006).

Partly because of sustainability's "outside-in" character (Lafferty, 2004)—that is, the fact that it is an agenda that has emerged largely from outside the political system—it has seen slow implementation at the national and international levels. In the face of this, cities worldwide have taken the lead in transitioning to sustainability, particularly in high-consumption countries such as the United States and Germany. Scholars have pointed to the importance of cities, as home to much of the world's population, pollution, and economic activity, in climate and sustainability governance (McCormick et al., 2013; Owen, 2009). In addition, cities' relative flexibility and ability to experiment with new policies has made them able to more quickly progress in a transition to urban sustainability governance (Acuto, 2013; Gordon, 2013). Although sustainability requires a global transformation, cities have taken the lead in moving toward sustainability governance. However, findings from urban sustainability governance research



have been sobering. Researchers have cited implementation concerns (Kern, Koll, and Schophaus, 2007) and political shortcomings (for example, Gibbs and Krueger, 2007; Holgersen, 2014) as problems. Beyond this, much sustainability governance literature, including urban sustainability governance, overrelies on instruments, which have seen uneven implementation at best. If governance is to play a role in sustainability transition, it is important to better understand what effective urban sustainability governance looks like.

This book seeks to explore how six U.S. and German cities are incorporating sustainability principles into political decision-making processes, that is, how they are achieving urban sustainability governance. I explore these questions by asking why cities actually do develop and use plans and indicators and how well their vision of sustainability matches principles found in the literature. By examining six cities with similar contexts (large cities in industrialized federal countries) that have experimented with both strategic plans and sustainability indicators in different ways in terms of development process, motivation, and actors involved, I aim to better understand their role in urban sustainability governance.

By studying these six cities, I hope to answer the following questions:

- *Why do cities develop strategic plans and sustainability indicators?*
- *How do these governance instruments help incorporate sustainability principles into political decision-making?*

The focus here is thus two-fold: to understand both actors' motivations in developing these instruments and to explore how well they connect to urban sustainability governance, as measured by sustainability principles. While trying to answer these questions, I found one type of actor group not discussed in the literature to be consistently important. In several cities, civil society groups—in the form of think tanks, volunteer initiatives, or nonprofits—were central actors in the development and use of plans and instruments to achieve sustainability. However, the work of such organizations has not yet received explicit attention in the academic literature. Therefore, I also explore the role of these groups, which I call sustainability-minded institutions, in urban sustainability governance in the six case cities. They are the focus of a third research question:

- *How do sustainability-minded groups use plans and indicators to promote urban sustainability governance?*

In answering these questions, I hope to better understand not only the potential role of plans and indicators in urban sustainability governance, but what functions they actually perform. Specifically, I focus on how different motivations affect their use in urban decision-making processes, as well as how well these tools are connected to sustainability itself. In addition, I highlight the special role played by sustainability-minded groups as an important subject for further study.

This study uses a qualitative comparative case study approach. I examine the three factors—strategic plans, sustainability indicators, and sustainability-minded groups—in six cities in the United States and Germany considered sustainability leaders: New York, Portland, and Seattle in the United States and Berlin, Hamburg, and Heidelberg in Germany. In studying the effects of these three factors, I hope to build a more robust understanding of sustainability governance better able to aid practitioners in taking effective action.

## **Why the United States and Germany**

This study uses a multiple case study approach that includes cities in both the United States and Germany.<sup>1</sup> These countries serve as interesting cases for study for several reasons. First, both are wealthy, high-consuming countries with problems typical of the global North and of interest to researchers worldwide. Both countries are important in international debate related to sustainability and environmental problems. Second, and important to the study of urban sustainability, both are federal countries whose cities have a relatively high level of autonomy. Third, cities in both countries are seen as sustainability leaders in the literature and have sought to brand themselves as interested in sustainability. The case cities are often considered role models, meaning that actors engaged in incorporating sustainability into urban decision-making look to these cases for guidance. These factors make the United States and Germany, as well as the six cities studied here, especially important to the study of urban sustainability governance.

At the same time, the United States and Germany differ in several important ways, as discussed in Chapter 3. Most relevant to this study are urban planning policy and the national-level debate regarding sustainability. These differences, however, play a surprisingly limited role at the city level. As such, although cities will be compared by country to highlight national-level factors of importance in incorporating sustainability into decision-making, comparisons are also made along other axes to explore other key factors.

## **The Six Cities**

In this book, I use a qualitative comparative case study approach to examine how six large cities in the United States and Germany have used strategic planning and sustainability indicators as tools of urban sustainability governance (see Yin, 2009). The cases were selected to maximize a diversity of approaches to sustainability and uses of these two governance tools to incorporate sustainability

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1 Similarities between these two countries have made them the subject of a rich body of comparative literature (for example, Dolowitz and Medearis, 2009; Lafferty and Meadowcroft, 2001; Light, 1999; Ralston, 2012; Rose-Ackerman, 1995; Schreurs, 2003).

principles into political decision-making (see Pettibone, 2014a for more details on the methods used). In addition, during the empirical research, I became aware of the importance of civil society organizations I call sustainability-minded groups, which became an additional focus of this research and are discussed in Chapter 7.

Three cities in each country were selected as the maximum possible for a qualitative design. To select the case cities, I first consulted city sustainability rankings in the United States (Karlenzig et al., 2007; Svoboda et al., 2008; Thompson, 2009)<sup>2</sup> and Germany (Dovern, Rickels, and Quaas, 2012; Siemens, 2011a). In the second step, I selected highly ranked cities from these lists that reflected a range in terms of geography, governance, and approach to sustainability (see Table 1.1).

All six cities presented here have been considered leaders for their work on sustainability. Berlin's Local Agenda 21 is a model of inclusive planning; Hamburg was the 2011 European Green Capital; Heidelberg's plan and indicators have won the city numerous awards; New York's ambitious sustainability plan has drawn international attention; Portland has used comprehensive planning to manage growth; Seattle's volunteer-created sustainability indicator set has been subject to international study. Each city has attempted to use these instruments in some way, but led by different actor groups with different motivations.

Each of the six cities selected has been considered an exemplar in its use of plans or indicators for sustainability: all have used these tools in some way to promote urban sustainability governance. What differs is what actors are involved—politicians, administrators, or civil society organizations—and what vision for the city these actors seek to realize through plans and indicators.

The case cities vary in terms of size, population, economic prosperity, and the built environment. Table 1.2 highlights key characteristics of the six case cities. As the table shows, the cities vary on all of the characteristics seen here. The main differences—such as population density and housing stock—are not necessarily based on country, but more closely correlated to city size. Surprisingly, Berlin and Hamburg have a large number of residents in single-family homes, comparable to the more suburban cities of Portland and Seattle. These cities are thus broadly similar in terms of general urban features. The following sections introduce these six cities by providing a brief overview of important historical and political context and developments.

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2 It should be noted that subsequent study of the case cities and city ranking methodologies made me skeptical of their value beyond advocating for a particular understanding of sustainability. These three U.S. city ranking projects may have come to similar conclusions, as all efforts had ended by 2010.

Table 1.1 Case city overview: Focus of analysis

	New York	Portland	Seattle	Berlin	Hamburg	Heidelberg
<b>Plans studied</b>	PlaNYC (2007)	<i>VisionPDX</i> (2008), <i>The Portland Plan</i> (2012)	<i>Toward a sustainable Seattle</i> (1994, 2004)	<i>Local Agenda 21</i> (2006), <i>Berlin 2030</i> (2014)	<i>Wachsende Stadt</i> (2002, 2003), <i>Wachsen mit Weitsicht</i> (2010)	<i>STEP 2010</i> (1997), <i>STEP 2015</i> (2006)
<b>Indicator sets studied</b>	PlaNYC performance measures	Portland Plan, Oregon Benchmarks	Sustainable Seattle indicators, Cascadia Scorecard	<i>BerlinStudie</i> , B-Nax, LA21 indicators	HEINZ	Sustainability test, Sustainability reports, FEST
<b>Key actors</b>	Sustainability Watch; Sustainable South Bronx and Sustainable Flatbush; NYC EJA, UPROSE	1000 Friends of Oregon, Coalition for a Livable Future	Bullitt Foundation, Sightline Institute, Sustainable Seattle	Berlin 21	<i>Zukunftsrat</i>	BUND Heidelberg, FEST, IFEU

\* For the sake of simplicity, acronyms and abbreviations are used here. For more detailed information on these plans, indicator sets, and actor groups, please see the relevant empirical chapters.

Table 1.2 Case city statistics

	New York	Portland	Seattle	Berlin	Hamburg	Heidelberg
Size (sq mi.)	302.64	133.43	83.94	342.74	291.57	162.05
Population (in 2010)	8,175,136	583,778	608,660	3,300,000*	1,786,448	305,322
Growth (% pop change since 2000)	+2%	+9%	+7%	No change	+4%	+3%
Population density (pop per sq mi.)	27,425	4,377	7,251	9,628	6,125	1,882
Diversity (% white, non-Hispanic (US); % German citizens (GER))	33.3%	72.2%	66.3%	86.3%	86.9%	67% (does not include naturalized migrants)
Housing stock (# housing units in 2010; % multi-unit)	3,371,062	265,429	308,516	1,894,564	890,881	72,307 (in 2011)
Wealth† (Median HH income (US); Average per cap discret. income (GER))	83.6%	38.1%	50.5%	49.7%	41.3%	89.5%
	\$51,865	\$51,238	\$63,470	€16,608	€20,807	€21,555
City government	Strong mayor; city council	Commission-based; mayor + 4 commissioners	Mayor-council; 9 at-large councilmembers	Berlin Senate is mayor + 8 senators; state parliament	Hamburg Senate is mayor + senators; state parliament	mayor; city council
Key scales of government	city; state	city; county; metro region; state	city; county; state	city-state; neighborhood	city-state; neighborhood	city; region; state

U.S. sources: U.S. Census Bureau (2012). German sources: Siemens (2011); Stadt Heidelberg and GEWOS (2013); Statistisches Amt Berlin-Brandenburg (2010); Statistisches Amt für Hamburg und Schleswig-Holstein (2014); Statistisches Bundesamt (2011). \*The table has Berlin's population at 3,460,725, but the city's census data released one year later was shown to have overestimated the city's population (*Berliner Zeitung*, 13 May 2013). †Here the statistics should not be considered internationally comparable, as they differ in terms of content (earned vs. discretionary income) and units (household vs. per capita). Instead, they serve to highlight the relevant differences within countries.

## Berlin

Berlin is the capital of Germany and its most populous city. The city boasts a comprehensive public transit system, a network of waterways, and an older housing stock. The city has a thriving cultural scene that includes numerous grassroots activities related in some way to sustainability. Its biggest challenge, however, is the city's financial situation, which has been described as "disastrous" (Kern, Koll, and Schophaus, 2007; see also Krätke, 2004). After a brief infusion of cash in the 1990s to reconnect the city's split halves, renovate socialist housing in the East, and rebuild large physical gaps in the heart of the city created by the Wall (Bernt, 2012),<sup>3</sup> Berlin was left to fend for itself. At the end of 2010, the city was over €61 billion in debt (Amt für Statistik Berlin-Brandenburg, 2014). This may be one reason why the city government has focused its attention in the last decade on economic development, particularly by seeking to attract major corporations and wealthy foreign investors as a "city of talents" (Krätke, 2004).<sup>4</sup> The Senate's development plans have led to public outcry in many cases, most recently leading to a 2014 public referendum that rejected plans to develop the public space on Tempelhof field (Bartlick, 2014; see also Zwangsräumung verhindern, 2013).

Berlin is a city-state (*Stadtstaat*), giving it the political representation of a state in the federal *Bundesrat*. The city has 12 neighborhoods (*Bezirke*) of relatively equal population (Statistisches Landesamt Berlin, 2012). The city's 140-member parliament (*Abgeordnetenhaus*) elects the mayor; the executive consists of up to eight senators selected by the mayor to lead city agencies. This has led to some friction between the executive and legislative branches in recent years. Berlin also works closely with the adjacent state of Brandenburg, which forms the metropolitan region's rural and suburban fringe.

Berlin could be described by its "creative sustainability": grassroots projects that create neighborhood tool libraries to increase sharing, create hotel rooms out of old mobile homes, and transform the city's oldest gas station into an artistic filling station that tops up creative energy (see also Berlin 21, 2014). Such projects are possible due to the city's relatively cheap real estate and history of grassroots neighborhood engagement (LaFond, 1999). Many Berliners prefer lifestyles consistent with sustainability: sharing, using few resources, and developing innovative lifestyle models that reinforce values of solidarity and sufficiency

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3 The post-1989 reconstruction of Potsdamer Platz, a dynamic central marketplace in the 1920s that, divided by the Wall, became a barren wasteland in the 1960s, is an excellent example of this. After reunification, one plan was to build a massive sustainability center in the space (LaFond, 1999). Financial realities led to the construction of a massive tourist destination, with the Sony Center a main attraction. A visit today should be compared to the area's appearance in two iconic films: first as part of a bustling metropolis in *Berlin: Sinfonie einer Großstadt* (1927) and then as a vast wasteland in *Wings of Desire* (1987).

4 This trend could be linked to the more general neoliberalization of major cities (Hackworth, 2007).

(Berlin 21, 2014). The city's thriving urban gardening scene presents one example of this (Sandilya and Danna, 2013, 56). In addition, numerous nonprofit and for-profit start-ups exist in areas as diverse as car-sharing, tool libraries, and eco-housing (LaFond, 1999), as well as sustainable fashion and IT services.

### *Hamburg*

Hamburg is the second-most populous city in Germany. Much of Hamburg's development is related to its port and shipping industry: a shift to container shipping in recent decades has led to the development of heavy, environmentally damaging infrastructure in the area surrounding Hamburg and a general suburbanization of the city. Like Berlin, Hamburg is also a city-state, which gives it a voice in federal decision-making in the German *Bundesrat*. Its state government is led by the mayor, who leads the city's executive branch, the Senate.<sup>5</sup> Hamburg's parliament (*Bürgerschaft*) includes roughly 120 members and elects the mayor. In addition, seven neighborhoods include their own decision-making bodies and jurisdiction (FHH, 2011).

Like Berlin, policy in Hamburg in recent decades has focused on economic development that draws international capital, such as Klaus von Dohnanyi's "entrepreneurial city" (Schindler, 2011, 168–9). After a brief center left (SPD)–Green coalition in the 1990s, that initiated a diffuse array of sustainability and climate measures, sustainability has served primarily as an instrument of economic policy in city politics. This is echoed in the city's strategic visions, discussed in Chapter 5. Current mayor Olaf Scholz has focused on pragmatism and implementation over grand visions; sustainability is not a priority (*SPD Regierungsprogramm*, 2011).

Despite the apparent lack of environmental interest, Hamburg was named the European Green Capital in 2011 by the European Commission.<sup>6</sup> Hamburg won

---

5 In Berlin and Hamburg, the city executive is called the *Senat*, which for simplicity is translated here as "Senate." The legislative branch of both cities is referred to as its parliament.

6 The award highlights a leading city on environmental and sustainability issues and primarily serves as a marketing tool for foreign investment and tourism:

Being a European Green Capital brings many benefits long after the designated year ends. Some of the city specific benefits of our previous winners are detailed below. A summary of these includes:

- Increase in tourism;
- Positive international media coverage worth millions of euro;
- Increase in international profile, networking and new alliances;
- New jobs – a Green Capital is more attractive to foreign investors;
- More emphasis on environmental projects through sponsorship and grants;
- Pride among citizens;
- Momentum to continue improving environmental sustainability (European Green Capital website, 2014).