Assessing the regional governance capacities of spatial planning: the case of the canton of Zurich

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ABSTRACT
Many countries use spatial planning instruments to coordinate interests in land use and influence land-use change. In Switzerland, the cantonal structure plan (kantonale Richtplan) serves as the main spatial planning instrument at the cantonal level. Coordinating land-use interests and influencing land-use change requires ‘regional governance capacities’. This paper presents an analytical concept of regional governance capacities in spatial planning using the policy arrangement approach and drawing from the spatial planning implementation and evaluation literature. The canton of Zurich, with its embedded cases on the regional and local levels, serves as the case study for testing the analytical concept. Empirical evidence from qualitative interviews, observations and document analyses reveals a coexistence of various regional governance capacities within the canton of Zurich. Whereas regional governance capacities regarding the promotion of inner development in urban areas emerge as high, the results unveil mixed regional governance capacities when it comes to coordinating transport and land-use planning. To make judgements about regional governance capacities in spatial planning, it is essential to observe various spatial challenges, spatial scales and local examples.

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INTRODUCTION
Prosperity and economic growth have led to a significant amount of land consumption and sprawl in many highly developed countries over the last several decades. The built-up environment, which includes residential, retail and industrial areas, as well as transport infrastructure, has increased, whereas ecologically valuable areas, which include agricultural land, forest and open countryside, have decreased. Conflicts over land use and the negative effects of urban sprawl, such as high expenses for providing public infrastructure and the loss of fertile soils, have accompanied this process especially in metropolitan regions (Oueslati et al., 2015; Robinson et al., 2005; Salet et al., 2003b, 2003a). In many highly developed countries, spatial...
planning instruments are tasked with curbing sprawl and coordinating conflicts over the use of land. However, according to Diller (2016), scholars disagree about the efficacy of these instruments. For example, Brody and Highfield (2005) identified a positive correlation between the stringency of spatial planning instruments and their efficacy, whereas Dawkins and Nelson (2003) did not find such a positive correlation. These diverging results do not surprise, considering the large variety of factors that influence land-use change (Pagliarin, 2018; Weilenmann et al., 2017).

Many scholars have evaluated spatial planning success (Grădinaru et al., 2017; Lyles et al., 2016), and some have investigated the role of governance arrangements in spatial planning (Oliveira & Hersperger, 2018; Pagliarin, 2018). However, few have attempted to determine the role of governance capacities in spatial planning practices, results and outcomes by combining governance research with spatial planning evaluation research (Berke et al., 2006; Walsh, 2012). Focusing on regional governance capacities can help to bridge this gap. In this paper, regional governance capacities are understood as the abilities and performance of the actors involved in spatial planning processes for the purpose of coordinating varying land-use interests and influencing land-use change under certain circumstances (Dang et al., 2016). We will seek to answer the following questions:

- How can we analyse and assess the regional governance capacities of spatial planning?
- Which regional governance capacities characterize regional spatial planning in the canton of Zurich?

We develop a regional governance capacities concept based on scholarly literature and expert interviews that consider the following three factors:

- Varying regional governance capacities for various spatial challenges (e.g., the protection of open countryside and the coordination of transport and land-use change).
- Regional governance capacities on various spatial scales (e.g., local and regional).
- Relationships between potential governance capacities (actors’ desire to address collective challenges), performance (actors’ behaviours, decisions and actions when dealing with a spatial plan) (Dang et al., 2016; Faludi, 2000) and conformance (the conformity between plan intentions and real land-use change) (Talen, 1997).

We apply the regional governance capacities concept to the case of the canton of Zurich in Switzerland. In Switzerland, urban sprawl and limited space for agricultural land and built-up areas due to the Alps have fostered the emergence of spatial planning instruments that are strongly influenced by the introduction of Switzerland’s national spatial planning law in 1979 (Bovet et al., 2018; Lendi, 2007). The cantonal structure plan (kantonaler Richtplan) serves as the main obligatory spatial planning instrument on the cantonal level, and both scholars and practitioners agree that this instrument can play a key role in the coordination of land-use interests and the reduction of urban sprawl (Keiner et al., 2001; Mahaim, 2014). A cantonal structure plan includes both strategic spatial development goals and binding regulations for authorities, the latter of which mainly address municipalities, determining, for instance, growth boundaries and utilization densities. The principle of countervailing influence and the weighing of interests principle form the basis of the cantonal structure plan. According to the principle of countervailing influence, actors should encourage the interplay of top-down and bottom-up influences in spatial planning. The weighing of interests principle ensures that spatial planning actors are obliged to consider the entire range of interests before making a significant spatial decision (Lendi, 2007; Siedentop et al., 2016; Turowski, 2002). The Swiss national spatial planning law was revised in 2014, strengthening the cantonal structure plan as a planning instrument. The goal of this
revision was to foster Switzerland’s inner development and curb its sprawl. All cantons had to
bindingly determine the boundaries of their building land and their arrangement within the can-
ton in the cantonal structure plan (Bovet et al., 2018; Mahaim, 2014).

The canton of Zurich served as the case study in this paper because its established strict can-
tonal structure plan has served as a role model for other Swiss cantons when revising the Swiss
national spatial planning law (Kissling, 2014; Mahaim, 2014). Furthermore, the canton of
Zurich is an interesting case because it has experienced a high population growth within the
last six decades. Within the case study, we selected three municipalities that face various spatial
challenges as embedded cases. The data collection included expert interviews, observations and
documents. This case study demonstrates the applicability of the regional governance capacities
concept to analyse and assess regional governance capacities in spatial planning. It also helps us to
better understand the relationships between rules, resources, the relations of actors, actors’ behav-
ior and actions in decision-making processes and the resulting outcomes. Analysing various
spatial challenges in the embedded cases revealed that a single cantonal structure plan can lead
to a coexistence of various regional governance capacities within one region.

The paper is structured as follows. The next section reviews the literature on the three con-
ceptual elements used for developing the analytical concept. The third section overviews the
methods applied in this study. The fourth section conceptualizes the regional governance
capacities of spatial planning. The fifth section presents the case study results. The sixth section
discuss these results. The last section draws conclusions and discuss avenues for future research.

LITERATURE REVIEW

Our conceptualization of regional governance capacities is influenced by research on governance
capacities, policy arrangements as well as performance- and conformance-based approaches of
spatial planning evaluation. Dang et al. (2016, p. 1158) define governance capacity as ‘actors’
ability to cooperate to solve collective problems’. Governance capacity consists of both actors’
desire to address collective challenges – potential governance capacity – and how they effectively
meet those challenges in interactions by influencing processes and outcomes – governance per-
formance or performatifve governance capacity (Arts & Goverde, 2006; Dang et al., 2016; Nelissen,
2002). The contents of a spatial plan can be seen as such collective challenges. Dang et al. (2016)
merge potential governance capacity with institutional capacity. Institutional capacity defines the
rules, norms, actor constellations and resources available for spatial planning (Dang et al., 2016)
and thus can be regarded as crucial for analysing spatial planning processes (Galland & Harrison,
2020). Besides literature on governance capacity, we also reviewed literature on related concepts
such as adaptive capacity and institutional capacity.

Scholars have conceptualized both governance capacity within various environmental con-
texts, including forestry (Dang et al., 2016; Howlett & Ramesh, 2014), sustainable palm oil
(Hidayat et al., 2018) and urban challenges regarding water, waste and climate change (Koop
et al., 2017) and spatial planning. Within the context of spatial planning, Healey and colleagues
conceptualized governance capacity from a sociological institutionalist perspective (González &
Healey, 2005; Healey, 1998; Healey et al., 2017). This conceptualization of governance capacity
addresses governance capacity on a local level. It is influenced by Healey’s understanding of col-
laborative planning, focusing on interactions and governance processes (Healey, 1997, 2003).
Walsh (2012) assesses the governance capacity of spatial planning strategies to influence land-
use change in the Dublin city region of Ireland. Using the example of a land-use conflict in
the German region of Bavaria, Pütz (2011) notes that the regional governance capacity is influ-
enced by power relations, a trade-off of spatial planning goals and incapacities of spatial planning
authorities.
In this paper, we define \textit{regional governance capacities} as the abilities and performance of actors involved in spatial planning processes in a certain region to coordinate varying land-use interests and influence land-use change (Dang et al., 2016; Pütz, 2011). We add the term \textit{regional} because we do not analyse the governance capacity of a single city or town, but we focus on a whole region consisting of several municipalities. We use the plural version of the word \textit{capacity} since we claim that several regional governance capacities manifest in each region due to the complexity and context sensitivity of spatial planning (González & Healey, 2005; Healey, 2003). We adopt Healey’s interpretation of governance capacity which focuses on discourses, actors, their interactions and the role of institutions (Healey, 2003). We extend Healey’s understanding of regional governance capacities by taking account of the outcomes of spatial planning processes and by integrating the policy arrangement approach into the analytical concept.

The policy arrangement approach has its origin in environmental policy research (Arts & Goverde, 2006). Policy arrangement refers to the ‘temporary stabilisation of the content and organisation of a particular policy domain’ (van Tatenhove et al., 2011, p. 13). Scholars applied this analytical concept mainly to environmental issues, including forest governance (Ayana et al., 2018; Dang et al., 2016; Mustalähti et al., 2017; Park, 2015; van Gossum et al., 2011), irrigation water governance (Munaretto & Battilani, 2014), the European Union Air Quality Directive (Lenschow et al., 2017) and climate change adaptation (Boezeman & de Vries, 2019; van Eerd et al., 2014). We found two interesting applications of the policy arrangement approach within the context of spatial and urban planning. One paper investigated the evolution of Dutch regional land policy (van Straalen et al., 2016), and another paper analysed the roles of Danish green space managers on public involvement in green space maintenance (Molin & van den Konijnendijk Bosch, 2014). The literature review demonstrated that scholars have repeatedly used the policy arrangement approach because it is useful in analysing policy arrangements.

The policy arrangement approach consists of four dimensions. The first of these, ‘\textit{discourses}’, covers current topics with which actors are preoccupied in a specific policy domain and their attitudes towards those topics (Arts & van Tatenhove, 2004). The second dimension, ‘\textit{rules of the game}’, encompasses the official rules (such as laws) and informal norms (such as routines) that apply in the policy arrangement (Liefferink, 2006). The third dimension, ‘\textit{actors}’, concerns the relevant actors, the coalitions they form, and their constellations and arenas. The fourth dimension, ‘\textit{power}’, refers to two perspectives on power. First, it refers to the capacity of actors to use resources for a specific purpose. Second, it refers to the relational and structural power of actors in interactive processes (Arts & van Tatenhove, 2004). This second perspective on power corresponds to Healey’s interpretation of power (Healey, 1997, 2003) who adds that wielding power can develop capacity (Healey et al., 2017). Actors can exercise power in several ways, such as defining the rules of the game or using money and expertise (Arts & van Tatenhove, 2004; Pütz, 2004). Since these four dimensions are closely interlinked, any change in one dimension has an effect on the others. An analysis can start at any of the four dimensions (Dang et al., 2016; Liefferink, 2006). Arts and Goverde (2006) and Dang et al. (2016) combined the policy arrangement approach with governance capacity. According to them, governance capacity links the four dimensions with each other. This implies that an integrative consideration of governance capacity and the policy arrangement approach can improve our understanding of how and why policy arrangements work.

We further refer to the conformance- and performance-based approaches of spatial planning evaluation research (Alexander & Faludi, 1989; Diller, 2016). The conformance perspective focuses on the conformity between plan intentions and outcomes (Talen, 1997) and is considered as suitable for project-oriented plans (Faludi, 2000) or spatial plans including binding regulations (Diller, 2016). Studies assessing conformance usually do not analyse the reasons for deviations between a spatial plan and the development and show little interest in the quality of a spatial
plan (Brody & Highfield, 2005; Gennaio et al., 2009; Grădinaru et al., 2017). The performance perspective is part of the communicative planning model and evaluates spatial planning by analysing how actors use a specific spatial plan in decision-making processes (Diller, 2016; Faludi, 2000; Mastop & Faludi, 1997; Oliveira & Pinho, 2009; van Straalen et al., 2014). It is recommended for spatial plans containing strategic goals (Faludi, 2000) and non-binding guidelines (Diller, 2016). From the perspective of the performance-based approach, successful spatial planning depends on how actors behave and decide in processes influenced by the observed spatial plan (Diller, 2016; Mastop & Faludi, 1997). Mastop and Faludi (1997) regard the spatial plan as one of several influence factors on spatial planning performance. Other influence factors mentioned in the literature are, for example, learning processes, interactions (Faludi, 2000) or the implementation of the observed spatial plan in subsequent plans and regulations (Montis, 2016). The performance-based approach takes into account that spatial plans can be vague or full of mistakes (Faludi, 2000; Healey, 2003). Some empirical studies combine the performance-based approach with the conformance-based approach and thus consider both actors’ usage of spatial plans and their outcomes on the ground (Berke et al., 2006; Feitelson et al., 2017; Lyles et al., 2016). Since a cantonal structure plan includes both strategic goals and binding regulations, we also combine both approaches in the analytical framework.

**METHODS**

We drew our findings from overarching expert interviews and a single embedded case study.

**Expert interviews**

Personal interviews with Swiss and German spatial planning experts from research and practice helped us to develop the regional governance capacities concept. We consulted experts from Switzerland and Germany because these countries have similar planning systems that emphasize the regional, or cantonal, level (Keiner et al., 2001; Konze et al., 2012; Newman & Thornley, 1996). All interviewees were experts in spatial planning on the supra-local level. The interviews provided insights into various views on and possible criteria for assessing regional governance capacities. Between September and December 2018, we interviewed 10 individuals in nine interviews (see Appendix A). With the interviewees, we discussed the term ‘regional governance capacities’ and asked how and why various actors influence planning processes. We talked about current discourses, spatial plans, other policy instruments, resources and participation procedures, the effects of collective learning processes, and other factors that influence regional governance capacities. We used a qualitative content analysis to analyse the interviews (Gläser & Laudel, 2004), and possible regional governance capacity criteria identified in the literature review served as the guideline for the data analysis (see Appendix B). During the analysis, we added new criteria that turned out to be important for the regional governance capacities of spatial planning.

**Case study design**

We used an embedded single case study on the canton of Zurich to test the analytical concept and to identify the specific regional governance capacities within the case. The canton of Zurich served as a suitable case for testing the concept of regional governance capacities because of its dynamic and heterogeneous spatial character and its strict planning style. It is Switzerland’s most populous canton with 1.504 million inhabitants (as of 2018). It has experienced economically dynamic development with a population growth of 22% between 1998 and 2018 (Bundesamt für Statistik, 2019b) and an employment growth of 40% between 1995 and 2015 (Bundesamt für Statistik, 2019a). While the cities of Zurich and Winterthur and their surroundings boast a primarily urban or suburban character, in some areas, rural countryside still
dominates. This heterogeneous spatial structure, in combination with the region’s dynamic development, has resulted in various spatial planning challenges and facilitated land-use conflicts.

In the 1970s, the canton of Zurich established a strict spatial planning style in its cantonal structure plan. With the first version in 1978, the canton started to bindingly determine boundaries for municipalities for building land with a time horizon of 20–25 years (Mahaim, 2014). This was an innovative rule within Switzerland at that time. When the Swiss national spatial planning law was revised in 2014 after a withdrawn national public initiative, the canton of Zurich served as a model canton for adjusting every Swiss canton’s structure plans. All cantons had to bindingly determine boundaries for building land in their plans within five years (Art. 8a [RPG]; Mahaim, 2014).

We used a single embedded case study as a research method because we wanted to obtain detailed information on the multiple factors that result from varying degrees of regional governance capacities. We use embedded cases on the regional, local and project-specific levels (Yin, 2014). Under the assumption that various spatial challenges lead to various regional governance capacities, we analysed three municipalities in three regions (Figure 1) in the canton of Zurich as embedded cases: the city of Dietikon in the urban Limmattal region, the municipality of Wettswil in the Knonaueramt region, with its agricultural character, and the village of Rheinau in the rural Weinland region (see Appendix C).

The data collection for the case study included semi-structured expert interviews, observations, document analyses and field surveys (see Appendix D). Between March and August 2018, we conducted 10 interviews with spatial planners from private planning offices and planning authorities, representatives from interest groups and politicians on various levels. Some of the interviewees had several functions; for example, an interviewee could be both a politician and a representative of an interest group (see Appendix D). We transcribed all interviews. Two observations helped us to gain insights into current planning processes. During these observations, we took notes based on the regional governance capacities concept. The documents included various versions of the cantonal structure plan and the regional structure plans that specified the details of each cantonal structure plan. Furthermore, we examined, among other, local zoning plans and concepts, reports, newspaper articles and meeting minutes. We visited the three municipalities and regions personally. Additional phone calls and e-mail exchanges filled in missing details and helped us to determine whether the data was correct (see Appendix D). We list the documents used in the references section.

We analysed the data using the regional governance capacities concept as an analytical framework. The criteria of the analytical concept served as codes for qualitatively analysing the interview transcriptions and documents (Mayring & Fenzl, 2014). Based on the assumption that regional governance capacities differ depending on the discourse observed, we used three discourses as starting points and analysed the specifications of the criteria of the analytical concept separately for each one. The variety of data sources enabled the triangulation of our findings, and the analysis of various embedded cases guaranteed the findings’ internal validation (Ritchie & Lewis, 2014).

CONCEPTUALIZING REGIONAL GOVERNANCE CAPACITIES

The analytical concept consists of three analytical levels, four dimensions and 13 criteria (Figure 1). The three analytical levels merge the concept of governance capacity and spatial planning evaluation research using the analytical level of performance. Performance is an essential element both for the concept of governance capacity (Dang et al., 2016; Nelissen, 2002) and for performance-based evaluations of spatial planning (Faludi, 2000). Performance in the understanding of spatial planning evaluation research refers to how actors deal with a spatial plan. Performative governance capacity refers to how actors deal with challenges. The performative perspective is very similar to performative governance capacities as both concepts focus on actors and
interaction. Performance is influenced by factors such as problem awareness (Faludi, 2000; Koop et al., 2017), learning (Dang et al., 2016; Faludi, 2000) and interactions (Faludi, 2000; Gupta et al., 2010). We consider the challenges a spatial plan aims to deal with as such collective challenges and thus merge performance according to spatial planning evaluation research with performative governance capacity. Therefore, the performance level of the analytical concept bridges capacities with outcomes. This link between governance capacity and spatial planning evaluation research by performance level comprises the innovative portion of the analytical concept. The three analytical levels support a holistic understanding of regional governance capacities:

- Analytical level 1: ‘potential governance capacities’ refers to conditions and capabilities available for spatial planning implementation and goes far beyond the single contents of the plan.
- Analytical level 2: ‘performative governance capacities’ refers to the performance of actors in planning and decision-making processes when developing and implementing a cantonal structure plan.
- Analytical level 3: ‘Conformative governance capacities’ refers to the congruence between plan intentions and outcomes.

The analytical concept uses the dimensions of the policy arrangement approach to determine the central criteria that influence regional governance capacities (Figure 2). Each dimension is assumed to manifest both in the potential and the performative governance capacities levels. These manifestations, together with contextual factors, result in various conformative governance capacities.

The discourses dimension includes the criterion ‘current topics and attitudes’ on the potential governance capacities level, and the criterion ‘learning processes’ on the performative governance capacities level. The performative governance capacity criterion ‘learning processes’ encompasses both single and collective learning processes. Learning processes take place if actors develop problem awareness towards a specific topic, if they reflect on their own behaviour, and if they are able...
to adapt to new circumstances (Giezen et al., 2015; Gupta et al., 2010; Pahl-Wostl, 2009). The occurrence of learning processes generally promotes regional governance capacities.

The **rules of the game** dimension covers the criteria ‘cantonal structure plan’ and ‘policy mix’ on the potential governance capacities level and ‘implementation’ and ‘acceptance’ on the performative governance capacities level. Regarding the ‘cantonal structure plan’, we suggest focusing on its goals and regulations, included its stringency and how that stringency reflects generally accepted spatial planning goals. Potential governance capacities benefit from a stringent, clear plan that reflects generally accepted spatial planning goals and guarantees the principles of weighing land-use interests and counterflow (1E, 7E and 8E). The ‘policy mix’ criterion encompasses policy instruments that support the implementation of the goals and regulations set in the cantonal structure plan but are not included in this plan. These policy instruments can be formal (e.g., laws) or informal (e.g., local strategies). According to the literature, potential governance capacities benefit from a broad policy mix that produces redundancy and operates on various spatial scales (Gawel, 2005; Gupta et al., 2010; Oliveira & Hersperger, 2018; Pleger, 2017). However, the interviewees emphasized the significance of informal policy instruments (1E, 4E, 5E and 8E). On the performative governance capacities level, the ‘implementation’ criterion analyses how regional actors use the plan in subsequent decision-making processes and local plans. Several scholars state that performative governance capacities increase with the degree of usage of policy instruments (Hajer & Zonneveld, 2000; Klee & Wehnert, 2012; Mastop & Faludi, 1997). As emphasized in the expert interviews, the ‘acceptance’ criterion is key to high regional governance capacities in spatial planning (Klee & Wehnert, 2012). Acceptance is high if regional actors endorse the observed plan (Pleger et al., 2018). Existing studies often do not integrate acceptance in their governance capacity conceptualizations (Dang et al., 2016; González & Healey, 2005; Gupta et al., 2010; Koop et al., 2017).

The **actor** dimension consists of the criteria ‘actor constellations’ and ‘opportunities for exchange’ on the potential governance capacities level and the criterion ‘interactions’ on the performative governance capacities level. ‘Actor constellations’ include organizational structures and
coalitions between actors (Mayntz & Scharpf, 1995; Pütz & Job, 2016). We suggest making statements about the influence of actor constellations on potential governance capacity situational. The interview findings highlight the significance of single influential actors for regional governance capacities (4E, 7E and 9E) which is in accordance with existing conceptualizations (Gupta et al., 2010; Koop et al., 2017). The ‘opportunities for exchange’ criterion focuses on formal and informal opportunities for actors to engage in the spatial planning processes. Many studies find that a variety of target-oriented opportunities for exchange promotes potential governance capacities (Dang et al., 2016; Oliveira & Hersperger, 2018; Schmitt & van Well, 2016) and does not reflect on negative or neutral effects of such opportunities for exchange (Birnbaum, 2016). Actors interact when using opportunities for exchange; thus, ‘interaction’ is the key criterion on the performative governance capacities level (González & Healey, 2005). (Scharpf, 2006) distinguishes between five types of interaction: unilateral actions, adaptation, hierarchical actions, majority decisions and negotiations. Interaction processes foster performative governance capacities if interests are correctly balanced, and these processes can also support the implementation of the cantonal structure plan (Pütz, 2011).

The power dimension covers the criteria ‘resources’ and ‘competences’ on the potential governance capacities level and ‘influence’ on the performative governance capacities level. The ‘resources’ criterion investigates the distribution of resources such as financial resources, personal resources and knowhow among regional actors (Albrechts et al., 2003; Oliveira & Hersperger, 2018). The availability of resources can increase potential governance capacities (Tomás, 2020). The ‘competences’ criterion was emphasized by the interviewees (1E, 7E and 9E). It analyses the authority of specific actors and what these actors are legitimized to do (Willi et al., 2019). Potential governance capacities are high if the distribution of resources and competences support the implementation of the goals and regulations of the cantonal structure plan. On the performative capacity level, we looked at the criterion ‘influence’. The influence that supports the implementation of spatial planning goals generally promotes performative governance capacities.

Conformative governance capacity results from the specifications of these 13 criteria, in addition to contextual factors. We subsumed mega-trends, socioeconomic and spatial–structural conditions, as well as regulations from other policy fields, under these contextual factors (1E–9E). A range of scholars have emphasized the high relevance of contextual factors in spatial planning results and outcomes, (Healey, 1999; Pagliarin, 2018; Salet et al., 2003b; Wong & Watkins, 2009). All elements of the regional governance capacities concept are closely linked and can overlap.

RESULTS

The case study analysis identified three discourses that served as a starting point for applying the other dimensions and criteria of the regional governance capacities concept:

- Discourse on inner development and densification.
- Discourse on coordinating transport and land-use development.
- Discourse on the locations of productive industries.

The discourse on inner development and densification deals with the need to better exploit existing building areas in order to reduce greenfield development and curb sprawl. Inner development can occur through compact construction, exploit vacant lots or construct higher buildings. This discourse is often accompanied by the debate on how to achieve higher building density and a high quality of living simultaneously. The discourse on coordinating transport and land-use development is an answer to the interdependence between the expansion of public and private transport services and the development of housing, retail and industrial areas. The
discourse on the locations of productive industries considers the question of how to offer pro-
ductive industries opportunities to develop in the densely populated canton of Zurich. The inter-
views suggested a broad consensus among actors to tackle these discourses. The analysed
dimensions and criteria allowed for the assessment of potential, performative and conformative
capacities as described in the fourth section. When discussing the results of the data analysis, we
will not explain each criterion in detail; instead, we will focus on the most striking criteria.

The discourse about the launch of annual revisions of the cantonal structure plan superposes
the other discourses. The cantonal structure plan is supposed to serve as a long-term leadership
instrument that provides strategic direction for future spatial development. However, it is also
supposed to reflect the ongoing spatial planning processes within Swiss cantons (Schweizerische
Kantonsplanerkonferenz, 2016). Until 2015, the cantonal structure plan of the canton of Zurich
had been completely revised every 15–20 years. Then, annual partial revisions were introduced
instead. According to five interviewees (2ZH, 4ZH–6ZH and 9ZH), the resulting coexistence
of many ongoing revisions from various years confuses actors and thus lowers potential govern-
ance capacities. The question arises as to whether spatial planning stakeholders will get used to
the annual revisions in the future (5ZH).

Discourse on inner development and densi-
fication

Empirical results indicate rather high regional governance capacities regarding the long-estab-
lished discourse on inner development and densification; however, the results also imply various
manifestations in urban and rural areas. Several interviewees mentioned a learning process that
has taken place: Actors have started to realize the fussiness and lengthiness of inner development
measures and the need for new policy instruments and actor involvement procedures to cope with
this challenge (1ZH–3ZH and 8ZH). Several rules of the game address this issue. The bound-
aries for building land introduced in the cantonal structure plan in 1978 to curb sprawl seem to be
well-established and broadly accepted (Zürcher Kantonsrat, 1978). In 2015, the cantonal parlia-
ment determined a new version of the cantonal structure plan that included the so-called 80–20
rule. This rule allocates 80% of prospective population growth to urban areas and 20% to rural
ones (Amt für Raumentwicklung Kanton Zürich, 2015). The interview results indicate a strict
implementation of this rule by the cantonal spatial planning department (1ZH–4ZH, 8ZH and 9ZH). Therefore, greenfield development has become difficult for rural municipalities
such as Rheinau and Wettswil, which might lower their acceptance of the cantonal structure plan.
The interview results also indicate that for urban municipalities, the 80–20 rule facilitates devel-
opment, promoting the expansion of housing in, for example, the area of Niderfeld in Dietikon
(3ZH). Several interviewees agreed that a broad policy mix supports the implementation of inner
development measures (1ZH, 3ZH, 4ZH, 6ZH and 8ZH). Whereas informal strategies, con-
cepts and monitoring instruments are widespread within the canton, the interviewees lament
the current lack of an overvalue compensation rule that could help to finance inner development
measures (3ZH–5ZH and 10ZH). Currently, a law to introduce such an overvalue compensation
rule within the canton of Zurich is elaborated. This law could improve the situation (Amt für
Raumentwicklung Kanton Zürich, 2019b).

Concerning the actor dimension, the empirical data indicate that the cantonal spatial plan-
ing department and the planning regions offer many opportunities for exchange and promote
broad stakeholder participation regarding inner development issues (1ZH–5ZH and 8ZH). For
example, in the spatial planning workshop in the Weinland region, representatives from the can-
tonal spatial planning department, the planning region, private planning offices and the munici-
palities of the region came together and debated on inner development in heritage-protected
areas (8ZH and 11ZH). Implementing inner development measures in municipalities requires
the permission of various cantonal departments. Some interviewees lamented a lack of internal
coordination among these departments when making statements about local planning. This
impedes the implementation of the cantonal structure plan in subsequent plans and indicates a lack of interaction and thus reduces performative governance capacities (3ZH and 6ZH).

When it comes to preventing greenfield development and restricting the scope of action for municipalities, the electorate that is equipped with the competence to vote on many issues seems to be a powerful actor. The open countryside initiative launched by the electorate of the canton of Zurich prohibited the designation of any new building land between 2012 and 2016 (Kägi, 2016). Interviewees representing planning offices stated that property owners have a significant influence on inner development; thus, they believe that integrating them in the planning process is crucial (6ZH, 8ZH and 9ZH). The cantonal spatial planning department wields power by rigidly implementing the abovementioned rules (6ZH and 9ZH). The interview results suggest high potential governance capacities when it comes to fostering inner development.

The analysis of the embedded cases indicated that performative and conformative governance capacities can manifest differently. The example of apartments for the elderly in Wettswil shows how the strict implementation of the 80–20 rule impedes performative and conformative governance capacities (Figure 3). In 2011, as an answer to demographic change, Wettswil wanted to establish apartments for elderly people in an area located close to the train station. Although this area is surrounded by buildings on most sides, it has remained a green field and is situated at the border of the village (Gemeindeverwaltung Wettswil a. A., 2016). Plan analysis unveils three different specifications for this area. According to the cantonal structure plan, it is designated as building land, and the regional structure plan even describes it as an area of higher density due to its proximity to the train station (Amt für Raumentwicklung Kanton Zürich, 1995, 2015; Zürcher Planungsgruppe Knonaueramt, 1998). Conversely, the local zoning plan designates it as open space located within the core zone of the municipality (Amt für Raumentwicklung Kanton Zürich, 2019a). After commissioning a feasibility study, Wettswil could not realize this project on this location. Initially, it was prevented due to the open countryside initiative. Then, it was prevented due to the 80–20 rule of the cantonal structure plan. The cantonal spatial planning department demanded that Wettswil coextensively establishes the area needed for the apartments at another area in the village. Although this seemed impossible for Wettswil, searches for another location began. In 2016, a much smaller area in the village centre that was already overbuilt was identified (Gemeindeverwaltung Wettswil a. A., 2016). This area is commonly considered an inner development area rather than the original location. In 2019, Wettswil acquired the area and thus

![Figure 3. Applying the regional governance capacities concept to apartments for the elderly (Wettswil).](image-url)
established the basis for realizing the project (Stadt Zürich Stadtrat, 2019). We consider this successful search for a new location to have been a learning process. However, the empirical results imply that the conditions for compensation imposed by the cantonal spatial planning department lowered the municipality’s plan acceptance (6ZH). The compensation condition imposed by the canton led to implementation difficulties; thus, it took years for various interaction processes to foster the progress of the project. Due to these challenges of dealing with the 80–20 rule in the planning process, we consider performative governance capacities to be rather low. In the case that the apartments will be realized at the new location in the village centre, we consider conformative governance capacities to be high; however, we add that the original location would also have met the requirements of the cantonal structure plan. This example shows that for municipalities that fall into the 20% category, the cantonal spatial planning department strictly limits the scope of action. However, the rigour also queries basic spatial planning principles.

The project of Chorb in Rheinau demonstrates that the strict implementation of spatial planning rules and guidelines fosters inner development and densification in a village characterized by heritage protection. Rules of the game, such as the 80–20 rule, the binding boundaries for building land, the priority of inner development and heritage protection laws, impede inner development in Rheinau. The village’s scope of action is further limited by its distribution of resources, as the canton of Zurich owns a large proportion of the village’s property. Rheinau has few financial and personal resources (1ZH and 9ZH). In 2012, the canton of Zurich organized an urban design competition for the inner development area of Chorb, located next to the Rhine River (15ZH). The results of this competition were integrated into an urban design plan that the electorate of Rheinau approved in 2015 in a public vote (15ZH). The urban design plan as a binding policy instrument aimed to establish densification in the area to meet the requirements of heritage protection (Kanton Zürich Baudirektion, 2015). In October 2019, the first building application was submitted, and it is currently under review (15ZH). We designate the parallel consideration of the need for densification and the need to protect cultural heritage as a collective learning process. In the urban design plan, the goals of the cantonal structure plan were implemented. From the empirical data, we conclude that the canton of Zürich as a landowner and the citizens of Rheinau with their right to vote had the greatest influence on this project. We assign high performative governance capacities to this example since the priority of inner development guided interaction processes and the implementation of the cantonal structure plan in the urban design plan. Under the anticipation that the first building project will be realized soon, we also assign conformative governance capacities to be high here.

Performative and conformative governance capacities seem to be high in the city of Dietikon, which uses elaborate participatory processes as opportunities for exchange to realize its inner development projects as demanded in the cantonal structure plan (Amt für Raumentwicklung Kanton Zürich, 2015; Stadt Dietikon, 2019). According to the interviewees, many public and private actors can voice their concerns at an early stage of the planning process and can thus consider the cantonal structure plan in interaction processes. One example of such a participative planning process is the inner development and densification measures along the route of a planned train line called Limmattalbahn (3ZH). The findings suggest rather high performative and conformative governance capacities concerning inner development measures in Dietikon that could further be improved by enhancing the internal coordination of cantonal departments.

Discourse on the coordination of transport and land-use planning

Most interviewees highlighted the need for coordinated transport and spatial planning but lamented a lack of such coordination that inhibits regional governance capacities (1ZH, 4ZH, 6ZH, 7ZH and 10ZH). An interesting learning process seems to have occurred in the canton of Zurich. Interviewees indicated a general consensus that the expansion of the suburban railway...
network and the increase of the frequency of services greatly contributed to urban sprawl within the canton of Zurich since the 1970s (1ZH, 2ZH, 7ZH and 10ZH). The cantonal structure plan responded to that general attitude in 2015 by stating that the accessibility of public transport should not be further improved in the rural regions of the canton. Nevertheless, the cantonal structure plan and the regional structure plans promoted a railway-oriented development by determining higher utilizations in areas located close to train stations (Amt für Raumentwicklung Kanton Zürich, 2015; Zürcher Planungsgruppe Knonaueramt, 2017; Zürcher Planungsgruppe Limmattal, 2017; Zürcher Planungsgruppe Weinland, 1997). Our results on actor constellations and opportunities for exchange revealed that two separate intergovernmental committees and two separate cantonal departments deal with transport and spatial planning issues, which leads to a lack of interaction (5ZH). According to the interviews, the canton of Zurich lacks power and influence because it does not have the authority to decide on many issues regarding transport development, such as the development of the railway network or the frequency of services (1ZH, 4ZH and 5ZH). Although rules regarding this discourse do exist, when it comes to coordinating transport and spatial planning, the interview results indicate rather low potential governance capacities due to a lack of coordination and competences.

As stated above, performative and conformative governance capacities manifest differently in the embedded cases. In the Weinland region, the cantonal public transport association changed the formerly hourly train service to a half-hourly service despite the goal of the cantonal structure plan to cease the further improvement of public transport accessibility there (2ZH, 4ZH and 9ZH). According to the public transport association, this improved service was connected with the supplemental strategy of the cantonal public transport service and a cantonal public initiative that demanded a half-hourly railway service in the entire canton of Zurich (13ZH) (Zürcher Verkehrsverbund, 2019). The electorate rejected this initiative in the 2009 vote (Kanton Zürich, 2009), and the cantonal parliament and the cantonal government also opposed it (Kanton Zürich Kantonsrat, 2008). Our findings further indicate that the cantonal spatial planning department had the opportunity to discuss the improvement of the public transport service using the cantonal public transport service (Zürcher Verkehrsverbund, 2019). Considering all these factors, the question arises as to why the goal of the cantonal structure plan not to further improve public transport in the Weinland region could not be implemented. We conclude that the cantonal public transport association is a powerful actor that influences public transport against the goals of the cantonal structure plan and the majority of the electorate. Owing to this lack of implementation and consideration of the cantonal structure plan in decision-making processes, we consider performative governance capacities to be rather low. The Weinland example further indicates low conformative governance capacities since the improved train connection did not conform to the goals set in the cantonal structure plan.

In Dietikon, a new train station is needed to develop the industrial area of Silbern according to the cantonal structure plan. The interviewees indicated that it was the result of a multilevel actor coordination process, including strategic lobbying by interest groups, that the cantonal parliament decided to integrate the train station of Silbern into the cantonal structure plan of 2015 (Amt für Raumentwicklung Kanton Zürich, 2015). This indicates high performative governance capacities. However, the Swiss federal government has the authority to decide on railway infrastructure, which it implements in accordance with its strategic infrastructure development plan. Currently, the train station of Silbern is not considered in this plan (Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation, 2018). Conformative governance capacities are thus rather low at the moment due to the cantonal spatial planning department of Zürich's lack of competences. The Swiss federal government may consider the train station in the next version of the strategic infrastructure development plan. Conversely, the currently under construction Limmattalbahn that will run through Dietikon will probably conform to the cantonal structure plan, fostering transport-oriented inner development. The studied cases indicate...
mixed regional governance capacities when it comes to coordinating transport and spatial development. Whereas the results suggest rather high regional governance capacities for the *Limmat-talbahn*, they also suggest rather low regional governance capacities for the improved railway connection to the Weinland region and the realization of a train station in Silbern.

**Discourse on the locations of productive industries**

The discourse on the location of productive industries does not unveil insights into conformative governance capacities; however, it provides a good example of the interconnectedness between potential and performative governance capacities through collective learning processes. This discourse affects municipalities all over the canton. The interviews yielded two different attitudes towards this discourse; whereas six interviewees advocated for economic development, and planners lamented the problems for especially productive enterprises to find locations due to external context factors such as high land prices, strict legislation and high competition regarding retail and residential use (1ZH, 2ZH, 5ZH, 6ZH, 8ZH and 9ZH), one interviewee who advocated for environmental concerns was of the opinion that the canton leaves too much space for industrial areas at the expense of the open countryside (4ZH). The 2015 version of the cantonal structure plan tried to support productive industries by determining 10 cantonal areas reserved for productive industries. The regional structure plans determined usage regulations for retail and industrial areas. These regulations included minimum allotments for productive industries in existing retail and industrial areas (Amt für Raumentwicklung Kanton Zürich, 2015). Some interviewees lamented the difficulties faced by the regions and municipalities in implementing these regulations. Two interviewees emphasized the difficulties in distinguishing between services and the productive industry (1ZH, 6ZH and 8ZH). One interviewee lamented that usage regulations were dependent on public transport connections (6ZH). This lack of feasibility seems to have lowered the acceptance of this rule (1ZH and 7ZH–9ZH). The interview results suggest that the cantonal spatial planning department as a powerful actor first tried to enforce the usage regulations hierarchically without success (1ZH and 6ZH). In 2017, the cantonal regional planning umbrella organization intervened by initiating a dialogue process as an opportunity to exchange experiences with and their need for the regulations on the locations of productive industries for the public and private actors concerned. Together, the regional planning umbrella organization and the cantonal spatial planning department implemented this dialogue process. Spatial planning representatives, promoters of trade and industry and representatives of building authorities could articulate and balance their interests and thus collectively developed a recommendation to solve the problems resulting from the usage regulations for industrial and retail areas (Pla­nungsdachverband Region Zürich und Umgebung, 2017). In July, the responsible cantonal department decided to leave the regulations for the 10 cantonal production areas but to relax the rules for the other retail and industrial areas. As a next step, representatives of the cantonal spatial planning department and the planning regions will jointly develop new regulations for the industrial and retail areas in the 11 planning regions (14ZH). Thus, the interactive dialogue process fostered a collective learning process and will probably lead to improved regulations. This example demonstrates the interplay between potential and performative governance capacities within the multilevel regional governance arrangement of the canton of Zürich. The results suggest that an initial lack of potential governance capacities can be overcome by strong performative governance capacities in the form of a collective learning process.

**DISCUSSION**

Applying the regional governance capacity model in the canton of Zürich unveiled various specifications of regional governance capacities. Whereas the results indicate high regional
governance capacities for fostering inner development measures in complex situations, the results suggest mixed regional governance capacities for adapting the public transport supply to the need to curb sprawl. Regional governance capacities vary greatly between various regions, municipalities and even projects. For example, regarding the promotion of inner development, the findings imply higher regional governance capacities for urban than rural municipalities.

Despite the various specifications of regional governance capacities within the canton of Zurich, the case study unveiled three especially relevant criteria for the canton of Zurich. First, public initiatives influence regional governance capacities, regardless of whether they have been approved (e.g., the open countryside initiative) or rejected (e.g., the half-hourly train service initiative). The relevance of public initiatives is a unique feature of Switzerland well documented in existing literature (Bovet et al., 2018; Keller et al., 1993). Second, we conclude that collective learning processes and resulting adaptations foster regional governance capacities. This is in accordance with the findings of previous studies (Giezen et al., 2015; Pahl-Wostl, 2009). Third, we consider the strict and intransigent implementation of the cantonal structure plan by the cantonal spatial planning department to be a highly influential criterion. The rigour of the cantonal spatial planning department when implementing the plan promotes regional governance capacities, but might endanger the Swiss spatial planning principles of countervailing influence and weighing land-use interests that have been emphasized by several scholars (Keiner et al., 2001; Lendi, 2007; Schmid, 1997).

In the case study on the canton of Zurich, the analytical concept proved its appropriateness for assessing regional governance capacities of spatial planning, revealing four advantages. First, it helped to determine the links between potential governance capacities, actors’ performance and the conformance of real outcomes with the analysed plan. This advantage indicates the high knowledge potential of combining governance capacity research with spatial planning evaluation research which has been used in a few studies so far (Walsh, 2012). Second, the analytical concept enhances governance capacity research by reflecting on acceptance and the balance of interests, factors which are not explicitly included in existing conceptualizations of governance capacity (Dang et al., 2016; Gupta et al., 2010; Koop et al., 2017; Walsh, 2012). The 80–20 rule seems to reduce plan acceptance and thus performative governance capacities in rural municipalities. The interaction process on the locations of productive interests demonstrates the relevance of balancing interests for performative governance capacities which is in accordance with Pütz (2011). Third, analysing various discourses demonstrated that regional governance capacities depend on spatial challenges and contexts. The potential governance capacity of one discourse can result in different performative and conformative capacities for various local examples, as in the cases of the Silbern train station and the Limmattalbahn. Several studies confirm the identified relevance of context (Healey, 1999; Pagliarin, 2018; Wong & Watkins, 2009). The fourth advantage concerns the analytical concept’s multi-level approach. This paper assessed regional governance capacities on the cantonal (e.g., locations of productive industries), regional (e.g., Weinland) and local (e.g., Rheinau) levels. The case study demonstrated that spatial planning in the canton of Zürich results in a specific setting of coexisting and overlapping potential, performative and conformative governance capacities. This coexistence of a variety of regional governance capacities within the canton of Zurich demonstrates that it is not sufficient to assign just one governance capacity to a certain area or topic as it is done in existing literature on governance capacity (Dang et al., 2016; Healey, 1998; Koop et al., 2017; Walsh, 2012). It has proven difficult to find local and regional examples through which we can retrace both performative and conformative governance capacities. Some examples are still in progress; thus, analysing conformative governance capacities was difficult. Other examples were finished; thus, we could not sufficiently analyse performative governance capacities.
CONCLUSIONS

In this paper, we developed an analytical concept to analyse and assess the regional governance capacities of spatial planning, and we investigated the specific regional governance capacities within the canton of Zurich in Switzerland. We identified a coexistence of various regional governance capacities within the canton of Zurich and proved the practicality of the analytical concept. Additionally, we derived three key messages for the practice of spatial planning in the canton of Zurich. First, the coordination of transport and spatial planning needs to be improved, for example, by establishing one intergovernmental committee for spatial planning and transport development issues or by giving the canton of Zurich the authority to participate in decision making on new suburban railway infrastructure projects. Second, the readiness to learn and adapt to changed circumstances seems to be highly relevant to improve regional governance capacities, and spatial planning actors should foster such learning processes. Third, while the strict and intransigent implementation of the cantonal structure plan fosters inner development, it also affects basic spatial planning principles. The cantonal spatial planning department should scrutinize its strict planning style to ensure that the principles of countervailing influence and the weighing of interests are considered.

The analytical concept presented in this paper makes it possible to analyse, explain and assess the regional governance capacities of spatial planning. The paper contributes to the existing research in three ways. First, it provides a comprehensive conceptualization of regional governance capacities within the context of spatial planning. Second, it illustrates the appropriateness of the policy arrangement approach as a theoretical concept for analysing dynamic policy processes, which is in accordance with existing findings (Munaretto & Battilani, 2014; van Straalen et al., 2016). Third, the paper’s application of the analytical concept offers insights into the reliance of spatial planning performance and conformance on spatial challenges and local and regional circumstances. This demonstrates that grouping an entire region and trying to determine one single governance capacity for it as it is done in existing studies (Pütz, 2011; Walsh, 2012) will fail. Therefore, we recommend taking various spatial challenges, administrative levels and local examples into account when making judgements about regional governance capacities in spatial planning.

The concept of regional governance capacities contributes to understanding and assessing the role and links between capacities, processes, actors’ performance and outcomes in spatial planning. Future research could use longitudinal studies to unveil more details about all three analytical levels of this concept. Regarding the variety of spatial planning systems and practices in Europe (Galland & Harrison, 2020), the regional governance capacities concept can provide a solid basis for assessing and comparing their governance capacities in future research.

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Appendix A

Table A1. Data sources expert interviews

| Interview code | Specification | Country | Type of interview | Interviewees | Duration (min) | Recording |
|----------------|---------------|---------|-------------------|--------------|----------------|-----------|
| E1             | Practice      | Switzerland | Personal interview | 2           | 63             | Transcription |
| E2             | Practice      | Switzerland | Personal interview | 1           | 64             | Transcription |
| E3             | Research, practice | Switzerland | Personal interview | 1           | Unknown          | Notes |
| E4             | Research      | Switzerland, Germany | Personal interview | 1           | Unknown          | Notes |
| E5             | Practice      | Switzerland | Personal interview | 1           | 53             | Transcription |
| E6             | Research      | Germany    | Personal interview | 1           | 42             | Transcription |
| E7             | Practice      | Germany    | Personal interview | 1           | 60             | Transcription |
| E8             | Practice      | Germany    | Personal interview | 1           | 64             | Transcription |
| E9             | Research      | Switzerland, Germany | Personal interview | 1           | 62             | Transcription |

Appendix B

Table B1. Guideline for analysing expert interviews

Criteria identified before the data analysis
- Discourses
- Learning processes
- Plan
- Policy mix
- Official procedures
- Venues
- Actor constellations
- Interactions
- Resources
- Power

Criteria added during the data analysis
- Acceptance
- Competences
- Influence

Sources: Arts and Goverde (2006), Dang et al. (2016), Gupta et al. (2010), Koop et al. (2017).
Appendix C

Table C1. Embedded cases

| Municipality | Category according to cantonal planning concept | Planning region | Population, 2017 | Distance to Zurich (km) |
|--------------|-----------------------------------------------|----------------|-----------------|------------------------|
| Dietikon    | Urban landscape                               | Limmattal      | 27,079          | About 12               |
| Wettswil    | Landscape under pressure                      | Knonaueramt    | 5112            | About 10               |
| Rheinau     | Cultural landscape                            | Weinland       | 1299            | About 40               |

Sources: Amt für Raumentwicklung Kanton Zürich (2015); Bundesamt für Statistik (2019c).

Appendix D

Table D1. Data sources single embedded case study

| Interview code | Specification(s) | Type of data source | Duration (min) | Recording |
|----------------|-------------------|---------------------|----------------|-----------|
| 1ZH            | Planner           | Personal interview  | 66             | Transcription |
| 2ZH            | Planner           | Personal interview  | 68             | Transcription |
| 3ZH            | Planner           | Personal interview  | 65             | Transcription |
| 4ZH            | Representative of interest group, politician | Personal interview | 59             | Transcription |
| 5ZH            | Representative of interest group, politician | Personal interview | 56             | Transcription |
| 6ZH            | Planner           | Personal interview  | 65             | Transcription |
| 7ZH            | Representative of interest group, politician | Personal interview | 57             | Transcription |
| 8ZH            | Planner           | Personal interview  | 61             | Transcription |
| 9ZH            | Planner           | Personal interview  | 65             | Transcription |
| 10ZH           | Representative of interest group, politicians | Personal interview | 57             | Transcription |
| 11ZH           | Workshop on inner development in the Weinland region | Open observation | About 120       | Notes |
| 12ZH           | Meeting of the cantonal parliament | Open observation | About 180       | Notes |
| 13ZH           | Exchange with the public transport association of the canton of Zurich | E-mail exchange | –               | Notes |
| 14ZH           | Exchange with the regional planning umbrella organization | E-mail exchange | –               | Notes |
| 15ZH           | Planner           | Phone call          | 10             | Notes |