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List of Abbreviations

CPT	Central Place Theory
CSR	Corporate Social Responsibility
ECJ	European Court of Justice
EU	European Union
ÖIF	Austrian Integration Fund
ÖKS15	Austrian climate scenarios 2015
ÖREK	Austrian Spatial Development Concept
ÖROK	Austrian Spatial Planning Conference
SGI	Services of General Interest
SGEI	Services of General Economic Interest
SSGI	Social Services of General Interest
TFEU	Treaty on the Functioning of the European Union
TFR	Total Fertility Rate
TPSN	Territory-Place-Scale-Network
USO	Universal service obligation
VIF	Compatibility indicator family & career

The names of the German-language legal documents cited in this thesis and their English translations can be found in Appendix A. Furthermore, abbreviations of German-language institutions and laws have not been changed unless an official English abbreviation exists.

Abstract

Ensuring high-quality access to services of general interest (SGI) across all regions of its member states is a core objective of the European Union (EU). Such services play a key role in achieving broader EU goals – particularly social and territorial cohesion. In Austria, where the concept is referred to as *Daseinsvorsorge*, it is frequently highlighted in strategic documents as a fundamental element of spatially just development. In light of dynamic contextual changes – such as demographic, social, climatic, and economic shifts – a critical examination of this issue is essential to promote sustainable development pathways.

The lack of a clear definition and the legally non-binding nature of the concept raise the question of what role *Daseinsvorsorge* actually plays in the strategic planning processes of Austrian public authorities – and how the goal of equal living conditions across all regions can be implemented in practice. This master's thesis addresses these questions through a two-part analysis in the Austrian context: an evaluation of key strategic documents at all planning levels, and qualitative interviews with mayors from municipalities in Eastern Austria. In addition, planning and legal documents were analyzed to identify existing minimum standards for *Daseinsvorsorge*.

The results reveal a nuanced picture: In Austria, *Daseinsvorsorge* is used as a collective term for basic services and infrastructure, without defining specific provisions. Its relevance clearly diminishes across the vertical planning levels and is largely absent at the municipal level, where responsibilities are handled sector-specifically. As such, the concept holds no practical relevance in practice. To achieve spatial justice, Austria relies exclusively on sector-specific minimum standards. In the three areas examined – early childhood education, local food supply, and fire services – the nine federal states differ significantly in both the scope and specificity of their standards. Minimum requirements are rarely explicitly defined, and spatial factors such as accessibility are mostly addressed only indirectly.

The thesis concludes that the provision of *Daseinsvorsorge* is highly context-dependent, both spatially and sectorally, and is not treated as a cross-sectoral concept in practice. Furthermore, the inconsistent and vague use of the term represents a fundamental issue that should be addressed at the federal level in order to define clear goals, responsibilities, and expectations across all levels of planning.

Kurzfassung

Die Sicherstellung einer hochwertigen Versorgung mit Dienstleistungen von allgemeinem Interesse (DAI) in allen Regionen der Mitgliedstaaten ist ein zentrales Anliegen der Europäischen Union (EU). Sie trägt wesentlich zur Verwirklichung übergeordneter Ziele wie sozialer und territorialer Kohäsion bei. Auch in Österreich – wo DAI als Daseinsvorsorge bezeichnet wird – gilt das Konzept in strategischen Dokumenten als Schlüssel für eine räumlich gerechte Entwicklung. Angesichts dynamischer Rahmenbedingungen wie demografischer, sozialer, klimatischer und wirtschaftlicher Veränderungen bedarf es einer kritischen Auseinandersetzung, um zukunftsfähige Entwicklungspfade zu sichern.

Die fehlende Definition und der rechtlich unverbindliche Charakter des Konzepts werfen die Frage auf, welche Rolle Daseinsvorsorge tatsächlich in der strategischen Planung österreichischer Gebietskörperschaften spielt – und wie das Ziel gleichwertiger Lebensverhältnisse praktisch umgesetzt werden kann. Diese Masterarbeit nähert sich diesen Fragen anhand einer zweigeteilten Analyse im österreichischen Kontext: durch die Auswertung strategischer Dokumente aller Planungsebenen sowie durch qualitative Interviews mit Bürgermeistern in Ostösterreich. Ergänzend wurden Planungs- und Rechtsdokumente auf bestehende Mindeststandards hin untersucht.

Die Ergebnisse zeigen: In Österreich wird Daseinsvorsorge als Sammelbegriff für grundlegende Dienstleistungen und Infrastrukturen verwendet, ohne konkrete Inhalte zu benennen. Ihre Bedeutung nimmt über die Planungsebenen hinweg deutlich ab und spielt auf Gemeindeebene kaum noch eine Rolle, da hier primär sektoral gearbeitet wird. In der Praxis hat das Konzept somit keine hohe Relevanz. Zur Umsetzung räumlicher Gerechtigkeit werden in Österreich ausschließlich sektorale Mindeststandards festgelegt. In den untersuchten Bereichen – Elementarpädagogik, Nahversorgung und Feuerwehrwesen – unterscheiden sich die Standards der neun Bundesländer stark in Umfang und Konkretheit. Räumliche Kriterien wie Erreichbarkeit werden meist nur indirekt berücksichtigt.

Die Arbeit kommt zum Schluss, dass Daseinsvorsorge sowohl räumlich als auch sektoral hochgradig kontextabhängig ist und in der Praxis nicht als sektorübergreifendes Konzept behandelt wird. Die uneinheitliche, unscharfe Verwendung des Begriffs stellt ein zentrales Problem dar, das auf Bundesebene geklärt werden sollte, um Zielsetzungen und Aufgaben für alle Ebenen verbindlich definieren zu können.

1 Introduction

Services of General Interest (SGI) represent a central element of modern welfare states, as they ensure basic services while simultaneously reflecting key challenges in the tension between market mechanisms, state regulation, and social and spatial justice. This politically normative term, coined by EU legislation, has been in use since the founding treaties of the European Economic Community in 1957, then still known as Services of General Economic Interest (SGEI) (Humer, 2016). In its 'Quality Framework for Services of General Interest in Europe', the European Commission points out that the debate on SGI is complicated by conceptual ambiguities. Terms such as "Service of General Interest," "Universal Service," and "Public Service" are often used interchangeably, despite their differing meanings, which can lead to misunderstandings. In response to this lack of clarity, various stakeholders have called on the Commission to provide more precise definitions. The Commission emphasizes, however, that it is bound by EU primary law and the case law of the European Court of Justice in addressing these issues. It also notes that these concepts are dynamic in nature and continue to evolve over time (EC, 2011). The European Commission's definition of SGI remains vague and leaves it up to the Member States to decide which services fall under the term:

> *"SGI are services that public authorities of the Member States classify as being of general interest and, therefore, subject to specific public service obligations (PSO). The term covers both economic activities (see the definition of SGEI below) and non-economic services. The latter are not subject to specific EU legislation and are not covered by the internal market and competition rules of the Treaty. Some aspects of how these services are organised may be subject to other general Treaty rules, such as the principle of non-discrimination." (EC, 2011, 3)*

Services of General Interest refer broadly to services that Member State authorities consider essential for the public, encompassing both economic and non-economic activities. While non-economic SGI are generally outside the scope of EU internal market and competition law, economic SGI - designated as Services of General Economic Interest (SGEI) - are subject to specific rules and are characterized by market interventions aimed at ensuring

accessibility, affordability, and quality where the market alone would fall short. Social Services of General Interest (SSGI) constitute a subset that includes essential personal services such as healthcare, social security, and care services; these may be economic or non-economic depending on their structure and delivery, though their social character does not automatically exempt them from competition law. One of the terms that is mistakenly equated with SGI is universal service obligation (USO), which represents a specific form of public service obligation intended to guarantee that certain services - especially in liberalized sectors like telecommunications and transport - are available to all users across a Member State, irrespective of location and at an affordable price. Lastly, while the term public service appears in specific legal contexts, particularly in transport policy (Article 93 TFEU), its general usage is discouraged due to its ambiguity; the Commission instead favours the more precise SGI and SGEI terminology to avoid conceptual overlap and confusion (EC, 2011).

In Austria, the term Services of General Interest, as used in EU policy documents, is rarely employed, nor is its direct German translation *Dienstleistungen von allgemeinem Interesse*. Instead, matters falling within the scope of SGI are typically addressed under the broader concept of *Daseinsvorsorge*, a term also prevalent in Germany. While the concept of *Daseinsvorsorge* shares thematic similarities with SGI, it is not identical; the conceptual distinctions between these terms will be examined in more detail in Chapter 2.1. It is important to note that *Daseinsvorsorge* is not a legal term in Austria, but rather a socio-political normative concept that lacks a formal legal definition.

1.1 Relevance and Problem Definition

The provision of high-quality, accessible, and affordable Services of General Interest is widely recognized as a fundamental component of the European model of society (CEC, 2004; Humer, 2016). Within the European Union, SGI are not only vital for ensuring social and territorial cohesion but also play a key role in supporting economic competitiveness and safeguarding fundamental rights. Despite diverse national perspectives, there is a broad consensus among EU institutions and stakeholders on the importance of guaranteeing universal access to essential services such as energy, transport, healthcare, and communication infrastructure. SGI reflect core values of the Union - such as solidarity, continuity, quality, and user protection - and are considered fundamental in achieving broader policy objectives, including economic growth, social inclusion, and sustainable development. The European Commission has repeatedly emphasized the significance of SGI

in its policy agenda, committing to uphold their role within the framework of European citizenship, while also acknowledging the diversity of national traditions and institutional arrangements across Member States (CEC, 2004). The legal and political significance of SGI within the European Union is further underlined by key Treaty provisions, most notably Article 14 of the Treaty on the Functioning of the European Union (TFEU), Protocol No. 26 annexed to the Treaty of Lisbon, and Article 36 of the Charter of Fundamental Rights. These legal instruments affirm the essential role of SGI in promoting the Union's social and territorial cohesion, while also recognizing the necessity of a flexible and differentiated approach (EC, 2011).

In German-speaking countries, and particularly in Austria, the term Services of General Interest is commonly addressed under the broader concept of *Daseinsvorsorge*. The importance of *Daseinsvorsorge* in Austria is primarily emphasized in strategic planning documents. In 2004, as part of discussions on comprehensive state and constitutional reform, the Austrian Association of Cities submitted a draft text (25/PVORL-K Annex 4) to enshrine Services of General Interest as a national objective. This paper attempted to define and delimit the term *Daseinsvorsorge*, taking into account the EU Green Paper on SGI in Europe. This paper however does not define specific services of general interest, arguing that the general interest is shaped by a dynamic process. However, the services that society definitely expects include social and healthcare services, culture and education, access to natural resources such as water, and wastewater and waste disposal (Austrian Association of Cities and Towns, 2004). Nevertheless, the proposal was never enshrined in the Constitution. Generally speaking, there is no conclusive definition of the term *Daseinsvorsorge* (Kersten, 2009), which has also made the imprecise term the target of criticism (Bull, 2008). However, the same criticism can be levelled at the conceptual vagueness of the European definition of SGI. Still, the terms continue to be used, which makes ambiguities in practice unavoidable.

The Austrian Spatial Development Concept 2030 (ÖREK 2030) identifies spatial development in the public interest as one of its core guiding principles. This includes the entitlement to a basic level of infrastructure and services, which is seen as essential for ensuring equitable living conditions. In the ÖREK 2030, the issue of *Daseinsvorsorge* is discussed in the context of current and anticipated global transformation processes - so-called megatrends - and their associated challenges (ÖROK, 2021). Similarly, the Regional Strategy of the Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML) highlights the crucial role of ensuring *Daseinsvorsorge*. Special attention is given to maintaining supply security in structurally weak and sparsely populated areas. The strategy

aims to ensure access to essential services for all people in all regions of Austria (BML, 2022). Furthermore, the BML commissioned a study on the principles and minimum standards for SGI, underlining the continued political interest in the topic (see Drage et al., 2024). This study builds upon themes already identified as relevant in the ÖREK 2030 (ÖROK, 2021). These central strategic documents at the federal level, which are intended to guide planning in Austria at the lower levels, show that SGI is not only an EU concept, but that it is also considered relevant in Austria. The exact role of the concept in Austria will be answered in the course of this master's thesis.

Both the ÖREK 2030 and the Regional Strategy consider the provision of SGI in light of the broader societal challenges that impact demand and supply. Over the past decades, global change processes have significantly influenced societal needs and, in turn, the delivery of SGI. These transformations can be grouped into four main drivers of SGI: society, demography, economy, and environment (Humer et al., 2015). Each of these drivers encompasses a range of developments with direct or indirect implications for SGI provision.

One of these drivers, which covers many change processes, is social and societal change. The term societal change refers to a variety of processes that alter the social structure of a society over time. These changes affect different aspects of daily life and are shaped by multiple global factors, such as digitalisation, globalisation, and climate change (Dangschat, 2020). For example, in the Austrian context, the 6th Family Report notes that the duration of education has increased since the 1980s, which has led to delayed financial independence and shifts in family planning. In addition, recent decades have seen a decline in average household size, while the per capita living space has increased and young people and migrants are particularly affected by a lack of space and high housing costs (BKA/FFJI, 2021). The change of values in a society, for example towards a stronger support for post-materialism, can also have an impact on citizens' views on SGI delivery and organization (Van De Walle, 2006) and therefore also on the public interest.

The demographic change currently being experienced in Austria, characterised by an ageing population and low birth rates, may also pose considerable challenges for SGI. By the year 2050, the population of individuals aged 65 and above will have increased by 54%, while the population of those aged 80 and above will have increased by 159.5%. In contrast, the labour force is projected to decline by 2.4%. The growth of the population will be concentrated in urban areas and their surrounding regions, while rural areas will experience a decline in population (ÖROK, 2022 b). In Austria, an annual migration gain of approximately 30,900 individuals is anticipated in the future (Statistik Austria, 2023a),

indicating that migration will contribute to population growth. These demographic changes have been linked to SGI in many scientific publications, which provide evidence that ageing and shrinking processes, particularly in rural regions, are leading to a decline in the provision of SGI (Ortega-Reig et al., 2023; Wiśniewski et al., 2021; Beetz, 2009). This process can be described as a vicious circle that is causing lasting damage to the quality of life in rural regions and eroding spatial justice. Also, migration can exert an influence on a number of key areas of SGI, including the labour market, the housing market and the healthcare system (ÖIF, 2021).

Furthermore, economic changes, such as the shortage of skilled labour in the construction industry, technical professions and the care sector, have the potential to significantly impact SGI. In Austria, for instance, an additional 34,000 carers are anticipated to be required by 2030, in conjunction with the notable increase in the number of individuals belonging to the very old age category (BMSGPK, 2019). However, the financial situation of the public sector also plays an important role in the provision of SGI. Especially at the municipal level, there are already some major challenges, which will become even more pronounced in the future. In Lower Austria, for instance, it was found that 49% of the funds from the fiscal equalization scheme remained for municipal public services in 2023. In comparison, the corresponding figure for Salzburg was 62%, while for Upper Austria, it was 33%. The remaining funds are comprised of state levies, social assistance levies, and hospital levies. According to the predictions made by the KDZ forecast model, this figure is expected to decrease to an average of 39% across Austria by the year 2028, which would mean severe cuts to municipal public services (Austrian Association of Cities and Towns, 2025).

Similarly, environmental changes can have a significant impact on the provision of SGI. Climate change gives rise to altered weather patterns that have an impact on agriculture and forestry, water resources, infrastructure and human health (APCC, 2014). In Austria, the number of hot days and the length of the growing season are expected to increase, while the number of days affected by frost are expected to decrease in the future (ZAMG et al., 2015). The occurrence of extreme weather events and new technologies such as crypto mining have the potential to exert significant strain on the power grid, thereby increasing the risk of power outages while the increasing digitisation of the power grids is enhancing vulnerability to cybercrime (Allhutter et al., 2022). Also, the soil consumption, which has already fallen from 24.3 hectares per day (2010) to 11.8 hectares per day (2018) (BMNT, 2019), continues to present a challenge for soil protection and self-sufficiency in agricultural products.

Together, these processes pose major challenges for diverse areas of SGI. For some services, such as healthcare and nursing, there will be a greater demand in the future, which must already be taken into account in the planning today. At the same time it is expected that the demand for services such as public transport, due to the shift to sustainable mobility, access to high-speed internet, due to the advancing digitalisation, and the need for childcare facilities will increase. It is evident that these processes will have disparate effects on different types of space. Consequently, existing inequalities in the supply of SGI, as discussed by numerous authors (see Naumann & Reichert-Schick, 2015; Wiśniewski et al., 2021; Ortega-Reig et al., 2023), will be further exacerbated. In rural areas, there is already a poorer supply with SGI, which is often related to these processes (ÖREK, 2021; Hernández & Schneider ,2021; Ortega-Reig, 2023). This demonstrates the importance of one of the underlying objectives of SGI, that of equal living conditions. If access to essential services, or even services that count as SGI in the broader sense, is restricted (e.g.: through long travel distances or unavailability of certain SGI), the erosion of the territorial and social cohesion becomes a threat (Weckroth & Moisio, 2020; Franco & Marques da Costa, 2023).

There are different approaches and opinions on how these equal living conditions should be achieved. One of them is the establishment of minimum standards for SGI. The topic is approached from a variety of perspectives in academic discourse, showcasing rise to divergent views on the efficacy and relevance of minimum standards (Machold & Tamme, 2009; Neu, 2009; Scharmann, 2015). The demand, and in some cases the establishment, of minimum standards by government institutions demonstrates that, at least in practice, there appears to be a receptive audience for this instrument. In order to measure the equality of living conditions, the German Advisory Council for Spatial Planning proposed a comprehensive list of spatially related indicators as early as 1976 and established minimum standards (Mäding, 2018). Despite the existence of proposals and demands, there are currently only a few policy areas in Germany at the federal and state levels with minimum standards for equal living conditions (ARL, 2020). In the Austrian context, the development of principles and minimum standards for SGI was identified as a mandate for action in the ÖREK 2030 (ÖROK, 2021). This mandate for action has so far only been followed by a preliminary study by the Federal Ministry of Agriculture, Forestry, Regions and Water Management under the acronym MIDAS, which was published in December 2024 (see Drage et al., 2024). In the discourse on minimum standards for SGI, there is often ambiguity whether the standards pertain cross-sectoral to all SGI, or if they are applicable to individual services. However, it can be stated that minimum standards for SGI generally refer to cross-sectoral standards intended to ensure a minimum range of services.

The relevance of addressing Services of General Interest therefore arises from the central position assigned to these services in political, societal, and spatial planning contexts. They are considered essential at both the European and national levels for ensuring equal living conditions and for balanced, equitable spatial development. The need for conceptual clarification arises for several reasons: First, SGI is often formulated as a political or planning objective, which requires that the underlying meaning and scope of the term is clearly defined. Second, the objective of ensuring SGI also involves the delegation of specific tasks to public, private or even civic service providers, which has normative, legal, and operational implications. Third, the term is often used in political and strategic documents in a way that suggests an individual right to access these services.

This assumption is supported, among other things, by the European Commission's White Paper on SGI, which explicitly emphasizes that citizens and businesses throughout the EU can expect a right to access high-quality services at affordable prices, as this access is understood as a fundamental component of EU citizenship (see CEC, 2004, 5). The ÖREK 2030 also formulates the mandate for spatial development to manage regional disparities in the provision of infrastructure and services of general interest in such a way that spatial and social cohesion are not jeopardized (see ÖROK, 2021, 80).

Furthermore, the discussion of minimum standards for SGI is of particular relevance. The definition and establishment of such standards represents a concrete methodological option for implementing the objectives of SGI – particularly with regard to ensuring equal provision across all regions. In Austria, this approach is being actively considered and discussed by the Austrian Spatial Planning Conference in the ÖREK 2030. Minimum standards can not only contribute to quality assurance but also serve as an instrument for establishing binding commitments in SGI and underpinning the political demand for fair living conditions throughout the country.

Against this background, the academic examination of the term SGI and the associated conceptual and instrumental questions – such as the development of minimum standards – is not only relevant from a terminological or definitional perspective, but also necessary to critically reflect on the planning, legal, and societal consequences of its use and to derive well-founded recommendations for policy and practice.

1.2 Research Question and Aim of the Thesis

As was highlighted in the preceding presentation on this subject, SGI's have a fundamental role to play in achieving the desired quality of life in Europe. It is evident that the comprehensive provision of SGI in all regions is a key challenge in the creation of spatial justice, which contributes to social and territorial cohesion. In light of the evolving landscape in which SGI operate, coupled with the shifting demands they face, it becomes imperative to articulate the concept with precision and explore its implications for practical application. Conceptual ambiguities, as well as practical tools and strategies for achieving good SGI provision, play an important role in this context. The aim of this master's thesis is, firstly, to illustrate how SGI is fundamentally addressed in planning and provision practice. In doing so, it will primarily consider whether SGI or *Daseinsvorsorge* is even referred to, and whether the topic of providing important services is addressed cross-sectorally or sectorally in a strategic way. For this purpose, a case study was conducted in Austria, encompassing all planning levels from the federal to the municipal level, whereby the focus is on the municipal level as it is the primary level of SGI provision. A critical examination of the SGI concept will test its application in strategic planning of SGI and impact on the provision of services in Austrian municipalities. Furthermore, in a second step, the role of minimum standards for SGI in Austria will be presented. Existing minimum standards from legal and strategic documents for three selected SGI will be identified and classified. The aim is to determine whether there are any minimum standards for SGI in Austria that promote the five standards for SGI, availability, accessibility, affordability, quality and variety, according to the SeGI-model (see chapter 2.2), and what role they play. The overarching goal of this master’s thesis is to provide a critical examination of the politically normative concept of “Services of General Interest."

This leads to the following two research questions:

How is the European Union’s concept of Services of General Interest understood, defined and implemented in national, state and regional strategic planning and local service provision practices in Austria?

What role do spatial minimum standards play in legal and informal strategic documents for selected SGI sectors in the provision of Services of General Interest in Austria?

These questions will be answered in the following chapters. To this end, the theoretical background and the scientific examination of Services of General Interest are presented first.

The methods and methodological considerations used to answer these questions are then presented and the selection of the services analysed in the master's thesis are explained. Chapter 4 outlines the current supply situation, social and spatial implications and the governance and financing of the selected services in order to present the initial situation, the social and spatial significance of the services and their governance. This is followed by the empirical part of the master's thesis, which is divided into two parts according to the two research questions. Firstly, the implementation of the concept of Services of General Interest in the strategic orientation of all levels of governance is analysed in order to gain a picture of the role that SGI plays in each case. This is followed by a detailed analysis of minimum standards, which represent one of the central instruments for achieving the desired equal living conditions in all regions. Finally, a conclusion follows with a comprehensive discussion and considerations for practice. The bibliography is followed by the appendix, in which the citation style for legal sources is explained and a list of all laws mentioned with their original names and the English translation used in the master thesis can be found (Appendix A). The appendix contains further supplementary evaluations to ensure the traceability of the results of the master's thesis.

2 Theoretical Background

This chapter provides the theoretical foundation for the analysis of Services of General Interest in the Austrian context. It begins by outlining the conceptual and legal underpinnings of SGI within the European Union and on a national level in Austria. A central component of the chapter is the (ESPON) SeGI model, which offers an analytical perspective on SGI provision and forms part the analytical basis for the empirical sections of this thesis. This is followed by a discussion of spatial justice as a normative framework relevant to the equitable distribution of essential services. Finally, the chapter explores the role of minimum standards as a regulatory instrument to ensure universal access and quality in SGI provision.

2.1 Services of General Interest

The term Services of General Interest has been established in European discourse as a central category for describing those services that are essential for the common good and ensure basic services for the population. These include, among others, public transport, energy and water supply, waste disposal, health services, and educational and social facilities. In German-speaking countries, the term *Daseinsvorsorge* has been established, which is its own concept that largely corresponds both in content and function to the European concept of SGI. Due to this similarity in content and the often congruent use in both academic and political contexts, *Daseinsvorsorge* can be considered an equivalent concept to Services of General Interest in this work. It should be noted that the term *Daseinsvorsorge* has historically been more normatively charged and is more deeply rooted in German public law discourse, whereas SGI primarily functions as a category of European law.

The aim of this theoretical chapter is to present the conceptual foundations, institutional framework, and various types of SGI. Particular attention is paid to the development of the concept in the European integration process and its significance for national policy options.

2.1.1 The Development of SGI in the European Union

Sovereign services were already in existence during the Middle Ages, albeit limited in scope to a few specific functions (Humer, 2016). In the nineteenth century, Lorenz von Stein advanced a neoliberal perspective on state intervention, arguing for the necessity of a

Welfare State and some kind of general interest services in response to the deplorable living conditions of the working population lacking capital, a consequence of industrialisation and the associated urbanisation (Bull, 2008). At the beginning of the 20th century, the multitude of grievances resulting from the First World War also led to the implementation of far-reaching measures in the area of public services (Weigl, 2013, cited in Humer, 2016). It was only much later, namely in the 1930s, that the concept of *Daseinsvorsorge* used in German-speaking countries and in the mid to late 21st century the EU concept of SGI have emerged.

The politically normative concept of Services of General Interest (SGI) has its roots in EU law and is closely linked to the development of the European Union and its internal market policy. It first appeared in the founding treaties of the European Economic Community in Rome in 1957, referred to as Services of General Economic Interest (SGEI). But only from the 1990s onwards, the political significance of the SGI concept increased, particularly with the Maastricht Treaty and the associated efforts to liberalize public services. During this phase, the central question became to what extent certain public services should retain a special status despite the principles of the internal market (Humer, 2016).

In its 1996 Communication on Services of General Interest in Europe, which was amended in 2001, the European Commission clarified key concepts to support coherent policymaking. The term Services of General Interest was defined broadly to include both market (economic) and non-market (non-economic) services that public authorities designate as essential to the public and therefore subject to specific obligations. A narrower category, Services of General Economic Interest, as referenced in Article 90 of the Treaty (Treaty of Rome 1957), pertains specifically to market-based services, such as energy, transport, and communications, that are entrusted with public service obligations due to their strategic importance. The Commission deliberately avoided the ambiguous term public service, noting that it can refer either to the entity delivering the service or to its general interest function, often leading to confusion with the public sector. Finally, universal service was described as an evolving concept referring to the obligation to ensure access to essential services - such as postal and telecommunications - of acceptable quality and affordability for all citizens across the EU (CEC, 1996).

By defining universal services, the EU aims to ensure that citizens have access to certain services while guaranteeing a minimum standard of quality at an affordable price (EUR-lex, n. d.). This ensures that all citizens, regardless of their financial or geographical circumstances, are entitled to basic services at affordable prices and of adequate quality (österreich.gv.at, n.d.). Universal service guarantees access to essential services in the areas

of telecommunications, postal services, electricity and gas for which specific minimum standards apply on the basis of EU regulations and federal laws. These universal services are regulated in the Directives 2009/72/EC (electricity), 2008/6/EC (postal services) and in Regulation 2015/2120 (communications services). In Austria, universal services are defined at federal level in the following laws:

- Electricity Industry and Organization Act 2010 (Elektrizitätswirtschafts- und -organisationsgesetz 2010)
- Gas Industry Act 2011 (Gaswirtschaftsgesetz 2011)
- Telecommunications Act 2021 (Telekommunikationsgesetz 2021)
- Postal Market Act (Postmarktgesetz).

In the area of telecommunications, universal service includes access to a telephone and internet connection, which must also be suitable for fax machines. Internet access must allow basic online services such as e-banking, e-government or e-learning, but not guarantee fast access or the use of streaming services. However, there is no right to choose a particular type of connection or provider, as long as a provider offers the services. Other obligations in the telecommunications sector include the provision of a multi-operator telephone directory and a subscriber number information service. The quality and prices of these services are monitored by the Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR). In the area of postal services, Österreichische Post AG is required to provide universal service for domestic and cross-border mail. This includes the collection, sorting, transport and delivery of letters up to 2 kg and parcels up to 10 kg, as well as the processing of registered and insured items. These services may also be provided by other operators, provided that the requirements are met. In the area of electricity and gas supply, the universal service guarantees that households and small businesses will be supplied with energy even if they have payment difficulties. Although suppliers have the right to disconnect electricity or gas in the event of non-payment, the legal right to a basic supply allows for rapid reconnection or prevents disconnection if an advance payment is made for the coming month. Contractual debts remain but cannot lead to disconnection as long as current costs are paid. Disputes in this regard can be settled via E-Control, the regulatory authority responsible for the electricity and gas industry in Austria (österreich.gv.at, n.d.).

The 2001 Communication (2001/C 17/04) from the European Commission on SGI in Europe outlined the evolving role and regulatory framework of these services within the context of the European Union's internal market and social model. It reaffirmed the importance of SGI as fundamental to promoting economic, social, and territorial cohesion, as well as supporting the overall competitiveness of the European economy. With the introduction of the new Article 16 in the EC Treaty (CONSOLIDATED VERSION OF THE TREATY ESTABLISHING THE EUROPEAN COMMUNITY (2002/C 325/01)), SGEI were formally recognized as part of the Union's shared values. A central theme of the Communication is the clarification of the relationship between SGI and EU competition and internal market rules. The Commission outlines three core legal principles guiding this relationship: neutrality with respect to ownership (public or private), Member States' freedom to define what constitutes an SGI, and proportionality in applying Treaty rules to ensure these do not unnecessarily hinder the fulfilment of public service missions. The distinction between economic and non-economic activities is emphasized, with only the former falling within the scope of EU competition law. The communication also recognizes the need for legal certainty regarding state aid and competition law that apply for SGEI, particularly in cases where public funding or exclusive rights are used to secure the provision of such services. In this context, the Commission provides guidance on the compatibility of these mechanisms with EU law, including the application of Article 86(2) EC (CEC, 2001).

The communication also discusses the impact of liberalization in sectors such as telecommunications, postal services, air transport, and energy. It concludes that while liberalization has generally improved accessibility, quality, and affordability, issues such as uneven access, service gaps, and limitations in redress mechanisms persist. Universal service obligations are highlighted as a key policy tool to maintain service continuity and equity in liberalized markets. Furthermore, the Commission's strategy for a proactive European policy on SGI, including the enhancing of sectoral regulation, fostering legal clarity, promoting consumer protection, and reinforcing the role of SGI in cohesion policy, gets outlined. Also, an emphasis is placed on multi-level governance involving EU, national, regional, and local actors, with future regulatory developments expected to take into account technological changes, evolving user needs, and the broader societal role of SGI (CEC, 2001).

The European Commission's Green Paper on Services of General Interest (COM(2003) 270 final) presents a comprehensive exploration of the evolving role that SGI play within the European Union. Published at a pivotal juncture marked by impending EU enlargement and constitutional reform, the Green Paper initiates a structured debate on how best to safeguard

and develop these services in a changing political and economic landscape. At the heart of the Green Paper is the recognition that SGI are essential to the European model of society. They not only underpin social cohesion and territorial equity but also serve as critical instruments in combating exclusion, enhancing citizens' quality of life, and promoting balanced regional development. The efficient and equitable provision of SGI is represented as integral to the proper functioning of the Single Market and an expression of European citizenship (CEC, 2003).

The Commission acknowledges the diverse traditions, institutional arrangements, and cultural values across Member States, which have shaped the provision of SGI. The Green Paper again delineates between SGEI - which are economic in nature and thus subject to internal market and competition rules - and broader non-economic services, such as certain welfare, educational, and social support functions. Another central topic explored is the appropriate balance of responsibilities between the European Union and its Member States. In line with the principle of subsidiarity, the Commission contends that the organization and delivery of SGI should remain largely within national, regional, or local control, yet it also sees a vital role for EU-level coordination and regulation, particularly in large network industries such as energy, transport, and telecommunications. These sectors, given their scale and cross-border dimensions, demand a more harmonized European approach to ensure fair access, quality, and continuity (CEC, 2003).

The core principles that could underpin a common European approach for SGI proposed in the Green Paper include universal service obligations ensuring territorial coverage and affordability, the need for continuous and reliable service, high quality standards, and robust consumer protections. These elements have already been mentioned in the 2001 communication on SGI and incorporated into sector-specific legislation in various fields and are seen as foundational to any broader EU framework. The Green Paper weighs the merits of potentially developing a general legal framework through a directive or another binding instrument for SGI at the EU level. Such a framework could help consolidate and clarify existing sector-specific rules, enhance legal certainty, and promote consistent application of public service obligations across the Union. However, the Commission also recognizes the potential limitations of a one-size-fits-all approach, noting that flexibility is essential to accommodate the distinctive characteristics of each service sector (CEC, 2003).

Furthermore, the Green Paper emphasizes the increasingly regulatory role of public authorities, as many services are now delivered through private or mixed public-private arrangements. It calls for transparent mechanisms to define, fund, and evaluate services,

highlighting various financing models - from direct subsidies to solidarity-based mechanisms - that ensure the financial viability of SGI without distorting competition. Finally, the Green Paper acknowledges how globalization and international trade agreements may affect national capacities to define and provide SGI. It underlines the importance of securing a coherent EU voice in global trade negotiations, especially concerning the preservation of public interest objectives (CEC, 2003).

The White Paper on Services of General Interest (COM(2004) 374 final), published in May 2004, follows the Green Paper and incorporates the results of a broad consultation involving Member States, institutions, civil society, and various stakeholders. The provision of SGI is described as a shared responsibility between the EU and its Member States: while the Union provides the legal and policy framework, Member States retain the authority to define, finance, and organise these services according to their national traditions and priorities.

The Commission again outlines the guiding principles to inform the development of SGI policy. Importantly, the White Paper underscores the compatibility between competitive markets and public service objectives, affirming that liberalisation and regulation can be reconciled under the framework of the EU Treaties - especially through Article 86(2), which provides for the primacy of public service missions where necessary. Legal clarity is once again identified as a pressing need, particularly regarding the application of EU rules on state aid and public procurement. In response, the Commission has announced initiatives aimed at simplifying the legal framework for public service compensation and enhancing transparency in the selection of service providers. These initiatives include new Commission decisions, a Community framework on state aid, and amendments to existing directives, all aimed at ensuring predictability and fairness in SGI financing (CEC, 2004).

While the idea of a horizontal framework directive for SGI generated debate, the Commission ultimately concludes that a sector-specific regulatory approach remains the most appropriate, at least for the time being. Nonetheless, it commits to reviewing the situation and assessing the potential for a more general legal instrument following the entry into force of the Constitutional Treaty. The White Paper also gives particular attention to social and health services, recognising their distinctive nature and the need for a tailored policy response. In this context, the term Social Services of General Interest (SSGI) was introduced. It promises a future communication that will clarify the EU's role in supporting the modernisation of these services, balancing solidarity and accessibility with legal obligations under EU law. Similarly, the growing role of public-private partnerships in SGI

provision is acknowledged, and the Commission launched a consultation process to address legal uncertainties in this area (CEC, 2004).

Until around 2004, the debate on SGI was primarily shaped by economic and competition law perspectives. At the same time, however, there was growing recognition that certain services, regardless of their limited market orientation, are essential to society. This led to a broader integration of social and territorial considerations, particularly under the Europe 2020 strategy, which replaced the Lisbon Agenda with a more inclusive approach. Territorial cohesion and the principle of subsidiarity gained prominence, emphasizing the importance of regional and local authorities in the provision of SGI. While the European Commission provided guidance, the proposal for a unified framework directive was ultimately abandoned. To this day, regulation remains largely sectoral, especially in technically driven infrastructure fields (Humer, 2016).

Institutionally, the Treaty of Lisbon reinforces the legal basis for SGI. Article 14 along with Protocol No. 26 underscores the significance of SGI for European values, particularly social and territorial cohesion, framing their provision as a shared responsibility between the EU and Member States. The Commission advocates a sector-specific, subsidiarity-respecting approach, rather than a uniform regulatory model, to account for the diversity of national systems and needs (EC, 2011). SGEI are anchored in EU primary law, specifically in Article 106 TFEU, which limits the application of competition rules to undertakings entrusted with such services. Furthermore, Article 2 of the Protocol 26 clarifies that non-economic SGI remain fully under the competence of Member States (Humer, 2016).

The European Commission's 2011 communication, A Quality Framework for Services of General Interest in Europe, highlights the essential role that SGI play in fostering social cohesion and ensuring citizens' welfare within the European Union. The communication argues that SGI constitute a critical infrastructure, particularly in times of economic or financial crisis. In response to budgetary constraints and increasing demand, the Commission underscores the necessity of delivering these services in a manner that is efficient, high-quality, and accessible. The quality framework proposed by the Commission is structured around three strategic objectives: First, it aims to enhance legal clarity concerning the application of EU law to SGEI, accompanied by reforms to state aid and public procurement rules to provide Member States with greater operational flexibility. Second, the framework seeks to guarantee universal access to essential services across sectors such as banking, postal delivery, telecommunications, energy, and public transport (universal services). Third, it promotes service quality, particularly in the social sector,

through instruments such as the voluntary European Quality Framework and the PROGRESS program, which supports innovation and transnational cooperation (EC, 2011).

Since open questions regarding the practical application of EU rules in relation to SGI from public authorities in the Member States, citizens, civil society organisations and other stakeholders remained, a Commission staff working document was prepared in which all 227 questions were answered. Most of the questions concerned the application of EU rules on public procurement, state aid and the internal market to services of general interest (EC, 2013). Many of the European Union's central objectives in recent years, such as the communication on the European Green Deal (EC, 2019), on establishing a European Union Recovery Instrument, to support the recovery in the aftermath of the COVID-19 pandemic (EC, 2020), or the EU's Digital Agenda (EC, 2021), no longer include the term "Services of General Interest" (neither SGEI or SSGI). Although the EU has spent about 15 years intensively trying to define the concept, bring it into line with EU law and answer open questions of the member states, recent developments make it seem that the concept of SGI has lost importance, at least in the EU's central objectives.

2.1.2 The Concept of Daseinsvorsorge

The concept of *Daseinsvorsorge* - translated as "existence provision" - has its roots in the work of German legal scholar Ernst Forsthoff. Developed in the context of the German welfare state during the early 20th century, *Daseinsvorsorge* originally referred to the state's responsibility to secure the basic needs of its citizens. Forsthoff developed this concept against the background of the industrial revolution. He believed that the industrial revolution diminished the self-sufficiency of individuals, particularly in urban environments (Kersten, 2006). While in the past farmers and craftsmen relied on their own resources, people living in cities increasingly depended on what Forsthoff called "technical supplies", such as water, gas, electricity, and transportation infrastructure. This infrastructure could only be provided collectively and, in his view, through state intervention (Kersten, 2006; Bull, 2008).

Forsthoff's understanding of *Daseinsvorsorge* placed the responsibility for providing these fundamental services and infrastructures exclusively on the state and its administrative apparatus. He argued that, in the interest of the common good, such services should not be left to market forces but rather be organized and provided by the public. The scope of services which according to Forsthoff's definition should be covered by *Daseinsvorsorge* include utilities, hygiene, health care, unemployment provision, and transport and

communication infrastructure, while cultural services where not included. However, Forsthoff never provided a conclusive definition of the term, eventually framing it as a "guiding concept" rather than a fixed legal category. In the post-war years, particularly from the 1950s to the 1970s, the concept evolved to align more closely with democratic values and citizen participation. A pivotal moment occurred when Forsthoff replaced his earlier notions of the exclusively publicly provided *Daseinsvorsorge* concept with ideas of democratic engagement for municipal service provision. Nonetheless, this participatory dimension later remained underdeveloped in Forsthoff's following works, where the role of citizens continued to be seen as mostly passive - except in his 1957 writing (Kersten, 2005). Over time, the idea of *Daseinsvorsorge* has come to be understood more broadly as encompassing a wide range of services – including mobility, housing, education, health, culture, and communication – not only provided by the state but also by private actors (Kersten, 2006). Bull (2008) argues that in some sectors, private providers may deliver services more efficiently, with competition potentially leading to lower prices and better quality (Bull, 2008). Still, even after years of conceptual debate the term lacks a clear, universally accepted definition (Kersten, 2006; Humer et al., 2015). Thus, a conceptual approach to the EU concept of SGI was initiated, away from purely public provision and a limited set of services to shared provision and a broader range of services.

The ever-evolving understanding of *Daseinsvorsorge* is reflected by its use in the European Union. Until around the year 2000, German-language EU documents translated SGI as *Daseinsvorsorge*. However, with the publication of the 2003 Green Paper on SGI, the term *Dienstleistungen von allgemeinem Interesse* (literal translation of Services of General Interest) began to be used instead, reflecting a shift in interpretation and policy (Humer, 2016). While both concepts address the provision of essential goods and services, *Daseinsvorsorge* is deeply rooted in the German welfare tradition and the idea of state responsibility for maintaining social cohesion and equal living conditions. SGI, by contrast, emerges from the EU's legal and economic framework and emphasizes the compatibility of public service provision with market mechanisms and competition. Where *Daseinsvorsorge* has historically framed the state as a direct provider, SGI allows for a more pluralistic model, in which the state acts as regulator and guarantor, often relying on public-private partnerships.

In Germany and Austria, the concept of *Daseinsvorsorge* became a fundamental part of regional planning and spatial science discourse (Steinführer et al. 2020a). Today, in Germany *Daseinsvorsorge* is closely linked to the planning principle of ensuring "equivalent living conditions," which is legally anchored in the German Federal Spatial Planning Act

(§1 Abs. 2). In Austria this principle is embedded in strategic policy documents, such as the ÖREK 2030 and the Regions Strategy of the Austrian Federal Ministry of Agriculture, Forestry, Regions and Water Management (Kersten, 2006; ÖROK, 2021; BML, 2022). The actual services deemed necessary, or being "of general interest", remain a socially constructed decision, as well as the definition of what constitutes "equivalent living conditions" across regions (Humer et al., 2015; Kersten, 2006). This means, that *Daseinsvorsorge* is not a static concept with a fixed set of services but rather, its scope, governance models, and societal expectations evolve continuously in response to social change (Weingarten & Steinführer, 2020).

Despite its important role in welfare state planning and spatial development, the term *Daseinsvorsorge* can be criticised for being both vague and misleading. Bull (2008) argues that the term does not, as its literal meaning suggests, enabling existence, but rather secures it and not even always effectively. He advocates for replacing the terminology of *Daseinsvorsorge* with the term "basic state services" (staatliche Grundversorgung), which would more accurately reflect the state's role as a guarantor rather than a service provider. However, this does not reflect the current use of the term, which is largely considered synonymous with SGI, at least as far as the scope of services and the providers is concerned.

2.1.3 Findings from Academia and Practice

Academic work on Services of General Interest (in German language mostly *Daseinsvorsorge*) has focused on both theoretical discussion and practical implementation. There are a variety of larger research projects that address this topic from different perspectives (see Rauhut et al., 2013; Weitkamp et al., 2024; Drage et al. 2024) and even more articles in scientific journals that shed light on this complex topic. The vague definition of SGI and the freedom of Member States regarding the manner of implementation have fostered many fundamental studies, such as the discussion of how SGI governance works in certain countries. In this chapter, only a brief overview of some discussions on the topic of SGI (and *Daseinsvorsroge*) will be presented, since further discussions in different contexts will follow in the following chapters.

One topic that is addressed in this chapter is the practical implementation and governance of SGI. In most countries there is a pragmatic approach for the regulation of SGI, which means they don't have a framework of SGI rather they follow a sectoral approach. The French model of 'service public' is an example of such a framework which is the core of the

administrative system (Van De Walle, 2008). A similar concept, also called ‘service public’ can be found in Switzerland. The Swiss Federal Council defines ‘service public’ as follows: "*Service public includes a politically defined basic supply of infrastructure goods and infrastructure services, which should be available to all sections of the population and regions of the country according to the same principles, in good quality and at reasonable prices*" (own translation of Swiss Federal Council, 2004, 4570), which is equivalent to basic services. However, ‘service public’ does not cover sectors that fall within the competence of the cantons and municipalities (Swiss Federal Council, 2004). In some countries, Van De Walle (2008) also mentions Austria, there is a certain concept of public services, but with a less prominent role.

Brad et al. (2022) present a three-dimensional conceptualization of SGI governance for the German and Austrian context, focusing on actors, policymaking and negotiation, and operational service provision.

- Firstly, various actors are involved in the governance of SGI, including state institutions, private enterprises, and civil society organizations. Brad et al. (2022) argue similarly to Getzner et al. (2024) that the state has withdrawn from directly providing many public services, it still plays a crucial role in legislative frameworks, policy development, and the establishment of standards. Private-sector involvement has increased significantly, particularly in telecommunications, energy, and transport services, while civil society actors contribute to service provision through voluntary and cooperative initiatives.

- Secondly, the policymaking and negotiation dimension highlights the hierarchical nature of decision-making despite multi-level governance structures. State actors remain central in defining policies related to SGI, yet the involvement of private and third-sector stakeholders in policymaking is essential for balancing market-driven and public welfare objectives. Regulatory frameworks and financial policies are crucial in shaping service provision, and there is an ongoing debate on how to balance liberalization and state control to ensure equitable access to SGI (Brad et al., 2022).

- Lastly, the operational provision of SGI requires collaboration across various levels of governance (Brad et al., 2022; see also Schorn & Humer, 2021). Public-private partnerships, regional governance approaches, and cooperative models play a significant role in ensuring service delivery, particularly in rural areas. Given the challenges posed by demographic changes, digitalization, and economic

restructuring, governance models must be flexible and adaptive. Emphasizing cooperation between different stakeholders can enhance the resilience and sustainability of SGI (Brad et al., 2022).

The governance of SGI is characterized by complex interactions between multiple stakeholders, decision-making processes, and service delivery mechanisms (Brad et al., 2022). For a long time, the provision of some services was a purely state affair, although this has increasingly evolved into the provision of many services by the private sector (Colomb & Santinha, 2012). Through liberalisation and privatisation in recent decades, the state has increasingly moved from being a service state, providing SGI itself, to a guarantor state. This market-oriented restructuring has brought new challenges in terms of ensuring equal living conditions in all regions (Getzner et al., 2024). However, achieving territorial, economic and social cohesion requires a balance between public and private providers, complemented by civil society, and the dominance of a single provider would subordinate the political objectives of territorial development and cohesion (Rauhut et al., 2013).

In the context of SGI, research tends to focus on issues and services relevant to the population, although the EU definition also includes businesses as beneficiaries (see CEC, 2004). Littke & Rauhut (2013) deal with the question of what fundamental rights individuals and companies have in the context of SGI. For individuals, access to essential services such as water, energy, health and education is considered a fundamental right. There is a tension between economic efficiency and social justice, especially when these services are privatized. In this context, the European Union emphasizes the need for non-discrimination as well as ensuring the accessibility and affordability of these services for all citizens. But companies also have clear rights in the area of SGI. They benefit from the EU's fundamental freedoms, in particular the freedom to provide services and the freedom of establishment, which allow them to operate economically. At the same time, however, they are subject to regulatory requirements to ensure that SGI do not exclusively follow market principles but also serve the public interest. The challenge there is to strike a balance between competition and social responsibility. The EU has therefore created a legal framework to ensure both fair access to SGI for individuals and a level playing field for companies. In practice, this leads to debates about the extent to which economic actors should be obliged to comply with social and environmental standards. At the same time, national specificities must be taken into account while uniform EU standards are established (Littke & Rauhut, 2013).

SGI can also be viewed from a philosophical perspective. For example, Kallhoff's (2011) philosophical-ethical perspective on SGI emphasises the significance of public goods for democracy, social inclusion, and individual development. She delineates public goods through two criteria: the 'basic availability condition', which characterises the non-competitive accessibility of a good for all individuals, and the 'open access condition', which ensures equal access for all. Kallhoff (2011) thus conceptualises public goods as being defined by the principle of fair access. According to Kallhoff (2011), todays welfare states education and health services do not fall into this category, as they often have access restrictions. Furthermore, she identifies four central reasons in political philosophy why public goods are important for democracy and society: maintaining community, promoting social justice and inclusion, supporting pluralism in modern societies, and establishing identity within political communities (Kallhoff, 2011).

Stielike et al. (2020) examines the theoretical and practical tensions in the provision of SGI, through the political philosophical perspectives of libertarianism, egalitarianism, utilitarianism, and communitarianism. Each of these philosophical approaches offers distinct priorities for shaping future SGI provision. Libertarianism emphasizes negative freedom (the state intervenes as little as possible in the individual's lifestyle), such as the right to mobility, while egalitarianism focuses on positive freedom and justice (the state supports individual lifestyle choices), advocating for universal access to public services. Utilitarianism, in contrast, evaluates decisions based on overall societal benefit without prioritizing any single principle and communitarianism underscores the importance of solidarity and social cohesion. While these perspectives present inherent contradictions, Stielike et al. (2020) argue, that engaging with them can lead to more informed and reflective policy decisions. Ideally, innovative service provision models can reconcile competing demands, particularly in peripheral regions experiencing demographic and economic decline. Such solutions can ensure public service availability at reasonable costs without entirely eliminating conflicts between mobility rights, access entitlements, and differing views on social solidarity. However, they can mitigate these tensions by prioritizing the needs and preferences of citizens through locally and regionally tailored approaches. This results in an outcome-oriented governance model for public service provision. Stielike et al. (2020) illustrate this with the example of firefighting services, which are often assumed to be determined solely by scientific principles. They argue, that in reality, planning processes in this sector also involve ethical and political decisions that vary depending on the underlying philosophical stance. Thus, the governance of public services is not only a technical challenge but also a question of values and priorities.

There are many different perspectives from which SGI can be examined, and an inexhaustible variety of theories and concepts with which it can be linked to. The following chapters present further scientific discussions of the SGI concept relevant to the context of this master's thesis.

2.1.4 The Public Interest

The concept of the public interest holds a prominent place in the discourse about Services of General Interest. Although public interest is the basis for the definition of SGI and is often used in this context, it is difficult to define. Scholars such as Frank Sorauf (1957), Hantke-Domas (2003), and Dadashpoor & Sheydayi (2021) have offered critical insights into the ambiguity, ideological underpinnings, and practical implications of this foundational concept.

In his article "Public Interest Reconsidered", Frank Sorauf (1957) highlights the term's ambiguity and its susceptibility to misuse. Sorauf describes "public interest" as a "God term" that can be used to justify decisions without substantive argumentation. Instead of representing something that everyone agrees is good, the idea of the public interest often hides the fact that certain groups or parts of society have their own interests. Sorauf says that in societies where there are many different values and views, there can be no single definition of what is good for everyone. Sorauf says that trying to define it outside of the democratic process could lead to power being concentrated in undemocratic ways. He claims that a proper understanding of what the public wants must be agreed upon through discussion, compromise, and negotiation within institutions (Sorauf, 1957). This mean, the public interest is not a fixed idea but a changing result of political competition.

The challenge of defining the public interest becomes especially salient in SGI governance, where public actors, private businesses, and civil society all play roles. In this regard there are different views on the question of which actors should provide SGI in order to meet the public interest. While some advocate for state-provided services based on solidarity and equity, others argue for efficiency and innovation through market competition for certain sectors (Getzner et al, 2024; Brad et al, 2022; Bull, 2008). Here, Sorauf's warning about the use of the term "public interest" becomes more important, as using the public interest in SGI contexts can make different and sometimes opposite policy plans seem acceptable, from privatisation to nationalisation.

A criticism toward the coherence of the public interest can be found in regulatory theory. Hantke-Domas (2003) examines the evolution of public interest theory and its role in justifying state intervention. He questions the concepts theoretical robustness and notes that attempts to define the public interest in regulatory contexts by relying on assumptions from welfare economics by scholars such as Richard Posner often oversimplify complex realities, neglecting factors such as transaction costs and political incentives. Critics, particularly from the Public Choice School, argue that appeals to the public interest frequently mask rent-seeking behaviour and the pursuit of private or political gain under the guise of public good. Despite this, Hantke-Domas (2003) acknowledges that regulatory practice has evolved in more evidence-based and economically responsive directions. Still, the lack of a consistent empirical foundation and theoretical clarity leaves the concept of public interest in regulation both ambiguous and contested.

The public interest is also important in urban and regional planning, as discussed by Dadashpoor & Sheydayi (2021). They look at how the meaning of the term has changed over time and how this change has been affected by new ideas in theory and the social and political situation in society. While planning is often guided by the idea of serving the public interest, professionals rarely agree on what that actually means. Dadashpoor and Sheydayi (2021) describe four main ways how the public interest is defined based on definitions from planning literature: ethics-based, normative, procedural, and political-discursive. They conclude that these different approaches of defining the public interest don't come to a consensus and differ in many aspects. However, they propose a framework consisting of four critical questions, which, if they are answered, can provide for a comprehensive and acceptable definition for the public interest: What is the nature of public interest? Who defines it? By what process is it defined? What is it used for? (Dadashpoor & Sheydayi, 2021). The use of this framework, however, does not lead to a final universal definition of the public interest either and does certainly not answer, what the public interest in its literal meaning is.

Taken together, the different perspectives and attempts of providing a definition reveal the public interest as a deeply contested, dynamic, and context-dependent concept that cannot be reduced to a singular moral idea or technocratic standard. Just like the definition of SGI, it is shaped by social processes and political negotiations. Both thematic complexes are confronted with similar challenges, which is why the question could be asked whether the public/general interest is fundamentally undefinable and whether the attempts merely result in pragmatic and, in doubt, (for parts of society or certain regions) unfair definitions.

2.1.5 The Welfare State and SGI

In post-war Europe, welfare state systems have emerged as central instruments to stabilize societies. Sir William Beveridge (1942), a key social reformer and advisor to the British government, shaped this development by outlining the five fundamental threats to human well-being - want, disease, ignorance, squalor, and idleness (Humer, 2016). These fundamental threats later became the foundation for the so-called "five pillars of the welfare state", while each threat got addressed through specific public policy interventions: social insurance, health care, education, social housing, and employment policy (Abrahamson, 2005). Beveridge argued, "*that social security must be achieved by co-operation between the state and the individual*" (Beveridge, 1942, 848), explaining this by stating that social security should only cover a 'minimum' of the individual's needs, so that individuals can improve the minimum standard of living for themselves and their families through their own initiative (Beveridge, 1942). On the other hand, Esping-Andersen (1990) argued, that creating equality is not necessarily the role of welfare states at all. Consistent with Forsthoff's assessment of the dependency of the urban population, the post-war welfare state initially focused on urban-industrial regions, aiming to improve working and living conditions for the labour force. Over time, spatial policy goals expanded toward promoting equal living conditions across all regions. Especially in social market economies, states invested heavily in education, health, and social infrastructure, often financed through deficit spending under the assumption of continued economic growth. This expansion was facilitated by rising employment, increased household incomes, and state monopolies in core infrastructure sectors, before reaching its limits during the economic crises of the 1970s and 1980s (Humer, 2016). In this context, the nation-state's role began to change.

Jessop (2000) describes this restructuring of welfare state systems in advanced Western societies as a shift from the Keynesian Welfare National State (KWNS) to what he terms the Schumpeterian Workfare Postnational Regime (SWPR). The KWNS was characterized by a strong national state that pursued full employment, economic stability through demand-side management and an expansive welfare system. It was based on the Keynesian belief that state interventions could secure social protection and economic growth within nationally bounded economies. Jessop (2000) argues that this model has been replaced by a new configuration of statehood and governance under the SWPR. Keynesian characteristics of the welfare states have been displaced by an emphasis on competition, and adaptability to global market dynamics. In terms of social policy, social support under the SWPR is increasingly conditional on labour market participation and individual responsibility.

Moreover, the national scale lost importance as responsibilities got dispersed across multiple levels (transnational, regional, and local). This transition involved structural transformations in welfare provision, namely, shifts in how services are produced, financed, and governed. The state increasingly gave up its role as a provider of services and transformed itself into a guarantor of the provision of services. This transformation was driven not only by economic pressures, such as globalization, but also by ideological shifts that redefine the role of the state and citizenship itself (Jessop, 2000). A similar conclusion was provided by Steinführer et al. (2020b) for the context of the restructuring of SGI in East Germany following the reunification. They argue that the developments were not solely a result of post-socialist transformation but are embedded in broader societal changes since reunification (Steinführer et al. 2020b).

Regarding the discussion of the state's role in the provision of SGI, the issue of the distribution of public goods is also central. Samuelson (1954) influenced this debate with his often-criticized theory of public expenditure (Pickhard, 2006). Samuelson (1954) distinguished between private and public goods and represents a central contribution in the further debate on this topic. While private goods, such as food, are getting less with consumption, public goods, such as knowledge, are non-rivalrous and non-excludable, and consumption does not reduce their availability to others. This distinction is of central importance for the justification of how certain goods or services should be provided in order to benefit all people. However, this public goods theory reveals inherent dilemmas. Tullock (1971) critically argues that while governments can provide public goods and services, they are equally prone to inefficiencies as decisions are made by people who might not face consequences for bad decisions. This places the human component, which plays a role both among public and private providers of goods and services, at the centre of the dilemma. Holcombe (1997) even argues that there is no evidence that public goods can be provided better by the public sector than by private actors. On the contrary, he argues that private actors are even better at providing certain goods because they are better able to respond to consumer needs and are motivated by profit. Further contributions to the topic complicate the picture by challenging the binary of 'public' and 'private'. As Kaul & Mendoza (2003) note, goods can shift between public and private domains depending on political, economic, and institutional conditions. This is particularly the case in the increased use of public-private partnerships under fiscal constraints (Humer & Palma, 2013). The question remains as to what role the state should play in the provision of public goods, or SGI.

The different orientations of welfare states influence their governance and model of SGI delivery. Scholars from a wide range of disciplines have attempted to systematically categorize the different welfare states systems. The welfare state system refers to a structured and institutionally embedded entirety of social policy, which is not merely a compilation of individual policy areas such as labour market or family policy, but rather their systematic interconnection within a coherent model (Humer, 2016). Key contributions to welfare state research distinguish between different types of such systems particularly differ in terms of the role of state redistribution, the financing of SGI, and the extent of social security (Humer, 2016).

In his 1990 work, the political scientist and sociologist Gøsta Esping-Andersen identified three welfare state typologies. The liberal welfare state, exemplified by the United States, the United Kingdom, and Australia, is distinguished by a minimalist approach to state intervention and a reliance on means-testing, which means that benefits are usually limited and cut off when income limits are exceeded. Social benefits are only accessible to the most economically disadvantaged members of society and are often insufficient to meet basic needs, potentially leading to the marginalisation of certain groups. Social policy follows market principles and is residualist because it is limited to clearly defined groups, so most of the population relies on private pension provision. The conservative-corporatist welfare state is neither residualist nor universalist and is characterised by socially graded benefits based linked to work performance with the aim of securing income. The state intervenes in cases where the family or the labour market is unable to fulfil its functions. It reinforces income differences and relies on family care, especially for women. This model is exemplified by the countries Germany, France, Italy and Austria. The social-democratic welfare state, which is primarily associated with Scandinavian countries, is distinguished by the universality and generosity of its social system as it is accessible to all citizens irrespective of their position in the labour market. Furthermore, the state plays an active role in promoting equality and the decoupling of social rights from market mechanisms (Esping-Andersen, 1990).

The typology of welfare states is shaped by two core components, the degree of decommodification and the degree of stratification. The degree of decommodification describes the extent to which individuals are secured independently of the market while the degree of stratification describes the extent to which social inequalities are reinforced or reduced through state intervention (Humer, 2016). Two fundamental policy models reflect these differences: the Beveridge model, which aims at universal poverty prevention and is primarily tax-funded, and the Bismarck model, which focuses on status maintenance through

contribution-based systems. Both models therefore have different implications for social equality and the level of state responsibility.

Even though the focus of the debate on welfare state systems is on nation states, supranational institutions such as the European Union also have their own concept of a welfare state systems and thus influence their member states in this regard. In this context, Krajewski (2013) emphasizes the significance of SGI as a cornerstone of European welfare statehood. The liberalization and privatization processes of SGI since the 1980s – driven by internal market regulations and rulings from the European Court of Justice (ECJ) – have created significant tensions between market logics and the welfare objectives of the EU and its member states. The division of competences between the EU and its member states, and the normative debate over whether market efficiency or public interest should take precedence are identified as the two central conflicts in this context (Krajewski, 2013). However, over time, EU primary law has increasingly recognized the societal value of SGI, most notably through Article 14 of the TFEU and Protocol No. 26, which emphasize diversity, quality, accessibility, and national discretion. ECJ jurisprudence has also shifted, showing greater flexibility toward SGI, particularly regarding state aid and public procurement (Krajewski, 2013).

Although this European concept of welfare statehood has an influence on the Member States, as already noted, different welfare state systems pertain. The Austrian welfare system is strongly conservative and based on the central pillars of social insurance and the family. Social insurance is the dominant form of social security and is closely linked to employment. Its success requires that as many people as possible are in full-time employment, since insurance benefits are designed to secure the status achieved in working life. Adjustments have already been made to take account of the increase in part-time and marginal employment, but traditional social insurance remains the core of social security. The second pillar of the social security system is the family. The possibility of co-insuring relatives maintains family protection while supporting traditional gender roles. Specific family benefits encourage a division of labour in which women often take on unpaid domestic and care work. This leads to lower incomes and insurance benefits for women, increasing their dependence on family or income-related social assistance. Despite social changes, informal care and family care remain a central part of the system based on traditional gender roles (Heitzmann & Österle, 2008).

2.1.6 Distribution and Access to SGI

The spatial distribution of SGI and their accessibility are of central concern in planning theory and practice, particularly in the pursuit of achieving equitable living conditions across all regions. One of the most influential theoretical foundations for the planning of the spatial distribution of SGI is Christaller's Central Place Theory (CPT). The basic principle of the CPT is that not all services have to be available everywhere and therefore proposes a hierarchical ordering of central places (towns and cities). The higher the centrality of a settlement, the more specialized and numerous the services it offers are expected (Mulligan et al., 2012; Šišak, 2023). Christaller proposed that central places act as service centres for a dispersed population, offering central goods with specific thresholds and ranges that determine their profitability and reach. The CPT is based on the idealized assumption of a uniform landscape and population distribution, resulting in a hexagonal arrangement of central places for optimal provision of services and goods. Larger centres are expected to offer all kinds of goods, while smaller centres only have to supply lower grade goods and services. In this hierarchical system each level supports those below it, leading to economic interdependence of smaller settlements (Getis & Getis, 1966).

The CPT is particularly prominent in Germany and Austria where it has informed spatial and regional planning and was adopted as a normative framework. For example, in Austria, Bobek and Fesl assigned CPT levels in 1978 based on the SGI supply situation of 1973, which served as the basis for further development in the first Austrian Spatial Planning Concept in 1981. The CPT was incorporated into spatial development strategies in all federal states except Vorarlberg, although there were significant differences between the definitions, implementation, and legal binding force (Machold, 2010). However, despite its implementation in the planning practice of some countries the CPT has faced substantial criticism. Above all, critics point to its idealized representation of spatial organization and its failure to accommodate modern market dynamics. The rigid characteristics of the CPT have been associated with infrastructure decline in rural areas and deemed inflexible to address current spatial development challenges (Šišak, 2023). Building on economic network theories, Meijers (2005) even argues that vertically hierarchical models such as the CPT are getting replaced or at least supplemented by more horizontal (synergetic) models.

Further critique is presented by Humer & Granqvist (2020), who argue that national policy approaches tend to overlook regional disparities in SGI provision in favour of economic and political logics. They propose an integrative model that combines the CPT with the Central Flow Theory, which distinguishes between "town-ness" – the role of a central place in

serving its surrounding area - and “city-ness” - the relationships and positions in interurban networks that define the surrounding area. By applying the Territory-Place-Scale-Network (TPSN) framework, they develop the “Central Places and Flows Planning Approach” that links normative goals, economic logics, and spatial structures. Their case study of Finnish health sector reforms (SOTE) demonstrates that spatial factors, particularly the different needs of urban and rural regions, are often not acknowledged in policies. Therefore, they argue for a spatially sensitive and differentiated approach to sectoral planning (Humer & Granqvist, 2020).

While acknowledging the need for its ongoing reform Danielzyk & Priebs (2020) reaffirm the relevance of the CPT in guiding the fair distribution of SGI. In this context, they discuss the viability of the establishment of minimum standards for SGI provision in connection with the centrality of settlements (see Chapter 2.4). Danielzyk & Priebs (2020) argue for conceptual and practical enhancements to the CPT including the already ongoing incorporation of the idea of functional spatial cooperation and recognizing the importance of “social places” such as community centres. Furthermore, a certain level of flexibility is proving to be particularly important in polycentric urban regions, where functions are shared across municipalities. Therefore, Regional planning must develop a dynamic, context-sensitive interpretation of centrality that accounts for demographic, economic, and spatial realities (Danielzyk & Priebs, 2020).

Similar criticism, which is also made of the CPT, can also be made of other concepts such as the functional-spatial division or balanced functional spaces, but these are rarely considered in academic discourse and in practice in the context of SGI. While functional-spatial division of tasks is based on the idea that different regions have different strengths and potentials (talents) that can complement each other in a meaningful way, the concept of balanced functional areas aims to achieve an even distribution of quality of life and economic strength across all regions. The aim of functional-spatial division is to encourage spatial specialisation by promoting specific key functions in the regions, thus achieving optimal development of the whole area. Critics, however, point out that this specialisation can increase regional disparities and make regions more vulnerable to crises. In addition, the ecologically strained situation in metropolitan areas could be justified by referring to the ecological function of rural areas (Münter & Osterhage, 2018). However, it could be noted that, in contrast to the criticism of Humer & Granqvist (2020) of the CPT, the concept of functional-spatial division indirectly takes regional inequalities into account by focusing on regional strengths. The aim concept of balanced functional areas is to create good working, housing and living conditions in all parts of a country. Living conditions, particularly in

rural areas, are to be improved by developing densely populated settlement areas and good transport infrastructure. The strategy aims to concentrate services in central locations in a way, that smaller municipalities can also benefit. However, critics argue that the high level of control required is unrealistic and that the necessary financial resources are lacking (Münter & Osterhage, 2018).

Concepts that focus on the accessibility of basic services that gained popularity more recently are provided by Carlos Moreno with the 15-Minute City and the 30-Minute Territory. The 15-Minute City and 30-Minute Territory are urban and territorial planning models that aim to reshape daily life by organizing space and services around the principle of proximity. Both models aim to ensure that important functions of daily life – namely: living, working, shopping, healthcare, education, and leisure – are accessible within a given proximity. As the name suggests, the 15-minute city model aims to make these functions accessible in urban environments within a 15-minute walk or bike ride from one's home. It promotes the development of compact, polycentric and mixed-use urban environments in order to reduce forced mobility and thereby enhancing the quality of life. The 30-Minute Territory extends this concept to suburban or even rural areas with the same goal of ensuring the accessibility of the six key functions within 30 minutes with sustainable means of transport. Both concepts challenge the legacy of car-centric, functionally separated urban planning by promoting spatial and temporal integration, inclusive administration, and digitally supported services (Moreno et al., 2023).

The 15-Minute City and Central Place Theory represent two fundamentally different approaches to planning and organizing access to services and infrastructure among numerous other theories and concepts that describe the spatial distribution of services. Both address how services are spatially organized but from distinct historical, functional, and ideological perspectives. The comparison of these models/concepts shows how differently the accessibility of services can be viewed and that an ultimate definition of "good accessibility" is purely a matter of interpretation. In addition to technical and economic considerations, it is again subjectivity – in this case the understanding of what constitutes good accessibility – that makes it almost impossible to agree on a generally valid and fair model/concept.

2.2 The “SeGI Model”

The following conceptual model is employed for the systematic description, analysis and comparison of individual concrete Services of General Interest within the context of this master’s thesis. The 'SeGI model' is founded upon theoretical and conceptual work on SGI within the context of the European Union, particularly the ESPON study 'SeGI - Indicators and perspectives for services of general interest in territorial cohesion and development' (Humer et al. 2015; Humer 2016). The metaphor of an onion is used to represent the (minimum) standards of SGI as the core of the model, with the individual layers representing explanatory dimensions for these. This chapter is based on the book chapter “Drivers of the Provision of SGI” (see Humer et al., 2015).

The standards for the provision of SGI, which are set out in the SeGI model, play a central role for the analysis of existing minimum standards in Chapter 6 of this master’s thesis. The five categories, referred to as SGI standards of provision, will form the basis for the analysis of the minimum standards in the empirical part of this master’s thesis. In the SeGI model (see Figure 1) five standards are categorised hierarchically according to their importance – availability, accessibility, affordability, quality and variety – for the successful provision of SGI. The provision of a service is only considered successful if all of the aforementioned standards are met. These standards are derived from communications of the European Commission on SGI, which define requirements for a satisfactory provision of SGI (e.g. CEC 2003, 2004 and EC 2007a). The fife standards can be described as follows:

- The availability is the most basic standard of SGI provision, as it means that a service is simply present. Without a service being available, it obviously can’t be used by citizens or businesses. The provision of basic services such as the water and electricity supply must be reliable and continuous, as even short outages can lead to uncertainty and harm the good standards of SGI.
- The accessibility of SGI is a normative standard as it depends on subjective definitions of what “good accessibility” is. It is obvious that SGI must be accessible for the users of the respective service, but also the users must be reachable for mobile services. To clarify good accessibility, providers and users negotiate in the frame of local conditions. On aspect of accessibility, that is not originally mentioned in the SeGI model, is temporal accessibility, which will also be considered in the analysis of the master’s thesis. Even if a service is physically accessible, opening hours can restrict whether a service can be used or not.

- The affordability of SGI is another significant standard, as the availability and accessibility alone don't necessarily make the service usable for citizens and businesses. This standard foresees, that services are either affordable or supportive systems are intact to make sure that every user is entitled and able to make use of SGI.
- The standard of the quality of an SGI is also of normative nature. This standard is intended to ensure that not only a minimum level of quality of SGI is met. Defining quality, however, is difficult, but can also include the other standards in the evaluation. The perception of the quality of an SGI can be influenced by many factors such as geographical conditions or cultural values.
- The final standard is the variety of SGI provision. This standard intends, that users should be able to choose between a variety of the same service to fit their individual needs. In the area of mobility, for example, this could mean that different means of transport are available.

The provision of SGI is shaped by two key actors: the service provider and the service user. The providers of SGI can be public, private, or from civil society which can operate alone or in collaboration with one another to satisfy the demand of the users. Despite the pivotal role of providers in the provision of SGI, users have exerted considerable influence over the formulation of standards. Users of SGI are members of the general public or businesses. Both, the providers and users of SGI, play a role in the co-design of standards for services based on both collective and individual needs. The definition of standards for SGI is contingent upon the ideological and moral values espoused by these actors.

Furthermore external influences – the drivers of SGI provision - and political systems also play a role in shaping the specific conditions under which SGI are provided. These external drivers interact with one another in a spatial and temporal manner, thereby affecting the five standards of SGI. The characteristics of the space or territory, as well as the developments that often occur over decades, exert a significant influence on the provision of SGI in a multitude of ways. For this reason, the processes of the provisioning, utilisation and design of the standards of SGI are affected by their geographical and temporal positioning. The range of services is contingent upon regional factors, including population density and regional geographical conditions. The geographical characteristics of a territory, such as its topology (e.g. island, mountainous, coastal) and its location (e.g. peripheral, urban), are long-term and difficult to influence. These factors therefore can have considerable influence on the standards of SGI, particularly in regard to accessibility. This also implies that the

financial and operational costs for the delivery of SGI must typically be higher in regions characterised by longer distances than in urban areas with well-developed transport networks.

Temporal changes of different factors, such as social values or economic conditions, also have an effect on the provision of SGI. As time progresses, other aspects, such as technologies, are also evolving, which can lead to major changes in the needs of the population, including in the area of telecommunications. The continuous modernisations and evolvements of SGI have a particular impact on the expectations on the quality and diversity of such services. These temporal changes can be driven by fiscal incentives and structural measures, however they can not be forced.

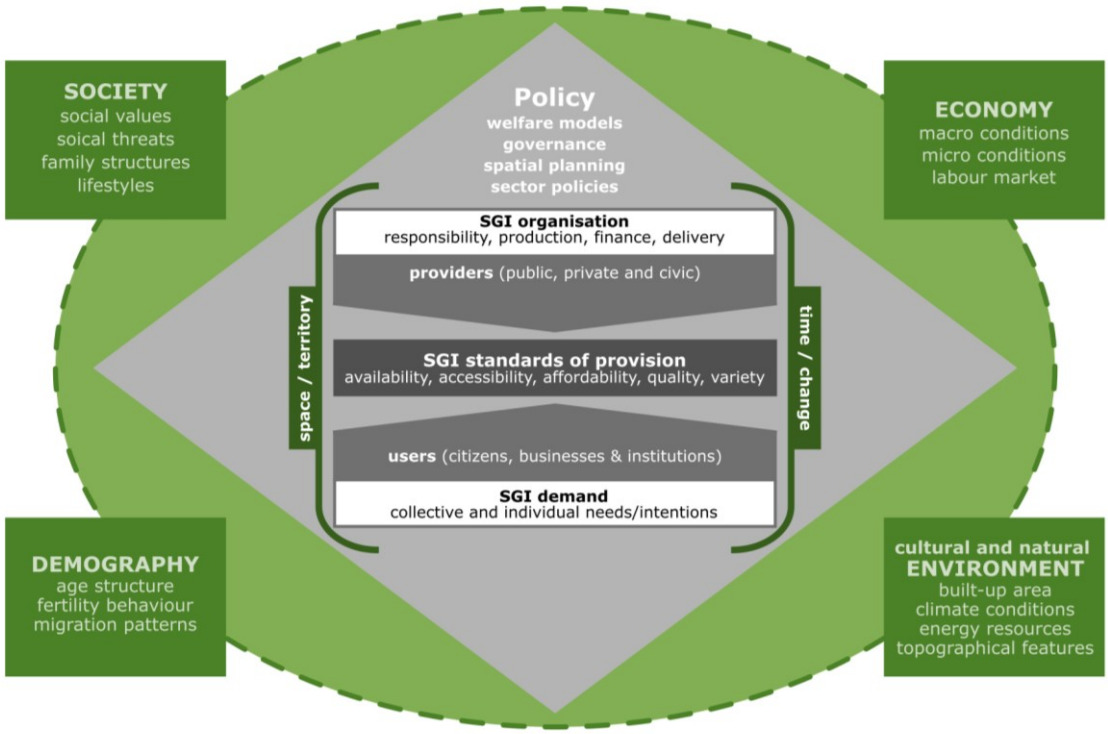

Figure 1 SeGI-Model of SGI provision, modified after Humer, 2016

Furthermore, the provision of SGI is shaped by the five key factors demography, environment, politics, economy and society, the so called "drivers of SGI provision" (Rauhut et al., 2013). These factors are situated within a specific spatial and temporal context. In more recent iterations of the SeGI model, politics is no longer represented as a driving force, but rather as a policy system wherein the provision of SGI and its spatial and temporal dimensions are embedded (see Humer et al., 2015; Figure 1). Policy functions to

translate social and economic factors into legislative and administrative instruments, thereby exerting influence over the provision of SGI. The policy sectors of welfare and spatial planning exert a considerable influence on the production, financing and provision of SGI, while ideology exerts a significant influence on the organisation of the provision of SGI, as evidenced by the contrasting approaches to childcare and care for the elderly, with some countries placing responsibility on families and others providing state support.

The external drivers- society, economy, demography and environment, can be categorised into two groups. First, the interactive drivers of society and the economy, which are reciprocally related to SGI provision, by influencing it and simultaneously being shaped by it. Second, the more passive drivers of demography and environment, which define the framework for SGI but are themselves hardly influenced by its design.

Societal values not only determine the demand for SGI, for example, in terms of its affordability or acceptable quality, but civil society is also actively involved in organizing SGI. Furthermore, lifestyles, income distribution, and household types have a strong impact on the opportunities for using SGI. For example people with low incomes often have no or limited access to certain services, which can be mitigated by subsidized services. Regional differences and changing societal values also influence expectations of SGI, with long-term trends such as the transition to the knowledge society being just as relevant as short-term developments. Changes in family structures, such as the decline in multigenerational households, lead to an increased need for institutionalized care, as, for example, childcare can no longer be provided within the family.

The economy is the second interactive driver. The macroeconomic situation determines the financial flexibility for the provision of SGI, regardless of whether it is privately or publicly organized. Economic upswings and downswings can have and influence on the supply and demand for SGI. The quality and variety of SGI also depend heavily on general economic performance and income distribution. For example, expectations regarding the quality of SGI are generally increasing in wealthier regions.

Demographics, on the other hand, represent one of the more determining drivers. Demographic developments are relatively stable in the long term and are characterized by birth rates, deaths, and migration. In Europe, a trend toward aging societies with low birth rates and high life expectancy can be observed, accompanied by migration to economically stronger regions and urban areas. These developments influence the demand for certain SGI – e.g. in the care or education sectors – and pose challenges to their availability, financial viability, and adaptability. Migration, for example, can both positively influence the age

structure but at the same time create additional pressure on the social system. The advantage of demographic developments is that, unlike economic developments, they are relatively easy to predict.

The environment, as a second determining factor, is particularly relevant with regard to climate change, which, although not directly controllable, requires adjustments in SGI provision. SGI can contribute to climate adaptation, for example, through energy-saving infrastructure or sustainable mobility solutions. Efficient spatial organization of settlements and transport networks can also help conserve resources and provide services efficiently. However, environmental disasters pose a threat to the availability and accessibility of SGI, making resilient infrastructure necessary. The physical environment, such as geological conditions, influences how exposed a region is to such hazards, but also the potential for renewable energies, for example, which significantly influences the options and decisions regarding energy supply within the framework of SGI.

2.3 SGI in the context of spatial justice and territorial cohesion

This chapter explores the concept of spatial justice in relation to Services of General Interest within the European context, as it provides a lens to assess the fairness of the distribution of SGI. Spatial justice can be put in the context of SGI as follows: "T*he European Social Model reflects the values shared by the concept of social justice and presents a European model of society, which is at the heart of the idea of SGI. While (territorial) cohesion is based on the principles of spatial justice, it aims at the provision of SGI*" (Tagai, 2024, p. 90). Therefore, spatial justice is based on the theory of social justice, the direction of which is fundamentally shaped by John Rawls (1971). Rawls's theory is based on a hypothetical social contract behind a "veil of ignorance". Put simply, this means that people should design a just world based on the assumption that they don't know what status they would have in that world. This ensures that no irrational privileges are established for certain individuals, and to a certain extent also for certain regions (Rawls, 1971). While Rawls does not explicitly address the spatial distribution of services and goods, his principle of difference can be applied to geographical contexts. This would mean that spatial disparities are justifiable if they lead to improved conditions for disadvantaged regions. This implies a moral imperative to prioritize investment in underdeveloped areas to compensate for initial inequalities (Tagai, 2024).

A core component in evaluating spatial justice is accessibility, which reflects how easily services can be reached and utilized. Accessibility incorporates aspects such as proximity and effectiveness, especially in urgent situations where travel time matters significantly, and consists of two dimensions: spatial (geographical distance and facility placement) and non-spatial (socio-economic and demographic factors such as income, gender, and disability) (Setianto & Gamal, 2020). However, spatial justice is an expansive concept, encompassing not only the distribution of services and goods but also the role of institutional processes that give rise to unjust spatial structures. Scholars such as Lefebvre (1968), Soja (2008) and Harvey (2009) emphasise the link between spatial justice, social movements, activism and political issues (Tagai, 2024). The concept is inherently interdisciplinary, encompassing distributive and procedural dimensions, while the distributive dimension focuses on the fair distribution of resources and the procedural dimension deals with power mechanisms that produce injustices (Tagai, 2024).

Influential works in the field of spatial justice by scholars such as Lefebvre's (1968) notion of the "right to the city" and Soja's (2008) article "The city and spatial justice" put an emphasis on the spatial dimensions of justice in the context of urban areas. However, the importance of spatial justice, especially in the context of SGI provision, also extends to rural and peripheral areas. Drawing on Lefebvre and Soja, Woods (2019) reframes spatial justice as a tool for understanding not only unequal distribution, but also the political and cultural dynamics that exclude rural populations from participation in shaping their own futures. In this context, Woods (2019) argues that rural regions have long been subjected to processes of spatial marginalization and misrecognition, that resulted in a geography of injustice.

The EU's cohesion policy, for instance, is an example of a policy that reflects spatial justice principles, with the aim of reducing these regional inequalities and promoting territorial cohesion (Madanipour et al., 2021; Tagai, 2024). The normative concept of territorial cohesion has gained increasing significance within the policies of the European Union, particularly following the adoption of the Lisbon Treaty, which integrated the territorial dimension into social and economic cohesion (EC, 2007). Initially it was predominantly focused only on economic disparities between regions, measured by GDP. However, as the concepts scope developed, it shifted toward emphasizing equal access to services and the spatial distribution of resources (Weckroth & Moisio, 2020). Demeterova et al. (2020) argue, that even the current cohesion policy of the EU follows a GDP-based growth-oriented narrative rather than a development-focused one, which exacerbates spatial inequalities. Because of this they call for a paradigm shift toward more a heterogeneous and pluralistic model that allow for sustainable and transformative futures. A crucial aspect of this shift is

the recognition of horizontal justice – to ensure equal access to essential resources and services – and vertical justice, which focuses on fair power relations to prevent dependency, dominance, and oppression in regional development (Demeterova et al., 2020).

Redistributive development alone is argued to be insufficient to address the underlying causes of injustice (Tagai, 2024). Similarly, Mahon et al. (2023) argue that the EU's current approaches to territorial cohesion fail to capture the diverse local priorities and instead tend to promote standardized solutions that overlook local needs and values. In the context of sustainable development in rural regions they emphasize that the stakeholders in those regions define sustainability not only in terms of economic factors, but in terms of social fairness, territorial identity, and well-being. Weck et al. (2021) advocate for place-based strategies that are tailored to the specific needs, assets, and institutional capacities of individual regions. Rather than applying uniform solutions, place-based approaches recognize the complexity and diversity of regions, aiming to unlock their individual potential. However, it is important to acknowledge, that also by assuming that all places have equal potential, balancing approaches can reinforce existing disparities, directing resources and opportunities toward already prosperous areas while leaving lagging regions further behind (Weck et al., 2021).

Also, Madanipour et al. (2021) have a critical view of the European Union's territorial cohesion policies, pointing out that the multilevel governance structures in the EU can both enable and constrain efforts toward spatial justice. The fragmentation of responsibilities across different levels of government, combined with varying capacities and interests, can undermine coherent and just territorial strategies (Madanipour et al., 2021). Furthermore, Madanipour et al. (2021) stress that territorial cohesion policies need to move beyond generic, one-size-fits-all solutions and instead engage with the specific needs and potentials of individual territories, reaffirming the aforementioned criticisms. In this context, Tagai (2024) is emphasising that place-based policies, which were also recognised as crucial in the Barca Report (Barca, 2009), have the potential to promote social and spatial justice by ensuring the provision of SGI to disadvantaged groups through the establishment of standards. These perspectives partially stand in contrast to those articulated by Rauhut et al. (2013) concerning the objective of fostering cohesion between regions. The latter argue that regional goals should be set by a single actor in order to guarantee cohesion between regions. If objectives and standards are set locally at the municipal level, this can negatively influence territorial cohesion, while regional standards (depending on the size of the regions defined) do not sufficiently take local characteristics into account.

The effects that spatially unjust policies and planning can have in practice are manifold. In the context of the closure of the peat-based energy production in rural Ireland, Banerjee & Schuitema (2023) argue that decades of centralized, urban-oriented policymaking have left these rural areas with limited infrastructure, economic alternatives, and public services. The shift in energy production, which is driven by environmental concerns, caused job losses, outmigration, and the erosion of local social structures in predominately in areas that have been marginalized for long time. Banerjee & Schuitema (2023) therefore argue that a just transition must address the deep-rooted spatial injustices, which were only intensified by the energy transition. This can be achieved with targeted investment in rural infrastructure, economic diversification and the empowerment of local communities through participatory decision-making. However, Banerjee & Schuitema (2023) also note, that if rural regions had been developed with long-term resilience in mind, the need for a just transition might not have arisen in the first place. In the context of service provision, the impacts of socially unjust policies and planning focus on very basic aspects, such as the simple availability and accessibility of services.

Against all this background however, Soja (2010) argues, attaining real equal distribution of socially valuable resources (services) is practically unattainable and inequalities are therefore inevitable, especially when exacerbated by institutional inefficiencies, financial constraints, or societal discrimination. Therefore, actual spatial justice might not even be achievable. In keeping with this, Malý (2016) comes to the conclusion, that the impact of SGI accessibility on the attractiveness of a location should not be overstated anyway, as his analyses of the South Moravian Region indicate only a partial correlation between unequal access to SGI and territorial cohesion. In conclusion, it can be stated that in order to create spatial justice and territorial cohesion, a complex structure of subjective and measurable factors at different spatial scales must be taken into account, however no final solution can be presented due to regional differences and ideological values.

2.3.1 Measuring Equality

The idea of measuring the equality of living conditions stems from the objective of creating spatial justice and is a central concern in the field of SGI. The concept of equal living conditions encompasses the idea that citizens, regardless of where they live, should have access to comparable standards of living and services. However, defining what constitutes equivalent living conditions presents the professional community with a major challenge. A widely discussed method for measuring equivalence is the development of indicators which

should reflect the diverse dimensions of regions and make them comparable. The need for a standardized measurement framework was recognized as early as 1976 by the Advisory Council for Spatial Planning (*Beirat für Raumordnung*) in Germany, which compiled a broad set of economic, social, and ecological indicators with associated minimum standards (Mäding, 2018). The principle of equal living conditions in all regions is a recurring and politically significant topic in Germany, yet it remains normatively vague and lacks a clear, unified definition. Rather than formulating a precise conceptualization, recent discussions in legal studies, planning, social sciences, and regional economics have produced a range of interpretations and operationalization approaches. As a political guiding principle, its ambiguity has repeatedly sparked societal debates and new research, particularly in response to social and economic transformations over recent decades (Steinführer et al., 2020a). Mäding (2018) also highlighted ongoing methodological difficulties, particularly in ensuring data availability and addressing subjective perceptions of quality of life. A further issue lies in the potential for compensation - whether deficiencies in one domain may be offset by strengths in another - and the implications of such trade-offs for policy evaluation.

In the context of the distribution and accessibility of services, the measurability of regional inequality is an important topic of discussion in academic literature. The measurability of regional inequality is crucial as it is the first step in making inequality visible on paper. However, it is imperative to recognise the need to develop adequate indicators to facilitate this process. Indicators are an important tool for planning and managing SGI provision and can represent complex realities and inform policy. However, indicators can also cause problems if they are misapplied or misinterpreted, which can lead to completely contradictory developments. Issues such as data availability, scaling, and analytical framing can affect their reliability significantly (Marques da Costa et al., 2013). In light of current challenges like demographic change, Marques da Costa et al. (2013) argue for an intersectoral and spatially differentiated approach for the development of indicators.

A normative perspective on the topic of equal living conditions is provided by Bojarra-Becker et al. (2016), who argue that developing standards and establishing enforceable guidelines for public service provision is essential for realizing the legal principles of *Daseinsvorsorge* and equivalence. These standards may take various forms, including technical norms, planning guidelines, or legal statutes. Two prerequisites are identified for effective implementation: the responsible parties must have adequate resources, and enforcement mechanisms must be in place. Against this background, Bojarra-Becker et al. (2016) argue for a shift from traditional input-oriented assessment of equivalence, which emphasizes infrastructure availability, toward outcome-oriented indicators that reflect the

actual conditions experienced by residents. This more individualized assessment could include metrics such as educational attainment, health status, and social participation. However, implementing this paradigm shift would require a politically supported process, balancing the technical feasibility with policy ambitions (Bojarra-Becker et al., 2016). Kawka (2015) proposes an even more comprehensive framework of indicators for measuring equivalence categorized into five core dimensions: social, infrastructural, economic, ecological, and cultural conditions (see Table 1). For each dimension, Kawka (2018) defines between three and six indicators, each associated with minimum standards and reference values. The indicators are meant to not only act as proxy variables but should meaningfully reflect regional equivalence, while being politically and legally relevant, manageable in number, and comprehensible to audiences beyond technical and academic circles (Kawka, 2018).

Table 1 Dimensions and key figures for measuring equivalence; translated after Kawka (2015), 78

Dimensions	Key figures (minimum standards)
social conditions	
premature mortality	according to the sustainability strategy, a maximum of 190 deaths per 100 000 inhabitants for men and 115 for women
proportion of school dropouts	maximum of 10% according to the sustainability strategy
recipients of social minimum security benefits	based on the full employment rate, a maximum of 3%
number of reported crimes	Up to about 5 500 crimes per 100 000 inhabitants in rural districts and about 9 500 crimes per 100 000 inhabitants in cities are described as safe by the press and individual police departments, and up to 7 000 crimes per 100 000 inhabitants according to the sustainability strategy.
infrastructural conditions	
accessibility of major centres	accessibility radius of 60 to 90 minutes by private transport as recommended by the state development plans
accessibility of medium-sized centres	30-minute accessibility radius in private transport as a recommendation of the state development plans

provision of general practitioners	one general practitioner per 1,671 inhabitants based on the middle-sized areas according to the needs planning guidelines of the Federal Ministry of Health
provision of primary schools	maximum of 8 km between home and school according to Municipal Associations/Thuringian Ministry of Education (2006)
accessibility of motorways	reachable in 30 minutes
broadband supply	According to the Federal Government's broadband strategy, a nationwide availability of 50 Mbit/s is to be achieved.
economic conditions	
GDP per employed person	75% of the national average based on EU funding
unemployment rate	3% is considered full employment.
Research and development expenditure relative to GDP	according to the sustainability strategy 3% of GDP
ecological conditions	
particulate matter (PM_{10})	According to European guidelines, the permissible annual average value is 40 µg/m3.
ecological condition of rivers	water quality II (Gewässergüte II)
eutrophication of the soil	The sustainability strategy sets a limit for nitrogen surplus of 80 kg/ha of agricultural land.
cultural conditions	
accessibility of adult education centres	according to the state development plans a medium-central function, corresponding to a maximum of 30 minutes accessibility
accessibility of libraries	Libraries in sub- and small centres should provide at least a well-stocked range of children's and young adult literature, the necessary learning materials for school, training and further education, fiction and non-fiction literature for orientation in everyday life. Accordingly, accessibility should be around 15 to 20 minutes.
accessibility of socio-cultural centres	The function is assigned to medium-sized centres, so they should be reachable in a maximum of 30 minutes.

A different approach is presented by Winkel (2018) as he argues that indicators should support the identification of policy areas requiring initiatives and provide minimum standards in key areas. In the context of demographic change Winkel (2018) explored which indicators are most suitable for ensuring effective SGI provision. He called for a refinement of standards and indicators, advocating for greater flexibility and coordination between spatial planning and specialized policy domains. He proposed several indicators for living conditions, including the ratio of income to cost of living (especially housing, childcare, and mobility), labour market conditions, and regional disparities in life expectancy. Regarding SGI, Winkel (2018) proposed indicators covering demographic dynamics (e.g., population change, household structure), service-specific needs (e.g., demand for education and elderly care), accessibility of services, infrastructure use and outcomes (e.g., school participation, independent living among seniors), and healthcare performance (e.g., treatment outcomes for strokes and heart attacks). He also emphasized the importance of strategic planning tools, such as the "Demography Check" for investment planning, and target indicators in domains like broadband access, healthcare, education, and mobility (Winkel, 2018).

Measuring the equivalence of living conditions can also have practical consequences under certain circumstances. The equivalence postulate as set forth in the German Basic Law is a constitutional imperative that requires all citizens, regardless of their place of residence, to receive a minimum standard of services and infrastructure. In the event that the living conditions in a region fall below the aforementioned standard, they are no longer deemed to be equal (BBSR, 2012). It is therefore obvious that the average standard of living must be determined in order to recognize when and if this is the case. However, the current case law of the Federal Constitutional Court indicates that the federal legislature may intervene to create equal living conditions in accordance with Article 72, Paragraph 2 of the Basic Law only in the context of extreme federal emergencies. This is the case when the disparities between the federal states reach a point where the social fabric of the federal state is significantly compromised (BBSR, 2012).

2.3.2 Challenges for Rural Regions

One of the key challenges associated with the provision of SGI is ensuring good service accessibility in all regions. Numerous academic debates address the question of which regions face particular challenges regarding service accessibility and how to address them. It seems obvious that rural areas, in particular, suffer most from poor SGI provision, which is why this chapter focuses on several studies from the European context that have confirmed

this assumption. However, before going into this brief depiction focusing challenges of rural regions, it should be noted that the notion that rural areas are uniformly structurally weak, peripheral, and increasingly underserved oversimplifies their diversity and overlooks the lived realities of many residents (Weingarten & Steinführer, 2020). Furthermore, the impact of accessibility on the quality of life should not be overestimated (Malý, 2016), especially since there are also SGIs that are not selected purely on the basis of accessibility (e.g., universities) (Marques et al., 2019).The following segment does also not claim to be comprehensive but is intended to provide an overview of the central points discussed.

Ortega-Reig et al. (2023) conducted a GIS analysis of a large number of European countries, demonstrating which regions lack SGI provision and where there is a risk of an inner periphery emerging in future. The analysis confirms the hypothesis that the distribution of SGI follows a 'natural' centre-periphery logic. Also, Wiśniewski et al. (2021) measured the accessibility of SGI at the municipal level for the whole of Poland and could show that the accessibility of SGI is significantly worse in rural regions than in cities and their surrounding areas. While urban areas and their catchment zones with growing populations generally have good accessibility to SGI, regions with shrinking populations in rural areas generally have poor accessibility. The more pronounced the population decline in a region, the poorer the accessibility of SGI (Wiśniewski et al., 2021). In particular, depopulation processes and the aging of a region's population exert the most severe negative consequences for SGI provision. This may be due to the fact that older people are less mobile than younger people when it comes to choosing their place of residence (Somenahalli & Shipton, 2013). Accordingly, young people are leaving rural areas, while older people are more likely to stay behind. However, Somenahalli & Shipton (2013) also note in this context that when older people move, they usually do so to adapt to the changing circumstances of old age, which includes adequate provision of SGI.

Several scholars have discussed innovative solutions to address these and many other challenges, because despite the fact that the spatial distribution of SGI follows a ‘natural’ centre-periphery logic, the question must be asked at what point spatial accessibility because of seemingly objective reasons becomes unfair (Wiśniewski et al., 2021). The question of the fairness of the SGI distribution underlines the importance of considering specific regional challenges, which is also why this chapter follows the chapters on spatial justice and equal living conditions.

Some key challenges recognized by Tent et al. (2021) in rural regions of Austria, Germany, Sweden and Scotland are the shortage of medical professionals in sparsely populated areas, declining volunteer engagement in fire services, and limited access to post-secondary education. Tent et al. (2021) recognized that the same challenges of the services examined were addressed with different means in the four countries and concluded that no single universal solution exists. Key challenges for all services in rural regions included demographic change (aging and outmigration) and the long distances to achieve SGI. Digital solutions have proven effective in overcoming these problems, particularly in the areas of healthcare and education, in some countries. However, the services also face individual challenges; for example, the procurement of equipment and supplies for fire departments and vocational schools is financially unfeasible for many smaller municipalities. Intermunicipal cooperation and joint strategy development represent promising approaches to increasing the efficiency of these services. Ortner et al. (2023) also confirm the effectiveness of e-health solutions for rural areas, partly because they also enable better use of existing infrastructure. However, they also point out that successful implementation of such solutions requires acceptance by various stakeholders. Not only political decision-makers and medical staff must agree with the application of such solutions, but also the patients themselves. Furthermore, successful use of new technologies sometimes requires training and information to enable their efficient use (Ortner et al., 2023). Hernández & Schneider (2021) also argue that the willingness of political actors is crucial for the implementation of innovative approaches to securing public services. The acceptance of such approaches by local political actors is particularly important for support and funding commitments. In general, the willingness to take risks in the context of innovative solutions in SGI provision is relatively low in rural regions, although a certain willingness to take risks is necessary for the long-term and sustainable establishment of such approaches (Hernández & Schneider, 2021).

A risk was certainly taken in the innovative approaches to securing local supply in rural areas in Germany examined by Küpper et al. (2023). The projects, which were implemented partly by regional development agencies and partly by private companies, included online offerings, mobile services, and stores with reduced staffing requirements. The regional development approaches placed a strong emphasis on the marketing of local products, which limited the benefits for local supply. At the same time, the projects were not economically viable and required large subsidies. Finally, Küpper et al. (2023) criticized the fact that the regional development projects were not designed in a transferable manner in accordance with the funding agencies' wishes but were merely adapted for application in the respective regions. And there are further challenges for such innovative approaches. Using a social

logistics approach – integrating public transport into the delivery of products from local/regional shops – Greischel et al. (2023) investigated an innovative and social approach to supplying rural areas in Germany using a real-world laboratory. Residents of three municipalities in eastern Germany had the opportunity to order goods from participating regional shops, which were then delivered via public transport. However, this model could not compete with conventional online offerings in terms of price or convenience. Greischel et al. (2023) therefore concluded, among other things, that innovative approaches that require a change in citizens behaviour require extensive communication and persuasion through campaigns and education. Another relevant factor for the application of digital approaches to the SGI provision is the availability of the necessary infrastructure. Schorn & Humer (2021) note that the COVID-19 pandemic has shown that digital infrastructure is unevenly distributed.

Marques et al. (2019) address the issue of accessibility to SGI in Portugal and identify a paradigm shift despite relevant national efforts to promote public transport in both urban and rural areas. They describe the implementation of spatial cohesion strategies that promote models that bring SGI to the population rather than the population to the SGI in order to ensure better accessibility (albeit not geographically). Much more important, however, is Marques et al.'s (2019) reference to a statistical paradox that may also apply to other countries. In Portugal, the proportion of the population with good SGI coverage is growing, as an increasing proportion of the population (almost 80%) lives in densely populated regions with good SGI coverage (Marques et al., 2019). However, this means that the SGI supply situation in rural areas needs to be examined more closely in order to avoid becoming the victim of statistical misinterpretation.

2.4 Minimum Standards for SGI

One of the central questions regarding ensuring an efficient provision of Services of General Interest is how to create equal living conditions in all regions. One method that is being discussed, especially in Germany and Austria, is the establishment of minimum standards for SGI. The creation of minimum standards for SGI is not only addressed in a scientific context; the call for minimum standards has also found its way into national strategy papers such as the ÖREK 2030. Getzner et al. (2024) emphasize the importance of regulations that secure uniform quality standards, promote high environmental norms, and maintain good working conditions. Bojarra-Becker et al. (2016) go even further and argue that adapting standards and establishing enforceable guidelines for public service provision is essential

for realizing the legal principles of *Daseinsvorsorge* and equivalence. Tagai (2024) noted, that (minimum) standards for SGI have the potential to serve as a conduit for the realisation of spatial justice.

The Academy for Spatial Development in the Leibniz Association (ARL, 2020) argues that national and state-wide minimum standards are essential to define equivalence in a socially acceptable and realistic manner. These standards should be developed by sectoral policies with a spatial focus and incorporated into spatial planning instruments, although the legal mechanisms to do so remain unclear. For central places, the ARL suggests examining the feasibility of legally binding equipment catalogues. Temporary, mobile, or cooperative solutions, especially between neighbouring municipalities, could suffice in meeting such minimum criteria (ARL, 2020). In the context of Christaller's Central Place Theory, establishing realistic, state-wide minimum standards for public services are argued to be a necessary tool for spatial and structural policy (Danielzyk and Priebs, 2020). Danielzyk and Priebs (2020) argue that uniform minimum standards at federal level could ensure a baseline of essential services across all regions, reinforcing spatial equity and supporting the functional integrity of the central place hierarchy. While a rigid, exhaustive catalog of services is neither feasible - due to the voluntary nature of private providers - nor desirable in economically strong areas, a coordinated definition of minimum provisions for public infrastructure and services remains both sensible and actionable. Such standards must be developed collaboratively with public and private actors and backed by political commitment and funding (Danielzyk and Priebs, 2020).

Scharmann (2015) also argues that spatial planning should define minimum standards - for instance, concerning the equipment level of central places or their accessibility via car or public transport. He proposes a flexible rule-exception framework that allows exceeding these standards when appropriate. Although, many state planning authorities in Germany refrain from setting such standards, partly due to financial concerns. For example, in Bavaria, being designated as a central place does not entail entitlement to specific SGI infrastructure. Bojarra-Becker et al. (2016) come to a similar conclusion and argue that the responsible parties must have adequate resources and enforcement mechanisms must be in place for an effective implementation of minimum standards. Scharmann (2015) concludes that minimum standards are especially important in peripheral regions and non-binding recommendations are inadequate to meet German spatial planning's equivalence goals. Machold and Tamme (2009) also advocate for the establishment of binding sectoral and cross-sectoral qualitative and quantitative minimum standards to ensure sufficient access to

essential services as a countermeasure from the dismantling of socio-economic infrastructure in rural Austria.

However, not all scholars support the implementation of fixed minimum standards. Neu (2009) argues against them, suggesting that they only serve to define the minimal acceptable level of SGI, potentially contradicting the goal of upward harmonization. Instead, she proposes that efforts should focus on enabling participation and access to desirable services irrespective of geographic location, emphasizing social and territorial integration. Nonetheless, she offers no concrete strategy for achieving such integration in the absence of standards. Similarly, Beetz (2009) is sceptical of universal minimum standards, emphasizing the need to secure local governments' capacity to act and restructure municipal SGI. Milbert et al. (2013) critically add that decisions regarding maximum distances for SGI accessibility are often politically rather than empirically driven. Municipalities under financial stress may extend acceptable distances without robust evidence (Milbert et al., 2013).

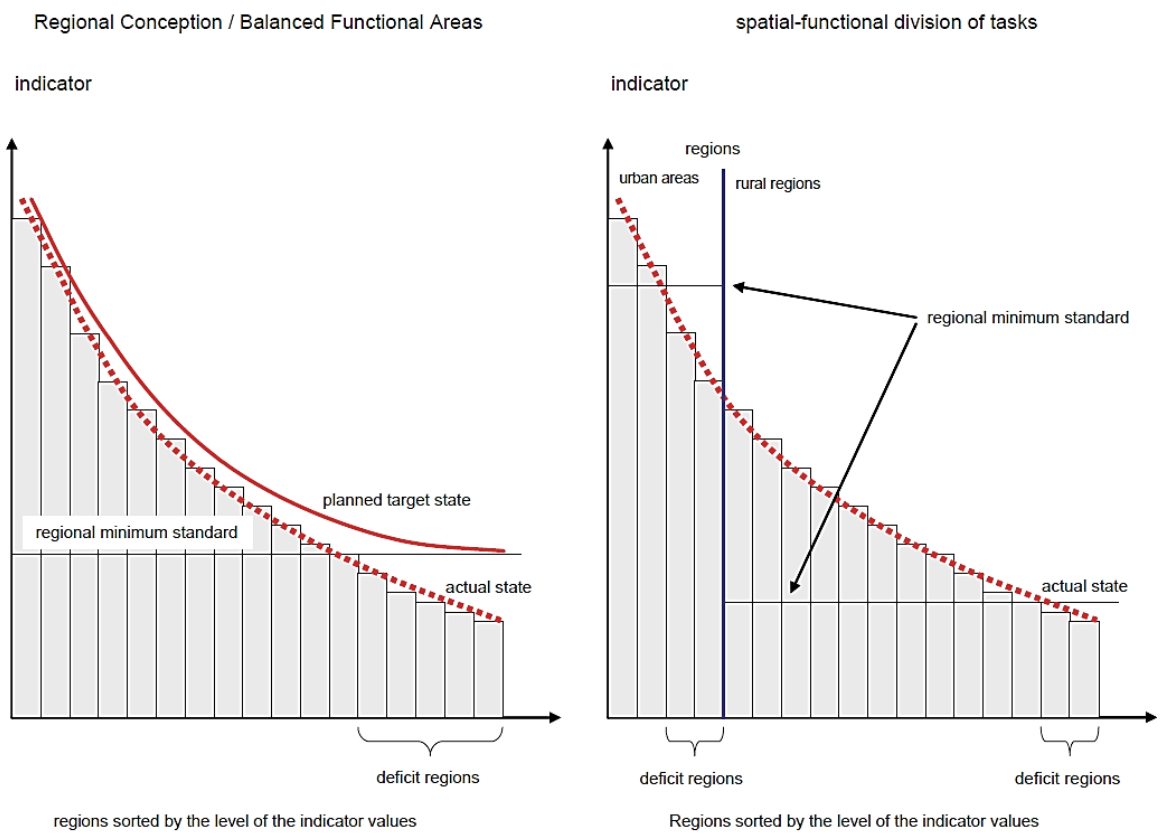

Figure 2 Applications of minimum standards in spatial planning concepts, modified after BBSR (2009), 14

Looking at the minimum standards through the lens of spatial planning concepts (see Figure 2), depending on the concept and approach, the regions with a deficit in meeting the standards will differ. According to the concept of balanced functional areas, the same minimum standards are defined for rural and urban regions. On the other hand, according to the concept of functional-spatial division of tasks, minimum standards for infrastructure provision are not defined uniformly for all regions but differentiated according to the type of area. This is based on the view that regionally defined objectives (or standards and minimum standards) can better take into account regional specificities and challenges and possibly facilitate implementation (BBSR, 2009). Also, Rauhut et al. (2013) argue that regional objectives for territorial development should be set by only one actor in order to achieve cohesion between regions. The conceptual differences illustrate that a decision on the approach to minimum standards can lead to completely different results. Thus, according to the concept of balanced functional areas, all regions would have the same facilities, whereas according to the concept of spatial-functional division, rural areas would have to accept poorer levels to SGI provision (BBSR, 2009).

In conclusion, the debate surrounding minimum standards for SGI is limited to few academic contributions. Moreover, Germany and Austria seem to be the only countries where the issue of minimum standards for SGI is specifically concerned. Within the, there seems to be no uniform opinion on the appropriateness and implementation of minimum standards. However, it is quite certain that minimum standards alone are not sufficient to achieve all the objectives of SGI. This is shown by the fact that the debate on social justice and territorial cohesion, shown in Chapter 2.3, does not address the issue of minimum standards as a solution, neither in the context of spatial justice and SGI nor in relation to the challenges of rural regions. Even Machold and Tamme (2009), who themselves are in favour of binding minimum standards, offer numerous additional approaches like multifunctional facilities for rural areas to counteract the thinning out of infrastructure. By integrating services, such as using school gyms for non-educational activities or combining grocery stores with postal services or snack bars, economically viable service provision can be maintained. This, however, cannot be achieved through minimum standards, but only through other incentives and subsidies. Furthermore, the use of the term "minimum standards" as an umbrella term should be reconsidered, since standards without minimum requirements can also contribute to achieving the objectives of SGI. For example, maximum values or value ranges (such standards are going to be discussed later in this thesis) can be just as effective for certain aspects.

3 Methodological Approach

The following chapter is concerned with the methodological approaches employed in this master's thesis, and the selection of the services of investigation. In the initial section, the methodology employed for the selection of the SGI under examination is outlined, along with the outcomes of the selection process. The subsequent section provides a detailed exposition of the methodology employed in the empirical part of the master's thesis. This part is divided into two sections, each addressing a distinct research question.

At this point, it should be noted that parts of the master's thesis (namely the analysis of the minimum standards for the services of elementary education and local food supply) originate from the study "Principles/minimum standards in services of general interest and their negotiation processes in Austria" (see Drage et al., 2024). The contents used are exclusively the master's thesis's author's own contributions to the study and are used with permission. The parts mentioned also contribute to the extended scope of the master's thesis.

Also, as part of this master's thesis, texts written in German were translated into English using ChatGPT to simplify and accelerate translation work. The following prompt was used for the translations: "Translate the following text for a master's thesis in English" (original: "Übersetze folgenden Text für eine Masterarbeit in Englisch."). The results were checked for accuracy and adapted to the author's own writing style. Besides translations, no texts or results were generated by AI. The author of the master's thesis bears sole responsibility for the analysis, results and accuracy of the content.

3.1 Selection of the SGI Under Examination

The selection of SGI examined in the master's thesis was based on a number of factors, including the use of a standardised questionnaire in the form of a fillable Excel table. This Excel table – the so called decision matrix – recorded experts' assessments of the effects of current and future external change processes on individual services. The decision matrix was conducted in German language within the MIDAS project (see Drage et al., 2024). To fully understand the selection process of the services analysed in the master's thesis, a detailed description of the exploratory method developed specifically for the MIDAS project follows.

Eight change processes – namely pluralisation, aging, migration, digitalisation, location, labour market, climate change and natural resources – were listed on the X-axis of the Excel worksheet, which can be assigned to the drivers of the SeGI model (see Chapter 2.2). The change processes were selected on the basis of a secondary study analysis in view of their urgency, actuality and potential impact on SGI. On the Y-axis, the most comprehensive selection of services possible was listed, which were also embedded in a hierarchical structure. This design was based on Humer et al. (2013, p. 3) and Humer & Palma (2013, Fig. 1) and divided the services first into possibly plausible subsectors, then into sectors and finally into SSGI and SGEI. The subsectors served as the level used for the experts' assessments, as they are not as abstract as whole sectors but at the same time are not as detailed as the assessment at the level of individual services. The experts' task was to link each of the eight drivers to all SGI sub-sectors and assess their potential impact. The task required the completion of 228 cells (with three questions and answers each), which proved to be a substantial undertaking requiring a considerable investment of time.

The Excel document containing the matrix consisted of two spreadsheets and was made available for download via an online cloud service. As part of the MIDAS project, the matrix was made available to both the project team itself and the project accompanying group for their evaluation. When the file was opened for the first time, the first spreadsheet was displayed by default, which contained a matrix completion guide. The completion guide, which was also provided as a downloadable PDF file, included technical information on how to activate macros (which were needed to enable multiple selection in the drop-down list with the answer options for each cell), an explanation of the X and Y axes (including a definition of the eight drivers) and an explanation of the answer options. The decision matrix was completed by a total of eight people and was reuploaded to the cloud. The experts could only see the matrix they had completed, to ensure that their judgement was not influenced by other participants. The matrix was completed by at least one person from each of the academic, private and public sectors.

The respondents were required to respond to three questions in each cell. The available responses were predetermined and could be selected from a drop-down list. Should the provided answer options prove inadequate, respondents were invited to submit comments in a designated comment column. If no assessment could be made for any of the questions, a placeholder could be selected in the drop-down list. The three questions, with their respective answer options, are presented below for reference:

To what extent are Services of General Interest affected by the respective driver?

The degree of impact is evaluated on a scale of 1 (low), 2 (medium), and 3 (high). If the driver was not expected to affect a service, the field could be left blank, or the placeholder could be selected. In this case, the following questions (assessments) were not applicable.

What type of region is expected to be affected by the impact?

The potential responses were derived from the urban-rural typology proposed by Statistik Austria. It was possible to select multiple answers, for example both urban and suburban.

The following answers were possible:

- urban
- suburban
- rural
- all types of areas are equally affected by the effects

Which social groups are affected by the impact?

For the classification into social groups, the population was divided into broad age groups according to the Statistik Austria classification. Other social groups, such as single parents or the unemployed, could be added in the comments. Multiple selection was also possible for this question (e.g. both children/young people and employed people).

The following answers were possible:

- Children/young people: up to 19 years
- Employed people: 20 to 64 years
- Retirement age: 65 years and older
- all social groups are equally affected by the effects

Description of the x-axes of the decision matrix (English translation)

Pluralisation: The diversification of lifestyles and household forms resulting from the pluralisation of the population in postmodern working and living environments is a process that is both ongoing and in a state of continuous change. The aforementioned factors include intergenerational contracts, smaller household sizes, extended periods of education, and delayed financial independence. The consequence of social change is the diversification of social and political opinions and expressions thereof. The advent of populist movements and anti-democratic ideologies represents an even greater challenge in the future.

Ageing: The process of ageing is a natural phenomenon that occurs over time. The average lifespan is increasing, the age at which individuals form their family is rising and a decline in the average number of children born per year is being experienced. Consequently, a notable increase is anticipated in both absolute and relative terms for individuals aged 85 and above, as well as for those aged 65 and above who are currently in retirement. Concurrently, a reduction in the number of individuals within the working-age demographic (20 to 64 years) is anticipated.

Migration: The phenomenon of migration is a further factor to be considered. The factors that drive international migration, including conflict, persecution, climate change and economic considerations, will continue to contribute to a positive migration balance in the future. Furthermore, the phenomenon of internal migration, whereby individuals relocate from rural to urban areas, is set to persist.

Digitalisation: The ongoing digitalisation and automation of nearly all industries and sectors, collectively known as 'Industry 4.0', will result in substantial shifts in the economy at both the macroeconomic and operational levels. Furthermore, there will be an increase in the global interdependence of economic cycles. Additionally, novel professions and methodologies are evolving.

Location: The requirements, costs and benefits associated with locations of services an Infrastructure are subject to continuous change. It is evident that there is a growing trend towards greater centrality, enhanced accessibility and regionally disparate and fluctuating property prices for housing and other functions. This trend is likely to persist in the future.

Labour market: The labour market is currently facing and will continue to face challenges in the future, including a shortage of skilled workers in individual sectors, issues surrounding work-life balance and working hours, and the integration of different groups of workers.

Climate change: It is highly probable that the ongoing change in the global climate will result in an increase in the frequency of extreme weather events in the future. Such phenomena include, for example, heavy rainfall, drought, heat and natural hazards associated with these. This development will have a variety of effects on settlements, social life, public welfare and the health of the population, as well as on the economy.

Natural resources: The term "natural resources" encompasses a diverse range of materials that are found in the natural environment. In certain instances, the extraction and mining of raw materials is accompanied by a considerable utilisation of land, which is an

accompanying phenomenon of the unsustainable utilisation of resources. The current and future challenge is the transition towards renewable energy sources. The role of soil as a resource is also of significant importance. The progressive utilisation and sealing of land not only results in a scarcity of land and constraints on further spatial expansion but also poses a risk of destabilising regional ecological systems.

3.1.1 Results of the Decision Matrix

The results of the expert assessments from the decision matrix are presented below (the spreadsheets can be found in the Appendix B). The presentation of the results is organised along the three questions - the intensity of the impact, the regions affected, and the social groups affected.

The Intensity of the Impact

The results regarding the impact's intensity can be viewed from two distinct perspectives. From one perspective, it is possible to make a statement regarding the services that are most affected by the drivers in question on average. Secondly, it is possible to ascertain which drivers exert the greatest influence. The evaluation was conducted using a scale with values ranging from 0 (indicating no impact) to 3 (indicating a significant impact). The mean of the individual results, which are based on the number of mentions of the respective answer options, was then calculated for all completed tables. The resulting scale for the results presented below therefore ranges from 0 to 3. Public transport has the highest impact across all drivers, with an average of 2.3 points, followed by care facilities with 2.1 points. The secondary level schools (grades 5–8), inpatient care, local amenities (food and drugstore) and leisure and recreation, have an average score of 2.0 points.

A comprehensive examination of the impact of individual drivers across all services reveals that digitalisation (2.0), location (1.9), migration (1.8) and ageing (1.8) are the most dynamic drivers. Another finding from the decision matrix is that SSGI and SGEI are each affected by different drivers. Social services are predominantly influenced by the drivers of migration, ageing, digitalisation and pluralisation. In contrast, economic and technical services are primarily concerned with location, natural resources, digitalisation and climate risks.

The Affected Regions (spatial types)

In response to the question of which spatial type is affected by the drivers effect on the services, it was possible to select multiple spatial types per cell. The provision of multiple responses permitted the identification of trends in the impact on rural or urban regions. The analysis of the results was influenced by the nominally scaled response options, which precluded the possibility of ranking the responses (all spatial types were thus accorded equal value). Heat maps were thus generated based on the number of mentions of the individual response options, as detailed in the appendix.

A total of 1,511 assessments were submitted by all experts, while in 412 instances (cells) no response was provided. The response option "all spatial types" was selected 1,073 times (57%), "urban" 141 times (8%), "suburban" 126 times (7%), and "rural" 171 times (9%). It can be concluded that contradictory statements were made in only ten out of 224 cells, which indicates that the expert assessments were consistent. In view of the limitations of this evaluation, it can be concluded that the drivers mostly affect all regions equally. There is only a minimal difference between the spatial types, with rural regions being the slightly more frequently affected by impacts than urban regions.

An analysis of the heat maps (see Appendix B) reveals the presence of discernible patterns. It can be seen that the impact of some drivers on specific services is more pronounced in each of the spatial types. For example, the impact of the driver location on the education sector (excluding post-secondary and tertiary education) was estimated to be higher in rural regions. The impact of driver ageing on telemedicine and local supply was also estimated to be higher in rural regions. Urban regions, in turn, are particularly affected by the impact of migration on education, social services, and the healthcare system. Furthermore, the impact of the driver pluralisation on basic education and post-secondary and tertiary education was found to be more pronounced in urban areas.

The Affected Social Groups

As previously stated, the term "social group" encompasses the three age categories delineated by Statistik Austria: "children and young people," "working people," and "people of retirement age." In terms of demographic change, the experts posit that the cohort of people of retirement age is particularly affected. The effects of an ageing population are particularly evident in the areas of care facilities, telemedicine, subject funding and the supply of medicines. In terms of the impact of all drivers on care facilities, with the exception of natural resources, the experts' assessments indicate that there is an expected

connection with people of retirement age. In contrast, the impact of drivers on the education sector primarily affects children and young people, although to a lesser extent also those in employment. Furthermore, the effects of all drivers on object and subject funding, as well as the effects of the 'labour market' driver on all services, are more pronounced for those in employment. The most frequently made assessment is that all groups are equally affected by the effects of the drivers.

3.2 Assessment of the Provisioning of SGI

When selecting the SGI to be analysed in the master's thesis, the provider of the services was also taken into account as an additional factor. The aim of the master's thesis was to analyse one service per provider (public, private and civic). However, a definitive categorization by provider is not possible for most SGI, as many of the services and infrastructures are provided through a partnership between two or more providers. The fire service provides a good example to illustrate the difficulty. Although fire services are provided by the public sector – 99% of firefighters in Austria are volunteers, without whom the operation of this service would not be possible – the infrastructure is provided by the public sector. To determine the provider for all services of general interest, significant effort would be required, and a type of index would have to be developed. A simpler approach is to locate all services in a triangular diagram (see Figure 3), with each of the three corners representing a provider.

Determining the allocation for all services individually seems virtually impossible, since the incomplete long list of services for the decision matrix alone contained approximately 80 individual services. The assessment at the sectoral or subsectoral level, in turn, presents the problem that individual services within the sectors can have different providers. An assessment at the subsectoral level was performed as an example in Figure 3 and considered when selecting the services examined, while also taking into account the limitations of the assessment. A further challenge for the categorization of services by their providers is that there are often no sources available to determine the proportion to which the providers are involved in the provision of the service. Furthermore, it's almost impossible to assess whether the service provided by one provider is equivalent to that of another. Thus, the fire service subsector could be placed closer to public or civic in the triangular diagram, or exactly in the middle, depending on whether the provision of equipment and organization is considered equally valuable, more valuable, or less valuable than the human resource of volunteers. Finally, it must be noted that it was not possible to definitively categorize the

services by provider within the scope of this master's thesis. The auxiliary assessment in the triangular diagram was used only as an illustration for the final pragmatic selection of the services.

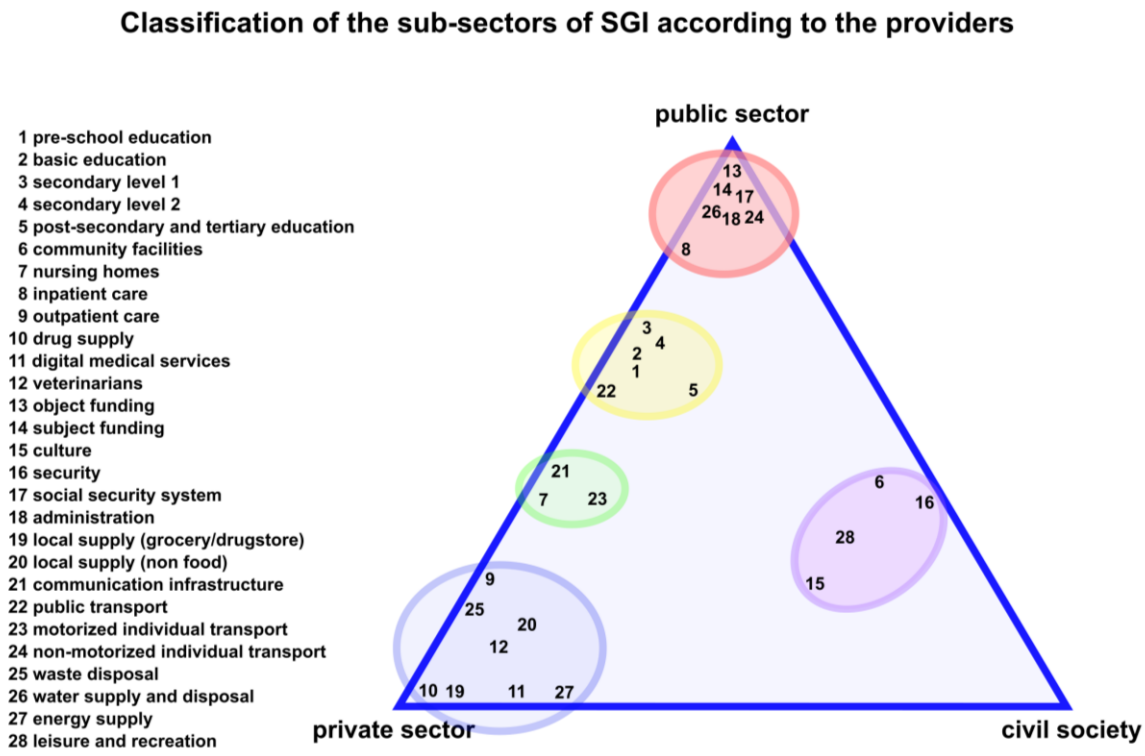

Figure 3 Attempt to classify the providers of sub-sectors of SGI, own classification

3.3 Conclusion on the Selection of SGI for Further Examination

The selection of services examined in this master's thesis is based on the methodological approaches and practical considerations presented above. The goal was to select one service per provider, primarily to narrow down the scope of the work and to examine and compare the different providers for differences regarding minimum spatial standards.

During the initial selection using the decision matrix, various factors were considered. Not only was the estimated intensity of the impact of the drivers taken into account but also patterns in spatial types and social groups affected. Finally, factors such as media reporting and thus, to a certain extent, the relevance of the topics to the public, as well as practical (personal) considerations, also played a role. The selection of a service primarily provided by the public sector fell on elementary education, despite a rather mid-range impact rating

of 1.7 points. One reason for this decision, among other things, is the fact that the impact of the drivers on elementary education affects both children and working people. Furthermore, interesting patterns can be identified regarding the impact of certain drivers in urban and rural regions. For example, urban areas are particularly affected by the "migration" driver, while rural areas are particularly affected by the "location" driver.

Local food supply was selected as the SGI provided by the private sector. In addition to its obvious relevance for every citizen, the decision matrix provided important arguments for the selection. With an average impact intensity of 2.0, local food supply is among the top three services most affected by change processes. In addition, the processes of aging, location, and natural resources particularly affect rural regions, which means that the average impact of change processes on local food supply in rural regions is relatively high.

Fire services were selected as a service provided by the civilian society. The fire service is part of the 'security' sub-sector but differs significantly from the other services in this sub-sector by the fact that in Austria it is almost entirely run by volunteers. There is some similarity with the ambulance service, which is also partly run by volunteers. The police and the courts are unequivocally state services, which is why they were not included in the selection. Despite state funding and organisation of the fire service infrastructure, the fire service in most Austrian municipalities (with the exception of the six municipalities with a professional fire service) depends on the voluntary participation of the civilian population. In addition, a brief review of the selection reveals other interesting implications in terms of civic obligations, such as the compulsory fire services that exist in some provinces.

One distinction between the selected services is, that local food supply and fire services can be defined as individual services, while elementary education represents a subsector of the education sector. Further subdividing of early childhood education is unnecessary, as it is generally treated as a single topic, and the legal situation often covers the entire age-group (all children up to school age), making separation difficult. As a result, the chapters that address elementary education can be more extensive.

3.4 Empirical Analysis

The empirical part of the master's thesis is divided into two sections. The initial section employs a case study to address the primary research question concerning the practical implementation of SGI. The second part examines the same study area as the case study but

remains largely at a higher governance level and serves to answer the second research question regarding existing spatial minimum standards for SGI.

3.4.1 Literature review - theoretical approach

The literature analysis underlying the theory chapter is the basis for the scientific and practical context of the master's thesis but does not represent a methodological approach to answering the research questions. The literature analysis is based on scientific articles, specialised books and documents from various institutions. These were acquired via the platforms u:search, scopus, google scholar and the google search engine. The keywords 'Services of General Interest' and '*Daseinsvorsorge*' were used in the search, both alone and in combination with specifics (such as specifications of countries, services and contexts) to limit the search results. Furthermore, additional sources were added via the snowball system and recommendations. The sources were analysed to outline the theoretical framework and define the subject of the master's thesis. Finally, the empirical results, which represent the main part of the thesis and serve to answer the research questions, were contextualised with the theory.

3.4.2 Document Analysis

The central method for the master's thesis is a comprehensive document analysis, which was conducted for both research questions. The aim was to extract and interpret relevant information from Laws and regulations, planning documents, strategies and concepts. This method allows an in-depth insight into the research object and a comprehensive answer to the research questions.

The documents were selected using scholarly criteria to ensure a focus on relevant and meaningful documents. It was made sure that the selected documents were relevant to the research questions and published by credible and reputable sources. The selection of documents included mostly reports, federal and state laws, regulations, concepts and strategies. In order to find the relevant documents, the google search engine and official websites of the federal government and the federal states were used on the one hand and many documents were supplemented using the snowball principle on the other. Laws and ordinances were mainly obtained from the federal legal information system (RIS), although some federal state legal documents could only be found on the respective state websites. The

legal sources and other documents were used to analyse the implementation of SGI in Austria and to analyse existing minimum standards of the services of general interest examined. Strategic documents such as concepts and guidelines were also obtained from the official websites. An initial, thorough reading of each document served to gain a general understanding of its content. This allowed irrelevant documents to be sorted out. As part of the analysis, relevant passages were identified and marked and annotated in order to adequately reflect the content of the passages.

The analysis of minimum standards, which covers the services of elementary education, local food supply, and fire services, focused on legally binding minimum standards, which were extracted primarily from laws and regulations at the federal and state levels. Due to the significant differences in the scope of the regulations of the services examined and the fundamentally different legal situation, the results chapters differ in their structure. However, the analysis criteria were the same for all services.

In a first step, an overview of the relevant regulations was obtained, whereby informal documents were also considered if they contained at least rudimental minimum standards. Subsequently, the existing minimum standards for each document were assigned in a table to the five standards of the SeGI model – availability, accessibility, affordability, quality, and variety. Since all types of standards can contain spatial aspects, not only spatial minimum standards were extracted. As it became clear early on during the analysis that minimum standards with minimum specifications are rarely defined, all standards (such as maximum restrictions) were extracted from the documents. Despite the fact that the discourse on minimum standards for SGI usually refers to cross-sectoral minimum standards for the 'entirety' of SGI, individual standards for services were examined because no cross-sectoral (spatial) regulations exist for SGI in Austria.

3.4.3 Case Study

The political normative concept of "Services of General Interest was examined in its application in practice, as well as with regard to the consideration of minimum standards, as part of a Austrian case study. The aim of this case study is to examine the consideration and application of the concept of SGI in Austria at all levels of government in order to understand its practical applicability. Laws, regulations, informal documents such as strategies at all levels (federal, state, regional, and municipal) and additional open data (e.g. on finances)

are examined using three municipalities in the LEADER region of "Römerland Carnuntum" as examples.

3.4.3.1 The case study region

The case study examining how the concept of *Daseinsvorsorge* (respectively SGI) is implemented and understood in strategic planning and practice relevant to spatial development in Austria was conducted in three municipalities in Eastern Austria. Since the provision of (public) SGI in municipalities is influenced by regulations at both the federal and state levels, and regional interconnections also play a role, all higher administrative levels were considered in the analysis. The three municipalities - Bruck an der Leitha, Mannersdorf am Leithagebirge, and Hundsheim - are located in the LEADER region Römerland Carnuntum (RLC). The selection of these municipalities for the case study followed the narrowing of the study area to the LEADER region Römerland Carnuntum, which was chosen due to personal interest in the region, practical considerations regarding the execution of the research methods as well as the placement in the Vienna City region, encompassing municipalities ranging from urban to rural.

Located in eastern Lower Austria, the LEADER region Römerland Carnuntum encompasses parts of the Bruck an der Leitha district and surrounding areas. The region is located between the capital cities of Austria and Slovakia - Vienna and Bratislava - blending rural character with urban influences. It includes diverse landscapes such as the Leitha river and the Leitha mountain range in the east, the Danube and its floodplains in the north and many relatively flat municipalities in the Vienna Basin characterized by agricultural areas with fertile soils and a mild Pannonian climate favorable to viticulture, a key economic and cultural sector. Historically rooted in the Roman heritage of Carnuntum, an important archaeological site, the region draws identity and tourism appeal from its ancient past. Economically, it is shaped by small and medium-sized enterprises, with agriculture and wine production playing central roles for the region's identity. Proximity to urban centers has also fostered growth in the service sector and made the area attractive to commuters and young families, contributing to modest population growth (REV RLC, 2023).

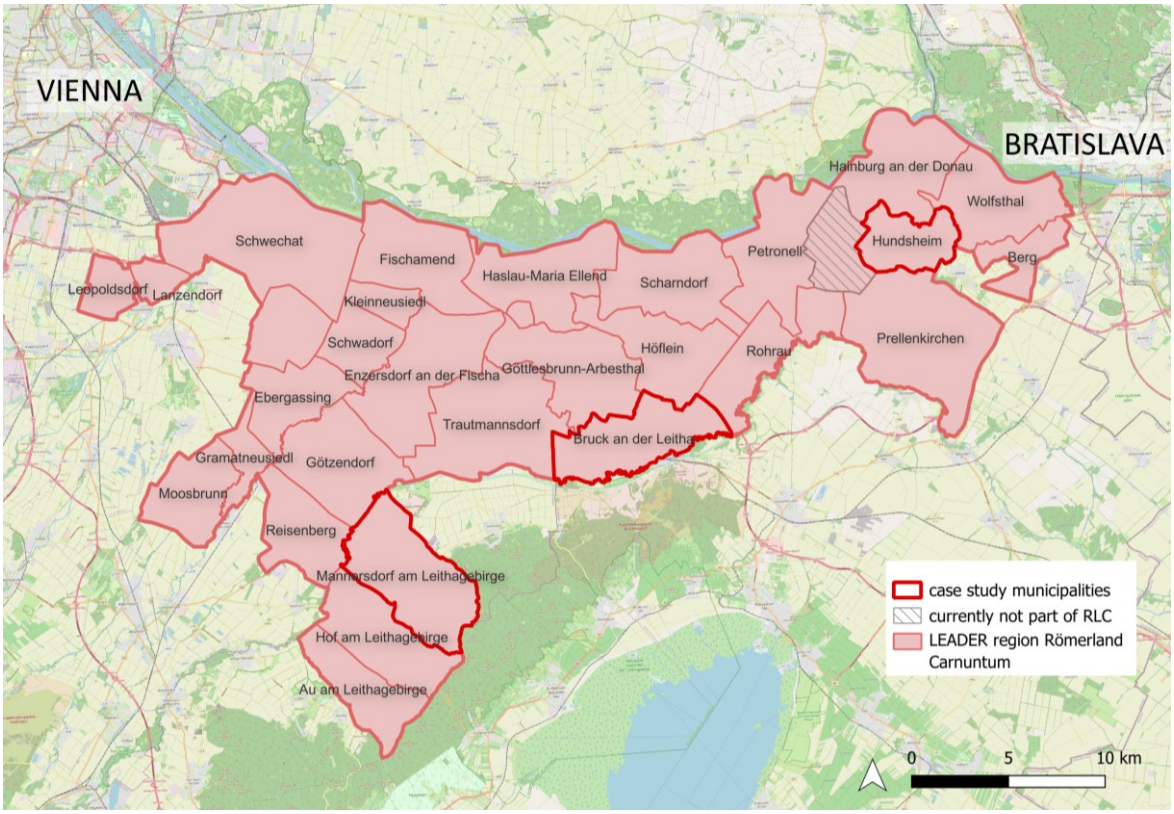

Figure 4 Map of the case study municipalities within the LEADER region Römerland Carnuntum, own illustration, basemap: OSM

Bruck an der Leitha is the district capital of the district of the same name and, with 8,546 inhabitants (as of January 1, 2024, Statistik Austria), the second-largest town in the LEADER region Römerland Carnuntum after Schwechat. In the urban-rural typology, Bruck falls into the category "Urban center, central (210)" and is thus the most urban municipality in the region after the municipalities of Schwechat, Lanzendorf, and Leopoldsdorf, which are in the immediate vicinity of Vienna (Statistik Austria, 2025). The municipality consists of the three cadastral municipalities of Bruck an der Leitha, Wilfleinsdorf, and Prugg Schloß. While Prugg borders directly the city centre of Bruck and encompasses mostly the park of the castle Prugg, Wilfleinsdorf forms its own town centre. Both Wilfleinsdorf and Bruck have a railway connection, although the Bruck an der Leitha station is technically located in the neighbouring municipality of Bruckneudorf in the neighbouring federal state of Burgenland. Because both train stations are located on the outskirts of the towns, small portions of the settlement areas fall outside the Austrian public transport quality classes. The quality classes range from A to G, with A representing very good access to public transport and G representing basic access. In Bruck, all quality classes from A to G are present, with the quality decreasing towards the outskirts. In Wilfleinsdorf,

due to the development along the main road (L163), only a small portion of the settlement areas around the station are within quality class B, while the majority of the town is in quality class E or lower (NÖ Atlas; atlas.noe.gv.at, n.d).

Mannersdorf am Leithagebirge, with 4,224 inhabitants (as of January 1, 2024, Statistik Austria), is a medium-sized municipality in the region and is classified in the urban-rural typology as "rural area in the outskirts of urban centers, central (310)" (Statistik Austria, 2025). Compared to its neighbouring municipalities, Mannersdorf is well-equipped with many services, such as local grocery stores and educational institutions up to grade eight. However, its public transport connections are not ideal due to the lack of a direct train connection. The part of the municipality with the best public transport connections is located in Mannersdorf along the main traffic artery, the main road (B15) and the Wienerstraße (B15), and is in public transport quality class D, while a small part of the village of Wasenbruck even falls outside any quality class. The village of Sandberg, which, like Wasenbruck, belongs to Mannersdorf and does not form a cadastral municipality, is directly adjacent to the neighbouring municipality of Götzendorf and is in quality classes E and F (NÖ Atlas; atlas.noe.gv.at, n.d).

With a population of 666 (as of January 1, 2024, Statistik Austria), Hundsheim is not only the smallest municipality in the LEADER region, but also the only one expected to experience a population decline by 2040 (REV RLC, 2023). In Statistik Austria's urban-rural typology, Hundsheim is classified as "rural area surrounding urban centers, peripheral (330)," making it one of the most rural municipalities in the region, along with Prellenkirchen and Bad Deutsch-Altenburg (formerly part of the LEADER Region), which are both neighbouring Hundsheim (Statistik Austria, 2025). Large parts of Hundsheim are completely outside the coverage of public transport quality classes, while the best service level in parts of the village falls within public transport quality class F (NÖ Atlas; atlas.noe.gv.at, n.d).

3.4.3.2 Interviews

In order to shed light on the topic of SGI at the municipal level, interviews with mayors were necessary, as there is no legal obligation in Lower Austria for publicly available strategic documents for municipalities that define goals for SGI or how to deal with the topic. Semi-structured guided interviews were therefore conducted with the mayors of the three municipalities in the case study area at municipal level.

The selection of interview participants was based on the above-mentioned municipalities of Bruck an der Leitha, Mannersdorf am Leithagebirge and Hundsheim. The focus of the interviews was on answering the first research question, but questions were also asked about minimum standards and requirements of higher planning levels, as these provided additional information on the planning and provision of SGI in the municipalities on the one hand and offered further insights into the second research question on the other. The character of a guideline-based interview was fundamentally retained in that the aim of the interviews was the same, but the questions in the interviews were adapted flexibly. In some cases, an adaptation of the predefined guidelines had to be rather strong, as the situation, the level and focus of knowledge of the interviewees differed from each other. In addition, the individual situations of the municipalities were taken into account with regard to the size of the municipality, equipment with SGI, etc. The interview with the mayor of Bruck an der Leitha lasted almost one and a half hours but also included many less relevant digressions; the interviews in Mannersdorf and Hundsheim lasted around 45 and 50 minutes respectively. All interviews took place in person at the respective municipal offices. The interviews conducted were transcribed and sent to the mayors for review. Personal information such as names of mentioned private individuals and personal comments by the interview participants were anonymised or omitted with a note. Furthermore, some statements that reflected the personal opinions of the interview participants were treated sensitively and omitted from the transcripts with a note.

The interviews were analysed in terms of content, but without coding the statements in the classic sense (analysis according to Mayring). The relevant statements from each interview were summarised in detailed bullet points and then set into perspective with each other. All statements made by the interviewees were considered to be correct and truthful, but information that was not comprehensible (too little context) was not analysed further. The answers were therefore always considered neutrally and objectively, but in some cases a certain degree of personal interpretation was allowed, which resulted from the context of the interview situation and preliminary discussions, some of which already included clarification of the content.

In the interests of traceability and transparency in the selection of methods and the process, it should be noted at this point that an initial attempt was made to acquire interview partners before the interviews were conducted. In the first attempt, 13 mayors of municipalities in the LEADER region Römerland Carnuntum were contacted by email for an interview at the beginning of December 2024 to get even broader insights. The requests included a description of the topic and three questions for orientation, which were to be dealt with in

the guideline-based interview in roughly the same way. Presumably due to the less than ideal timing, shortly before the public holidays and subsequent municipal elections in January 2025, only a few responses were received. When the interviews were redesigned, the questions were revised, partly on the basis of feedback from a mayor who doubted that he would be able to provide helpful information. This decision was later reinforced by further doubts expressed by the mayor regarding their knowledge on the subject. Additionally, due to the strong entanglement and certain dependencies, the mayor of Bruckneudorf, the neighbouring municipality of Bruck an der Leitha in the federal state of Burgenland, was also requested for a supplementary interview later, but this did not take place.

3.4.3.3 GIS-Analysis

To illustrate the regional coverage of the services examined in the second part, a type of accessibility analysis was carried out. For this purpose, all elementary education facilities (separated into facilities for 0-2-year-olds and for 3–5-year-olds), supermarkets and fire departments in the municipalities of the LEADER region were located on a map. The sources for these locations were manual searches via Google Maps, the municipalities' websites and personal knowledge of the region. Isochrones were calculated from the respective service locations in 5-, 10-, and 15-minute increments for different modes of transport using the Valhalla (Version 2.5.0) analysis tool in QGIS (Version 3.32.3-Lima). This 15-minute cap is based on Moreno's 15-minute city concept, although in the study region, the application of a 30-minute territory (cap) would be closer to Moreno's idea. However, a 30-minute journey to reach one of the services examined using active mobility is not considered suitable for everyday use, which is why the 15-minute upper limit was chosen. Calculating using public transport was not an option due to limitations of the analysis tool. In order to obtain a concrete value for accessibility in addition to the cartographic results (isochrones), a further step was carried out.

To calculate the coverage of service accessibility within settlement areas, an ÖROK dataset was used (see ÖROK, 2022 a), which categorizes areas according to their use. This allowed for the representation of settlement areas, although there are limitations due to data quality. The individual areas of the 5-, 10-, and 15-minute isochrones were intersected with the settlement area. The resulting areas represent the portion of the settlement area in which the corresponding service was accessible within the respective time period (5, 10, or 15 minutes). Finally, the percentage of the areas in relation to the total area of the settlement areas in the region was calculated to express accessibility as a percentage.

The data quality of the dataset for the settlement area, in the version used for the analyses, is not ideal overall. The data quality is described on the data.gv website as follows:

"*Land use is determined from a combination of current, public authority and remote sensing data.* [...] *2. Settlement areas are determined using the zoning data of the federal states in combination with the INVEKOS-GIS data and the BFW forest layer. 3. Settlement areas outside the building land use are determined using the DLM buildings in combination with plots of land that are owned by the building or the adjacent gardens.* [...] *Due to the overlay of data, splinter polygons arise. No topological adjustment was performed. Boundary lines between polygons of the same class (FI code), which arise from the processing of the upstream data processing steps, were not resolved (no DISSOLVE calculation).* [...] *In the course of recording changes for 2025, ongoing quality assurance, plausibility checks, and validation of the database are carried out. Therefore, a revised baseline for the reference year 2022 will also be published in 2025, in which fine-tuning or technical adjustments are made to the data basis.*" (Description of data quality - data.gv, own translation)

Due to the bad data quality of the used data set, which includes incorrect information, the category "commerical use" had to be interpreted as "settlement areas" throughout the whole study area. For example, in Bruck an der Leitha, numerous areas with mixed use (residential and commercial) are classified in the commercial use category. Furthermore, the existing splitter polygons only slightly distort the results and are therefore not of relevance.

Despite the partially inadequate data quality, the dataset is suitable for the analyses, since the results of the analysis are only intended to present a rough overview to provide a better understanding of the study region. However, a sophisticated accessibility analysis could also provide important information for SGI planning.

4 The Initial Situation of the Analysed Services: Supply Situation, Spatial and Social Implications, Governance and Financing

The following chapter presents an analysis of the current supply situation, spatial and social implications, governance and financing of the services under examination. It should be noted that the analysed services are not entirely comparable due to their different natures and available data, which is why the sub-chapters may differ in scope and content.

4.1 Elementary Education

In Austria, the term "elementary educational facilities" encompasses all forms of institutionalised education and care for children between the ages of zero and six. Education and care are provided in a variety of settings, including kindergartens (Kindergarten), crèches/day nurseries (Kinderkrippen/Krabbelstuben), childminders (Tageseltern), and mixed-age facilities. The nomenclature employed for these facilities varies across the Austrian federal states. In addition to the aforementioned terms, other designations such as children's houses (Kinderhäuser) or children's groups (Kindergruppen) may be utilised (BMBWF, 2022).

The importance of early childhood education has grown considerably in recent years, both at the international and national levels. It plays an important role in facilitating the compatibility of family and career, as well as in increasing the employment of women with young children. From an education economics perspective, the importance of providing optimal elementary education is also evident. The formative years of a child's education have a profound impact on their future academic and professional achievements. Children from socio-economically disadvantaged families stand to gain considerably from additional support, given that they lack the same opportunities to develop their abilities and talents within the family environment (Neuwirth & Kaindl, 2018).

Nevertheless, elementary education serves not only as a conduit for facilitating labour market integration, particularly for women, but is also profoundly influenced by shifts in the labour market. The broad-based CAP Strategic Plan Austria 2023-2027, which is particularly pertinent to rural areas, identifies the specific objective (SO8) of "*promoting employment, growth, gender equality, including women's participation in agriculture, social*

inclusion and local development in rural areas, including circular bioeconomy and sustainable forestry" as a key priority. A variety of measures have been defined with the objective of achieving the desired goals. Particular emphasis is placed on the education and care of children, as well as the improvement of the reconciliation of work and family life. Moreover, it is the intention that the investments will contribute to the realisation of the Barcelona targets (BML, 2023).

At the European Council meeting in Barcelona in 2002, fundamental childcare objectives were established for the EU Member States to attain. By 2010, it was expected that Member States will have provided adequate childcare and education for at least 33% of children up to three years of age and at least 90% of children between three years of age and the age of compulsory schooling. The objective was to facilitate women's integration into the labour market by enhancing childcare and educational provisions. Concurrently, the targets facilitate children's development and mitigate disadvantage (European Commission - Directorate General for Justice, 2013). Furthermore, the Europe 2020 strategy accorded high priority to access to childcare and education facilities. It is of particular importance to ensure access to child education and care facilities in order to achieve the objective set forth by the European Commission of attaining the highest possible employment rate of 20-64-year-olds at a minimum of 75% (EC, 2010). In 2021, the Member States reached a consensus at the European Council level on the achievement of seven EU targets in the field of education. The third point, stipulated that by 2030, at least 96% of children between the ages of 3 and the age at which compulsory schooling begins should participate in early childhood education, care and upbringing. This represents a further increase of the Barcelona targets in this area (EU, 2021). In a Council recommendation of December 2022, the Barcelona targets were also reformulated for children under the age of three. The formulation of the Barcelona targets (EC, 2022) for 2030 provides for the participation of 45% of under 3-year-olds in early childhood education and care, or for those Member States that have not yet reached the target of 33%:

- An increase of at least 90% if participation has been below 20% in the last 5 years
- An increase of at least 45% if participation has been between 20% and 33% in the last 5 years

In accordance with the federal structure of Austria, the responsibility for the domain of early childhood education is vested in the federal states. Until the end of the 2000s, this resulted in a lack of consistency in the organisation. In 2009, the Federal Ministry of Education,

Science and Research and the federal states reached a consensus on a common understanding of education, which serves as a foundation and orientation for elementary education (Mitterer et al., 2022). The objective is to establish a unified framework for educational processes, based on a shared understanding of education and didactic approaches in the elementary and primary school sector (BMBWF, 2020). The "Cross-state educational framework plan for elementary educational institutions in Austria" ("Bundesländerübergreifender BildungsRahmenPlan für elementare Bildungseinrichtungen in Österreich") also delineates six thematic educational areas of paramount importance for pedagogical practice, serving as a practical reference framework. These educational areas facilitate the differentiation and development of children's skills, while also ensuring the provision of a high-quality education for all children (BMBWF, 2020).

The non-contributory or mandatory kindergarten year (beitragsfreies/verpflichtendes Kindergartenjahr) has been mandatory since 1 September 2010 as a result of an agreement between the federal government and the federal states in accordance with Article 15a of the Federal Constitutional Act. Consequently, children who are in the final year of kindergarten prior to commencing compulsory schooling are required to attend an appropriate elementary education facility for a minimum of 20 hours on at least four days per week. The objective is to guarantee that children receive the optimal foundation for their education and future professional endeavours, irrespective of their socio-economic circumstances. Since 2008, the federal government has provided financial support for the quantitative and qualitative expansion of elementary education, early language support and the non-contributory compulsory kindergarten year through a series of agreements pursuant to Article 15a of the Federal Constitutional Act. The total value of the special-purpose grants distributed between 2008 and 2022 was approximately EUR 1.7 billion. An additional billion euros will be made available for the kindergarten years 2022/23 to 2026/27.

4.1.1 Current Supply Situation in Elementary Education

The Austrian federal states encompass a diverse array of institutions catering to children from infancy until school enrolment. A summary of the structure of elementary educational institutions from the Austrian Family Report (2021) demonstrates the discrepancies between the federal states. In addition to the fundamental forms, such as kindergartens, which are the sole form of childcare and education represented across the country with the same name, a variety of other types of institutions exist. In addition to the varying nomenclature, each federal state typically encompasses at least three distinct types of institutions, which

collectively cater to all age groups up to the point of school entry. In the federal states of Carinthia and Upper Austria, there is a notable absence of institutional facilities for the care of children up to the age of one. Kindergartens, facilities for toddlers and mixed-age facilities are available in all federal states (BKA/FFJI, 2021). Furthermore, child education and care for all age groups can be provided in each federal state through non-institutional and private forms, such as childminders. The education and care offer are provided in both public and private forms, with the proportion of public institutions being the greater in Austria. It is notable that in the federal states of Vienna and Carinthia, there is a higher proportion of children in private institutions (see Figure 5). The specific regulations pertaining to the types of institutions are set forth in the state laws, as well as in supplementary regulations and guidelines, while the implementation of these policies occurs at the municipal level, with responsibility falling to either the public or private sectors.

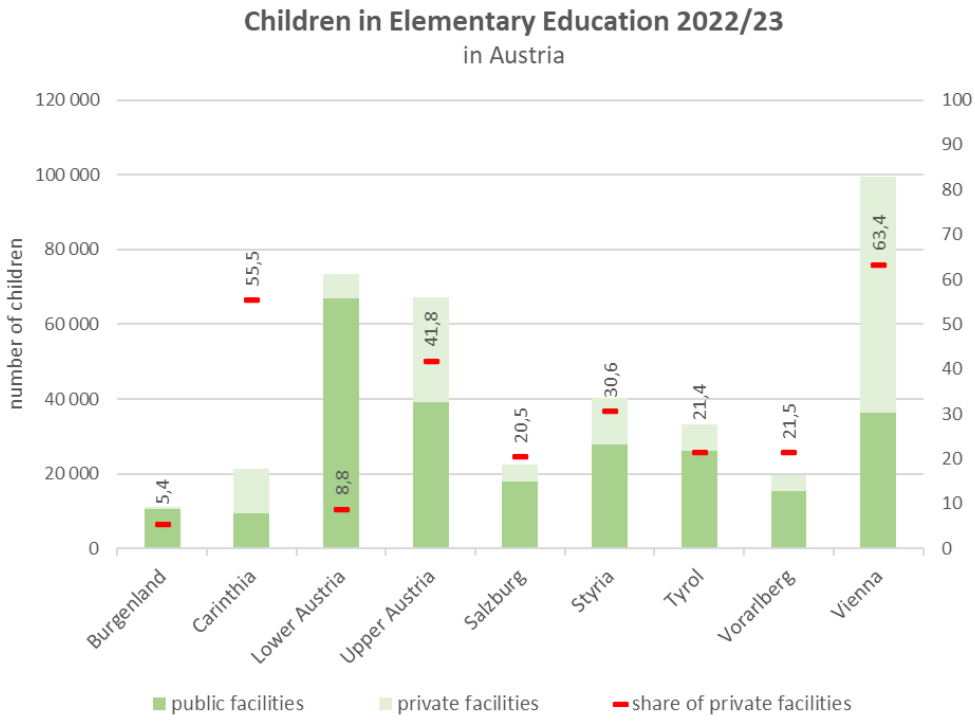

Figure 5 Children in elementary education facilities in Austria for the kindergarten year 2022/2023, data source: Statistik Austria (2023b), own calculation

In every federal state (with the exception of Vienna), legal regulations have been created on the basis of mandatory needs assessments to guarantee a place for all children, especially those in the compulsory kindergarten year. A kindergarten place is generally provided by the child's main residence municipality. However, this makes sense, as Vienna is a federal state and municipality at the same time, therefore the municipality itself would not be a

satisfactory criterion for the allocation of kindergarten places. The criteria for the allocation of municipal kindergarten places in Vienna state that amongst others the proximity of the child's place of residence to the kindergarten is an allocation criterion (Stadt Wien, n.d.). If there are not enough child education and care places in the children's home municipality, inter-municipal solutions are possible in all federal states. The allocation of available places in the home municipality is based on various criteria. As a rule, priority is given to children who are subject to compulsory attendance, children whose parents are employed or looking for work, children whose main residence is in the municipality and children who already attend a kindergarten. In the event that a care place is not available the obligation to provide an adequate alternative within reasonable distance rests with the child's main residence municipality. However, there are no precise criteria for what an adequate distance would be in any federal state. The following are examples of passages from the state laws of Lower Austria, Upper Austria and Vorarlberg (own translations):

"*The municipalities must ensure that every child who has his or her main residence in the municipality and to whom Section 19a applies* [i.e. only applies to children with a visitation obligation] *can fulfil the obligation under Section 19a or can receive education and care within their municipal area or within a reasonable distance outside the municipal area.*" (Section 18 (3) of the Lower Austrian Kindergarten Act 2006)

"*If a childcare place is not available for all of these children, the municipality must provide appropriate child education and care services.*" (Section 16 (2) Oö. KBBG) [affects all children up to the legal school entry age]

"*The childcare place must be available within the municipal area or within a reasonable distance for the child outside the municipal area.*" (Section 6 (3) [c] Vbg. KBBG) [only applies to children in the compulsory kindergarten year]

According to Statistik Austria's statistics on child day care centres in the 2022/23 kindergarten year, a total of 9,717 child day care centres were in operation in Austria, representing elementary educational institutions for all age groups. Of the total number of institutions, 5,595 (57.6%) were publicly operated, while 4,122 (42.4%) were privately operated. 388,256 children were enrolled, of whom 249,854 (64.4%) attended public institutions and 138,402 (35.6%) attended private institutions. The proportion of institutions operated by the public sector is highest in the case of kindergartens, at 72.9%. The federal states of Vienna (44.4%), Carinthia (50.4%) and Upper Austria (54.7%) exhibit the lowest proportion of public providers of all elementary education facilities. Furthermore, public providers bear the majority of responsibility for the management of after-school care centres,

although significant discrepancies exist between the individual federal states. The lowest proportion of private day care centres is observed in Burgenland (6.2%), followed by Lower Austria (11.8%). At the opposite end of the spectrum are Vienna and Carinthia, where the proportion of private providers is 69.3% and 64.1%, respectively (Statistik Austria, 2023b).

In addition to the number of available childcare places, the temporal accessibility of elementary education institutions is a key factor in reconciling work and family life. Temporal accessibility refers to the opening hours of facilities. To assess this, the *Compatibility Indicator for Family and Work* (VIF) was developed. Meeting the VIF criteria has been defined as a target in Austria's federal-state agreement on early childhood education (15a Agreement) for the kindergarten years 2022/23 to 2026/27, and in some federal states, it has also been enshrined in law. According to Article 2 (12) of the 15a Agreement, VIF-compliant facilities are those compatible with full-time employment: open at least 47 weeks per year, 45 hours per week, including four days with at least 9.5 hours daily, Monday through Friday, and with lunch provision.

Nationwide data show that 23.9% of facilities offer less than 8 hours of daily care, while 38.9% are open for more than 10 hours. Approximately 9.4% operate for 12 hours or more per day, with most located in Vienna. On average, 52.3% of childcare groups provide full-day care, ranging from 35.9% in Salzburg to 72.2% in Vienna (Statistik Austria, 2023b). The share of children attending VIF-compliant facilities varies by age and region. In 2022/23, 76% of children under one year, 67.3% of one-year-olds, and 54.3% of two-year-olds in care attended VIF-compliant institutions. Among three- to five-year-olds, the proportion ranged from 49.3% to 50.1%. Vienna (90.6%–91%) and Burgenland (70.9%–73.4%) had the highest VIF coverage, while Lower Austria (25.7%–27.2%) and Upper Austria (27.7%–28%) had the lowest. Vienna also led for VIF-compliant care of one- and two-year-olds, with more than 89%, whereas Upper Austria had the lowest shares (24.9% and 23.6%) (Statistik Austria, 2024b).

Despite the EU's 2010 Barcelona targets being met on average, Austria fell short. In 2022, only 29.9% of children under three attended childcare, or 32.1% when including childminders (Statistik Austria, 2023b), still below the 33% target. Only Vienna, Burgenland, and Vorarlberg met this goal. Austria's rate was also below the EU-27 average of 35.9%. The 90% target for kindergarten-aged children was met in all states except Styria. The low participation among under-threes may be linked to cultural norms. Around 55% of Austrians disapprove of full-time employment for mothers with children under three (European Commission - Directorate General for Justice, 2013). Other influencing factors

include generous parental leave policies and family benefits. Countries like Denmark and Sweden, which offer shorter leave but higher compensation, show both greater acceptance of maternal employment and higher childcare participation (Baierl & Kaindl, 2017).

A critical factor in expanding early education services is staffing. A recent study by Wirth et al. (2023) found acute staff shortages in major cities like Vienna and Innsbruck, while some municipalities are only beginning to anticipate future personnel challenges. According to projections (Löffler et al., 2022), demand could rise by 34,800 places by 2030 compared to 2020, with most growth among children under the age of three (+29,200). In a high-growth scenario, demand could increase by up to 75,900 childcare places. However, despite sufficient numbers of elementary education staff in training, fewer professionals remain in the field long-term due to poor working conditions (Mitterer et al., 2022).

4.1.2 Spatial and Social Implications

Elementary education represents a key pillar of Austria's educational framework. The implementation of the Article 15a agreement on the mandatory kindergarten year affects a broad population of parents, guardians, and children. Beyond its pedagogical mandate, elementary education also provides essential support for parenting and enables parents time to manage other responsibilities. A central aim of these services is to improve access to the labour market, particularly for women. However, access to early childhood education varies significantly across regions and social strata in Austria.

Although more men are showing interest in family-related leave, such as paternity leave, women continue to carry the bulk of childcare responsibilities. Despite generally evolving attitudes toward gender roles, this has not yet led to a more balanced distribution of unpaid care work. A substantial share of this unpaid labour – especially in the early years of a child's life – is still primarily undertaken by women (BKA/FFJI, 2021). Consequently, the availability of high-quality, accessible childcare options up to the start of compulsory schooling plays a crucial role in determining women's employment opportunities. Köppl-Turyna et al. (2021) argue that most research suggests a positive link between childcare availability and women's participation in the labour force, although some studies adopt a more cautious view. Nevertheless, across OECD countries, a clear positive correlation can be observed between maternal employment and the enrolment of children under three in formal early education (Köppl-Turyna et al., 2021).

The structure of female employment in Austria reinforces the importance of this issue. In the first quarter of 2023, about 51% of employed women worked part-time, which is significantly more than men (Statistik Austria, 2023a). In 2022, approximately 70% of mothers with children under 15 were employed (excluding those on parental leave). For 39.5% of women, and only 6.6% of men, care duties - whether for children, elderly, or disabled persons - were cited as the main reason for part-time work (Statistik Austria, 2023c). In 2021, 9.5% of workers in Austria reduced their working hours due to caregiving duties, which is more than double the EU average of 3.7%, placing Austria second-highest in the EU (Huemer & Mahringer, 2023). Combined with low enrolment rates in early childcare, this contributes to Austria's relatively weak position regarding labour market inclusion.

The number of children in early childcare facilities (ages 0–2) has risen strongly between 1972 and 2022, with particularly strong growth since the early 2000s. This coincides with a declining share of mothers in employment. The attendance rates in education and care facilities in both age groups (0–2 and 3–5 years) has increased steadily (see Figures 6 and 7). While every federal state has seen progress, disparities persist, especially in the 0–2 age group. In 2022, Vienna recorded the highest participation rate at 42%, although this was a decrease from 45.1% in 2015. Other states, such as Styria (19.9%) and Upper Austria (20.9%), remain well below the national average of nearly 30%. In contrast, the enrolment rates for 3–5-year-olds have become more uniform across states between 1995 and 2022 (Statistik Austria, 2023b).

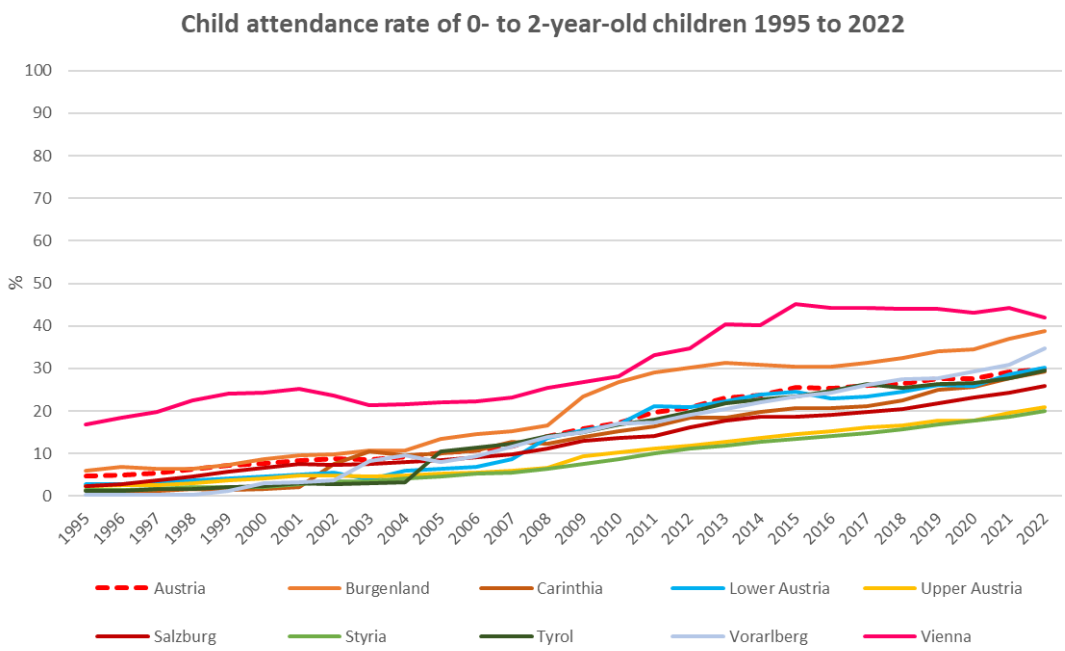

Figure 6 Child attendance rate of 0- to 2-year-old children 1995 to 2022, data source: Statistik Austria (2023b), own calculation

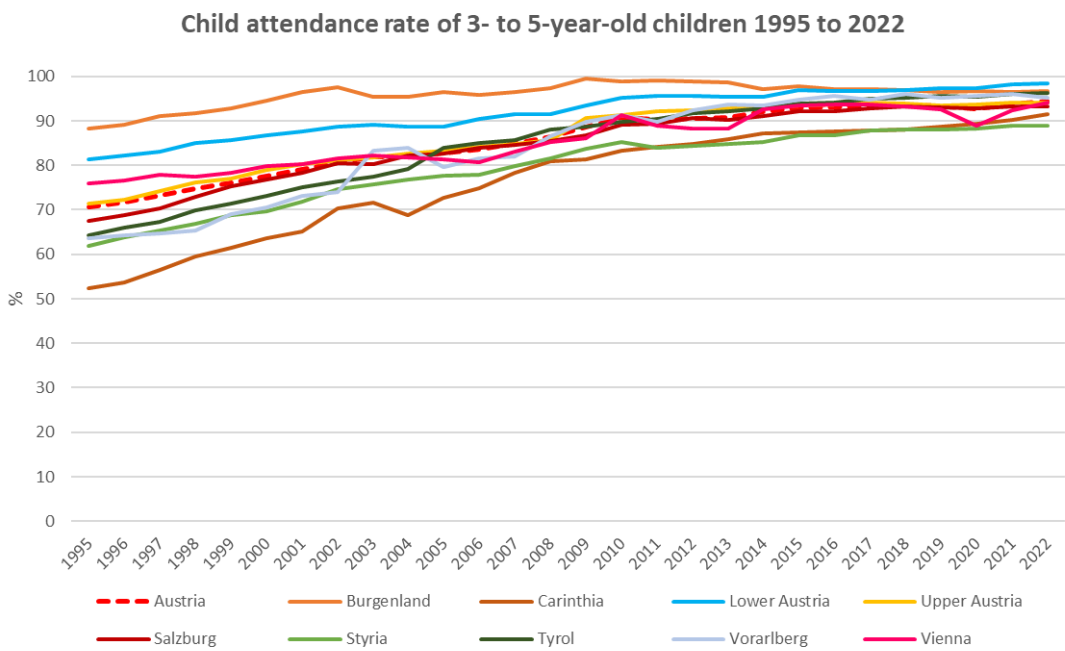

Figure 7 Child attendance rate of 3- to 5-year-old children 1995 to 2022, data source: Statistik Austria (2023b), own calculation

4.1.3 Governance and Financing

The governance of elementary education in Austria is strongly shaped by the constitutional division of competencies and the subsidiarity principle. Legislative authority in this sector resides with the individual federal states, while practical implementation is primarily the responsibility of municipalities. The federal government mainly exerts influence through Article 15a agreements, which, among other objectives, provide partial funding for elementary education. A closer examination of the financial structure of this sector offers further insight into the governance framework.

Elementary education and childcare in Austria are predominantly financed by the public sector. Municipalities carry a particularly high financial burden, covering around two-thirds of total net expenditure (Mitterer et al., 2022). In 2021, the public sector spent a total of 3.13 billion euros on elementary education, of this amount, 1.65 billion euros were allocated to staff costs, and approximately 800 million euros were directed as transfer payments to private, non-profit providers of childcare services (Statistik Austria, 2023b). The funding of privately operated childcare facilities by the federal states typically takes the form of personnel cost subsidies or co-financing arrangements, ultimately benefiting municipalities, which often act as the legal entities operating these facilities. Federal financial support for individual institutions is generally tied to specific eligibility criteria, as defined by the respective state-level kindergarten and childcare laws, as well as supplementary directives or guidelines. Public and private providers that meet these legal and regulatory requirements are eligible for such financial support (see federal state laws).

Since 2008, the federal government has contributed to both the expansion and quality improvement of early childhood education through special-purpose grants embedded in the Article 15a agreements. These funds have also supported early language development and the introduction of the compulsory free kindergarten year. Between 2008 and 2022, approximately 1.7 billion euros were made available via this funding mechanism. For the kindergarten years spanning 2022/23 to 2026/27, an additional one billion euros in funding has been earmarked.

Furthermore, as part of the fiscal equalisation process concluded at the end of 2023, the Future Fund allocated designated resources for the period 2024 to 2028, including funding specifically targeted at elementary education. These funds are subject to indexation and are expected to amount to approximately 1.1 billion euros in 2024, rising to a total of 1.222 billion euros by 2028. On average, 527 million euros per year - corresponding to 45.5% of

the total fund – are going to be invested in elementary education. The allocation of these funds is based on population numbers, with 50% going directly to the municipalities. Although these funds are intended to support both quantitative and qualitative objectives, their disbursement is not conditional upon the achievement of those objectives (Parlament Österreich, 2023). Additional federal support is available for the construction, expansion, maintenance, and renovation of elementary education facilities, as well as for the provision of childcare services during the summer months. These efforts are financed through various special-purpose funds, including the "COVID-19-Krisenbewältigungsfonds" (COVID-19 Crisis Management Fund), the "Kommunalinvestitionsgesetz 2023" (Municipal Investment Act 2023).

Parental contributions constitute another source of funding for elementary education services. The obligation to pay such contributions, as well as any exemptions, are determined at the federal state level. Most states apply income-related sliding scales to ensure that parental fees are socially equitable, taking into account family size and income.

Finally, a portion of the financial resources for elementary education may originate from the European Union. To address the consequences of the COVID-19 pandemic, the EU introduced the "Next Generation EU" recovery instrument, valued at approximately 750 billion euros. Austria's national contribution to this initiative is outlined in its Recovery and Resilience Plan for the years 2020 to 2026, developed in line with Article 18 of EU Regulation 2021/241. The initial forecast secured Austria a grant of 3.5 billion euros from the Recovery and Resilience Facility, which was later increased to 3.75 billion euros (source: BKA). The total budget for Austria's recovery plan amounts to 4.5 billion euros, with 129.4 million euros specifically earmarked for a support programme and the further expansion of early childhood education (BMF, 2021).

4.2 Local Food Supply

The term local supply ("Nahversorgung") refers to the provision of goods and services required for daily life within close proximity to where people live. This primarily includes food but also encompasses other everyday products and services such as drugstores, pharmacies, bakeries, and small convenience stores. A well-functioning local supply system ensures that individuals can access essential goods and services without the need to travel long distances. As already shown this issue is particularly pressing in rural and remote areas, where access to some of these facilities may be limited or require long travel times. This

chapter focuses on the food retail sector, with particular attention given to full-range grocery stores.

The safeguarding of essential services, including food provision, is a core element of Austria's Critical Infrastructure Protection Programme, highlighting the strategic importance of the food retail sector (BKA & BMI, 2015). Similarly, the Austrian Spatial Development Concept 2030 (ÖREK 2030) identifies the secure supply of critical goods, including food, as one of the key spatial planning challenges (ÖROK, 2021). Food retail lies at the intersection of multiple, and at times conflicting, interests. It meets one of the population's most basic needs - the access to food - and maintains a direct interface with consumers. Consumers expect high-quality, natural, and often locally sourced products at affordable prices while business owners aim for adequate returns on investment. Consumer protection organizations advocate for transparent product information and accessible retail environments for people with disabilities. Farmers and food producers seek fair compensation for their products and employees in the retail sector demand stable, fairly paid employment with opportunities for further training and advancement. Local residents desire short travel distances and minimal additional traffic. Society more broadly expects a high-quality, accessible local supply network and socially responsible business practices. Meanwhile, public authorities require compliance with safety, quality, and competition regulations (Lorentschitsch, 2016).

These diverse and, at times, competing expectations generate areas of tension that require careful balancing through appropriate policy measures. Regulatory instruments such as minimum standards can help align the interests of different stakeholders and ensure a resilient and equitable system of local food supply.

4.2.1 Current Supply Situation of Food Retail

Austria's food retail sector is characterized by an uncommonly high density of markets, a defining feature that distinguishes it from many other European countries. According to a report by the Austrian Hail Insurance, in 2023 the country averaged 60 supermarkets per 100,000 inhabitants - significantly exceeding the EU average of 33 (Österreichische Hagelversicherung VVaG, n.d.). Although the overall density of retail outlets experienced a modest decline during the COVID-19 pandemic, particularly due to the retreat of the Nah&Frisch chain, the market remains dense. In 2022, over 5,630 supermarkets operated nationwide, translating to a density of over 62 outlets per 100,000 inhabitants. This

represented only a slight decrease from 2019, when 5,680 locations were registered. However, the spatial distribution of these outlets is far from uniform; many rural areas remain underserved in terms of access to full-range grocery markets (Bundeswettbewerbsbehörde, 2023).

Even with an already high concentration of large retail chains, new store openings continue to emerge in urban centres, whereas economically weaker stores in rural municipalities are gradually being closed. The pace of closures in peripheral regions has recently slowed, and forecasts suggest that the expansion of the major retail groups will likely be less aggressive in the coming years (RegioData Research, 2024). In 2022, Spar held the largest share of the Austrian grocery market, controlling approximately 35% and generating gross sales of around 9 billion euros. The Rewe Group - operating Billa, Billa Plus, Penny, and Adeg - followed with 31.3% of the market. Among discount retailers, Hofer and Lidl captured 17.8% and 7% respectively. MPreis, while limited in geographical reach, ranked fifth with a market share of 3.5%, operating primarily in the western federal states, especially Tyrol. In Tyrol alone, MPreis maintains a high store density with 214 branches and holds nearly 30% of the local market - second only to Spar. Together, the four largest companies, Spar, Rewe, Hofer, and Lidl, command around 91% of Austria's food retail market, a level of concentration significantly higher than for example in Germany, where the top four players (Edeka, Rewe, Schwarz Group, and Aldi) account for approximately 76%. The development of Austria's retail structure is deeply rooted in changes that occurred between the 1950s and 1980s, with additional consolidations through bankruptcies and takeovers in the 1990s. The shift towards self-service stores, beginning in the 1950s, and the gradual disappearance of traditional grocers starting in the 1960s, were key factors in shaping the current retail landscape. International acquisitions also played a pivotal role: Aldi's acquisition of Hofer in the late 1960s and Tengelmann's acquisition of Löwa in the early 1970s still impact the structure of the market today (Bundeswettbewerbsbehörde, 2023).

Despite these overarching trends, regionally embedded retail models continue to provide viable alternatives, particularly in underserved areas. A case study from Vorarlberg illustrates that cooperative-based and independent retailers can remain competitive under specific conditions. In 2023, 46 of 208 full-range grocery stores received local supply subsidies from the state government. An evaluation based on sales development, local purchasing power, subsidy flows, and profit margins revealed that small, community-oriented stores - referred to as "village shops" (Dorfläden) - can operate sustainably. These stores often serve multiple roles beyond retail, such as functioning as postal service partners or social meeting points. Their success is frequently attributed to close cooperation with

local governments, educational institutions, and community associations (Verein Dörfliche Lebensqualität und Nahversorgung, 2020).

Over the past five years, the number of such village shops in Vorarlberg has remained relatively stable, with some new ones opening. Between 2013 and 2022, 34 of these shops received ongoing support for operational expenses, while seven to eight received short-term aid. These subsidies were critical in maintaining rural food provision. Although village shops experienced a cumulative increase in sales of 31.1% over the same period, profitability began to decline after 2018. In 2019, for the first time, sales profitability dropped below the break-even point, and by 2022, a cumulative loss of €57,000 was recorded. This negative trend was driven largely by rising operating costs and worsening supply conditions, aggravated by the COVID-19 pandemic and the economic impact of the war in Ukraine. A more recent 2023 report on local supply conditions reaffirmed these trends, noting that village shops with floor space under 100 square meters and those situated on hillsides in regions like the Rhine Valley and Walgau faced particular difficulties when competing with larger stores located in the valleys (Verein Dörfliche Lebensqualität und Nahversorgung, 2024).

In response to such challenges, a variety of alternative retail formats have emerged in Austria to ensure continued local food supply and manage staffing constraints. Hybrid stores, for instance, are becoming increasingly common. These markets operate with limited staffing - employees are on-site for only a few hours a day - while outside of staffed hours, customers shop autonomously using self-service systems and pay via machines or card terminals. Hybrid stores enable rural retailers to reduce labour costs while still exhausting the legally permitted 72-hour weekly maximum for store operations. Food vending machines, sometimes referred to as "Regiomats," offer another solution. Typically stocked by local farmers or direct marketers, these machines provide access to basic grocery items such as dairy products, baked goods, fruits, vegetables, and personal care items. Restaurants in rural areas are also exploring a complementary role in food provision. Under Austrian law, restaurants are permitted to sell products commonly needed by travellers or used in-house. These include basic groceries, newspapers, and toiletries. Although such operations may not be highly profitable, they extend the restaurant’s business hours, attract additional customers, and generate supplementary revenue. Mobile markets present yet another alternative. These markets use specially designed vehicles to deliver everyday items - often up to 1,200 different products - to remote or underserved regions. Product offerings typically include dairy, meat, bread, produce, sweets, and newspapers, with prices comparable to those in fixed-location supermarkets. Customers can place individual orders or purchase pre-

packaged shopping baskets, while some services offer home delivery of beverages (Meixner et al., 2007). One of the most well-known alternatives is online grocery shopping. It currently accounts for a small share of the overall market in Austria, but online grocery retailers see moderate growth potential for the coming years While in Austria all municipalities are within the delivery area of at least two providers there is still a strong concentration in urban areas (Bundeswettbewerbsbehörde, 2023). This is due to the high delivery costs in rural areas and the lack if willingness to pay for it (Kokorsch & Küpper, 2019). Demand is also higher in cities due to various factors, such as the number of young and internet-savvy people (Bundeswettbewerbsbehörde, 2023).

The concept of self-service container stores was also gaining attention for some time. These compact, automated stores allow profitable operation with much lower sales volumes than traditional supermarkets. However, they offer a more limited product range and are typically used for supplementary shopping (Drage et al., 2024). In 2022, Austria's Constitutional Court ruled that these stores are subject to the same opening hour restrictions as traditional local food retailers (VfGH E1604/2022). As a result, some container store locations operated by Unimarkt and REWE have already been shut down (RegioData Research, 2024).

Direct marketing represents another model, particularly for agricultural producers. Austrian law (Section 2 (4) Trade Act 1994 and Section 1 Primary Products Regulation) allows farmers to sell their primary products, such as fruits, vegetables, cereals, and animal products, directly to consumers without requiring a separate trade license. Permitted secondary activities include on-farm sales, self-harvesting arrangements, and market stalls. Direct marketers are not subject to standard opening hours or Sunday trading restrictions (LFI & LK Ö., 2018), making the model especially suitable for rural areas. While direct marketing cannot replace full-range retailers, it does offer valuable supplementary services and supports regional food systems.

The implementation of alternative concepts for local food supply often proves to be challenging. On the one hand, legal regulations regarding opening hours and product range can act as limiting factors for economic viability, especially for concepts with a limited assortment that tend to be used primarily for spontaneous or supplementary purchases. On the other hand, much of the population - particularly in rural areas - relies on private cars, making it common for people to shop at more distant locations.

One common feature across many of these alternative models is the reduction in required staffing levels - driven primarily by cost-saving considerations. However, data on labour availability in Austria's local food retail sector is mixed. The Federal Ministry of Labour's

list of nationwide shortage occupations for 2024 does not include any retail-specific jobs (migration.gv.at, 2024). In contrast, the Austrian Economic Chamber's Skilled Worker Radar provides a more nuanced view. In 2023, most federal states showed a surplus of unemployed workers relative to job vacancies in food and beverage sales. Vienna had the highest disparity, with 579.3 unemployed persons per 42.5 open positions (a vacancy ratio of 13.63). Burgenland and Lower Austria also showed relatively high vacancy ratios of 5.40 and 3.40, respectively. Only Salzburg (0.96) and Vorarlberg (0.82) exhibited more vacancies than jobseekers, indicating local labour shortages. District-level data reveals that Murau (Styria) and Tamsweg (Salzburg) had the highest shortage rates (0.16 and 0.17, respectively), while parts of Lower Austria's Waldviertel and Upper Austria's Mühlviertel - excluding Linz - also faced notable labour shortages (Wirtschaftskammer Österreich, 2024).

4.2.2 Spatial and Social Implications

As already mentioned in the previous chapter, the supply situation with regard to food retail in Austria varies greatly from region to region. Despite the very high market density, rural areas in particular are often not well supplied with food markets. In Burgenland, the number of municipalities without food retailers has increased from three in 1997 to 56 in 2018 (a direct comparison is not possible due to different survey methods), while at the same time the number of markets has increased. This suggests a significant concentration in preferred locations (Reinwald & Damyanovic, 2018). In Vorarlberg, the number of food retailers decreased from 578 to 202 between 1970 and 2020, while the average sales area increased from just under 74 m² to 560 m² (Verein Dörfliche Lebensqualität und Nahversorgung, 2020).

The trend towards fewer and larger stores is a challenge, especially for smaller towns in rural areas. This is because local food retailers tend to locate in highly frequented locations and on the outskirts of settlements. As a result, local supply in the sense of proximity is often no longer guaranteed. Machold and Tamme (2009) identify a transformation in consumer behaviour as a key driver of the significant decline of food retailers in small rural municipalities - price sensitivity has increased, leading consumers to opt for larger supermarket chains over local suppliers. Additionally, rising motorization has contributed to greater willingness among the population to travel longer distances to access more competitively priced supermarkets, exacerbating the challenges faced by small-scale providers (Machold and Tamme, 2009). As part of the Federal Competition Authority's

sector inquiry, a consumer survey was commissioned to examine, among other things, the choice of transport mode for grocery shopping. The use of different means of transport for grocery shopping differs significantly between urban and rural areas. In Vienna, only around 25 per cent of consumers use their car to go shopping, while in Burgenland with – a federal state with mostly rural areas - the figure is up to 80 per cent. In contrast to rural areas, market size plays a minor role in Vienna due to the choice of means of transport (about 70% walking or using public transport). In rural areas, small purchases for daily needs can be made in smaller markets within a shorter distance, while larger purchases that require a longer journey are more likely to be made by car (Bundeswettbewerbsbehörde, 2023).

The probably most important social implication of local food supply is the affordability of products. A wide variety of institutions monitor food prices by comparing the cost of individual products or baskets of goods over time. The report on price transparency in food retailing from May 2025 came to the conclusion that almost all products analysed had risen in price compared to the same week last year (week 20, 2024). The price of butter rose by 12.94%, that of Gouda cheese by 14.11% and that of minced beef by 19%. Various types of apples also became even up to 35.49% more expensive. Only wheat flour (by 3.08%), sugar (by 19.14%) and ready-to-grill chicken (by 4.32%) became cheaper (AMA, 2025). The Chamber of Labour's price monitoring for Viennese supermarkets showed a similar picture. The price of a standardised basket of the 40 cheapest groceries and a few cleaning products rose by 10.1% from EUR 73.27 to EUR 80.64 in the period between March 2024 and March 2025. Another interesting observation is that shopping at discounters (Hofer, Lidl, Penny) is on average 10.7 % cheaper than at Billa and Spar stores (AK, 2025). Assuming that this result is transferable to the whole of Austria, it can be stated that those on low incomes are more likely to be forced to travel further, as only discounters are affordable.

4.2.3 Governance and Financing

In the following, governance in the food retail sector is examined from two perspectives, namely internal corporate governance and public sector governance. Governance structures in food retail companies refer to the internal rules and procedures that govern decision-making and control within the company. These structures are critical to the efficiency and effectiveness of corporate governance and include several key components. The authority to set minimum standards in the area of local food supply is located at different governmental and non-governmental levels and is regulated by a variety of instruments. The setting of minimum standards in food retailing is partly carried out by the suppliers

themselves. For example, different minimum standards for the selection and maintenance of locations are set by suppliers by defining location factors. However, these are not necessarily written down but are primarily based on experience and the ongoing evaluation of key figures, in particular the turnover of the stores (Drage et al., 2024).

Large retail companies typically have a dual board structure, with a management board responsible for day-to-day operations and a supervisory board that oversees management and makes strategic decisions. The composition and working methods of these bodies are critical to the management of the business. The development and implementation of business strategies, including the development of markets, the design of product ranges and pricing strategies, are key management tasks. Regular review and adaptation of strategies to market changes is essential. Food retailers are required to comply with a number of legal and ethical standards. Food safety, consumer protection and ensuring fair competition are particularly important. The implementation of internal compliance programmes ensures that all legal requirements and internal company policies are adhered to. In addition, many food retailers are integrating sustainability and corporate social responsibility (CSR) programmes into their governance structures. These include measures to reduce their environmental footprint, ensure fair working conditions and support for local communities. The effectiveness of food retail governance requires appropriate risk management. This involves the identification, assessment and management of risks that could potentially affect business operations and the supply chain. The design of governance structures in the food retail sector varies considerably. Smaller companies in particular have less differentiated and individualised governance structures. (Ashley & Morrison, 2021; Willers, 2016)

Public governance in the food retail sector includes the regulations, laws and policies that affect the market and set the framework for the operation of food retail businesses. The aim of these governance mechanisms is to ensure fair and efficient market operation, consumer protection and the achievement of social objectives. Relevant laws include the Food Safety and Consumer Protection Act, the Price Labelling Act and the Fair Competition Conditions Act. The Federal Competition Authority is responsible for monitoring the market to ensure fair competition. It can also intervene in the event of market distortions and investigate and, if necessary, impose conditions on mergers and acquisitions. At the state level, the location of grocery stores is also influenced by spatial planning legislation. Instruments such as zoning and local development plans define the permissible locations for new stores and the requirements that must be met. The opening hours of grocery stores are regulated by the Shop Opening Hours Act 2003 and the Sunday and Holiday Opening Hours Act. In addition, the federal states can make exceptions to extend opening hours for tourist or commuter areas,

which can also have spatial effects. Additionally, there are funding programmes mostly at federal state level to support local supply in rural areas, which define specific funding requirements for grocery stores.

The financing of the food retail sector is based almost exclusively on profit-oriented economic logic and will not be discussed in detail here. However, in order to ensure sufficient SGI provision, all Austrian federal states provide subsidies for the food retail sector. These subsidies are aimed at small grocery stores, some of which would not be competitive without subsidies.

4.3 Fire Services

Firefighting is undoubtedly a service of general interest, but its utilization differs fundamentally from elementary education and local services. Ideally, one would never want to have to make use of these services. Regardless of the level of demand, good availability and accessibility to and from fire departments must be guaranteed throughout Austria in order to provide assistance in an emergency. The following sections show some data that underscore the relevance of firefighting and demonstrate the current status of this SGI area in Austria.

4.3.1 Current Supply Situation of Fire Services

To illustrate the current state of fire service provision in Austria, only some data from the relatively brief 2024 fire service statistics of the Austrian Federal Fire Service Association (see ÖBFV, 2025) are presented here. To assess the actual quality of service, data on response times and local assessments would be necessary. Furthermore, the moral question of when good quality of provision is achieved would have to be answered first, as fire service is a sensitive service that can mean the difference between life and death.

In 2024, there were a total of 4,767 fire departments in Austria, the vast majority of which (4,450) were volunteer fire departments. There were also 311 company fire departments and only six professional fire departments. Professional fire departments exist only in the state capitals of Graz, Linz, Klagenfurt, Salzburg, Innsbruck, and Vienna. While the number of fire service operations increased by approximately 60.5% between 2008 and 2024, the number of firefighters rose by only 5.4% during the same period. In 2024, 258,074 firefighters were on active duty, while 59,585 were in reserve and 37,720 were in the youth

fire service. Around 99% of firefighters in Austria are volunteer members and perform their service without pay. The proportion of women in the fire service showed a strongly positive development. Between 2008 and 2024, the proportion of women increased by 189% to 36,003 members, which currently represents just over 10% of the total membership. In 2024, the fire departments carried out a total of almost 340,000 operations – these were divided into 65,233 fire operations, 246,999 technical operations, and 27,284 other operations. Many of the technical operations were due to natural events such as rainfall and storms. Almost 43,000 operations were flood and pumping operations, and 27,216 operations were storm operations. Other technical operations included 24,427 traffic incidents, 13,768 door openings, 11,091 operations following pollutant leaks, and 167 operations involving vehicles with alternative fuels. (Data on the type of operations exclude Vorarlberg and partially exclude Vienna) 10,457 fire operations took place in 2024 in offices, commercial, and industrial facilities. Residential buildings burned 7,096 times, and public buildings burned 5,392 times. Fires in nature (fields, meadows, and forests) and in vehicles were extinguished almost 2,300 times, and agricultural operations 1,224 times. (Data on the locations of fire operations exclude Vorarlberg) Over 10,000 people and almost 7,000 animals (excluding Vienna and Vorarlberg) were rescued during the operations (ÖBFV, 2025).

4.3.2 Spatial and Social Implications

The spatial and social implications of firefighting are diverse. Due to a lack of data and information, this subsection only provides an overview of some data on fire services and volunteering in Austria, which does not fully address the spatial and social influences of firefighting. Since there are no sources that have dealt in detail with the spatial implications of firefighting in Austria, only some data on the federal states are compared here. Some further spatially relevant information can be found in the previous chapter. To obtain an overview of the supply situation in the federal states, data on municipalities were put into context with the number of fire departments. However, this cannot in any way provide information about the actual quality of service (e.g., with regard to undersupply). To make more precise statements, data on the spatial location of fire departments and their staffing levels and equipment are lacking.

Some generalizable information and differences can be identified from the data in Table 2. For example, it can be seen that in all federal states except Salzburg, there is, on average, more than one fire department per municipality. This can be attributed to the fact that

individual villages within municipalities often have their own fire departments. Since Vienna is both a municipality and a federal state, the average data almost always represents outliers. At this point it is important to mention again that the data presented does not necessarily make any statements about the quality of service. If one looks at the areas that are on average within the fire departments' area of responsibility, large differences can also be seen. However, these do not represent a clear quality criterion because, for example, in Tyrol a relatively large part of these areas are located in the high alpine region and are unpopulated. An interesting observation is that the numbers are often relatively close to one another and some outliers can be identified. For example, the number of buildings that are on average within the fire departments' area of operation ranges from just under 400 to around 550 in most federal states, while in Vorarlberg it is 742, in Salzburg 1128 and in Vienna as many as 4394. In terms of the number of inhabitants in the operational areas, Salzburg and naturally Vienna stand out. This pattern emerges across all data. In the case of Vienna, the explanation for the outliers is obvious, but why Salzburg stands out due to its relatively low number of fire departments remains unclear.

Table 2 Data on Fire Services in Austrian Federal States

State	Fire Brigades per Municipality	Area in km² per Fire Brigade	Buildings per Fire Brigade	Population per Fire Brigade	Number of Fire Brigades (2024)
Burgenland	1,8	12,63	428	962	314
Carinthia	3,2	22,28	430	1 331	428
Lower Austria	2,9	11,37	378	1 022	1687
Upper Austria	2,1	13,23	467	1 689	906
Salzburg	1,0	57,70	1 128	4 609	124
Styria	2,7	21,35	495	1 653	768
Tyrol	1,3	35,53	545	2 180	356
Vorarlberg	1,5	18,07	742	2 847	144
Vienna	40,0	10,37	4 394	50 144	40
Austria	2,3	17,60	498	1 921	4767

Sources: Own calculation based on data from Statistik Austria (2024a); ÖBFV (2025)

Firefighters in Austria are significantly more important than simply fulfilling their duties. They are cultural institutions that cultivate a certain club culture and combine this with a useful and important mission. Especially in rural areas, fire brigade festivals are among the largest cultural events of the year in many communities. This important role is based on the

broad participation of volunteer firefighters, which is why some key data on volunteering in Austria will now be briefly presented based on the 2022 Volunteering Survey (see BMSGPK, 2022).

Volunteering refers to unpaid, non-mandatory activities carried out by individuals for the benefit of society, motivated primarily by social or communal considerations. These formal and informal activities are performed outside one's own household and are not linked to employment or formal training. Formal volunteering takes place within organizations or associations - such as fire departments, cultural groups, or rescue services - and includes leadership roles, core duties like emergency response, or support functions such as fundraising. Informal volunteering, on the other hand, refers to assistance provided outside of formal structures, such as helping neighbours or friends. A typical example is traditional neighbourhood support. According to the 2022 Survey on Volunteering, nearly half of Austria's population aged 15 and above (49.4% or about 3.73 million people) engages in some form of volunteer activity. Among them, around 26.6% participate in both formal and informal volunteering, while 25.6% volunteer only within organizations, and 47.8% only informally. Trends over time show a moderate increase in overall volunteer participation, from 44.0% in 2006 to 49.4% in 2022. However, formal volunteering slightly declined (from 28.0% to 25.8%), whereas informal volunteering rose significantly (from 27.0% to 36.7%) (BMSGPK, 2022).

Gender differences are apparent, with men participating more often (52.4%) than women (46.5%) – possibly suggesting that caregiving responsibilities may limit women's involvement. Within the volunteer population, men still slightly outnumber women. Age-wise, the highest volunteer rates are among people aged 50–59 (55.1%) and 40–49 (53.1%), with participation dropping off after age 60. Nevertheless, even among those 80 and older, the rate remains relatively high at 25.2%. When looking at the composition of all volunteers, those aged 50–59 and under 30 are most represented (BMSGPK, 2022).

Education level plays a significant role. While only 31.5% of individuals with compulsory education volunteer, the rates increase to 57.7% for high school graduates and 66.0% for university graduates. People with vocational education or apprenticeships form the largest group of volunteers, followed by university graduates. Differences also emerge by employment status. People who are employed show the highest participation (54.4%), followed by students (53.0%). Stay-at-home individuals also volunteer at near-average levels (48.5%). Lower rates are observed among unemployed persons (38.1%) and retirees (41.2%). Interestingly, many volunteers – about 57.2% of all volunteers – are employed,

while 22.6% are retirees, indicating that while retired people are less likely to volunteer, they still constitute a significant portion of the volunteer base. Those in higher-skilled or leadership jobs volunteer more (60.1–64.8%) compared to workers in manual or assistant roles (BMSGPK, 2022).

Community size and region also influence volunteer rates. Austria's rural regions tend to offer more opportunities, but also sometimes greater necessity, for voluntary engagement due to the country's social, cultural, and institutional landscape. Smaller municipalities (up to 2,500 residents) show the highest participation, with rates decreasing as municipality size increases. In cities with over 100,000 people, only 44.0% engage in volunteering. Regionally, Tyrol (54.5%), Salzburg (53.8%), and Vorarlberg (53.1%) report the highest participation rates, while Vienna has the lowest (41.6%). Despite its lower participation rate, Vienna still contributes nearly 18% of Austria's total volunteers, due to its large population. In contrast, Vorarlberg, though highly active in volunteering, represents only 4.7% of the volunteer pool (BMSGPK, 2022). Tomaschitz & Schmidinger (2022) point out, that the type of volunteer work varies widely across the federal states, influenced by local traditions and institutional structures. For instance, Vienna sees particularly high engagement in educational support activities with 28.4% of volunteers involved in this sector. On the other hand, Burgenland (42.6%) and Styria (40.7%) have the highest rates of involvement in social services and small community-based organizations. Sports clubs attract the most volunteers in Vorarlberg, where 45.6% of respondents reported activity in this area the highest across all regions. In terms of environmental, animal welfare, and gardening initiatives, Tyrol (24.6%) and Styria (21.6%) show the greatest participation. When it comes to arts and cultural activities, Carinthia leads with 29.3%. Finally, religious and church-related volunteer work is most prevalent in Styria, with a rate of 21.1%.

4.3.3 Governance, Instruments and Financing

The Austrian fire service has a clear hierarchical organization, with each level having its own tasks. The umbrella organization since November 1948 has been the Austrian Federal Fire Brigade Association (ÖBFV), in which all state associations are represented (CTIF, 2010). In addition to the state associations, all municipalities with professional fire brigades are also full members of the ÖBFV. The goals of the ÖBFV according to Section 2 (1) of the statutes include the uniform design of the organization, equipment and training of the Austrian fire brigades, taking into account the federal structure of the republic, as well as the representation of interests that go beyond the borders of a federal state and the federal

government. The tasks of the ÖBFV according to Section 2 (2) of the statutes include working on adapting fire service regulations to technical and economic requirements, developing model standards for statutory regulations, clarifying fire safety legal relationships, assessing relevant draft laws and representing the financial interests of the fire brigades to public and private institutions. Other tasks include the creation and distribution of teaching materials, the handling of technical and normative issues, the standardization of equipment, the submission of expert opinions, the conduct of tests in the fire service and the provision of technical advice to the government and administration (ÖBFV, 2022).

In the area of disaster and civil protection as well as civil national defence, the focus is on the development of uniform training and equipment bases, the coordination of exercises and operations across state and federal borders as well as organizational and logistical support. Youth work focuses on recruiting young people, preparing for active service and extracurricular youth education, with activities such as organizing competitions, international meetings, public relations work and representing young people in international organizations. The ÖBFV is also committed to protecting the health and material safety of fire service members, promotes the recognition of special achievements, strengthens the international reputation of the Austrian fire service and is committed to the exchange of experience and cooperation with international and domestic organizations in the field of hazard prevention. In addition, the association coordinates the fire service in Austria, tests and standardizes equipment, participates in relevant companies and societies, sets up competence centres and organizes performance competitions as well as the compilation of nationwide statistics (ÖBFV, 2022).

At the state level, there are state fire brigade associations, which are led by a state fire brigade commander. The exact hierarchy of the state fire brigade associations can vary slightly between the states, but the state fire brigade commands are usually divided into departments with different thematic areas of responsibility. The state fire brigade commander is also superordinate to district fire brigade commanders and, in some states, section fire brigade commanders or regional fire brigade commanders (Salzburg and Upper Austria) (see organizational charts of the state associations). In Salzburg, for example, the district fire brigade commanders are, among other things, the link between the state fire brigade association and the section fire brigade commanders or the fire brigade commanders, while section fire brigade commanders are the link between the district fire brigade commanders and the fire brigade commanders. The information should therefore flow from top to bottom like in a command scheme, although redundancy or an overlap of competencies can also be seen. State fire brigade associations act as interest groups and

service facilities for the individual fire brigades in the federal states. They also develop specifications and guidelines for the technical equipment and organization of fire brigades. In addition, the state fire brigade associations (see e.g. Section 4 Bgld. FwG 2019) or district commands (see e.g. Section 5 StFGPG) are responsible for providing supra-local fire and hazard police, i.e. drawing up operational plans taking into account the existing local fire brigades and their equipment.

The last level in the fire service is the municipal level, which must set up volunteer fire brigades or professional fire brigades to provide fire and hazard police throughout the entire municipal area. In addition, there are also company fire brigades which are mandatory for certain companies due to their size, location and structural condition and the special case of volunteer fire brigades at universities (only in Styria). The mayor is responsible for establishing fire department, although volunteer fire departments must have at least 10 or 20 volunteers, depending on the state. The fire departments are led by fire chiefs, who are elected from the members of the respective fire department. The mayor chairs the election of the fire chief, while the members of the fire department are entitled to vote.

The financing of the fire service is explained here using the state of Burgenland as an example, as it is very similar in all federal states. The Burgenland Fire Service Act stipulates that the costs for fire services must generally be borne by the municipality, and for company fire services by the company itself (Section 62 (1)). This regulation basically includes all fire service equipment, uniforms, vehicles, the fire station and, in municipalities with professional fire services, the salaries of the firefighters. In addition, any costs for compensation for members of volunteer fire services may arise (Section 65 Bgld. FwG 2019). Section 62 (2) of the Bgld. FwG stipulates that the costs for fire services whose area of responsibility extends over several municipalities should be distributed either based on their own negotiations or proportionally based on the population according to Statistik Austria. In principle, the municipality also bears the costs of operations if it is a fire, a natural disaster to take initial measures to avert imminent danger and to eliminate immediate danger, or an acute emergency to rescue people and animals (Section 64 (1)). If a fire brigade operation is caused without sufficient reason or through gross negligence, the person responsible must bear the costs of the operation (Section 64 (3)). The state government must issue a tariff regulation by means of an ordinance for services provided by the fire brigades and the state fire brigade association for which costs are to be reimbursed (Section 64 (7)). The tariff regulation of the Burgenland state government contains the cost rates for operational services provided by the volunteer fire brigades and company fire brigades for the provision and use of firefighting equipment and firefighting facilities (Section 1 (1)

FwTarifV 2023). For example, it is stipulated that the reimbursement of personnel costs per person and hour is EUR 32.40 and for vehicles, depending on the total weight, between EUR 63.70 and EUR 137.10 per hour. Equipment for supra-local operations must be borne by the State Fire Brigade Association unless otherwise agreed (Section 62 (3)). The State Fire Brigade Association receives its funds from grants from the state, reimbursement of costs for the operation or other use of the material resources it provides, grants from third parties and other income (Section 63 (1)). In accordance with Section 59 (1) of its statutes, the ÖBFV finances itself from contributions from ordinary and supporting members, subsidies, voluntary contributions and foundations, income from the association's own companies and investments in companies, including companies under private and commercial law, in particular in capital companies, as well as other grants and income.

5 Case Study - SGI and *Daseinsvorsorge* in Practice

The following chapters address the implementation and understanding of the concept of Services of General Interest in practice in Austria. All levels of governance, including the regional level, were analysed vertically, from the federal level to the municipal level. The focus was on whether and what role the concept of *Daseinsvorsorge* (since SGI is not used in Austrian, but *Daseinsvorsorge* is used synonymously) is considered in the legislation and also in informal strategic and conceptual documents relevant to spatial development in Austria. First, however, the current situation of the case study region in the narrower sense, at the level of the LEADER region Römerland Carnuntum and the three selected municipalities, is presented in order to gain an overview.

5.1 Brief Assessment of the Current Supply Situation in the Case Study Region

The local development strategy of the LEADER region Römerland Carnuntum (REV RLC, 2023) provides some data relevant to SGI provision and the current development status of the region. Economically, the region performs above average in terms of purchasing power, business formation rates, and income levels. It hosts around 43,400 jobs, of which 81% are in the service sector, 17% in industry, and only 2% in agriculture. This reflects the region's advanced transformation into a service-based economy. Agriculture still continues to play an important role in many municipalities of the region. The area is known for having some of Austria's most fertile soils and a high proportion of agricultural land compared to the rest of Lower Austria. However, between 2010 and 2019, the number of farms declined by approximately 17%, aligning with the general trend in Lower Austria. Notably, the number of organic farms grew by around 144% - from 95 to 232 - far exceeding the Lower Austrian average growth of 28%, raising the organic share to about 34% (compared to 23%). Römerland Carnuntum is one of the few regions in Lower Austria with a positive commuter balance, meaning more people commute into the region than out. Three municipalities - Schwadorf, Schwechat, and Bruck an der Leitha - are net in-commuter areas. The region is home to several major employers, including the Vienna International Airport. Despite this, the economy is primarily driven by a large number of small and medium-sized enterprises, with over 8,000 active businesses, particularly in trade, craft, and industry. Future workforce projections for 2030 and 2050 are optimistic, with Römerland Carnuntum being one of the few regions in Austria with a positive employment forecast (REV RLC, 2023).

Education infrastructure is robust, with kindergartens in all municipalities, primary schools in 26 of 29, and secondary schools in nine. Bruck an der Leitha and Schwechat offer grammar schools and vocational institutions. Tertiary education is primarily accessed in Vienna. Civic engagement is strong, with over 1,100 registered associations. In terms of healthcare, the region hosts the Hainburg Hospital, 14 pharmacies, four nursing homes, and eight social care stations. Among the 75 general practitioners, 40 hold contracts with public health insurers, and the overall provision of services is above average by Lower Austrian standards. Broadband infrastructure is well developed, with nearly 90% of households having access to high-speed internet. Tourism plays a significant role, particularly short-term tourism from Vienna and Bratislava. In 2019, there were over 590,000 overnight stays and more than 420,000 arrivals. However, the average stay is short (1.5 days), mainly due to the dominance of airport-related accommodations. Beyond the airport, most municipalities register low overnight numbers (REV RLC, 2023).

5.1.1 Municipality Finances for selected SGI

Since municipal financial data is available on the website offenerhaushalt.at, the expenditures for the services provided by the municipalities that were examined in the master's thesis were retrieved. The data for kindergartens is only shown up to the year 2019 to ensure comparability, as from 2020 onward, some municipalities no longer include personnel costs in the figures. Moreover, the total costs for elementary education cannot be fully represented, as the expenses for childcare services for children below kindergarten age are not clearly itemized. Therefore, only the portion of costs for children of kindergarten age is presented here, and this does not reflect the total expenditures for elementary education.

It should also be noted that in the section "Fire Services (16)" in the municipalities of Mannersdorf and Hundsheim, there is, in addition to the subcategory "Volunteer Fire Departments (163)", another subcategory that cannot be clearly attributed. However, the expenditures and revenues of these subcategories are included in the overall balance and total expenditures. Specifically, Mannersdorf has an additional subcategory labeled "Professional Fire Departments (162)", and Hundsheim includes "Support for Firefighting and Fire Prevention (164)" within the fire services section. It could not be conclusively determined why Mannersdorf records costs for a professional fire department or what exactly the funding in Hundsheim entails.

Looking at the per capita balances of municipal spending for both services, it is evident that the per capita balances for kindergartens are generally deeper in the negative than those for fire services. Additionally, there is a clear trend across all municipalities toward increasingly negative per capita balances for kindergartens. This means that proportionally more money must be spent on childcare in kindergartens. However, it must be taken into account that compulsory attendance for children in the year before starting school was introduced in 2010, which may have led to higher attendance and thus higher costs not covered by revenues. Furthermore, this could reflect the ever-increasing demands on kindergartens, which will play a role later in the master's thesis. Outliers in spending for both services can be explained only by earmarked grants or by increased expenditures due to extraordinary purchases (equipment, new buildings, renovations, etc.).

Regarding the average per capita balances over the observation period, no significant insights can be drawn for either service. Interestingly, the average per capita balance for fire services tends to decrease (i.e., becomes more negative) as the municipality size decreases, although the figures are relatively close to each other. In the case of kindergartens, Mannersdorf shows a significantly more negative per capita balance compared to the other two municipalities. In essence, the per capita balances of both services develop in a similar way in all municipalities, except for the outliers, which became more frequent over time.

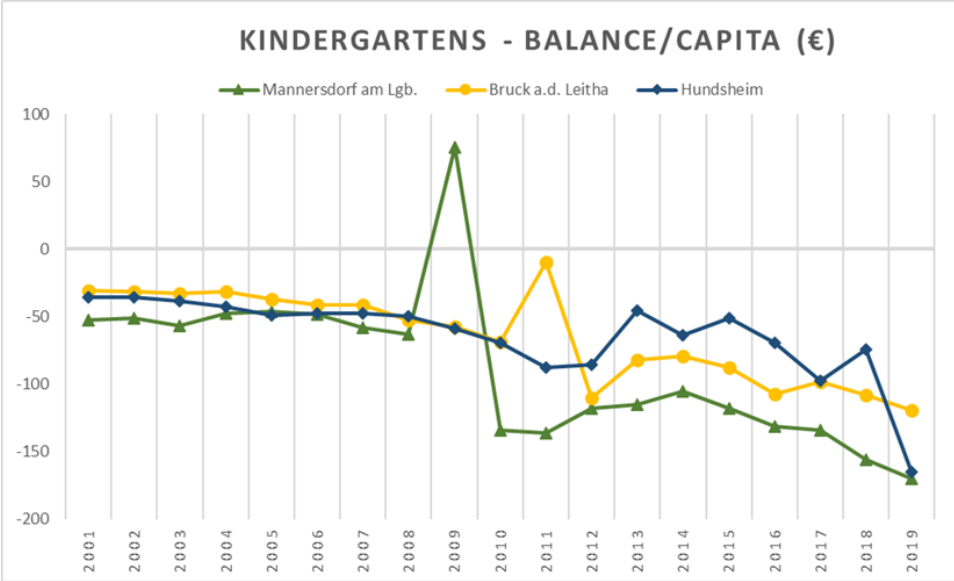

Figure 8 Balance of the municipal finances for kindergartens[1], Data: offenerhaushalt.at

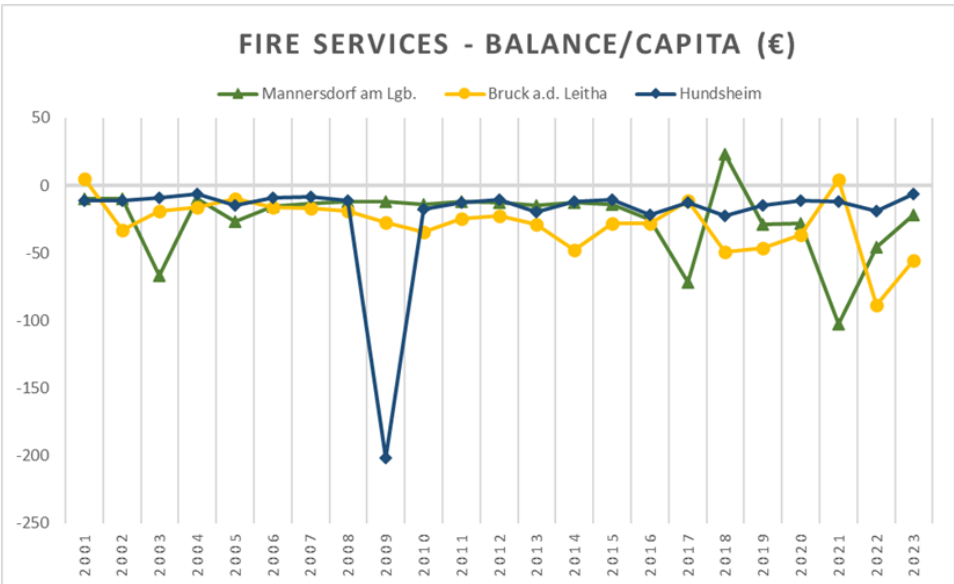

Figure 9 Balance of the municipal finances for fire services[2], Data: offenerhaushalt.at

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[1] The average balance per head for kindergarten in the timespan from 2001 to 2019 in the municipalities is -64,58 € in Bruck a.d. Leitha, -87,61 € in Mannersdorf and -63,92 € in Hundsheim

[2] The average balance per head for fire services in the timespan from 2002 to 2023 in the municipalities is -28,17 € in Bruck a.d. Leitha, -24,09 € in Mannersdorf and -21,09 € in Hundsheim.

5.1.2 Analysis of Accessibility of selected SGI in the Case Study Region

The following results of an accessibility analysis are intended to provide insight into one of the most important aspects of SGI, the accessibility of services providers. Figure 10 shows what percentage of the settlement area of the LEADER region Römerland Carnuntum has accessibility to the respective services within 5, 10 and 15 minutes. For this purpose, accessibility from the services was calculated using the QGIS plugin Valhalla and scaled with the settlement area. This results in a service coverage ratio of the settlement area (see Appendix D for a cartographic illustration of the results). Accessibility was determined for different modes of transport depending on the service. For elementary education, accessibility was determined on foot, for supermarkets both on foot and by car, and for the fire department only by car. It should be noted that accessibility to the fire department is not about the accessibility of the fire station, but rather how far the fire department can go within a given time. The rationale for this choice of transport is both conceptually based on the 15-minute city and based on (realisable) real-life usage. For example, accessibility to elementary education facilities on foot (or other active transport modes) would not only be desirable from the perspective of the 15-minute city, but also quite realistic in practice. However, the same does not necessarily apply to grocery shopping, as this often involves transporting heavy items; therefore, the car was also considered as a means of transport, especially as the case study region is predominantly rural to suburban. The accessibility of fire stations and emergency locations from the fire departments was only calculated for the car, since the fastest means of transport is naturally chosen during operations. It should also be noted that the analysis tool does not allow for an exact calculation of an emergency trip, so a larger deviation must be expected here.

Elementary Education: In 11 % of the settlement areas of the LEADER region Römerland Carnuntum elementary education facilities for children of the age of 0 to 2 years are accessible within a 5-minute walking distance while for facilities for children of the age of 3 to 5 years the same accessibility is given within almost 29 % of the settlement areas. The accessibility in a walking time of 10 minutes is given in just over 27 % of settlement areas for facilities for 0- to 2-year-olds and 60 % for 3- to 5-year-olds. Just 42 % of people (living in the settlement areas) of the LEADER region can access a facility for 0- to 2-year-olds within 15 minutes, while elementary education for 3- to 5-year-olds is accessible for 80 % within 15 minutes. The reason for the poor accessibility of facilities for children aged 0 to 2 years is the smaller number of these and not a less favourable geographical location, especially since many of these facilities are located in kindergartens (for 3–5-year-olds).

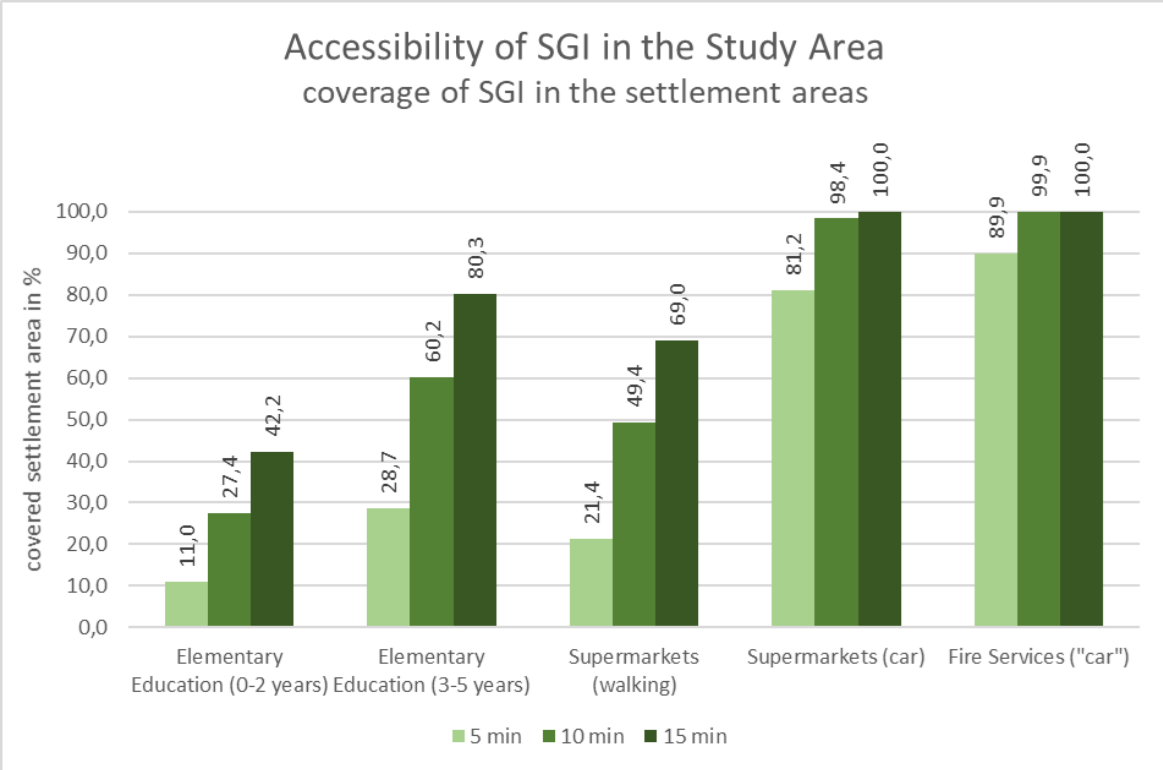

Figure 10 Accessibility of selected SGI in the LEADER region Römerland Carnuntum, own analysis

Supermarkets: Since the data from the "Food Industry Survey" of the Federal Competition Authority (Bundeswettbewerbsbehörde, 2023) show that almost 78% of food purchases in Lower Austria are made by car (including single-track vehicles), both accessibility on foot and accessibility by car were calculated for the supermarkets. The share of grocery shopping done on foot in Lower Austria is just 11.6% - in addition, 7.1% are done by bicycle or scooter (Bundeswettbewerbsbehörde, 2023). The accessibility analysis for food retailers shows that supermarkets are, for most, less accessible on foot than kindergartens (3–5-year-olds). The reason for this may be the often-discussed location of supermarkets on the outskirts of towns, but the Maps in Appendix D also show that some smaller towns have no local food supply at all and therefore cannot be reached on foot. Also, there are legal rules regarding the availability of kindergartens, whereas these do not exist for supermarkets (see Chapter 6). Only just over 21% of the settlement area in the LEADER region can be reached on foot from supermarkets within 5 minutes, while 81% can be reached by car at the same time. Supermarkets can be reached within 10 minutes on foot in just over 49% of the settlement area, while car coverage is just over 98% of the settlement area. In 15 minutes of walking time, 69% of the settlement area is covered with accessibility to supermarkets, while by car it has reached a coverage of 100 %.

Fire Services: As already noted, fire services follow a different logic with regard to accessibility. It is not the fire station that needs to be reached, but an incident location from the fire station. Nevertheless, it should be noted that fire stations must also be easily accessible, as volunteer firefighters need to reach them as quickly as possible in the event of an emergency. Since the exact process - response times, dispatch time, time until a full firefighting crew arrives at the fire station - cannot be precisely quantified, only the actual accessibility from the fire station is shown here. This does not mean that the fire department will actually reach the incident location within the corresponding time period. At the same time, it should be noted that the analysis tool cannot take the speed of emergency vehicles into account, which is why a larger radius can be assumed. Furthermore, only the accessibility of residential areas was calculated here. The accessibility of the road network, which would be relevant in the context of traffic accidents, could not be calculated due to a lack of suitable data. Likewise, the accessibility of other areas such as agricultural land or forest areas was not calculated. Considering all this, the analysis showed that firefighters can reach virtually 100% of the settlement area after just 10 minutes, and 90% after 5 minutes.

5.2 Results of the Case Study

The following chapters describe how the SGI concept is addressed in the central legal and strategic documents relevant for spatial development at all administrative levels in the case study region – from federal level down to the three municipalities of Bruck an der Leitha, Mannersdorf am Leithagebirge and Hundsheim. The core of the case study region is formed by the three municipalities, which are, however, influenced by the planning and strategic orientations of higher levels, which is why they are also analysed.

5.2.1 The Federal Level

5.2.1.1 Austrian Spatial Development Concept (ÖREK 2030)

The ÖREK 2030 (see ÖROK, 2021) represents the current central spatial development strategy of the federal level in Austria. Although the federal level in Austria has no direct competences regarding spatial planning matters, the ÖREK 2030 provides a substantive orientation for all subordinate planning levels. Several aspects of SGI, although using the term *Daseinsvorsorge*, are reflected in many parts of the ÖREK 2030. SGI are addressed

repeatedly in both the principles and the spatial objectives. The ÖREK 2030 action program comprises four pillars, under which objectives and mandates for action have been formulated. Under the second pillar, objective 2, "Further develop regional *Daseinsvorsorge* and polycentric structures with a focus on the future," was established. This objective focuses on ensuring fair and future-oriented access to essential services across Austrias regions. The goal is to provide a balanced distribution of essential services in the areas of education, healthcare, administration, culture, and local supply. Polycentric structures are intended to guarantee the physical accessibility of these services while digital solutions like e-health and e-learning should offer new ways to access these services. In the ÖREK 2030 it is argued, that despite technological progress, having physical access to services still remains vital for quality of life and regional resilience. To achieve this objective, four mandates for action were issued (ÖROK, 2021):

- Mandate for action 2.2a: Access to SGI is seen as crucial, which therfore must be ensured through sustainable transport options such as public transit, cycling, walking, and sharing services. Both regional and supra-regional centres should be reachable via these environmentally friendly modes. Where gaps exist, targeted improvements, like better rail and bus connections or expanded bike paths, should be implemented to support climate goals. An update of the ÖROK accessibility model and collaboration through the "Spatial Planning and Mobility" platform could drive these efforts forward.

- Mandate for action 2.2b: The ÖREK 2030 argues, that in polycentric structures, essential goods and services are distributed according to local needs and characteristics, supported by transparent planning. To meet climate goals and achieve climate neutrality, the concept of polycentricity should be further examined and adapted. Possible measures could be an updated study on “Centrality and Spatial Development in Austria” incorporating findings from the ÖROK accessibility survey and the quality classification model for public transport.

- Mandate for action 2.2c: Societal, technological, and economic changes are reshaping both the needs and opportunities for future-oriented SGI. To tackle these challenges, reliable nationwide data is essential for developing evidence-based strategies. One proposed measure is to compile and publish comprehensive data on SGI in Austria, including legal frameworks, funding, and responsibilities. Additionally, establishing an ÖREK partnership focused on “Future-Oriented *Daseinsvorsorge*” is being considered.

- Mandate for action 2.2d: As a result of social, technological, and economic changes, the demands on SGI are increasing at all levels of government. Uniform (minimum) standards and principles based on an Austria-wide database are intended to enable future-oriented, transparent, and innovative development. Building on this, concrete measures can be agreed upon between local authorities. Plans include an Austria-wide data model for minimum standards and the exploration of an ÖREK partnership on the topic of "Future-Oriented Public Services."

Also, objective 3 of the second pillar, "Actively shape demographic and social change," and its mandates for action address the issue of SGI. It addresses the impacts of demographic and social change on spatial development and highlights the need for proactive responses, with a focus on equal opportunities, gender equality, and social diversity. Its core priority is to adapt and secure SGI to meet the needs of the aging population and at the same time also the needs of children. The climate crisis is argued to exacerbate social and health-related risks, particularly for vulnerable groups, and underscores the urgency of climate-resilient planning in residential areas and SGI. The measures listed include providing shade, cooling options, climate-smart buildings, and recreational spaces and are aimed to benefit people of all ages by improving overall quality of life. Action mandate 2.3b deals with challenges for SGI related to the transition baby boomer generation into retirement and the steadily increasing number of people aged 65 and older. This demographic shift places new demands on SGI, housing, and recreational infrastructure, which must be adapted to meet the needs of an aging population - particularly in light of climate change. Possible measures include identifying differences in the spatial distribution of age-specific care and providing relevant data that are applicable throughout Austria. Objective 2 of the third pillar also contains links to SGI, particularly in connection with digitalization (ÖROK, 2021).

SGI receive particular attention in the ÖREK 2030 through its inclusion in the 10-point program, which bundles those measures from the action program with particularly high priority. ÖROK members (federal government, federal states, the Association of Municipalities, the Association of Cities, and economic and social partners) are expected to support the implementation of the 10-point program. Under the title "*Daseinsvorsorge für gleichwertige Lebensbedingungen gestalten und leistbares Wohnen sichern*" ("Designing *Daseinsvorsorge* for equal living conditions and ensuring affordable housing"), point 7 reaffirms the relevance of the topic and proposes core and supporting measures. Under point 7 core measures and working formats, as well as other supporting measures for implementation, are proposed. These include, among other things, the possible establishment of an ÖREK partnership on the topic of "Future-Oriented SGI" and, if

appropriate, the development of an ÖROK recommendation on (minimum) standards for SGI. One of the supporting measures proposes an Austria-wide data/calculation model for minimum standards or principles that systematically consider accessibility, transport needs, and GHG emissions (ÖROK, 2021).

5.2.1.2 Regions Strategy

A further national initiative that aims to create equal living conditions across all regions in Austria is the “Meine Region – Heimat. Zukunft. Lebensraum.” (“My Region – Home. Future. Living Space”) initiative of the Federal Ministry of Agriculture, Forestry, Regions and Water Management. The associated strategy, “Meine Region – Unser Weg” (“My Region – Our Path”) (see BML, 2022), unlike the ÖREK 2030 is not a dedicated planning strategy but rather a set of goals for regional development. It provides guidance for the strengthening of the Austrian regions and emphasizes that its implementation must be a shared effort involving federal ministries, states, municipalities, and local stakeholders, whereas the BML sees its role primarily as a coordinator and facilitator in this process.

The strategy places a strong focus on SGI with thematic area 2, "Making living spaces attractive – securing regional *Daseinsvorsorge*" (one of a total of four thematic areas). This strategy not only emphasizes the importance of SGI against the backdrop of various change processes but also defines three fields of action.

The field of action "Security of Supply and Resilience"

The key priority is securing essential services and resources while building the capacity to respond effectively to crises and environmental changes. This includes improving regional food supply by supporting local farms and promoting direct marketing and digital sales, which in turn enhances value creation in rural municipalities. Ensuring reliable access to clean drinking water and effective wastewater management across all regions is also critical. In parallel, measures are being implemented to protect people and settlements from natural disasters exacerbated by climate change, including floods, wildfires, and bark beetle infestation, through comprehensive risk management and infrastructure improvements.

The field of action “Services”

The second field of actions aims to maintain and improve the quality of life in rural regions by strengthening the provision of essential services. This involves expanding access to education, childcare, healthcare, and cultural offerings, especially in more remote areas. Contemporary childcare and education offerings are seen as one of the key factors to

encourage families to stay in their home regions, helping to counteract population decline. Furthermore, improving access to healthcare for all age groups – particularly through telemedicine and regional cooperation – is argued to enable well-being and regional stability. Volunteering is also a vital element, with many people actively contributing to social, educational, and cultural services. Therefore, efforts are underway to modernize volunteer frameworks and recognize the values gained through such engagement.

The field of action "Smart Regions"

To ensure that rural regions can meet current and future challenges, the strategy promotes the development of "Smart Regions" through the integration of digital, sustainable, and innovative solutions. Inspired by urban smart city concepts, rural areas are encouraged to adopt the "Smart Village" model, using local strengths and community input to develop tailored approaches to issues like mobility, education, and public services. Expanding climate-friendly and inclusive transport options, closing the digital divide, and fostering digital skills are argued to be central to this effort. Also, regional collaborations are argued to improve the efficiency and sustainability of public service delivery, avoid land waste, and strengthen rural economies through cooperative projects.

To support the implementation of these fields of action, the ministry focuses on two main pillars. Firstly, regions should be supported on an equal footing in achieving their development interests and, at the same time, should be won over as partners for the implementation of overarching strategies and optimally empowered for this purpose. Secondly, policymakers should be made aware of regional diversity so that these can be taken into account when establishing legal frameworks, strategies, initiatives, or funding programs at the federal level.

5.2.1.3 CAP Strategic Plan 2023-2027

The CAP Strategic Plan (GAP-Strategieplan 2023-2027) is Austria's central tool for implementing the European Union's Common Agricultural Policy (CAP) for the funding period 2023 to 2027. It replaces previous rural development programs and, for the first time, combines both pillars of the CAP into one national plan: direct payments and market measures (Pillar 1), and rural development measures (Pillar 2). Funding remains split: Pillar 1 is fully financed by EU funds through the European Agricultural Guarantee Fund (EAGF), while Pillar 2 is co-financed - approximately 50% from the EU via the European Agricultural Fund for Rural Development (EAFRD) and 50% from national sources (federal and regional governments). The aim of the Strategic Plan is to better coordinate the CAP across Europe

and address key challenges such as climate and biodiversity protection more effectively. Under the EU's Multiannual Financial Framework (MFF) 2021–2027, around €386.6 billion are allocated to the CAP, with Austria receiving a significant increase in funding compared to the previous period. At least 40% of the CAP budget is earmarked for climate-related measures (BMLUK, 2025). The CAP Strategic Plan is not a strategy for spatial development, but guarantees financing for SGI-relevant projects, which is why some points are briefly discussed here.

Within the framework of the CAP Strategic Plan 2023-2027, SGI play a particularly important role in specific objective SO8. The term *Daseinsvorsorge* appears several times in the CAP Strategic Plan, but most frequently in the SWOT analysis of specific objective SO8. This analysis identifies weaknesses in the area of social inclusion, which are due to a lack of social infrastructure such as schools, childcare, elderly care, and nursing care in rural areas. Furthermore, a lack of basic services and infrastructure such as retail, post offices, and restaurants is identified. Two interventions explicitly include objectives intended to contribute to improving SGI provision. In the assessment of needs and intervention strategies, *Daseinsvorsorge* is mentioned under codes B32 and B33 in the context of improving broadband coverage in rural areas. The SWOT analysis of specific objective SO8 provided insights that are reflected in interventions 73-11 and 77-04 (BMK, 2024).

The intervention "73-11 - Investments in Social Services" aims to improve high-quality, flexible, and decentralized social services in rural areas. Investments in childcare and support services are intended to contribute to a better balance between family, work, and private life, thereby strengthening equality and the economic, social, and political participation of women in particular, who still bear the brunt of childcare. The need for modern childcare infrastructure, especially for children under three, was identified during the baseline analysis, which is why this intervention primarily aims to create childcare services for children under three (BMK, 2024).

The intervention "77-04 - Reactivation of Vacant Properties through Awareness-Raising & Consulting, Development Concepts & Management to Strengthen Town and City Centres" aims to revitalize town and city centres by making them more attractive and reactivating vacant properties. In accordance with Specific CAP Objective 8 of the CSP Regulation, a contribution is made to strengthening local development, local economic development and thus employment, and by improving local accessibility (short distances) of public services, the inclusion of people with reduced mobility is also strengthened (BMK, 2024).

Equally interesting is that the CAP Strategy Plan, under intervention "77-05 - LEADER," assigns the LEADER program a central role in improving the quality of life in rural areas. Specifically, it states: "*Through LEADER, projects contribute to strengthening the structures and functions of Daseinsvorsorge that are important for the common good, such as services, local amenities, and small-scale infrastructure in urban and village centres, from which the local population benefits.*" (BMK, 2024, p. 305)

5.2.2 The Federal State Level

5.2.2.1 Lower Austrian Spatial Planning Act (NÖ ROG 2014)

The Lower Austrian Spatial Planning Act of 2014 (NÖ ROG 2014) naturally touches on several issues of SGI. However, the term *Daseinsvorsorge* is only mentioned in two places. Firstly, Section 13 (3) stipulates that the local development concept, the preparation of which is not mandatory, must contain statements on the desired infrastructural development and SGI. Secondly, Section 14 (2) [19] stipulates that the settlement development of municipalities must be oriented so that it takes place in those parts of the municipality where the provision of SGI is best.

Relevant provisions regarding SGI can be found primarily in Section 1 (2), the key objectives of the Spatial Planning Act, which must be observed during its implementation. Section 1 (2) [1] sub-point “i” sets out general key objectives such as the avoidance of risks to the health and safety of the population. This also includes ensuring an adequate supply of drinking water and orderly wastewater and waste disposal. Section 1 (2) [2] sets out specific key objectives for supra-local spatial planning. The sub-points most relevant for SGI are the key objectives of ensuring an adequate supply of technical and social facilities to the regions and the establishment of spatial planning measures to coordinate transport requirements. Specific key objectives for local spatial planning are set out in the third point. Section 1 (2) [3] sub-point “e” also emphasizes proper water supply and disposal. Furthermore, ensuring the spatial conditions for an efficient economy, including in the services sector, is set as a key objective. Section 1 (2) [3] sub-point “i” is particularly interesting, as it stipulates that residential land should be designated so that facilities for daily needs – including public services and medical and social care facilities – are easily accessible. A further sentence adds that suitable locations for these facilities should be ensured. This indirectly establishes spatial accessibility for SGI as at least a key objective. The planning of a network of play and open spaces for children and adults is also one of the key objectives of the NÖ ROG. It

is also specified that these open spaces and other recreational facilities should be allocated to the existing and planned residential areas in such a way that they meet the needs of the population and are accessible without danger (Section 1 (2) [3] sub-point “j”).

5.2.2.2 Spatial Development Concept Lower Austria - Räumliches Entwicklungsleitbild (REL NÖ2035)

The Spatial Development Concept for Lower Austria (REL NÖ 2035) is the umbrella strategy for sectoral and regional spatial planning programs, as well as other monothematic and integrative concepts. The goal of the strategically oriented REL NÖ 2035 is to make a significant contribution to safeguarding living spaces and establishing equal living conditions. In its orientation, REL NÖ 2035 adheres to the framework of the ÖREK 2030. The ten basic principles of REL NÖ 2035 do not address the topic of SGI literally, but at least partially address it thematically. They primarily include goals intended to prevent the deterioration of processes such as climate change and settlement development, which can be classified as "drivers" of SGI. Implementation takes place within the framework of regional master plans, in which measures are deepened, coordinated, and developed. The REL NÖ 2035 defines SGI as one of four core topics for regional master planning (Regionale Leitplanung), although the implementation of this topic is voluntary.

5.2.2.3 Lower Austria Mobility Concept 2030+

The Lower Austria Mobility Concept 2030+ arguably addresses one of the most important areas of SGI. Without appropriate infrastructure such as roads, public transport, or cycle paths, accessibility to SGI is practically impossible. The mobility concept mentions accessibility countless times but does not specify which facilities should be accessible. In the mobility concept, accessibility primarily refers to the accessibility of central locations, which, generally have superior infrastructure to rural municipalities. Therefore, it is reasonable to assume that the goal of accessibility, although not specifically described, also includes the accessibility of SGI. However, accessibility and mobility infrastructure for companies, which are considered in the European SGI model, are also taken into account with the goal of creating intermodal hubs for freight transport. The establishment of (minimum) standards and minimum requirements is sought both in the priority areas for the federal state and in the priorities for centres and transport axes. For example, supply and demand standards are being developed in public transport to create attractive, efficient, and affordable services for Lower Austria. Furthermore, statewide accessibility standards in the form of regular service are to be developed for public transport centres. Furthermore, accessibility to central locations and facilities and access to transport axes are to be

facilitated. To this end, the priority for transport axes stipulates that supply standards in public transport are defined and that the state will co-design and promote demand-oriented public transport as a supplement to scheduled services. The establishment of uniform standards for pedestrian traffic, such as minimum sidewalk widths, is also being sought.

5.2.2.4 Digitalization strategy Lower Austria

Lower Austria's digitalization strategy addresses another topic that is often cited in connection with SGI as a proposed solution for gaps in the provision in rural areas. The digitalization strategy also focuses on the digitalization of rural areas to improve the quality of life there. The exemplary measures of the strategy are not the usual replacement or supplementation of physical services with digital services, but primarily digital administration, which is intended to simplify and accelerate certain tasks. Teleworking (home office) for certain professional fields is also cited in the corresponding field of action as a goal of improving the quality of life, but primarily with the background of avoiding CO2 emissions. The digitalization strategy also makes no reference to the concept of *Daseinsvorsorge*, although digitalization is often seen as an important element in ensuring equal living conditions.

5.2.3 The Regional Level

5.2.3.1 Regional Spatial Planning Program for the District of Bruck an der Leitha (as of 28 January 2025) (RegROP)

The ordinance on the Regional Spatial Planning Program, in this analysis the one for the administrative district of Bruck an der Leitha, incorporates the objectives of the Regional Master Plan into local spatial planning. The treatment of SGI in the narrower sense continues to take a back seat. In addition to the objectives and measures to counter external influences on the provision of SGI, Section 3 (6) sets out the objective of ensuring climate-friendly spatial planning, taking into account the functions of living, working, leisure, as well as supply and mobility. Beyond this, the Regional Spatial Planning Program contains no measures or standards for SGI – neither sectoral nor cross-sectoral.

Nor does the cartographic plan of the Regional Spatial Planning Program provide any concrete insights into SGI in the region in the narrower sense. However, the designation of agricultural priority areas and the representation of designated building land, business areas,

and industrial zones play an important role in the provision of services and the production of public goods.

5.2.3.2 Main Regional Strategy 2024 – Industrial District Region (Review of the previous planning period)

The 2004 State Development Concept and the 2005 Main Regional Strategy (Hauptregionsstrategie) defined key objectives for state development. These strategies were evaluated in 2013 to assess their implementation status and derive recommendations for further development. Based on this, a comprehensive revision was carried out in 2014 as part of the reorientation of regional development in Lower Austria and in preparation for the 2014-2020 EU funding period. The goal was to create a common strategic framework for all regional activities until 2024.

The 2024 Main Regional Strategy for the Industrial District focuses on four key areas of action: value creation, environment/energy, *Daseinsvorsorge*, and cooperation. These are based on an evaluation and were developed with the involvement of regional stakeholders in workshops and working groups. The strategic direction was derived from a reflection of the 2005 Strategy, a SWOT analysis, and a strategy matrix. The primary objective of Action Area 3 (*Daseinsvorsorge*) was to strengthen "the structures and functions of SGI in the main region and its sub-regions" by 2024. The SWOT analysis for the *Daseinsvorsorge* action area provided a description of the current state of the district including relevant aspects for SGI, such as the strong population growth in parts of the region, information mobility and accessibility of SGI and the provision of public services. However, the main regional strategy did not set any specific objectives or establish measures or even (minimum) standards for SGI.

5.2.3.3 Regional Master Planning for the Bruck an der Leitha Region (Regionale Leitplanung)

In the process of developing regional master plans, municipalities, the region, and the state of Lower Austria work together to coordinate and define relevant spatial planning content derived from the REL NÖ 2035. Spatial planning provisions of the regional master plans subsequently feed into regional spatial planning programs prescribed by the state and thus also become effective in local spatial planning. The planning horizon of the regional spatial planning programs is approximately ten years.

In the regional master plan for the Bruck an der Leitha region (see NÖ Landesregierung, 2024), specific objectives for SGI are defined hand in hand with settlement development. The basic principles of the regional guiding principle for settlement development include the following:

- social infrastructure facilities are utilized to capacity, but not overloaded,
- local supplies of everyday goods are secured,
- health, education, culture, tourism, sports, and local recreation are strengthened in the spirit of cooperative and sustainable regional development in the region, and
- short distances and environmentally friendly accessibility of public services are anchored regionally as essential criteria.

However, the objectives of the other guiding principles for business development, landscape, green spaces, and open spaces, also indirectly affect SGI through their impacts on "drivers" of SGI. Within the core themes, SGI play a subordinate role. The preservation of the quality of life and living in the region should be ensured by safeguarding ecosystem services and soil. This goal primarily encompasses measures to limit the impacts of "drivers" such as climate change.

As part of the development of the regional master plan, the fourth regional forum, in which municipalities from the region were represented, voted on further potential topics for in-depth treatment. Of the eight topics up for vote, "Regionally Coordinated *Daseinsvorsorge*" was ranked only sixth most important. However, a further survey of important topics revealed public transport and transportation as key priorities. Whether public transport is not considered part of SGI or whether only this service is considered to be truly relevant cannot be answered, but it is clear that SGI as an overarching concept is apparently not considered to be of significant importance in the context of further in-depth treatment of the topic.

5.2.3.4 Local Development Strategy Römerland Carnuntum 2023-2027

The Local Development Strategy of the LEADER region Römerland Carnuntum for 2023 to 2027 (see REV RLC, 2023) does not explicitly focus on SGI but does partially address areas of SGI. However, this topic is not prioritized under this term *Daseinsvorsorge* (neither SGI nor its German translation). When defining its fields of action, the Local Development Strategy takes into account the objectives of federal state and other region-specific strategies. In this context, it is pointed out that the topic of *Daseinsvorsorge*, as it is

addressed in both the Regional Master Plan and the Main Regional Strategy, is also addressed in the Local Development Strategy of the LEADER region. Apart from that, SGI is only treated indirectly and sectorally.

Indirect links to SGI exist in the flagship projects, which address topics such as mobility planning for women, local recreation, and tourism, including in connection with the existing cycle path network. For example, the flagship project "Römerland Genuss Zirkus" of Action Area 1 aims to revitalize retail and restaurants by increasing visitor frequency in inner-city areas and community centres through an additional offering of regional products. This could, for example, ensure local supplies in smaller municipalities for local residents.

In conclusion, it must be noted that despite the high relevance of LEADER for services of general interest as stated in the CAP Strategy Plan, the topic is only dealt with indirectly, but certainly not strategically, in the LEADER region Römerland Carnuntum. Nevertheless, the region's emphasis is on subjects that can undoubtedly be regarded as SGI, thereby establishing a distinct interface with the aforementioned topic.

5.2.4 The Municipal Level

The municipal level, at which almost every action contributes to ensuring the provision of SGI, proves to be particularly challenging to analyse. Section 13 of the Lower Austrian Spatial Planning Act provides for the conception of a local spatial planning program, which defines the municipality's planning objectives and outlines measures to achieve them. The spatial planning program must include the zoning plan, but the creation of a local development concept is not mandatory unless a good reason exists. Interestingly, Section 13, Paragraph 3, which specifies which statements must be included in a local development concept, is one of only two places in the entire Spatial Planning Act where the term *Daseinsvorsorge* is specifically mentioned. Thus, the only planning document that must make concrete statements regarding SGI is not legally binding and does not have to be accessible to the public. While zoning plans represent important instruments for securing services, they do not make any concrete statements regarding the strategic orientation regarding SGI. Thus, the handling of SGI is left to the municipalities, without the need for a concrete strategic orientation or planning. While future developments can theoretically be derived from zoning, the actual implementation of the Plan (development of the areas) offers considerable flexibility in terms of timeframe and actual land use. Therefore, neither zoning plans nor other strategic development concepts at the municipal level were examined. The

following section depicts results from the interviews with the mayors of Bruck an der Leitha, Mannersdorf am Leithagebirge and Hundsheim. It attempts to illustrate how the concept of SGI (*Daseinsvorsorge*) is understood and how its provision is organised in practice in these municipalities.

5.2.4.1 SGI in the Case Study Municipalities

The analysis of three interviews reveals a fragmented, pragmatic, and often implicit understanding of the EU concept of Services of General Interest, respectively *Daseinsvorsorge* in the national context. At the municipal level, the term itself is largely unknown or unused in practice. Instead, local authorities approach SGI as a set of concrete services that are managed individually, depending on local needs, resources, and political priorities.

Across all interviews, it became evident that *Daseinsvorsorge* is not a well-established or clearly defined concept at the local level. The term is rarely used in daily administrative routines, and strategic frameworks such as the ÖREK 2030, which set overarching goals for SGI provision, are virtually unknown among municipal representatives. Mayors associate SGI primarily with tangible services such as kindergartens, local infrastructure, waste management, public transport, and sometimes tasks such as the provision of affordable housing or support for associations and companies were also discussed. However, there is no systematic or holistic conceptual framework in place at the municipal level to categorize or manage these services under the umbrella of SGI. The lack of conceptual clarity does not imply inaction but rather a strong focus on practical, demand-driven problem-solving. Local authorities tend to perceive SGI not as a unified policy area but as a collection of sectoral tasks to be managed within the constraints of local budgets and human resources. The provision of SGI at the municipal level is highly context-dependent and shaped by the demographic, economic, and geographic characteristics of each municipality. Many of these characteristics, or so-called drivers, go through developments (Humer et al., 2015), which are often taking place in parallel, which in theory would suggest a joint approach to SGI, but in practice the different requirements for each service lead to a focus on individual areas. The interviews suggest that local administrations adapt flexibly to changing needs - for instance, expanding kindergartens when new housing developments lead to a surge in young families, or revising maintenance priorities when community behavior shifts. This localized, reactive mode of SGI delivery is accompanied by a strong sense of realism, pragmatism and financial awareness. The mayors stress the importance of enabling the essential services

while acknowledging that not every service can or should be provided locally, especially when demand is low.

The fundamental objective of SGI, namely the creation of equitable living conditions in all regions, is perceived with a degree of scepticism and pragmatism within these municipalities. While the question of what is meant by equal living conditions and whether these could be realised was not answered directly in Mannersdorf, it was made clear that the provision of ‘all’ services was not possible. This was also reflected to a certain extent in the answer given by the mayor of Bruck, whose answer to the same question implicitly stated that equivalence is guaranteed by the prioritised essential services. He did not elaborate on what these essential services are. However, they certainly include the basic SGI, which where not further defined either and to which both the mayor of Mannersdorf and the mayor of Hundsheim refer, which must also be fulfilled during times when the municipal finances are exhausted. On the subject of equivalent living conditions, the mayor of Hundsheim says that 'equal' cannot mean 'the same' due to the different preconditions of the municipalities. He believes that people who move to Hundsheim are aware of the level of SGI provision in the municipality, and that the population's needs differ from those in larger municipalities. This is partly reflected in the absence of unrealistic requests from citizens for additional infrastructure or services. The understanding of equivalence in living conditions is thus not interpreted as identical provision of services but as functional equivalence adapted to local needs.

A fundamental prerequisite for equivalent living conditions is not only the availability of services, but also their accessibility. Good accessibility to services that are not locally available can, to some extent, compensate for their absence. The interviews revealed that the issue of accessibility was given varying levels of importance across the municipalities. For example, the mayor of Bruck focused in the interview primarily on the expansion of cycling infrastructure, given the already good provision of SGI and the strong connection to both the road network (with direct access to the A4 motorway and the B10 as an important traffic axis towards Vienna) and public transport (railway connections to Vienna, Bratislava (SK) and Hegyeshalom (HU)). He mentioned plans to connect the shopping center “Eco-Plus,” located approximately 2.2 kilometers outside the town center, to the cycling network in the near future.

The mayor of Mannersdorf was also well acquainted with the topic of accessibility. Mannersdorf offers a local taxi service (“Ortstaxi”), which operates within the municipality for a flat rate of 2 euros per ride, although it does not cross municipal boundaries. This

service is particularly beneficial for residents of Wasenbruck, a village located around 3 kilometers from Mannersdorf, who do not own a private vehicle, especially since the village does not have a local grocery store. In addition, two annual public transport passes valid for the federal states of Lower Austria, Vienna, and Burgenland are made available free of charge to residents to facilitate travel to more distant destinations. They can be reserved online and borrowed for single day use. According to the mayor, both services are well received by the local population.

Residents of Hundsheim face the greatest challenges in terms of accessibility to many SGI. However, the mayor emphasized that the population is aware of this situation and does not consider it a major problem. He explained that, unlike in Mannersdorf, the municipality currently does not offer a comparable service, although shopping trips were organized in the past. These trips were eventually discontinued due to lack of use. As for public transport, he noted that it is primarily designed for school children, with very few buses operating during the rest of the day, those that do run often remain empty. Overall, in the municipalities of Mannersdorf and Hundsheim - where many SGI can only be accessed by car - the issue of accessibility appears to be approached pragmatically.

Another topic discussed was the cooperation of municipalities or regional actors to secure SGI delivery. Although certain forms of collaboration have been established, such as shared use and financing of schools (these are based on pure necessity), these arrangements are not the norm. There appears to be a lack of active coordination in the planning and provision of SGI across municipal borders. While the mayor of Hundsheim at least sees the potential for inter-municipal cooperation in the area of recycling collection centers, the mayor of Mannersdorf says that there is no need for cooperation in his municipality and that it does not look beyond its own borders when it comes to providing SGI. Only Bruck an der Leitha maintains close cooperation with its neighboring municipality of Bruckneudorf, with which it has practically grown together, although the municipalities are separated by a federal state border. In this case, however, the cooperation is limited to individual SGI areas. Cooperation in the areas of SGI by regional players such as the LEADER region does not play a role in any of the municipalities.

All three mayors emphasized the financial and administrative strain, particularly in areas like childcare, public space maintenance, or compliance with regulations. The funding provided through the revenue shares of the financial equalization is frequently perceived as insufficient, leaving municipalities to cover a disproportionate share of the costs for SGI delivery. Even relatively minor new responsibilities, such as maintaining public green

spaces that were previously cared for by residents, require considerable human and financial resources in a small municipality like Hundsheim.

There were different statements on minimum standards and other requirements from higher planning levels. While the topic was not particularly addressed in Mannersdorf, there were clear opinions in the municipalities of Hundsheim and Bruck. Strict minimum standards were perceived as burdensome in all municipalities, but very different challenges were recognised. Seemingly minor standards, such as the obligation to create a barrier-free polling station in each municipality, were perceived as a challenge in Hundsheim. However, no one spoke out completely against top-down requirements in general. Some of the current requirements do not appear to fulfil the intended purpose nor do they take the individual possibilities of the municipalities into account. The mayor of Bruck even argued in favour of uniform nationwide minimum standards for kindergartens and schools, which is certainly also due to the city's location directly on the Burgenland border and experience with cross-border school provision.

In the following, some information on the services focussed on in the master's thesis is presented from the interviews to give an impression of their provision and potential challenges.

5.2.4.2 Elementary Education

In terms of childcare and early education, all municipalities are experiencing pressure from increased demand, amongst others caused by minimum standards such as the earlier entry age of 2.5 years, smaller group sizes and the trend toward extended opening hours. However, their capacity to respond varies, depending on available space, financial resources, and staff. In the municipality of Hundsheim, for instance, a special permit was applied for from the state of Lower Austria when the maximum number of children in the kindergarten group was exceeded. This makes sense for a small municipality, as it would be uneconomical to split a kindergarten group with slightly too high occupancy into two. This would require two separate group rooms, which might necessitate new construction or a different building, and the number of caregivers would need to double. Therefore, in Hundsheim an additional kindergarten group was only established when the group size was significantly exceeded. While in the municipality of Mannersdorf, there are currently no issues with the provision of kindergarten places, Bruck an der Leitha is likely to encounter challenges in the near future due to the consistently increasing demand. The mayor of Bruck expressed his dissatisfaction with the small group sizes and the lack of flexibility in this regard. In his opinion, it would be better to provide kindergarten groups with additional staff than to keep

adding new groups. The focus in the area of elementary education in the municipalities is clearly on kindergartens, so the care of children under kindergarten age was only an issue in Bruck.

5.2.4.3 Local Food Supply

The case study municipalities demonstrated that, even in the area of local food retail provision - typically characterized by profit-driven private sector dynamics and seemingly limited municipal influence - there are indeed local initiatives. For example, the mayor of Bruck reported on regular discussions with executives from grocery retail chains to explore possibilities for retaining branches within the town centre. It was also mentioned that the premises of the only grocery store in the cadastral community of Wilfleinsdorf (part of Bruck) are provided rent-free by the municipality to ensure local food supply in the village.

A similar approach was described by the mayor of Hundsheim, where a few years ago the municipality covered part of the rental costs for a general store. However, the conditions in this small municipality were quite different: the store was not well received by the population and had to close after only about a year and a half. Nevertheless, the mayor of Hundsheim repeatedly emphasized that access to the nearest supermarket - located in the neighbouring municipality of Bad Deutsch-Altenburg - is no worse than access to supermarkets in larger municipalities like Bruck, where such stores are often located on the outskirts. He also noted that potential new residents of Hundsheim are generally aware that many services are only accessible by car, and whether they need to drive a few kilometres more or less makes little difference in such a context.

In Mannersdorf, the focus was on a different issue. The local food supply is generally well covered; however, two of the three local supermarkets wish to expand their sales area. Although they are located very close to one another, the boundary of the designated town centre zone runs between them - meaning that one of the markets is permitted to expand, while the other is restricted to a maximum sales area of 750 square meters. An expansion of the town centre zone would be possible in conjunction with a planned residential development project. However, this project has been delayed due to a level crossing signal installation over a freight railway line, which the municipality would need to finance in order for the development to proceed. In Mannersdorf as well, discussions have taken place with representatives of supermarket chains to either establish an additional supermarket in the town centre or relocate the existing central supermarket to a more suitable location with better parking facilities. In all municipalities, it was emphasized that the final decision lies

with the supermarket chains themselves, which have their own specific requirements and often prefer locations on the urban periphery.

5.2.4.4 Fire Services

The fire service was not regarded as a particular challenge by any of the mayors. It is perceived more as a given, which is understandable considering both the essential services provided by fire brigades and their cultural significance, particularly in rural areas.

An interesting remark in this context came from the mayor of Bruck, who pointed out that the cadastral community of Wilfleinsdorf, despite having significantly fewer inhabitants than the main town of Bruck, has roughly the same number of volunteer firefighters. This may be attributed to traditional and cultural factors, as volunteer fire brigades in rural municipalities often represent key institutions not only from an operational perspective but also in terms of local culture—through fire brigade bands, festivals, and other social events. Associations in general play an important role in the social fabric of these communities.

In both Mannersdorf and Hundsheim, the fire service was likewise not considered particularly problematic, whether in terms of organization, recruitment of volunteers, or funding. However, both mayors emphasized the critical importance of subsidies for acquisitions mandated by the regional fire service associations. Without such financial support, these investments would not be feasible.

5.3 Summary and Discussion of the Implementation and Understanding of the Concept of SGI in Practice

The analysis of the Austrian strategies relevant to spatial development at the federal level - namely the Austrian Spatial Development Concept (ÖREK 2030), the regional strategy "My Region – Our Path", and the CAP Strategic Plan 2023-2027 – reveals a broad integration of the concept of Services of General Interest, but exclusively under the German term *Daseinsvorsorge*. Although their scope, character and focus vary, all three documents underline the importance of SGI in ensuring equal living conditions and regional resilience.

The ÖREK 2030 functions as the overarching strategic framework and articulates a comprehensive vision for spatial development in Austria. Despite the federal government's lack of direct spatial planning competences, the document holds significant guiding value for subordinate planning levels. SGI are not only explicitly addressed in the strategic

objectives – especially within the second pillar, “Strengthening social and spatial cohesion” – but are also prioritized within the 10-point action programme. Here, access to SGI is framed as essential for both urban and rural areas. The mandates for action under this pillar promote a future-oriented, evidence-based and inclusive development of SGI, taking into account demographic change, digital transformation, and the climate crisis.

The regional strategy “My Region – Our Path” is focusing on SGI within Austria’s rural regions. It emphasizes a cross-sectoral and cooperative approach, assigning particular importance to SGI within the thematic field “Securing regional *Daseinsvorsorge*.” The strategy translates the concept of SGI into regional development goals, such as resilient food systems, access to education and healthcare, and the modernization of public services through digital tools. It also promotes citizen participation and recognizes voluntary engagement as a core component of SGI provision, especially in rural areas. Furthermore, the “Smart Regions” framework introduces innovative models – such as “Smart Villages” – that seek to modernize SGI delivery through locally tailored and digitally supported solutions.

While the CAP Strategic Plan 2023–2027 is not a spatial development strategy per se, it plays a crucial supporting role by providing financial resources for SGI-related interventions in rural areas. Specific Objective 8 (“Promoting social inclusion, poverty reduction and economic development in rural areas”) explicitly addresses weaknesses in social infrastructure and access to basic services. Interventions such as “Investments in Social Services” and the revitalization of rural town centres directly contribute to enhancing the provision of SGI. The LEADER program is also highlighted as a key tool for supporting small-scale, community-led projects that reinforce local SGI structures. Thus, the CAP Plan serves as an important instrument for the practical realization of SGI goals, particularly in structurally disadvantaged rural regions.

At the state level, the integration of SGI into spatial and sectoral planning in Lower Austria reveals a fragmented picture. The Lower Austrian Spatial Planning Act (NÖ ROG 2014) contains several provisions that directly or indirectly relate to SGI, although the term *Daseinsvorsorge* is only explicitly mentioned twice. Most notably, Section 1 outlines general and specific objectives for both supra-local and local spatial planning, many of which align with the goals of SGI provision. Particularly relevant is the objective that residential areas must be planned in a way that essential public services and facilities for daily needs are spatially accessible. However, the legal framework's focus remains largely on infrastructure and land-use criteria, and SGI are not addressed holistically or in strategic

depth. Of particular concern is the fact that the NÖ ROG links specific tasks and planning to the provision of SGI yet fails to define these services.

The Spatial Development Concept for Lower Austria (REL NÖ 2035), which functions as the guiding umbrella strategy for regional and sectoral development plans, adopts a more strategic orientation and is aligned with the federal ÖREK 2030. Although the ten guiding principles of the REL NÖ 2035 do not refer to SGI explicitly, they address related challenges, such as climate change, demographic shifts, and settlement pressure, which are understood as key drivers affecting the provision of SGI. Importantly, SGI are defined as one of four core topics to be addressed in regional master plans (Regionale Leitplanung), although this implementation remains non-binding and voluntary.

A more focused contribution comes from the Lower Austria Mobility Concept 2030+, which addresses SGI indirectly by emphasizing the importance of accessibility – a central prerequisite for the effective provision of SGI. Although the concept does not clearly define which services should be accessible, it repeatedly underscores the need for reliable mobility infrastructure linking central places, often better equipped with public services, to rural municipalities. This includes the development of supply standards for public transport, the creation of demand-responsive mobility solutions, and uniform infrastructure guidelines such as sidewalk width minimums. Accessibility is also framed in terms of supporting economic actors through intermodal freight hubs, reflecting the broader European understanding of SGI, which includes economic services.

The Digitalization Strategy for Lower Austria adds a complementary, albeit limited, perspective. While it does not explicitly mention SGI either, it focuses on digital transformation in rural areas to enhance quality of life. Unlike other SGI-related strategies that emphasize digital compensation for physical service gaps, the Lower Austrian strategy prioritizes administrative efficiency and environmental goals rather than equal service provision. Nonetheless, digitalization is implicitly positioned as a future-enabling tool for bridging infrastructural divides between urban and rural areas.

At the regional level, the treatment of SGI remains fragmented and largely sector-specific. While regional planning instruments acknowledge SGI as a relevant issue, they typically refrain from establishing concrete measures, minimum standards, or binding frameworks. The Regional Spatial Planning Program for the District of Bruck an der Leitha (RegROP), for instance, incorporates broad goals such as “climate-friendly spatial planning” considering living, working, leisure, supply, and mobility. However, it lacks any detailed provisions or cross-sectoral integration of SGI. Similarly, the Regional Master Plan

(Regionale Leitplanung) for Bruck an der Leitha does define objectives in coordination with settlement development – such as avoiding overuse of social infrastructure and securing local supply – but SGI remains a secondary concern within the overall planning process.

The Main Regional Strategy 2024 for the Industrial District goes further in addressing SGI by identifying it as one of four core areas of action. It includes a SWOT analysis that highlights regional disparities in accessibility, demographic shifts, and the need for improved mobility. Nonetheless, this strategy falls short of setting specific goals, indicators, or implementation measures for sufficient SGI provision, and thus remains conceptually and strategically weak in this regard. The approach in the Local Development Strategy Römerland Carnuntum 2023-2027 is similar. SGI is not considered as an overall concept, but rather only sectorally – but generally plays a minor role.

The local level, which would be responsible for implementing many of the measures listed in the strategies mentioned above and contributes a large part to achieving the objectives of SGI, is challenging the theoretical normative. The Interviews with the mayors of the three Lower Austrian municipalities reveal that SGI is never approached as a coherent policy field at the local level, nor is the term *Daseinsvorsorge* used in daily governance. Two mayors were not even familiar with the term and had difficulty defining it. However, Bull's (2008) criticism of the term *Daseinsvorsorge* can only be partially confirmed. While the misleading nature of the term could not be identified as a problem, it is indeed very vague and impractical in that it is commonly understood to encompass very different services. SGI is understood in operational terms as a set of individual services, such as childcare, waste management, mobility, and basic infrastructure (e.g. roads, water supply, etc.), addressed in an ad-hoc, demand-driven manner. This fragmented and pragmatic approach reflects both the limited capacities and the flexibility of municipalities to react to changing conditions. One of the major challenges highlighted across all municipalities are the increasing financial and administrative pressures in SGI provision. Municipalities face growing demands without receiving proportional increases in funding, which is particularly acute in small municipalities, where even minor new obligations can impose significant burdens.

Despite this lack of conceptual clarity, municipalities do not neglect their role in securing essential services. The provision of SGI is approached with a strong sense of local responsibility and practical realism. Rather than striving for a theoretically ideal model of comprehensive, territorially equal SGI provision, local governments prioritize what is feasible within their financial and administrative limits. Equivalence in living conditions is not interpreted as uniform service provision, but rather as functional equivalence adapted to

specific local circumstances. Especially in smaller municipalities, like Hundsheim, this understanding is reflected by the residents' expectations.

Contrary to the findings of Malý (2016), that the impact of SGI accessibility on the attractiveness of places should not be overestimated, accessibility emerges as a key compensatory mechanism for gaps in service availability. Mannersdorf demonstrates innovative local solutions, such as subsidized taxi service within the municipality and free regional transport passes, to bridge service gaps. In contrast, in municipalities like Hundsheim, a lower level of accessibility is accepted as part of rural life, with no demand from citizens for additional mobility options. This confirms the criticism by Weingarten & Steinführer (2020), that the notion of the structurally weak, peripheral, and underserved rural areas oversimplifies their diversity and overlooks the realities of residents. The reality is that in some cases the benefits of rural living are preferred over better SGI accessibility. However, it should be noted that the accessibility of SGI, even in Hundsheim, is not bad, even if it is (mostly) limited to the car as the main transport mode. Meanwhile, Bruck an der Leitha focuses on enhancing active mobility infrastructure, reflecting its more urbanized and interconnected context.

Even though intermunicipal and regional cooperations are seen as an important measure to ensure a good and effective provision of SGI (Tent et al., 2021), cooperations in the examined municipalities or with regional actors to jointly secure SGI are limited. Although shared infrastructure such as schools occasionally necessitates collaboration, there is little evidence of strategic inter-municipal coordination of SGI. This is particularly evident in Mannersdorf, where SGI is viewed as a strictly local responsibility. Only Bruck an der Leitha demonstrates some degree of cross-border cooperation with the neighbouring municipality of Bruckneudorf, although this remains limited to selected service areas.

In the specific services examined in the interviews, similar patterns emerge. In elementary education, growing demand and stricter requirements meet limited space, funding, and personnel. Even services traditionally considered secure, such as fire services, depend external subsidies for sustainability, however, fire services have been the one area in which subsidies seem to meet the needs of the municipalities. Recruiting volunteers also did not pose a major challenge in any of the municipalities, although the example of Bruck reflects results of the 2022 Volunteering Survey (see BMSGPK, 2022), that volunteerism appears to be more prevalent in smaller municipalities than in more urban ones. Local food supply is in some cases influenced by municipal engagement, whether through negotiations with supermarket chains or subsidies for local stores. As Küpper et al. (2023) already noted,

private providers of SGI, in this case supermarkets, reach their limits in small municipalities and towns (e.g. Hundsheim and Wilfleinsdorf) with low demand and are dependent on subsidies from the municipalities. In the three municipalities, there have been two projects to ensure local supply by providing an entire building for the shop or the coverage of rental costs through the municipalities, one of which failed. The failure of the concept was attributed to a lack of flexibility on the part of the operators and very weak economic viability. This would reinforce the argument of Hernández & Schneider (2021) that the long-term success of such projects requires a certain willingness to take risks, which in this case was apparently lacking on the part of the operators. Whether a change in the population's behavior, as described by Greischel et al. (2023), would have contributed to the success of the concept can neither be confirmed nor refuted. One fact, however, is that the region under study is one where the majority of the population does their grocery shopping by car, meaning that distances are not so important and affordability and product range are the deciding factors (Bundeswettbewerbsbehörde, 2023).

Top-down minimum standards and one-size-fits-all requirements from higher levels of government are viewed ambivalently. While municipalities acknowledge the need for uniform quality standards, they often criticize the lack of flexibility and contextual sensitivity in their design and implementation. This confirms the call for context-sensitive and spatially differentiated regulations in all areas of spatial development (Barca, 2009; Humer & Granqvist, 2020; Weck et al., 2021). At the same time, this approach contradicts the fundamental idea of minimum standards for equal living conditions, which, if anything, should be set at the federal level and apply to everyone (ARL, 2020; Danielzyk & Priebs, 2020). The mayor of Bruck even advocates for standardized regulations in key areas like elementary education, which reflects its cross-border interconnections with its neighbouring municipality, Bruckneudorf, in Burgenland.

In summary the analysis of the strategic documents on the one hand demonstrates the high relevance of Services of General (*Daseinsvorsorge*) for spatial development, on the other, despite its importance, there is no clear, nationally unified definition of the term in Austria. Since the discussions on constitutional reform in 2004, no meaningful attempt to define specific services for either SGI or *Daseinsvorsorge* has been made, which reflects the status quo of the term in science and practice (Kersten, 2006; Humer et al., 2015). While *Daseinsvorsorge* is used as a synonym for SGI, this is neither explicitly confirmed nor conceptually delineated – which amongst others would be particularly important when it comes to clarifying whether it refers exclusively to services for citizens or also includes those for businesses. This lack of terminological clarity can have far-reaching implications,

especially in legal and strategic contexts. The issue becomes particularly evident in legislative usage – for example, in the Spatial Planning Act of Lower Austria, where settlement development is tied to the provision of SGI without specifying what exactly those services entail. This creates significant legal uncertainty and risks misinterpretation, such as the approval of developments in settlement areas based only on the availability of roads and water infrastructure, while omitting essential services like food retail or childcare.

Regarding the use of terminologies, it is unsurprising that the term "Services of General Interest", or its direct German translation (*Dienstleistungen von allgemeinem Interesse*), is not utilized in Austria, as it is merely a working term in the EU environment. At EU level, it is employed as an umbrella term for certain services in context of the internal market and competition rules, and with a view to achieving the goal of equal living conditions in all regions. In the context of Austrias spatial development, the differentiation between Services of General Economic Interest and Social Services of General Interest, or the application of internal market and competition rules, doesn't necessarily play a role. The only relevant aspect in this context is the objective of SGI, namely the creation of equal living conditions in all regions, which in Austria is, as already mentioned, is dealt with under the term *Daseinsvorsorge*.

At the federal level, SGI are addressed in detail and embedded in a strategic framework, defining goals and measures. However, this conceptual depth fades as one moves to the state and regional levels, where references become more fragmented and superficial. At the municipal level – where many of the SGI-related measures would actually have to be implemented – the concept loses relevance almost entirely. Strategic documents frequently delegate responsibilities to municipalities, but without clear definitions, legal mandates, or financial resources. As a result, the examined municipalities act pragmatically within their limited capacities, approaching SGI not as a coherent policy field but as a set of individual services provided on a demand-driven basis. This fully confirms the findings of Van De Walle (2008), that SGI is in principle handled pragmatically in most countries, just as the fact that on all analyzed levels SGI is addressed only sectorally without a comprehensive or integrated framework. It cannot be answered whether a framework for SGI would be sensible nor what a cross-sectoral framework might look like. The concept of considering individual services as a collective subject under the term "Services of General Interest" originates from the European Commission's communications, while at the same time acknowledging that a sector-specific regulatory approach remains most appropriate (CES, 2004). The Green Paper on SGI discussed such a framework for SGI while acknowledging that a one-size-fits-all approach would not consider the specific requirements of individual

services (CES, 2003). Academic contributions reinforce this framework idea, e.g. on the topic of minimum standards for SGI (Machold & Tamme, 2009). In practice, however, each service is considered individually. Therefore, SGI represents only a collective term which is often used inconspicuously due to conceptual vagueness.

6 Analysis of Minimum Standards for SGI in Austria

The following chapters are devoted to the minimum standards for primary education, local food supply and the fire service in Austria. Due to the different logics of the individual subject areas, the chapters for each service are structured differently. It is noted again that the results of the analysis of the elementary education and local food supply services are derived from analyses which the author of the master's thesis carried out as part of the MIDAS study (see Drage et al., 2024).

6.1 Elementary Education

6.1.1 The Role of the European Union

The European Union plays an important role in shaping early childhood education in Austria by defining strategic goals. The implementation of these strategic goals however is not mandatory. Access to elementary education facilities was given an important role in the Europe 2020 strategy under the flagship initiative: "An Agenda for new skills and jobs". However, no minimum standards or concrete strategic targets have been set (EC, 2010). Early childhood education is also directly and indirectly addressed by several European Council Recommendations (see Official Journal of the EU 2019/C189/02 and 2021/C66/01). A central element of these efforts are the so-called Barcelona objectives, which were first adopted in 2002. They set out concrete minimum standards in the form of a minimum offer of educational and childcare facilities which the EU Member States should achieve by the year 2010.

In 2022, the Barcelona targets were revised, and new targets were set for 2030. Despite the fact that a considerable number of the initial targets remain unfulfilled, the EU has expressed its intention to augment the minimum offers for childcare once more. In the case of children under the age of three, Member States that have not yet attained the 33% target are obliged to expand childcare provision by a minimum of 90% if the participation rate has remained below 20% over the past five years. In countries such as Austria, where the participation rate has fluctuated between 20% and 33% over the specified period, an increase of at least 45% is required. The minimum standards have also been raised for children from the age of three up to school age. The objective is to achieve a childcare rate of 96% by 2030,

representing an increase of 6 percentage points compared to the previous target. In addition to establishing quantitative objectives, the EU has also formulated qualitative recommendations that serve as guidelines and minimum standards. One of the objectives is to ensure a balanced availability of childcare facilities in different regions. This measure aims to ensure an equal provision in urban and rural areas, in affluent and disadvantaged urban areas and in remote regions (see point 9a). In implementing the above requirements, regional specificities must also be considered. Another objective of the Barcelona targets for 2030 concerns the affordability of childcare. This implies that costs should be proportionate to families' income and other household expenses. In order to reduce the financial burden on parents, the introduction of a sliding fee scale for childcare is recommended.

6.1.2 Minimum Standards at Federal Level

In Austria, there is only one law at the federal level that sets minimum standards for elementary education. The Employment Requirements Basic Act (AE-GG) sets out concrete minimum standards for elementary educators and teachers in day-care centres and student homes who are employed by the states and municipalities in their educational and care facilities. The AE-GG specifies exact principles (minimum standards) regarding the scope of training for elementary educators and teachers. The corresponding implementing laws are enacted in the federal states, and these may stipulate additional professional employment requirements that exceed the requirements set out in Section 1 of the AE-GG.

The federal government is investing in elementary education with the objective of ensuring that children in elementary educational institutions embark upon their educational careers in the most favourable circumstances. These investments are made possible by the agreement between the federal government and the states in accordance with Article 15a of the Federal Constitutional Law. They are made available in the form of special grants from the federal government to the states to support the achievement of certain goals. The 15a agreements on elementary education for the kindergarten years 2018/19 to 2021/22 and 2022/23 to 2026/27 concentrate on several pivotal areas. The introduction of a uniform, concise language assessment instrument, designated "BESK (DaZ) kompakt", represents a pivotal element of the program. Moreover, the programme places an emphasis on enhancing language support for four-year-olds. Furthermore, the advancement of the qualifications of elementary teachers and language support personnel is anticipated. Additionally, the programme encompasses the instruction of fundamental values and the explicit delineation

of the objectives of education and care through the formulation of foundational educational documents. Another area of focus is the interface between kindergarten and school. Moreover, enhanced coordination and collaboration between the federal and state governments are intended, along with continuous assessment and effective monitoring. Ultimately, the objective is to maintain the compulsory, fee-free, kindergarten year for five-year-olds. In order to adequately address the care of children under the age of three, the goal is to further expand the provision of elementary education. Furthermore, the opening hours should be made more flexible and extended, and the framework conditions and the staff-child ratio should be improved. Additionally, one aim is to explore the potential of strengthening childminders as an alternative to elementary educational institutions. (BMBWF, n.d.)

The 15a agreements also define a set of minimum standards like employment requirements pertaining to language proficiency, minimum professional experience (for instance, in the field of language support), proof of qualification (also for childminders) and the minimum scope of further and advanced training (for group-leading elementary educators). These employment requirements, like those of the AE-GG, can be viewed as standards for ensuring the quality of education. It is also stipulated that those childcare places in elementary educational institutions that were created through special grants dedicated to the expansion of child education and care provision must exist for at least five years from the time they are put into operation, unless there is evidence that there is no longer a need for them. The expansion of facilities with VIF-compliant opening hours is particularly relevant for the qualitative and quantitative development of elementary education in Austria. According to Article 15 (1) of the Article 15a Agreement on Elementary Education for the Kindergarten Years 2022/23 to 2026/27, the aim is to achieve a VIF-compliant care rate of 52.8% as early as the 2022/2023 kindergarten year, with the general aim of increasing the rate by 6 percentage points by the 2026/27 kindergarten year. Special grants will be made available to achieve these goals in accordance with Article 17 (1) of the 15a Agreement.

Overall, the minimum standards at the federal level are primarily concerned with the quality of elementary education. They frequently serve as guidelines for the federal states, which may further define them. The federal level considers accessibility and availability only from a temporal perspective, as indicated by the VIF criteria (opening times), which are highlighted as particularly important by the 15a agreements. Consequently, no minimum standards with direct or indirect spatial relevance are set at the federal level.

6.1.3 Minimum Standards at Federal State Level

At the state level, too, a distinction must be made between legally binding and informal minimum standards, with the informal documents being limited primarily to guidelines for specific specialist topics in elementary education. The federal states have various practical aids and support materials, for example on language education and support, meal planning and home education. They serve to supplement the cross-state educational framework plan, which is deliberately designed so that federal states have the opportunity to set their own priorities (BMBWF, 2020). The informal documents at the state level only set quality standards that are intended to ensure high-quality elementary education. The legislative authority for elementary education is vested in the federal states, in accordance with Article 14, Paragraph 4, Letter b of the Federal Constitution. All federal states have legislation pertaining to either kindergarten or child education and care, with some states having both. These laws establish a legally binding framework for conditions. This has resulted in the establishment of legally binding (minimum) standards that are further delineated in supplementary regulations and guidelines.

The following subsections delineate the legally binding (minimum) standards and principles of the Austrian states that are pertinent to the provision of elementary education as a service of general interest. The principles of inclusion and special consideration of the child's well-being, as set out in Section 4 of the Tyrolean Child Education and Care Act (Tyrolean KBBG), as well as the fulfilment of the duty of supervision of the children (Section 36 (1)), are assumed to be met. Similarly, minimum standards for personal suitability and reliability (see, for example, Section 2 of the Upper Austrian Childminders Ordinance 2014) are not included in the analysis, as these are considered a fundamental prerequisite.

6.1.3.1 Burgenland

The regulation of elementary education in Burgenland is overseen by the Burgenland Child Education and Care Act 2009 (Bgld. KBBG) and the Burgenland Child Care Buildings and Facilities Ordinance 2009 (Bgld. KBEV). The Bgld. KBBG represents the primary set of regulations governing elementary education in Burgenland. The Bgld. KBBG comprises a substantial number of quality standards that regulate a range of subject areas, including minimum property sizes, group sizes and employment requirements for teaching staff. In accordance with Section 3 (7) of the Bgld. KBBG, the education and care of children up to school entry is provided free of charge in Burgenland, with consideration given to the aspect of affordability. Nevertheless, parents may be required to bear the costs associated with

lunch and special offers. Specific minimum standards are defined for temporal accessibility in the form of minimum opening hours in Section 17. The daytime opening hours for child education and care facilities in Burgenland must include a core period of at least 8 a.m. to 12 noon. In facilities with daytime opening hours extending beyond 3 p.m., the core period is from 8 a.m. to 3 p.m. The core period for day care centres is from 12 p.m. to 4 p.m. In general, the daytime opening hours should be designed in a manner that meets the needs of both children and parents and is consistent with the requirements of the VIF-criteria. No minimum standards are set for the actual accessibility of elementary education facilities. The responsibility for the provision of elementary education facilities lies with the municipalities. In accordance with Section 4 (1) of the Bgld. KBBG, municipalities are bound by law to guarantee a needs-based and comprehensive provision of child education and care places for all children with their main residence within their municipal area. It is also permissible to implement solutions that extend to several municipalities. No standards have been established regarding the variety of educational and care facilities, although the types of facilities listed in Section 2 (1) provide an overview of the variety of the offer, even if this does not fully reflect the actual spectrum.

The Bgld. KBEV encompasses a series of mandatory requirements pertaining to the safety of children and the minimum dimensions for rooms. It can thus be defined that the standards are quality standards. Furthermore, Section 3 of the Bgld. KBEV stipulates that, where feasible, child education and care facilities should be situated in areas with reduced traffic levels and provided with parking facilities and a lay-by for child transport buses. It should be noted, however, that these regulations do not represent specific minimum standards for accessibility, as they are merely a recommendation. Nevertheless, the accessibility of educational and care facilities is at least a factor that is taken into account in the Bgld. KBEV.

6.1.3.2 Carinthia

Similarly in Carinthia, the Child Education and Care Act (K-KBBG) serves as the primary regulatory framework for elementary education. In certain respects, the K-KBBG diverges from the legislation enacted by other federal states. It is incumbent upon municipalities to guarantee the provision of child education and care facilities for a minimum of 20 hours per week, across a minimum of four days, for children aged one and above (Section 19a (1)). The regulation of accessibility is limited to the temporal aspect, with no specific opening times prescribed. Nevertheless, a minimum of five hours per day, five days per week is required for the eligibility for additional funding of facilities according to Section 36 (2) [j].

The provision of free education and care places according to Section 26 (2) [e] is another prerequisite for funding by the federal state. If this requisite criteria for funding is satisfied, a reimbursement of the lost parental contribution is granted on a monthly basis, in accordance with Section 37 of the K-KBBG. The quality standards set out in the K-KBBG are consistent with those established in other federal states. The professional employment requirements for teaching staff are delineated according to the specific use and type of facility in question in Sections 26 to 35 and the mandatory professional training for staff in Section 12.

The Carinthian Day Care Ordinance (K-TBVO) sets out the legal requirements for childminders. It lays down general rules and pedagogical principles for education and upbringing. The regulations include rules on cooperation with parents, the duty of supervision, the care ratio, which determines how many children childminders can look after, the training and further education of childminders, and the promotion of day care centres. The K-TBVO has a strong focus on ensuring a certain level of quality and, in some respects, affordability of the education and care provided by childminders, but it does not include minimum standards for availability or accessibility. Regarding diversity, neither the KBBG nor the K-TBVO sets forth any minimum standards.

6.1.3.3 Lower Austria

The Lower Austrian Kindergarten Act 2006 contains only those provisions that pertain to kindergartens. In particular, the legislation defines quality standards, which include minimum group sizes, minimum property sizes and requirements for room furnishings. The issue of the financial accessibility of education and care in kindergartens is addressed in Section 25 (1) and (2). Children attending kindergarten are exempt from payment between the hours of 7:00 a.m. and 1:00 p.m. on weekdays. If education and care are required outside of the specified period, or if additional services such as meals are required, the contributions made by parents may only cover the actual costs, while the financial possibilities of the legal guardians must also be considered. A minimum contribution of 50 euros per month has been established for the care period before 7:00 a.m. and after 1:00 p.m. While geographical accessibility is not explicitly regulated in Lower Austrian Kindergarten Act, the opening hours of childcare facilities are prescribed in accordance with the VIF-criteria (Section 23 (1)), thereby ensuring temporal accessibility to meet the needs of parents. It is the responsibility of the municipality to guarantee that all children who reside in the municipal area and are required to complete the mandatory kindergarten year are provided with a place in a kindergarten within the municipality itself or in a nearby location that is easily

accessible. The availability and reasonable accessibility of kindergarten places thus depend on the mandatory kindergarten year. There is no further definition of when a kindergarten is reasonably accessible.

The Lower Austrian Child Care Act 1996 (NÖ KGB) legislates educational and care facilities for children and young people up to the age of 16, which are not covered in the Kindergarten Act. In particular, the NÖ KBG establishes principles with the objective of guaranteeing suitable care, but it does not set out any relevant minimum standards. The regulations concerning day care are specified in the Lower Austrian Day Care Ordinance, which sets out quality standards, in particular, regarding the equipment of facilities, group sizes and training and further education of staff. In the context of the education and care of children aged between 0 and 2 years, no minimum standards are defined with regard to the availability of facilities, spatial accessibility and the variety of care options.

The guidelines for the Lower Austrian childcare contribution (Richtlinie zum NÖ Kinderbetreuungsbeitrag) regulate the funding requirements for educational and childcare facilities for children. Consequently, contributions are granted to those child education and childcare facilities that meet the requirements for personnel cost funding as defined in the agreement between the federal government and the states pursuant to Section 15a B-VG on elementary education or carrier funding for Lower Austrian day care facilities.A further requirement is the offer for care for infants from 0 to 3 years between 7:00 a.m. and 1:00 p.m. In addition, the facilities must offer VIF-compliant opening hours (45 hours per week for 47 weeks per year), and an appropriate, cost-covering contribution must be collected from the parents (guardians) for the care of children under three years of age before 7:00 a.m. and after 1:00 p.m. The contribution must be at least €50 and at most €180 for a VIF-compliant offer. In accordance with the prevailing legislation in Lower Austria, the provision of child education and care facilities is free of charge for children below the age of kindergarten attendance during the morning hours, provided that the requisite criteria for the child education and care contribution are met. Moreover, the funding requirements establish a minimum standard for accessibility at specified times.

6.1.3.4 Upper Austria

In Upper Austria, according to the main legislation for elementary education, the Upper Austrian Child Education and Care Act (Oö. KBBG), the responsibility for ensuring a sufficient number of child education and care places lies with the respective primary residence municipality of the children (Section 16 (1)). Children between the ages of two and a half and school age are permitted to attend a kindergarten, crèche, or other similar

facility until 1:00 p.m. without charge (Section 3 (3a)). In the case of children who do not meet the requisite age, a fee must be collected that covers costs and is socially staggered (Section 27 (1)). The minimum opening hours for childcare facilities in Upper Austria are five days a week from 7:30 a.m. to 1:30 p.m., which equates to a minimum of 30 hours per week. In the case of after-school groups, a minimum opening time of 25 hours per week is required (11:30 a.m. to 4:30 p.m.) (Section 9 (1)). Additionally, elementary education facilities must be open for a minimum of 47 weeks per year (Section 8 (2)). Similarly to other federal states, many minimum standards are set to ensure a high quality of elementary education. Regarding group sizes, both minimum and maximum requirements must be considered. For example, the maximum number of children allowed per group in a kindergarten is 21, with a minimum of 10 children in each group. Playgroups have comparatively smaller group sizes, ranging between 6 and 10 children per group. In forms of care for children with special needs, such as extended age remedial kindergarten groups, group sizes are even smaller (Section 7 (1)). Moreover, the minimum staffing level is subject to different regulatory requirements depending on the specific organisational form in question. In alignment with the prevailing approaches observed in other federal states, the Upper Austrian KBBG does not include any specific regulations pertaining to a minimum standard with respect to the variety of educational and care offerings.

In addition to the KBBG, there are three other relevant legal provisions for elementary education in Upper Austria, which primarily set minimum standards that can be classified as quality standards. However, there are no specific minimum standards for availability and accessibility. The Upper Austrian Building and Facilities Ordinance for Child Education and Care Facilities 2023 sets out quality standards regarding the minimum dimensions of rooms and minimum temperatures for common rooms and sanitary facilities (at least 22 °C) and corridors, stairs and cloakrooms (at least 20 °C). The Upper Austrian Childminder Ordinance delineates a series of minimum standards, including those pertaining to the availability of rooms in those buildings where children are cared for, the financial conditions applicable to childminders, and the minimum parental contributions. Additionally, the Upper Austrian Child Education and Care Service Act (KBB-DG) delineates the requisite qualifications for educational specialists and assistants, as well as for the management of a child education and care facility. Moreover, the requisite regular professional training is standardised. In the case of educational specialists, for instance, a minimum of 16 teaching units must be completed per annum during normal working hours (Section 11, (2)).

6.1.3.5 Salzburg

The Salzburg Child Education and Care Act (S. KBBG) addresses the same aspects as the corresponding regulations for elementary education in other federal states. In Salzburg, it is also primarily the responsibility of the municipality of primary residence to provide needs-based child education and care for children up to school age (Section 5). The S. KBBG does not set out any minimum standards for spatial accessibility, while temporal accessibility is addressed. A minimum weekly opening time of 20 hours is prescribed, with the VIF-compliant opening times serving as a guideline (Section 20, (2)). In the state of Salzburg, the education and care of children from the age of three up to a minimum weekly opening time of 20 hours per week is provided free of charge (Section 45a (2)). In accordance with Section 45a of the S. KBBG, the federal state of Salzburg reimburses elementary education institutions for the lost parental contributions that arise from the care of children who meet the requirements for free care. For children under the age of three and for those who exceed the 20 hours of free care per week, the parents are required to make a financial contribution. A spatial aspect of elementary education facilities, which is however extremely vague, is noted in Section 18 (1). It states that the buildings must comply with the principles of pedagogy, safety of use, hygiene, accessibility and ecological aspects, among others, with regard to their location. However, no tangible minimum standards or requirements are set for the location of such facilities.

As in the other federal states, the S. KBBG lists a number of quality standards, which are supplemented by the Salzburg Child Education and Care Ordinance 2019 (S. KBBVO). The KBBG includes, among other things, regulations on the minimum number of educational staff to be employed (Section 26 (1)), intervals for parent-teacher meetings (Section 24 (3)) and employment requirements for educational specialists depending on the type of institution (Section 27 to 31). The KBBVO adds, among other things, minimum dimensions and minimum requirements for rooms (Section 10 (2)) through to requirements for the safety of the facilities, which include, for example, minimum heights for railings (Section 8 (2)). In addition, measures to ensure educational quality are defined, such as the documentation of educational processes per child in accordance with Section 4 or the application of current findings in educational theory in accordance with Section 3 (1).

6.1.3.6 Styria

In the federal state of Styria, the legal framework for elementary education is the Styrian Child Education and Care Act 2019 (StKBBG). The content of this law is comparable to that of other federal states, encompassing comprehensive quality standards, including those

pertaining to group sizes and space requirements for child education and care facilities. The legislation goes on to set out in great detail the number of staff that are required for each type of group in a facility (Section 17). The obligation of municipalities to provide an institutional child education and care facility for children is once again the only availability standard for elementary education. In accordance with Section 40 (1) of the StKBBG 2019, it is incumbent upon the municipalities to provide an appropriate place for every child who is required to attend kindergarten and whose main residence is in the municipality Consequently, the legal guarantee of availability in the home municipality or a suitable alternative is limited to children who are required to attend elementary education due to the obligatory kindergarten year. In the event that no suitable placement is available within the municipality of the child's primary residence, the municipality is obliged to organise an alternative kindergarten place within a reasonable distance of the child's residence outside of the municipality. The StKGGB does not define in more detail how far away from the municipality of primary residence a kindergarten is considered to be within a “reasonable distance” (Section 40 (1)).

The regulation of accessibility to educational and care facilities is largely confined to considerations of temporality, with a particular emphasis on the scheduling of opening hours. In contrast to the federal state of Lower Austria, no minimum opening hours are defined; rather, maximum daily opening hours are set (Section 13). During the compulsory kindergarten year, kindergarten is free for all children in Styria. All other children have to pay for their education and care until they start school. The level of contribution is differentiated on the basis of social criteria in accordance with Section 9 of the Styrian Childcare Funding Act 2019, with the amount determined on a pro-rata basis according to the family's net income (for each two hours of daily care). The range of contributions is between € 0.00 and € 50.18 per month. The monthly parental contributions for children under the age of three to attend an elementary educational institution range between € 15.82 and € 60.00, which is higher than the contribution amount for children of kindergarten age. The Austrian state of Styria does not set minimum standards regarding the variety of options available to parents. The StKBBG, however, defines a variety of types of institutions in which the compulsory kindergarten year can be fulfilled.

6.1.3.7 Tyrol

In the Austrian state of Tyrol, the regulation of the education and care of children up to the age of school entry is governed by a Tyrolean Child Education and Child Care Act. In accordance with the prevailing legislation in all other Austrian federal states, The

municipalities shall ensure that there is an all-day, all-year-round supply of childcare places, taking into account inter-municipal childcare facilities and private childcare facilities whose operation is supported financially or materially by the municipality, to the extent that a balance between family and working life and an educational opportunity are provided for all children. Childcare places in forest kindergartens or forest kindergarten groups should only be considered if the parents of the child to be cared for agree to this form of care. (Section 9 (1)).

The minimum standards for accessibility in the Tyrolean Child Education and Child Care Act also only consider the temporal aspects of accessibility. The minimum weekly opening hours for crèches and childcare groups are 20 hours, while after-school care groups must be open for a minimum of 15 hours per week (Section 11 (1) and (2)). However, when determining opening hours, the needs of the children and their parents as well as the working hours of the staff must be taken into account. In Tyrol, children who have reached the age of four by 31 August prior to the start of the kindergarten year are eligible to attend kindergarten for a maximum of 20 hours per week on at least four days free of charge (Section 40, (1)). Furthermore, the Child Education and Child Care Act delineates the requisite specifications for the structural design and furnishing of child education facilities, in addition to establishing the minimum structural requirements for forest kindergartens. For example, there is a requirement for outdoor space (Section 12 (3)) and there are guidelines for the required minimum space per child (Section 12 (2) [a]). Despite the existence of these guidelines, which influence the choice of location for elementary education facilities, there are no minimum standards for spatial accessibility.

The Tyrolean Child Education and Care Act comprises a multitude of quality standards. As in other federal states, this legislation establishes minimum and maximum group sizes and minimum staffing requirements, which vary according to the type of care provided. As in the other federal states, there are no concrete minimum standards in Tyrol with regard to the variety of childcare provision, but the explicit inclusion of private institutions in ensuring a good supply of early childhood education facilities and the mention of the possibility of forest kindergartens can be seen as an approach to ensure variety in elementary education.

6.1.3.8 Vorarlberg

The legal framework governing elementary education in Vorarlberg is founded upon the Law on the Education and Care of Children. Regarding the availability of elementary education places, in Vorarlberg it is necessary to differentiate between the planning of provision and the order to supply. In the context of offer planning, all forms (for children of

all ages from birth to school entry age) of elementary education are taken into account. If a municipality is unable to provide sufficient places, an action plan must be devised which outlines measures such as inter-municipal collaboration in order to meet the identified demand (Section 6 (2)). However, a supply mandate (care mandate) with the objective of ensuring the availability of adequate educational and care services only exists for children who have reached the age of three. The responsibility for the supply mandate lies with the municipalities of primary residence, as is the case in the other federal states. The place of education and care must be located within the municipality or within a reasonable distance for the child outside the home municipality (Section 6 (3)). The accessibility of child education and care facilities must be based on the needs of the children and their parents. It is imperative that kindergarten groups are operational between the hours of 7:30 a.m. and 12:30 p.m. The minimum weekly requirement for kindergarten groups is 20 hours (Section 23). Attendance at a kindergarten in Vorarlberg is typically only free of charge during the period of the compulsory kindergarten year (Section 27 (1)). The regulations set out in the "Guidelines of the Vorarlberg State Government on the social stratification of childcare rates in child education and care facilities and with childminders" permit a reduction in parental rates, contingent on family income, to a minimum of EUR 0.00 (in level 1) for children up to two years of age and for children of kindergarten age (Sections 3 and 4 of the corresponding guideline).

The quality standards of Vorarlberg's Law on the Education and Care of Children are particularly focused on ensuring pedagogical quality. In this regard, it is imperative that current scientific findings are applied. Furthermore, Section 19 (1) stipulates that training for educational professionals is to be provided for up to 32 hours per year. There is no minimum standard with regard to the variety of educational and care services in Vorarlberg. Nevertheless, ensuring a variety of services is one of the legally established principles (Section 3 (1)). In addition to the main legislation, there are several guidelines and regulations that do not define any further concrete minimum standards. One illustrative example is the state government's regulation on educational and care work in toddler-, kindergarten- and school-age groups, which essentially contains specifications that primarily concern the quality of pedagogical practice.

6.1.3.9 Vienna

In Vienna, the regulation of elementary education is primarily overseen by the Vienna Kindergarten Act (WKGG) and the Vienna Daycare Act (WTBG), which are complemented by an array of supplementary regulations. For example, the Vienna Early Childhood

Education Act only regulates the compulsory kindergarten year. This law regulates the affordability of the compulsory kindergarten year, which is already provided for by Article 15a of the Federal Constitutional Law in any case. Similarly to Lower Austria, the Vienna Kindergarten Act, in conjunction with the Kindergarten Ordinance, regulates only kindergartens. The Kindergarten Act merely outlines a few quality standards. The Vienna Kindergarten Ordinance (WKGVO) provides additional specifications regarding quality standards, including minimum staffing ratios differentiated according to the type of care provided. Moreover, the WKGVO establishes minimum standards for temporal accessibility. Unlike in the other federal states, no minimum opening hours are specified in Vienna, but only additional provisions for the care of children between 8 p.m. and 6 a.m., i.e. those children who stay overnight in kindergartens, are made in Section 9 of the WKGVO. The same regulation also specifies minimum standards for the equipment of elementary educational facilities where caretaking is needed during these times. Among other things, it is specified that an appropriate number of beds must be provided and that there must be a minimum distance of one meter between the beds. In addition, the sanitary facilities must be equipped with a shower or bathtub and hygiene items must be provided for the children. Furthermore, the staffing requirements for this period are specified. A regulation that is unique in Austria concerns the maximum length of stay of children in a kindergarten, which in Vienna is a maximum of 32 hours (Section 9). The WKGVO specifies many other specific minimum requirements for the premises of elementary educational facilities. The minimum floor area for children is 3 m² (Section 5), the room temperature must be at least 21°C during opening hours (Section 6 (2)) and washbasins in the sanitary rooms must correspond to the body measurements of the children and the temperature of the water from the taps must not exceed 38°C (Section 7 (1)).

The Vienna Day Care Act and the associated regulation, the WTBVO, set forth only a few quality standards. The issue of availability, accessibility, affordability and variety is not addressed. Another special feature regarding the regulation of elementary education in Vienna is the Vienna Education Plan, which is attached as an appendix to both the Kindergarten Act and the Day Care Act. The application of the Vienna Education Plan is legally anchored in both laws and serves primarily to define learning areas, principles and goals for ensuring high-quality elementary education. Overall, in terms of minimum standards, the Viennese laws on early childhood education are comparatively limited.

6.2 Local Food Supply

The following section outlines the existing minimum standards pertaining to the local food supply. Both informal and legally binding minimum standards at federal and state level are addressed. In addition, internal minimum standards and location factors of the food retail sector are presented, which primarily follow an economic logic with a profit orientation. First, the internal minimum standards and location factors of the food retail sector are presented followed by general regulations with indistinct standards and concrete minimum standards at federal and state level. Finally, there is a summary of all minimum standards according to the SeGI standards.

6.2.1 Internal Minimum Standards in Food Retail

The supply of food in Austria takes place almost exclusively in commercial supermarkets. Commercially operating food retailers follow a profit-oriented market logic and therefore set themselves internal minimum standards with the aim of being profitable. In addition to minimum standards in the form of corporate social responsibility programs, which implement sustainable and social measures in the areas of the environment, society and economy to build trust among customers and stakeholders, minimum standards with regard to the choice of location are particularly relevant for profitability. In a study of a location selection process for a supermarket in Spain using an analytical hierarchy process, Roig-Tierno et al. (2013) showed that the most important factors for an economically successful supermarket depend on the location and the competition. They showed, for example, that 17.44% of the market's success depends on passing trade, 14.62% on the market's visibility, but also 9.71% on accessibility by car and 9.17% on accessibility on foot (Roig-Tierno et al., 2013).

The decisions whether to open a new store and for its location generally lie with the market operator. Although the legal principles of federal and state laws must be taken into account, the market operators develop own minimum standards, which are based exclusively on market logic. The minimum standards for new branches and the maintenance of existing branches are based on location factors that can be used to estimate their profitability. Schöler provides a cross-industry definition of location factors: "*The reasons for or against a location are called location factors, whereby it is in the logic of the term location factor that these phenomena do not occur in the same way everywhere in the area but have characteristics that differentiate the area. Location factors therefore vary in their quality*

and existence in the area" (own translation of Schöler, 2004, as cited in Meier, 2011, p. 9). Location factors for all retail properties can be categorised as either hard or soft factors. Hard factors, such as customer frequency and unemployment rate, are straightforward to determine and compare, while soft factors, such as the image, are more subjective and consequently more challenging to evaluate. Despite the challenges associated with quantifying and influencing soft factors, they are regarded as more stable due to their resistance to rapid change, in contrast to hard factors, which exhibit greater variability over shorter periods. The increasing importance of soft factors is reflected in location assessments, where they are given greater weight, as evidenced by the image of cities such as Berlin, which is perceived as "hip" and scores with unique qualities such as a lively cultural scene. When conducting a location analysis, it is important to acknowledge that the various retail sectors have distinct priorities. Depending on the sector, different weightings must be set for individual location factors, which are derived from the requirements of future use (Overfeld & Jahn, 2009).

Heinecke & Schöne (2018) examined the location factors in German retail and created a catalogue of location factors based on a survey in the 'food/near-food sector'. The analysis of the location factors showed that they differ both within a sector and according to the type of project. It became clear that the distinction between new construction, the search for a rental property or existing real estate plays an important role (Heinecke & Schöne, 2018). According to the location factor catalogue by Heinecke & Schöne (2018) the following ten location factors are considered to be the most important in the food/near food sector in Germany:

1. Accessibility
2. Sales prospects
3. Long-distance impact/visibility
4. Building regulations
5. Proximity to residential areas
6. Competition
7. Number of inhabitants
8. Size of the catchment area

9. Location on the property

10. Own parking spaces

An expert interview with a location planner from a large Austrian food retailer was conducted to identify further relevant location factors. The mentioned location factors largely correspond to the results of Heinecke & Schöne. During the interview, the profitability of a market was identified as the most important criterion. Additionally, a location analysis of the interviewed food retailer also takes into account other location factors, such as the catchment area, which in their case should have an average of around 3,000 inhabitants to be profitable, and the legal framework, such as regulations regarding the maximum size of markets. In some federal states, such as Lower Austria, the maximum permitted sales area for supermarkets is 750m², which, according to the location planner interviewed, is the minimum size for a profitable supermarket. However, these internal minimum standards may vary between different retailers. In other analyses, a minimum sales area of 400 m² and a catchment area of 1,500 inhabitants is assumed to be profitable (RegioData Research, 2024). In accordance with the findings of Roig-Tierno et al. (2013), the competitive situation has been identified as a relevant location factor, as the establishment of competing businesses in immediate neighbourhood can serve to increase customer frequency. However, it is important that the neighbouring competition appeals to a similar target group, as low-cost discounters have a different customer base, and these customers are less likely to shop in more expensive supermarkets and vice versa. Market share is also an important factor according to the interviewee, although it is often at odds with profitability. In practice, this can mean that stores are run purely to maintain market share, with profitability taking a back seat. The location factors and benchmarks that apply as internal minimum standards for food retailing are not necessarily recorded in internal company documents but are usually based on empirical values and a continuous reassessment of key figures such as sales development.

6.2.2 Minimum Standards at Federal Level

At the federal level, minimum standards are set in legally binding and strategic documents. One example for strategic documents is the Austrian Spatial Development Concept 2030 (ÖREK), which sets some vague informal minimum standards. A central theme of the ÖREK 2030 is the reduction of further soil sealing and land use. In order to achieve this goal, various mandates for action are formulated. One of the mandates is the inward

development of cities and towns, which is to be achieved through consistent densification and the meeting of additional needs in single-family home areas such as trade and commerce. This way, these undesirable developments based on past planning principles can be corrected. In this context, meeting the demand for retail facilities, including food retailing, is of crucial importance because the mandates could affect the availability of possible locations for supermarkets. Another need for action directly concerns the individual location decisions of businesses, retailers and consumers. Given that it is assumed that location decisions are usually made without taking the common good into account, the ÖREK proposes the promotion of more environmentally and climate-friendly location planning through appropriate measures, such as true cost studies. However, the ÖREK also states that it is equally crucial to guarantee that individuals are not constrained in their subjective choice of location. Therefore, it is necessary to ensure that all regions are covered by services of general interest of adequate quality and accessibility (ÖROK, 2021).

The BML's regional strategy also gives high priority to local food supply. In this context the BML aims to strengthen regional supply chains and local jobs with high added value in the regions, with agricultural businesses making an important contribution. With regard to ensuring local food supply, the regional strategy focuses primarily on the regional direct marketing of products by farmers, while no targets are set for conventional supermarkets. In principle, however, even the objectives for direct marketing are of a rather overarching nature and do not contain any concrete minimum standards. (BML, 2022). However, these informal targets are not directly addressed to the food retailers and farmers, but to the spatial planning authorities of the federal states and municipalities. This means that there is no direct obligation for the actual service providers to introduce or apply any minimum standards. The only minimum standard regarding availability that can be identified is the requirement to have a sufficient number of local suppliers. However, there are no concrete benchmarks that can be used to assess this requirement. The informal documents therefore are rather irrelevant for the food retail sector in terms of setting minimum standards, as only overarching objectives are set without concrete implementation proposals for the food retail sector.

In addition, legally binding minimum standards are set at federal level in the form of laws and regulations, however, they do not contain any minimum standards that ensure the basic principle of SGI, namely that of (the spatial aspect) equal provision in all regions, but merely quality standards. Nevertheless, there are laws that have a particular impact on the timeframe in which supermarkets are accessible. The federal laws regulating the opening hours of businesses (which are subject to the 1994 Trade Act), and the working hours of employees

affect the accessibility of supermarkets by setting minimum standards for rest periods for employees, as well as maximum opening hours and "rest days". The Working Rest Act is designed to protect employees and sets minimum standards for rest periods. The specific minimum values, such as the minimum number of rest days and the minimum number of rest hours, depend on various factors. These include the days of the week on which the work is carried out and the amount of time worked in a single shift.

The legislation on opening hours, the Opening Hours Act 2003 and the Sunday and Holiday Operating Hours Act, sets maximum opening hours, but there are no minimum standards in the strict sense. The Opening Hours Act 2003 (Section 4a) gives the Governors of the federal states the power to set special opening hours by decree, taking into account the shopping needs of the population and tourists. In addition, the Governor may, by decree, set a total weekly opening time of more than 72 hours for shops selling natural flowers, fruit, vegetables, confectionery and bakery products. The Opening Hours Act also stipulates that the sales area of shops in railway stations, bus stations, airports and harbours may exceed the maximum of 80 square metres, provided that they are accessible only by the relevant means of transport and that the shopping needs of the travellers require this (Section 7 (1)).

At the federal level, there are also other laws and regulations that set minimum standards for food retailers. These also implement a large number of EU regulations, such as Regulations (EC) No. 852/2004 and (EC) No. 853/2004 on food hygiene and hygiene requirements for food of animal origin. The minimum standards of the Fair Competition Conditions Act (FWBG), Food Safety and Consumer Protection Act (LMSVG), Price Labeling Act (PrAG), Cartel Act 1988, Food Retail Regulation and Food Hygiene Adaptation Ordinance, are presented in Chapter 6.2.4. However, this selection does not represent a complete selection of all laws relevant to the food retail.

6.2.3 Minimum Standards at Federal State Level

In contrast to elementary education and firefighting, relatively few minimum standards are set for local food supplies at the state level. Overarching goals for local supplies are often already set by supra-local instruments such as state development programs, regional spatial planning programs and sectoral spatial planning programs. The strategic goals of these programs and concepts must be taken into account in the state spatial planning laws and are formulated there as concrete minimum standards. For example, several goals were formulated for local supplies in the Burgenland State Development Program of 2011 (LEP

2011). On the one hand, in connection with the goal of promoting the production of renewable energy and creating efficient settlement structures, it is specified that decentralized local supplies should be maintained in order to enable a reduction in energy consumption (LEP 2011, Appendix A, point 1.6.1). On the other hand, point 2.1.1.5 states that local small and medium-sized businesses are highly relevant in maintaining jobs and providing local supplies, which is why they should be maintained. Furthermore, point 2.6.2 stipulates that local suppliers should preferably be located in a town's core area, which is also specified in the Burgenland Spatial Planning Act. Local supply is also addressed when determining the central places of Burgenland and their functions. Point 3.1.2.4 stipulates that in central places of level 1 (that is, a total of eleven municipalities), high-quality local supply services must be available, and appropriate measures must be taken to maintain these or to attract them. Concepts for "small regions" (*Kleinregionen*) also have similar objectives with regard to local supply. For example, the recommendations or objectives for the "small regional development concept" for the region "Erweiterung / Erlebnis Thayaland" (Lower Austria) amongst others are, that the existing local supply offers should be promoted in order to maintain the village structures of some of the named municipalities. In addition, the location and development conditions of rural areas should be improved, primarily by securing local supply (Hanisch & Kordina, 2004).

At the federal state level, the spatial planning laws contain essentially all regulations regarding the choice of location and thus also the distribution and accessibility of local food supply. The scope of this master's thesis does not allow for a comprehensive overview of all regulations, so only a selection of relevant aspects is highlighted. In addition to the zoning, which is relevant for the location of supermarkets, the spatial planning laws regulate a large number of standards regarding the size of stores and the associated parking spaces. It should be noted that the specific limits vary considerably from one federal state to another. In Burgenland for example, Supermarkets are defined as stores with a sales area for food and everyday goods of 80 to 500 square meters (Section 37 (2) of the Burgenland Spatial Planning Act). Consequently, every store larger than 500 m² is legislatively framed as a shopping centre and in tandem must meet other requirements. In Lower Austria the sales area for stores for centre-relevant goods, which also include food, can be up to 750 square meters (Section 18 (2) of the Lower Austria Spatial Planning Act). However, in most federal states there are no specific legal regulations for food retailing, but only general regulations for retail businesses. A distinction is usually made between retail shops and shopping centres, the latter usually having their own regulations regarding the range of food on offer. For example, Section 49 (2) of the Tyrolean Spatial Planning Act stipulates that shopping centres must determine whether the sale of food is permitted and that special areas must be

designated for this purpose. If so, the maximum permissible sales area for food must also be determined.

The regulations in the spatial planning laws of the federal states do not represent minimum standards in the strict sense of the word. Nevertheless, by setting maximum values, they have an important regulatory effect on the accessibility of the local food supply and the competitiveness of smaller markets. Limiting the maximum sales area not only reduces the degree of soil sealing, but also improves the competitive situation for small, independent markets, which are especially important for rural regions. As mentioned above, according to Section 37 (5) of the Burgenland Spatial Planning Act, supermarkets and shopping centres may only be built, significantly extended or altered in a town's core area, with the aims to curb urban sprawl and the new use of land outside the towns, and to indirectly improve the accessibility of local food supply. In the recent past, several zoning laws have introduced such new regulations for the construction of markets, which have a restrictive effect, for example on the number of parking spaces. However, these regulations do not apply to existing markets. Given the already high number of market locations in Austria, it is doubtful whether the intended effect will actually be achieved.

In addition to the legal standards, there is the possibility of defining concrete minimum standards through funding conditions for local food suppliers, which have already been implemented in all federal states. The overarching goal of all funding schemes for local food suppliers is to support small and medium-sized enterprises. The eligibility criteria are very similar in all federal states, with the size of the business (annual turnover, number of employees, etc.) being the determining factor. However, the funding conditions for food retailing does not define concrete minimum standards in terms of the five SeGI standards. Nevertheless, indirect effects can be derived from the funding conditions. It can be assumed that markets in rural and peripheral regions in particular benefit from the promotion of small food retailers as they meet the eligibility requirements. Furthermore, the guidelines of the federal state of Vorarlberg for the funding of local food supply define the following objective: "*The aim of the federal state is to ensure the local supply of all regions with food for daily needs in a sustainable manner. This requires the support of small local food suppliers, especially in the outskirts of Vorarlberg* " (own translation, Section 1 of the guidelines for the funding of local food supply in Vorarlberg). Supporting small local food suppliers, especially in the peripheral areas of Vorarlberg, is therefore seen as essential. Funding not only helps to ensure the availability of local food supply in rural and peripheral areas but can also indirectly help to ensure better accessibility through shorter travel times. These funding schemes ensure the survival of local suppliers who would not be able to

compete without subsidised investment. Subsidies can additionally be expected to help achieve competitive sales prices, thereby also ensuring affordability.

6.2.4 Minimum standards according to the SeGI model

6.2.4.1 Availability

The availability of local food depends primarily on the suppliers. Their internal standards and assessment of location factors play a crucial role. Legal requirements are also crucial for the establishment and thus the existence of local food suppliers. In particular, subsidies for small and medium-sized food retailers, which set minimum standards through the corresponding funding conditions, can ensure the existence of local supplies. Apart from the funding conditions, the availability of local food supplier is indirectly regulated at the legal level by the Act on Fair Competition Conditions (FWBG). According to Section 4 of the FWBG, companies can be obliged to deliver goods to final sellers if non-delivery would endanger the local supply. According to Section 4 (2) of the FWBG, local supply is endangered if a significant number of consumers cannot satisfy the necessary needs of daily life within a reasonable time and at a reasonable cost without using a motor vehicle or public transport. Section 5 (1) also provides that commercial final sellers are obliged not to conceal their stocks of goods intended to meet the needs of daily life. Retailers are obliged to sell to consumers the quantity of goods that they have in stock and that would normally be supplied to consumers. This is intended to ensure the availability of goods in the food retail trade and to prevent speculative rationing. None of the legal requirements create an obligation to operate grocery stores or to maintain or expand the branch network. The relevant targets are set by various supra-local spatial planning instruments, but these are not implemented through legally binding minimum standards in the spatial planning laws and therefore remain rather informal in nature. The spatial planning laws of the federal states merely set limiting standards in the form of maximum values.

6.2.4.2 Accessibility

Section 4 (2) of the FWBG defines reasonable accessibility of everyday goods as a prerequisite for local supply, although no concrete minimum standards for reasonable accessibility are set. The accessibility of grocery stores depends primarily on market-driven location decisions that are often adapted to motorised private transport, especially outside cities. Public transport also plays a role in the accessibility of local food suppliers, although regulations in this respect were not found. However, when deciding where to locate

branches, businesses must take into account the binding requirements of national spatial planning laws, which do not set any concrete minimum standards for the accessibility of food retailers. Spatial planning laws tend to restrict the choice of location and some spatial characteristics of branches (e.g. through the restriction size of the sales area). However, spatial planning laws can indirectly contribute to the accessibility of local food supplies by specifying, as in Burgenland, that supermarkets may only be built in a towns core area. There are also no binding minimum standards for accessibility at specific times, but maximum opening hours are limited by the 2003 Law on Opening Hours and the Sunday and Holiday Operating Hours Act. Accordingly, unless the governor of a federal state has specified special opening times for commuters, tourist areas and shopping events (Section 4a (1)), grocery stores may remain open from 6 a.m. to 9 p.m. on Mondays to Fridays and from 6 a.m. to 6 p.m. on Saturdays (Section 4 (1)). Bakeries, which also make an important contribution to local supplies, may remain open from 5:30 a.m. (Section 4 (2)) unless the governor specifies an extension of the opening times to 5 a.m. in accordance with Section 4a (1) [1]. However, the total opening time may not exceed 72 hours within a calendar week (Section 4). Thus, accessibility is limited not only spatially but also temporally, while no actual minimum standards for accessibility are set.

6.2.4.3 Affordability

Assessing affordability in food retailing requires a nuanced view from two different perspectives. Affordability is a key issue for consumers. Prices are set by retailers and food manufacturers and are influenced by a number of factors. In addition to the cost of raw materials, energy and labour and the profit margin, world market prices also play a role in retail pricing. There are no legal regulations on pricing which ensure the affordability of food. However, the Price Indication Act (PrAG) ensures that prices are comparable and thus fair for consumers. The PrAG defines the mandatory information that must be provided on price tags, the permitted type of price indication (e.g., good readability) and the permitted content of the price indication. According to the PrAG, prices must be indicated including VAT and in euros. In the case of goods offered by volume, weight, length or area/size, the basic price must also be stated in an appropriate unit of measurement. Although this does not guarantee affordability, the PrAG ensures that consumers can identify those products with the best price-performance ratio. Section 4 (1) of the FWBG also mentions reasonable cost of goods to satisfy everyday needs, although there are no specific minimum standards for this. Affordability is not only a relevant standard for consumers. The entire food retail supply chain must also be able to operate profitably in order to continue to supply the market. Profitability in food retailing depends on a number of factors, including wage costs, energy

prices, store costs and the catchment area, which has to be assessed in terms of its size and purchasing power. With Directive 2019/633 on unfair commercial practices, the European Union has laid the foundation for fair competition conditions in the agricultural and food supply chain. In Austria, this has been implemented through the Fair Competition Act (FWBG), which is designed to protect small and medium-sized enterprises (SMEs) in particular from the power relations of larger companies. The FWBG, as well as the existing subsidies from the federal states for small and medium-sized food retailers, as well as spatial planning laws, which enable competitiveness by setting maximum values for small companies in particular, ensure that food can be offered at market-compliant and affordable prices. However, there are no concrete minimum standards for the affordability of food.

6.2.4.4 Quality

The minimum standards for the quality of the local food supply mainly concern the quality of the products in order to guarantee safety for consumers. For this purpose, regulations are implemented by the European Union and further stipulations are made at the federal level. In addition to the numerous legally binding regulations, there are informal minimum standards in the form of certificates and quality seals with which food can be awarded if it complies with additional standards. Due to the vast number of minimum standards, only a few of the most relevant legally binding regulations are noted here. The Food Safety and Consumer Protection Act (LMSVG) is one of the central legislations for quality in food retail. Ensuring the quality and safety of the food on offer is therefore an essential aspect of protecting the health of consumers and preventing them from being deceived (Section 2). In addition, the sale of food that is detrimental to health or unsuitable for human consumption is prohibited. Furthermore, it is forbidden to place foodstuffs on the market that have been adulterated or impaired without this fact being explicitly and comprehensively indicated (Section 5). The LMSVG also prohibits misleading consumers about the properties and effects of food. With regard to the hygiene regulations for food retailers, the Food Trade Regulation, the Food Hygiene Adaptation Regulation and EU Regulations EC No. 852/2004 and EC No. 853/2004 must be taken into account, the latter of which are in part directly applicable. The hygiene regulations include, among other things, minimum standards for the cold chain, the storage of food and controls to monitor compliance.

6.2.4.5 Variety

Variety in food retailing can affect both the range of products and the number of suppliers. There are no minimum standards for product range in Austria, but the high density of full-range retailers ensures a basic variety of products. The food retail sector in Austria is largely

dominated by a few large companies. With regard to market dominance, there are legal regulations in Austria that can be derived from the 1988 Cartel Act and from European competition law, in particular from Articles 101 and 102 of the Treaty on the Functioning of the European Union. The legal regulation of market dominance aims to prevent the creation of monopolies through mergers and the abuse of existing positions of market power. Antitrust law considers the acquisition of a significant part of a company to be a merger if it strengthens the market position of the acquirer. In this case, the possibility of entering into leases could be considered an essential part of the company. However, a notification under antitrust law would only be necessary if both companies involved had each achieved a turnover of more than €5 million in the last financial year (Böheim et al. 2016). As a result, the Cartel Act and European competition law ensure a certain degree of diversity in the range of food retailers.

If a market participant goes bankrupt and subsequently leaves the market, existing retail chains can take over individual locations under certain conditions. One such case was the insolvency of the Zielpunkt supermarket chain in 2015, which Böheim et al. (2016) outlined in a WIFO monthly report. On November 30, 2015, the Vienna Commercial Court opened bankruptcy proceedings over the assets of Zielpunkt GmbH. No investor was found for a restructuring merger of the entire company. However, during the bankruptcy proceedings, several food retail chains expressed interest in taking over individual Zielpunkt branches and reported these mergers to the Federal Competition Authority for antitrust approval. The authority approved takeovers by REWE (Billa 21 branches, BIPA 4 branches), Spar (27 branches), Hofer (11 branches) and dennree Naturkost (7 branches). These takeovers did not represent conventional horizontal corporate mergers, as only individual locations including inventory were taken over, not the warehouse or the business premises. Rental contracts and employment relationships of the employees were not taken over directly. The buyers' main interest was in the goodwill of the branches, in particular the possibility of negotiating primarily with the landlords about the continuation of the leases. This was particularly important in metropolitan areas such as Vienna, where attractive business locations are scarce. Since Zielpunkt GmbH was insolvent and no single branch has achieved a turnover over €5 million, no notification was necessary. A loophole in Austrian antitrust law prevents the summation of several acquisitions from leading to notification, which requires an adjustment based on the model of the EU Merger Control Regulation (Böheim et al. 2016). Although this meant that locations were retained, which may have benefited local food supplies in some regions, the diversity in the food market was de facto reduced despite the antitrust law and existing market participants were able to expand their market share.

6.3 Fire services

The following chapter presents the current minimum standards for the fire service in Austria. Since the fire service follows a different logic in terms of service use than primary education and local food supply, some considerations regarding the application of the SeGI standards are presented first.

6.3.1 Considerations Regarding the Application of the SeGI Standards for Fire Services

The importance and thus the availability of fire brigades as a service is beyond question, but there are some peculiarities with regard to the other SeGI standards, which give rise to some open questions. This short chapter is not intended to answer these open questions, but merely to present them in order to contextualize the following analysis.

First of all the accessibility of fire brigades must be approached from a different perspective than the other services considered in this work. In the case of fire brigades, accessibility concerns the firefighters, who must reach the fire station when the alarm is triggered. The fire fighters must then reach the site of the operation within a defined mandatory operation area. However, not only does the reverse logic apply here with regard to accessibility, but it must also be taken into account that emergency vehicles may also exceed the speed limit during an operation in accordance with Section 26 (2) of the Road Traffic Act if this does not endanger anyone. Also, regarding the affordability of fire services, a different logic applies. The costs of fire brigade operations are usually borne by the municipalities, so costs only arise for the "consumers" of the service in exceptional cases. In those cases, an insurance may cover the costs, therefore, in most cases no costs arise for the person who has used the service. Since the fire service is not a profit-oriented business, only actual costs incurred are charged based on tariff regulations. From a philosophical and moral point of view, the question could also be asked whether the costs of a potentially life-saving operation can even be too high. Affordability certainly plays a role for volunteers, because they use their free time and, in some cases, their working hours to make the fire service possible. This is at least partially taken into account by regulations such as Section 32 (1) of the Vorarlberg Fire Police Regulations, which stipulates the replacement of damaged clothing and shoes for firefighters, or Section 65 (1) of the Burgenland Fire Service Act, which regulates compensation for proven loss of income and loss of assets. The regulations for financing the fire service have already been presented in Chapter 4.3.3, which is why the minimum standards will not be repeated here.

With regard to variety, several notes can again be made. Firstly, the question arises as to what can be understood by variety for fire services. A variety of services is practically mandatory due to the fact that there must be enough fire brigades covering the entire federal territory, although, there is no variety of service providers, unless the different types of fire brigades (voluntary fire brigades, professional fire brigades, company fire brigades) are counted as a diverse range of services. The services provided by the fire brigades include, among other things, disaster protection in the delegated area of responsibility (see, for example, Section 4 (1) of the Lower Austrian Disaster Relief Act 2016), whereby the Austrian Federal Army can also become active in the event of events of an exceptional scale (Section 2 (1) [c] of the Defense Act 2001), which means that there is a certain variety of service providers for some services in the area of responsibility of fire brigades. Also, company fire brigades can be called upon to carry out fire and hazard prevention tasks if this does not affect the performance of the task in the company, which on the one hand can ensure the availability of a fire brigade and on the other hand provides a certain variety for municipalities in the performance of fire service tasks. Another regulation that, to a certain extent, duplicates the provision of services by the fire service is the regulation laid down in the state laws on fire services, which obliges everyone to prevent and fight fires. In concrete terms, this means that in all Austrian federal states, everyone is obliged to prevent the outbreak of a fire if possible and to report it immediately. Likewise, everyone can be asked to help with firefighting if possible and, if necessary, to provide property (e.g. extinguishing water) if this does not endanger their own health and property. If private property (not owned by the municipality) is damaged in the process, there is a claim to compensation to an appropriate extent (see, for example, Sections 26 and 27 of the Lower Austrian Federal Finance Act 2015). Understandably, none of these regulations give rise to a right to freedom of choice with regard to the provision of services, which is why minimum standards regarding the variety of fire services are not considered further in the following chapters.

6.3.2 Minimum Standards at Federal Level

In Austria, no minimum standards in the sense of the SeGI criteria are set for fire services at the federal level. However, numerous federal laws and regulations contain regulations relevant to fire protection law (e.g. Waste Management Act, Trade Regulations, Pyrotechnics Act and Liquefied Gas Ordinance), which are not examined in detail in this analysis. According to Section 2 (2) [1] of the Austrian Federal Fire Brigade Association (ÖBFV) statutes, the ÖBFV has, among other things, the task of working on the adaptation of the state laws for the fire service. This means that the minimum standards of the states

are at least co-designed by a federal association. The quality of the fire service is also indirectly shaped by the federal level through representatives of the fire services at the federal level, including in financial and technical matters.

6.3.3 Minimum Standards at State Level

The fire service is not listed in the Federal Constitutional Law in the federal authority catalogue (Articles 10 to 12), so the general clause of Article 15 applies, which is why the competence for legislation and enforcement lies with the federal states. According to Section 118 (3) [9] of the Federal Constitutional Law, the competences for local fire police are within the jurisdiction of the municipalities. In Section 3 (1) of the Lower Austrian Fire Service Act, local fire police is described as measures for fire prevention, preventive fire protection, firefighting, security measures after a fire and participation in investigations into the cause of the fire. The local fire police include those measures that extend to the area of a municipality and that can be taken care of by the municipality with its own forces, those contractually available to it and those requested by fire chiefs from a neighbouring municipality (Section 2 (2) of the Styrian Fire and Hazard Police Act (StFGPG)). Furthermore, a distinction is made between events of local and supra-local importance at the federal state level. Events of local importance are those whose effects are limited to the municipality and for which the equipment and personnel of the local fire brigade are sufficient. All events that go beyond this are classified as events of supra-local importance (see, for example, Section 1 (3) [2] and [3] of the Upper Austrian Fire Brigade Act 2015). In all federal states, the state is responsible for providing supra-local fire and hazard police. The personnel and equipment for the units are provided by the local fire departments - the organization is the responsibility of the state fire brigade associations, which draw up supra-local operational plans for this purpose.

At the federal state level, the fire service is primarily regulated in Fire Service Acts and in Vorarlberg in the Fire Police Ordinance. Additional state Hazard Police and Fire Police Ordinances contain provisions for preventive fire protection and other relevant provisions for the implementation of fire safety measures. Only a few minimum standards are set in accordance with the SeGI criteria, although the wide range of regulations can be considered a quality standard by itself. Other legal bases are material laws with a direct and indirect reference to fire protection, such as the State Forestry Act, the Rescue Act and the Disaster Relief Act in Vorarlberg, or for example in Carinthia the Carinthian Building Code, the Carinthian Hospital Code and the Carinthian Gas Act. In addition, there may be legal

provisions for individual subject areas, such as the Fire Service Equipment Ordinance in Lower Austria. However, the following chapters are limited to the analysis of main regulations with legally binding standards and minimum standards. Guidelines from the state fire brigade associations, which set out specific minimum standards for the equipment of fire brigades, are not considered here, as no relevant spatial minimum standards are to be expected in these. Furthermore, some provisions that can at best be interpreted as quality standards, such as the minimum standards for the appointment of fire brigade personnel in managerial positions and commanders in all state laws, are not listed individually. The state laws governing disaster protection, which is provided by the fire brigades, among others, are also not examined in detail, as they primarily regulate the organisation and guarantee of effective disaster relief at the municipal, district and state levels, without setting relevant minimum standards according to the SeGI model for the fire service in general. The disaster protection laws can generally be regarded as a quality standard for guaranteeing the area of responsibility for disaster relief.

6.3.3.1 Burgenland

The Burgenland Fire Service Act sets out a number of essential spatial minimum standards. The availability, i.e., the mere existence of a fire brigade, is dealt with in several paragraphs. For example, according to Section 3 (1), the provision of a local fire brigade is a municipal matter. The same regulation also stipulates that municipalities must make use of their own voluntary fire brigades, if they have one. If a municipality does not have its own fire brigade, it must conclude a written agreement with a neighbouring municipality on the provision of the fire and hazard police service, in accordance with Section 3 (2). In order to ensure that this is only necessary in exceptional cases and that the voluntary fire brigades have enough volunteers, a targeted effort must be made to recruit new members, in accordance with Section 22 (2). If there is no fire brigade in a municipality or if there is a need for another voluntary fire brigade, the municipal council may decide to establish a new fire brigade on the application of at least 10 persons who meet the requirements of Section 41 (3) (this is including a minimum age of 16 and residence in the municipality where the fire brigade is located or in a neighbouring municipality). This means that the minimum standard for the availability of fire brigades is always connected to the municipality itself and in some cases to neighbouring municipalities. The Fire Service Act also sets minimum standards for accessibility. On the one hand, according to Section 10 (1), municipalities must ensure that sufficient fire-fighting water is available within a reasonable distance. However, it does not define what constitutes a reasonable distance. The second paragraph of the same section adds that the water points must be accessible at all times and that there must be sufficient

space for vehicles and fire-fighting equipment. The fire stations themselves must also be quickly and safely accessible according to Section 30 (2), however, these requirements are not further specified.

Minimum standards are also set for non-spatial standards such as affordability and quality. For example, claims for compensation for damage to private property and loss of income caused during operations are regulated both for members of the volunteer fire brigade (Section 65 (1)) and for private individuals (Section 17 (1)). Quality standards are set for fire stations, equipment and the performance of tasks, which must correspond to the state of the art (Section 22 (2) and Section 30 (1)). The "state of the art" is defined as the level of development of advanced technological processes, facilities and operating methods based on relevant scientific findings, the functionality of which has been tested and proven (Section 2 (6)).

6.3.3.2 Carinthia

The minimum standard of availability is regulated in Carinthia in Section 3 of the Carinthian Fire Brigade Act (K-FWG) and Section 6 of the Carinthian Hazard Police and Fire Police Ordinance (K-GFPO). The K-GFPO only stipulates that the municipalities are responsible for providing local hazard police and that volunteer fire brigades can be used for this purpose. Section 3 of the K-FWG then specifies the formation of volunteer fire brigades if there is no professional fire brigade or if the local conditions make it necessary to supplement the professional fire brigade. Furthermore, the municipality has to find a solution for fire protection if none of the possible types of fire brigades are available in the municipality. Unlike in Burgenland, for example, there is no specific mention of co-provision by neighbouring municipalities. With regard to accessibility, the mandatory area (operational area) of the fire brigades, which is usually limited to the local municipality, can be understood as an accessibility standard (Section 5 (2)). Furthermore, fast accessibility of fire stations is also required in Carinthia by Section 27 (2). More specific information on accessibility in terms of specified distances or travel times is not given in Carinthia.

With regard to affordability, there are a large number of regulations in Carinthia, although here too most of them concern the financing of the fire brigades in general and are therefore not explained in more detail here. One of the regulations worth mentioning is the regulation on reimbursement of travel expenses for the participation in training courses by members of the volunteer fire brigade. According to Section 31 (2), this reimbursement of expenses must be at least 35 euros but a maximum of 50 euros per day. Claims for compensation for damage to and use of private property during an operation of the fire brigade are regulated in Section

4 (3), Section 39 (2) and Section 40 of the K-GFPO. The K-GFPO also stipulates that in the event of unsuccessful compensation negotiations, the Klagenfurt Regional Court will decide on the amount of compensation in accordance with the Railway Expropriation Compensation Act. The K-FWG stipulates that the Regional Fire Brigade Committee must issue a decree laying down general provisions on the minimum equipment of volunteer fire brigades. In any case, the minimum standards, such as the quality of the equipment or the engine power of the vehicles, must correspond to the state of the art (Section 47 (1)), which is again not further discussed.

6.3.3.3 Lower Austria

In Lower Austria, too, local fire and hazard police are the responsibility of the municipalities and fire brigades of all types, but mainly volunteer fire brigades, are called upon to carry out these tasks (Section 4 (1)). As in other federal states, company fire brigades (section 4 (2)) and voluntary fire brigades from neighbouring municipalities (section 4 (3)) may be called upon to carry out fire and hazard police tasks. Section 4 (3) also makes it clear that in the event of disagreement between municipalities regarding fire services, the provincial government can decide by means of an ordinance. In Lower Austria a new volunteer fire brigade can be formed if at least ten volunteers register (Section 39 (2)). The Lower Austrian Fire Service Act (NÖ FG) contains only a few minimum standards on accessibility. Section 4 (4) requires the municipal council to define the area of operation within the municipality. Section 23 (2) stipulates that water points must be accessible at all times, with the emphasis on unhindered access. All in all, the spatial minimum standards in the Lower Austrian Fire Service Act are not particularly extensive.

The financing of the fire service is also regulated in detail in the NÖ FG, with few relevant provisions regarding affordability. The duty to assist and the duty to tolerate may entitle civilians to compensation if their labour is required, their private property is used or their land or buildings are entered and used in the course of a fire-fighting operation (Section 27 (1)). It is worth mentioning the provision in Section 79 (3) that the cost of special extinguishing agents shall be borne by the person in whose interest they were used to fight the fire. According to Section 42 (1), the fire brigade must be equipped with both firefighters and technical equipment in such a way as to be able to fulfil the tasks assigned to it. According to Section 42 (2), more detailed provisions for the equipment of the fire brigade shall be laid down by ordinance. These provisions can be understood as quality standards, although they are not particularly specific, but it is clear that the minimum standards for equipment are laid down in further regulations.

6.3.3.4 Upper Austria

In Upper Austria, the competence of the municipality with regard to the availability (existence) of fire brigades is regulated in Section 1 (1) of the Upper Austrian Fire and Hazard Police Act (Oö. FGPG). This is therefore also the only legal regulation for the minimum standard of availability of the fire services in Upper Austria. Accessibility is only covered by the definition of the mandatory duty area, which usually covers the entire municipal area of the fire brigade location (Section 8 Paragraph 1, Oö FWG). As in all other federal states, the mandatory area according to Section 8 (2) FWG can also include neighbouring municipalities or parts of them for operational and tactical reasons. Both availability and accessibility are indirectly regulated in other sections by the fact that the fire brigades are tied to individual municipalities. For example, entry in the fire brigade register, which is a prerequisite for the establishment of a public fire brigade, is tied to the local conditions of the municipality in which it is located.

In terms of affordability standards, the situation is the same as in the other federal states. According to Section 21 (1, 2) of the FWG, members of the volunteer fire brigade are entitled to compensation if an operation leads to a loss of income or earnings or if private property (glasses, clothes, watches, etc.) is damaged. The compensation claims arising from the duty to assist and the duty to tolerate are in turn regulated in Section 4 (4) of the Oö FGPG. The quality standards in the Oö FWG also only include the obligation to issue an ordinance regulating the requirements for minimum equipment (Section 10 (1, 2)). The content of the ordinance specified in paragraph 2 deserves particular attention. The ordinance stipulates that the specific parameters and the specific procedure for determining the existing needs in the mandatory area must be ensured by the municipalities (hazard prevention and development planning) in the equipment of the fire brigades in the mandatory area. When drawing up the hazard prevention and development plan, a number of factors must be taken into account, such as the geographical location, special hazards, the type and density of development, the use of buildings, the fire hazard of buildings, companies and facilities, the development of traffic and the water supply situation in the mandatory area, as well as the zoning plans, including local development concepts. This creates a concrete spatial quality minimum standard.

6.3.3.5 Salzburg

In Salzburg, the authority for the local fire brigade is not defined in the Fire Service Act, but in the Salzburg Fire Police Ordinance (Section 1 (2)). The provisions for the establishment of a volunteer fire brigade are exceptionally precise. For example, Section 3(1) states that if

there is no professional fire brigade, a voluntary fire brigade must be set up in accordance with the following provisions:

Table 3 Staffing requirements for fire brigades in Salzburg

In municipalities with			must consist of at least	
residents	**buildings**	**guest beds**	**local classes**	**groups**
up to 800	up to 240	up to 500	1	2
801 - 2.800	241 - 600	501 - 2.000	2	in any case 3
				if possible 4
2.801 - 6.200	601 - 1.100	2.001 - 4.000	3	4
6.201 - 12.000	1.101 - 2.000	4.001 - 6.000	4	in any case 4
				if possible 5
from 12.001	from 2.001	from 6.001	5	in any case 5
				if possible 6

According to Section 3 (5) of the Fire Service Act, voluntary fire brigades must also be established in municipalities with a professional fire service if additional services are required due to local conditions. Inter-municipal cooperation in fire services with neighbouring municipalities is also possible under Section 3 (4). A special feature with regard to the availability of fire brigades is Section 18 (1) of the Salzburg Fire Service Act, which stipulates that if a voluntary fire brigade cannot be formed, a compulsory fire brigade can be established. In this case, suitable residents of the municipality are required by decree to serve in the fire brigade, which is modelled on a voluntary fire brigade. In Salzburg, too, the area in which the fire brigade is based is the municipality in which the fire brigade is located (Section 34 (1)). Another specific territorial provision is that fire brigades must provide free assistance up to 30 kilometres from the border of the municipality in which they are located, provided that this does not endanger the safety of their own municipality. The same section also mentions the possibility of cross-border operations by order of the federal

states fire service commander (section 34 (2)). According to Section 33 (3), fire stations must be easily accessible, although a more precise definition is lacking.

With regard to the minimum standard of affordability, Section 39 of the Fire Service Act regulates compensation for loss of earnings for firefighters. It also stipulates that compensation for operations outside Salzburg must be paid by the municipality responsible for the operation, but if this does not happen, the municipality providing assistance must still pay the compensation. Compensation for private individuals who are entitled to it by virtue of the use of their property for fire brigade operations is regulated in Section 19 (2) of the Salzburg Fire Safety Regulations. The quality standards in the Salzburg Fire Service Act are also rather imprecise, stipulating only that the equipment must meet local and regional requirements.

6.3.3.6 Styria

The basic availability of a fire brigade in Styria is determined by two laws, the Styrian Fire Service Act (StFWG) and the Styrian Fire and Hazard Police Act (StFGPG). Section 4 (2) of the StFGPG stipulates that if a municipality has no efficient fire brigade of its own, the fire brigade of a neighbouring municipality can take over the tasks of the local fire and hazard police by agreement. The tasks of the municipality can also be carried out by company fire brigades if the owner of the company agrees, and the safety of the company is not jeopardised (Section 4 (4)). It also stipulates that a voluntary fire brigade must be set up in addition to a professional fire brigade if local conditions require so (Section 4 (3)). Last but not least, Section 4 (5) of the StFGPG stipulates that volunteer fire brigades must also provide assistance outside their own municipality if requested to do so by another municipality. Professional fire brigades and company fire brigades, on the other hand, only have to do so if there is an according agreement. The StFWG stipulates that, in contrast to Burgenland and Lower Austria, a volunteer fire brigade cannot be founded with ten volunteers, but only with 20 volunteers (Section 5 (2)). In Styria, the establishment of a professional fire brigade is compulsory for municipalities whose population exceeds 150,000, and only necessary for a lower population if the existing fire brigades are not sufficient to provide assistance due to the size of the municipality, the settlement density, the structural and industrial structure and development, the particular susceptibility to fire or the density of hazards (Section 9 (1) StFWG). In addition, the StFWG allows for the establishment of voluntary company fire brigades (Section 10 (1)) and the establishment of voluntary fire brigades at universities (Section 8a (1)). Apart from these very extensive provisions, which can be regarded as availability standards, no further accessibility

standards are specified. Only the presence of fire brigades in all municipalities or at least in neighbouring municipalities can be regarded as an indirect accessibility standard in Styria.

In Styria, too, members of volunteer fire brigades, but also members of a company fire brigade when they are deployed outside the company, are compensated for proven loss of earnings and credible damage to personal property (Section 39 (2) StFWG). Private individuals are also entitled to compensation if their property is used up or damaged while providing assistance during a fire brigade operation (Section 28 (3) StFGPG). Both the Fire Service Act and the Fire and Hazard Police Act contain provisions on quality. The StFGPG stipulates that the facilities, equipment and other items of the fire brigades must meet the requirements of the guidelines for the equipment of the voluntary fire brigades in Styria which are issued by the State Fire Brigade Committee (Section 35 (1)). Section 22 (1) of the StFGPG stipulates that the fire-fighting water and equipment required for basic protection must be available in sufficient quantities and in accordance with the state of the art, and that it must be ensured that the fire-fighters are not impeded in their access to the fire-fighting water supply points.

6.3.3.7 Tyrol

The State Fire Service Act (LFG 2001) provides for the establishment of a professional fire brigade in municipalities with more than 50,000 inhabitants (Section 6 (1)). If this requirement is not met, a voluntary fire brigade must be set up, which can coexist with a professional fire brigade if local conditions make this necessary (Section 2 (1)). The prerequisite for the formation of a voluntary fire brigade according to Section 2 (2) LFG is the existence of at least two firefighting groups with ten members each, although in exceptional cases one group is sufficient if the appropriate equipment is available. If it is not possible to set up a voluntary fire brigade, a compulsory fire brigade must be set up under the same conditions as a voluntary fire brigade (Section 5 (1)). The tasks of a volunteer fire brigade can also be transferred to company fire brigades in Tyrolean municipalities (Section 11 (1)), but the transfer of this task to neighbouring municipalities is not clearly regulated. The Tyrolean Fire Police Ordinance of 1998 stipulates that fire brigades from neighbouring municipalities must be called in if the fire brigade available in the municipality itself is not sufficient to fight the fire (§ 28). It is not clear whether this provision applies only to acute emergencies or whether it also allows for general agreements on the division of tasks between neighbouring municipalities. However, Section 27 (1) of the LFG regulates inter-municipal cooperation in connection with the financing of fire brigades. According to this, municipalities can agree on the joint purchase and maintenance of equipment in order to

save money. There are also some specific provisions regarding accessibility. The LFG stipulates that fire brigades must provide assistance free of charge up to a distance of 20 kilometres from the border of their own municipality, if this does not endanger the safety of their own municipality. The same applies to company fire brigades if they are intended to provide assistance to the municipality (Section 23 (1)). If the place of operation is more than 20 kilometres away, the municipality that has requested the fire brigade must bear the costs (Section 23 (2)). The distance of 20 kilometres may be increased to 30 kilometres for individual municipalities by the provincial government if local conditions so require (Section 23 (3)). The Fire Police Ordinance stipulates that the fire stations must be located as centrally as possible within the area of operation assigned to the fire brigade and in the immediate vicinity of the most important traffic routes for operations (Section 22 (2)).

In terms of affordability, compensation claims in Tyrol are similar to those in the other federal states. Verifiable loss of income of members of the voluntary fire brigade, as well as of members of a company fire brigade when working outside the company, is compensated according to Section 28 LFG. If private property is damaged as a result of the fire brigade's activities, the municipality must pay compensation in accordance with Section 24 (5) of the Fire Police Ordinance. The Fire Service Act also stipulates that the municipalities must acquire the fire engines and fire-fighting equipment required by local conditions and maintain them in a technically perfect condition (Section 22 (1)). It should be mentioned here that all federal states have regulations on the training and continuing education of firefighters, which help to ensure quality. Since these have not been mentioned so far, it should be pointed out at this point that in Tyrol, for example, the fire brigade commanders and their deputies must be invited by the district commanders to a staff meeting once a year in order to expand their knowledge of the status and development of operations (Section 25 (2) LFG). Furthermore, Section 25 (1) stipulates that the fire brigade commanders must ensure that the members of the fire brigade receive sufficient training for their duties at the state fire brigade school.

6.3.3.8 Vorarlberg

The Vorarlberg fire service is unique in Austria in some respects. The first fundamental difference is that the main regulation, the Fire Police Ordinance, never mentions either voluntary or a professional fire service. It should be noted, however, that all fire brigades in Vorarlberg are, in fact, volunteer fire brigades, in that the members perform their service free of charge. In Vorarlberg, the fire service is referred to as a local fire service, which must be set up in all municipalities (Section 30 (1)) and, if necessary, in individual towns (Section

30 (2)), provided that a sufficient number of qualified personnel is available. In Vorarlberg, as in the other federal provinces, private individuals are obliged to render assistance in the event of a fire (Section 14 (1)). The same paragraph also states that all persons who are in the municipality at the time of an incident, regardless of whether the person is resident in the municipality, are obliged to make their manpower available free of charge for firefighting and rescue work. The establishment of a compulsory fire service is also possible in Vorarlberg and depends on whether a local fire service (voluntary fire service) can be established (Section 15 (1)). If this is not the case, all men between the ages of 18 and 60 who are permanent residents of the municipality are required to serve in the fire brigade, even outside of fire emergencies. Those obliged to serve are assigned tasks by the municipality and trained in the use of fire-fighting equipment at least four times a year. In addition, fire protection tasks may be delegated to company fire brigades under the usual conditions (agreement with the company owner, no risk to the company's own operations, etc.) (Section 39 (3)). Outlying towns that cannot establish their own local fire service and are directly connected to neighbouring municipalities may be included in the fire service area of the neighbouring municipality (Section 34 (3)). The inclusion of a town in the operational area of a local fire brigade of a neighbouring municipality is determined by the county administrative authority, taking into account the local conditions and after hearing the municipalities (Section 34 (4)). In addition, Section 21 (1) states that the fire stations must be located at easily accessible places in the municipality, although here too a more precise definition is lacking.

Private persons are obliged to make available items required for the transmission of messages, the transport of fire-fighting water, fire-fighting equipment and fire-fighting personnel, as well as for rescue and fire-fighting operations, and are entitled to appropriate compensation from the municipality (Section 14 (2), Section 48 (3)). Section 32 stipulates that members of the fire brigade must perform their duties free of charge but are compensated for loss of wages and damage to private clothing and footwear caused by operations. It also stipulates that the relatives of members of the fire brigade who suffer an accident in the course of their duties or during exercises are entitled to compensation in the amount of the statutory accident insurance, unless they are already entitled to compensation from this. The county administrative authority, taking into account local conditions and after consulting the municipalities concerned, determines the minimum number of members and minimum equipment for each local fire brigade, thereby ensuring a certain level of quality (Section 34 (4)).

6.3.3.9 Vienna

Vienna is an exception when it comes to the legal regulation of the fire service. The legal provisions are divided into three laws, the Vienna Fire Service Act, the Vienna Fire Police Act 2015 and the Vienna Fire Police Ordinance 2016. Both the Vienna Fire Police Act 2015 and the Vienna Fire Police Ordinance 2016 contain practically no minimum standards according to the SeGI logic. They regulate, among other things, fire prevention and fire protection regulations for different types of buildings. The Vienna Fire Service Ordinance, which regulates volunteer and company fire brigades, also contains only provisions that can best be interpreted as quality standards. The most relevant set of regulations for this analysis is therefore the Fire Service Act, which, however, cannot be compared with the legislation of other federal provinces in terms of the scope of SeGI standards. The few provisions that are relevant to the availability of the fire service in Vienna are Section 1 (1), which stipulates that the provision of public fire services is the responsibility of the public fire brigades of the City of Vienna, Section 4 (1), which stipulates that this task is primarily to be carried out by the professional fire brigade of the City of Vienna, Section 5 (1), which provides that voluntary fire brigades may be set up if circumstances so require, and Section 3a (1), which provides that the head of a fire brigade is entitled to call upon all persons who appear suitable for the fire service. Therefore, there are no further minimum standards for availability and accessibility.

There are also far fewer provisions relating to the affordability standard. Section 3d (1), for example, provides for compensation to private individuals who have provided services or materials as part of a fire service operation. There is no similar provision for the replacement of damaged property belonging to members of volunteer fire brigades. The most comprehensive quality standards are laid down in the Fire Service Act with regard to suitability for the fire service, although these only apply to voluntary fire brigades. The requirements for joining a volunteer fire brigade are permanent residence in the area concerned, a minimum age of 17 and a maximum age of 50, physical and mental fitness and a good reputation. Minors may be admitted with the consent of their legal guardian (Section 5 (4)).

6.4 Summary and Discussion on Minimum Standards for SGI

6.4.1 Elementary Education

The organisation of early childhood education in Austria is primarily the responsibility of the federal states. Nevertheless, some overarching objectives originate from the European Union and the federal level. The EU's objectives lack specificity with regard to minimum standards and are not legally binding. The most pertinent objectives are those set forth in the Barcelona targets. Additionally, there are almost no minimum standards at the federal level in Austria. The educational framework plan and the basic educational documents contain a substantial number of educational quality standards that can be further specified at the federal state level and must be applied in a legally binding manner through state laws. At the federal level, only one basic law contains legally binding minimum standards regarding the employment requirements for educational staff. The 15a agreements between the federal government and the states, which represent legally binding contractual agreements on different areas of competence of the federal government and the states, are of great importance. The current 15a agreement on elementary education for the kindergarten years 2022/23 to 2026/27 defines, among other things, principles and objectives. These include the expansion of the VIF-compliant educational and care offer and regulations regarding the financing of the compulsory fee-free kindergarten year.

The majority of minimum standards are set at the state level, with some being concrete minimum standards and others representing indirect minimum standards through legal regulations. With regard to the availability of educational and care facilities, analogous legal regulations can be found in all federal states (with the exception of Vienna). Such standards are of an indirect spatial nature. In general, the responsibility for ensuring the availability of elementary educational and care places lies with the municipality in which the child's main residence is located. This responsibility extends to ensuring that such places are available within the municipality itself or within a reasonable distance outside the home municipality for children who are not resident there. This guarantees the availability of the requisite facilities, while indirectly ensuring their accessibility. With regard to legal regulation, however, there are differences between the state laws with regard to the age groups affected. In the Austrian federal states of Tyrol, Salzburg, Upper Austria and Burgenland, the guarantee of availability is applicable to all children up to the age of school entry. The regulatory framework in Vorarlberg is comparable, where a place is available for children

from the age of three. Nevertheless, the legislation also encompasses children under the age of three. In the event that the number of childcare places available for children under the age of three in a Vorarlberg municipality is insufficient, the municipality in question is obliged to devise a plan of action aimed at addressing the deficit in the short and medium term. In Carinthia, a legal regulation exists to guarantee the availability of places for children from the age of one. In contrast, the legal framework in Lower Austria and Styria only addresses the issue of availability for the compulsory kindergarten year. In Vienna, there is no legal regulation pertaining to the availability of places. The legal regulation of availability by municipalities represents the most concrete spatial regulation of the accessibility of educational and care services. Consequently, accessibility is constrained to municipal territories or reasonable distances, the precise delineation of which is lacking. No detailed guidelines exist regarding accessibility, including the requisite time and distance, and the potential for utilising public transportation. Nevertheless, all federal states have established minimum standards pertaining to the timeframe during which child education and care facilities must be accessible. The specifics of implementation vary somewhat from one jurisdiction to another. In some federal states, the opening hours of facilities are prescribed; in others, only the number of hours per day and/or week that facilities should be open is specified. The only federal states in which VIF-compliant opening hours are legally stipulated are Lower Austria, Salzburg and Burgenland.

The question of the affordability of elementary child education and care is subject to different regulatory frameworks at the federal state level. In some federal states, institutional child education and care is provided free of charge, whereas in others it is generally subject to a fee, with the compulsory fee-free kindergarten year constituting an exception. In those federal states in which parents are required to pay for their children's education and care in an institutional setting, the amount paid is calculated according to the family's income. The precise stipulations regarding the provision of fee reductions for parents vary between federal states.

The most comprehensive and precise minimum standards can be found for the pedagogical quality of elementary education and care facilities. These quality minimum standards have an indirect spatial reference, thereby exerting an influence on the location decisions of facilities. For instance, the implementation of smaller group sizes may result in the utilisation of a greater quantity of space. Alternatively, the size of the mandatory outdoor areas, along with other location-specific factors, can exert a considerable influence on the decision-making process. Furthermore, quality standards such as group sizes have an impact on the working conditions of educational staff, in addition to the pedagogical aspect.

No concrete minimum standards exist at the federal state level with regard to the diversity of care on offer. It is only in Vorarlberg that the diversity of provision is included as a principle in the Child Education and Care Act, albeit without further definition. Nevertheless, all federal states offer a range of educational and care facilities for children of different age groups, whether private or public. Furthermore, regulations exist pertaining to special education facilities and other types of facilities, including those of forest kindergartens in the Tyrol.

6.4.2 Local Food Supply

In conclusion, it can be stated that a significant proportion of standards are associated with the decisions made by suppliers. Consequently, the accessibility of local food suppliers is contingent upon the decisions made by suppliers. In selecting a location, both internal standards and legal requirements are taken into account. The Fair Competition Conditions Act (FWBG) contains regulations that exert an indirect influence on the availability of goods. In accordance with Section 4 of the FWBG, companies are bound by law to deliver their goods to final sellers in the event that non-delivery jeopardises the local supply chain. The FWBG defines reasonable accessibility to everyday goods as a prerequisite, although no specific minimum standards are set. Consequently, accessibility is largely contingent upon market-based location decisions, which are typically tailored to accommodate the requirements of private motorised transportation. The selection of a location is subject to the spatial planning legislation of the federal states; however, no specific accessibility standards are defined therein. The opening hours of food retailers are constrained by the provisions of the Opening Hours Act 2003 and the Sunday and Public Holiday Operating Act, which regulate the permitted hours of operation. The affordability of goods in the food retail sector is a significant determinant of consumer behaviour and is subject to regulatory oversight, including the provisions of the Price Labelling Act (PrAG). The latter is designed to guarantee fair conditions and price comparability. Nevertheless, there are no explicit legal stipulations pertaining to pricing that can be invoked to substantiate a claim of affordability. However, Austria has lower VAT rates of 10% (compared to normal 20%) on food, tap water, milk, and milk-based beverages, which are intended to improve affordability. However, this regulation does not represent a minimum standard in the traditional sense. The Food Safety and Consumer Protection Act (LMSVG) and various hygiene regulations provide assurance of compliance with quality standards in the food retail sector. Such regulations serve to protect the health of consumers and prevent deception. In the context of the food retail sector, the standard of "variety" encompasses both the range of products and

the number of suppliers. There are no legal regulations pertaining to product diversity. However, this phenomenon arises organically, due in part to the high concentration of full-range retailers in Austria. The Austrian food retail sector is dominated by a few large companies, but these are subject to regulation by the Cartel Act and European competition law with a view to preventing the formation of a monopoly position. In conjunction with a number of additional local food suppliers, including direct marketers and independent supermarkets, a certain level of diversity can be ensured.

Consequently, it can be seen that there are a number of standards that can be derived from a variety of laws and regulations that are applicable to those engaged in food retail. These encompass a comprehensive range of considerations, including availability, accessibility, affordability, quality, and variety. The spatial minimum standards are typically not explicitly defined; instead, they are formulated indirectly, which represents a loophole in the legal protection of local supply.

6.4.3 Fire Services

The regulation of fire services in Austria is exclusively done at the state level. The main regulations are the State Fire Service Acts which contain some relevant minimum standards according the SeGI criteria. Additional legal regulations mainly provide quality standards regarding the equipment and personnel. The availability of fire services is virtually regulated the same way in all federal states. Each municipality must ensure that fire safety tasks can be carried out either by its own voluntary fire brigade or by the fire brigade of a neighbouring municipality. Company fire brigades can also be used for this purpose if this does not endanger the safety of the company. The establishment of a professional fire brigade that can perform the same tasks is only necessary in exceptional cases when local circumstances require it. In Tyrol, for example, a professional fire brigade must be established in municipalities with a population of 50,000 or more. The conditions vary between the federal states and are often not expressed in concrete figures. The establishment of fire departments is generally tied to the same criteria in all federal states, although the exact factors may vary slightly. First, sufficient volunteers must be registered to establish a fire department. Typically, one (as in Burgenland) or two firefighting groups (as in Lower Austria) must be formed, each with a minimum strength of 10 personnel. The requirements for volunteers vary slightly between the federal states and are limited to age (min 16 to max 60 years) and that the volunteers are resident in the municipality of the fire department or at most in a neighbouring municipality. If the formation of a volunteer fire brigade does not come about,

there is the possibility of establishing a compulsory fire brigade in Salzburg, Tyrol and Vorarlberg. These specifications and the linking of the fulfilment of tasks to the municipal level ensure a certain level of coverage (availability) with the services provided by the fire brigades.

Regarding the accessibility of fire departments, the regulations are very vague. Generally, they state that fire stations and firefighting water must be easily accessible or located in such a way that emergency sites within the mandatory operational area are easily accessible. However, no specific times or distances for accessibility are given, and the location of the fire stations is not defined in more detail. Furthermore, it is stipulated that fire brigades must provide assistance free of charge up to a certain distance (20-30 kilometres) from the border of their own municipal area, provided that this does not endanger the safety of their own municipality. Together with the mandatory operation areas to be defined, which usually cover part or all of the municipal area, these rules are relatively clear standards for the best possible accessibility of fire stations, firefighting water and emergency sites, even if they are partly based on “common sense” due to a lack of specific details.

The federal states are also fundamentally similar in terms of affordability standards. When considering affordability, as already mentioned, only the affordability for those who “use the services” of the fire brigade and volunteers was taken into account in more detail. There are no real minimum standards in the sense of the SeGI criteria regarding affordability, but two factors contribute to affordability. Firstly, the non-profit nature and the tariff regulations of fire services ensure that deployments have comparable costs and only the actual costs incurred have to be borne. The central affordability standard, however, is that the costs of deployments are borne by the municipalities, thus ensuring that, unless gross negligence has led to the deployment, no costs are incurred for private individuals. Furthermore, all federal states regulate that volunteer members of fire departments do not suffer any financial disadvantages as a result of deployments. For example, costs and damage to the firefighters' private property that can be proven to have arisen as a result of deployments are reimbursed by the municipalities. Loss of income and loss of earnings due to fire department deployments are also reimbursed for volunteers. Whether these regulations and the financing of large parts of the fire service are affordable for municipalities cannot be conclusively answered here.

The quality standards also cover a broad spectrum in the fire service. They primarily include minimum standards for all fire brigade equipment and vehicles. The quality standards for equipment and vehicles are specified in documents issued by the state fire brigade

associations. These associations also establish minimum equipment requirements for local and regional fire departments. Furthermore, a variety of factors must be considered when preparing hazard prevention and development plans. These include spatial factors such as the geographical location, the type and density of development, the building use, traffic access and firefighting water conditions in the mandatory operation area, as well as zoning plans including local development concepts.

6.4.4 Synthesis and Discussion

When comparing the existing minimum standards across the three examined Services of General Interest - elementary education, food retail, and fire services - as expected, clear differences emerge in the extent, clarity, and enforceability of regulatory frameworks. The following synthesis of the findings and discussion analyses the differences in the formulation of minimum standards through the lens of the five SeGI criteria – availability, accessibility, affordability, quality, and variety.

The availability of services is most concretely regulated in the case of fire services. Across all federal states, municipalities are legally obligated to ensure adequate fire protection, either through their own volunteer fire brigades or through cooperation with neighbouring municipalities. This creates a comprehensive and uniform availability structure nationwide. Furthermore, although not equally specified in all federal states, Table 3 shows that fire brigade staffing levels grow proportionally with requirements such as population size and number of buildings. This means that every municipality is, at least theoretically, adequately equipped with fire services. In contrast, the availability of elementary education, although also subject to state-level legislation, exhibits considerable variation. Essentially, municipalities must ensure an adequate supply of elementary education facilities. However, while many federal states guarantee availability for children up to school entry, others restrict this obligation to the compulsory kindergarten year, and Vienna lacks any binding regulations in this regard. Food retail stands apart, as its availability is determined almost entirely by market forces. Although the Fair Competition Conditions Act provides some indirect obligations to safeguard supply chains, no binding legal standards ensure the presence of local food retailers.

In terms of accessibility, all three services exhibit significant gaps in concrete regulation. Fire services are required to be located in a way that emergency sites are reachable within their designated operational areas, yet no specific distances or response times are mandated.

Similarly, elementary education facilities must be reasonably accessible, with municipalities responsible for ensuring care within or near their jurisdiction. However, there are no clear definitions regarding what constitutes an acceptable travel distance or duration. At least minimum standards for temporal accessibility are set in the form of minimum opening hours. However, these generally only cover 20 hours per week, which reflects the extent of the visiting obligation during the compulsory kindergarten year. In the food retail sector, accessibility is implicitly shaped by business location decisions, which often prioritize access by private vehicle. Legal instruments do not define nor enforce minimum standards for spatial accessibility in this domain, while temporal accessibility is regulated by maximum opening hours.

Regarding affordability, fire services again offer the most robust guarantees. Their non-profit nature, public financing, and the reimbursement of costs to volunteer firefighters ensure that private individuals do only have to bear the financial burden of service use in exceptional cases. Elementary education shows greater variability: some states offer free services or income-based fees, while others require payment with limited exceptions, such as the fee-free compulsory kindergarten year. In food retail, affordability is influenced by broader regulatory mechanisms, including reduced VAT rates and price transparency laws. Nevertheless, pricing remains unregulated in terms of enforceable minimum standards, with consumer affordability subject to market conditions.

The dimension of quality is addressed across all sectors but manifests differently. Elementary education stands out for its detailed pedagogical quality standards, particularly concerning group sizes, educational frameworks, and staff qualifications, most of which are legally defined at the federal state level. Fire services also maintain high-quality standards, especially regarding equipment, vehicles, and operational readiness, coordinated by state fire brigade associations. In the food retail sector, quality regulation is centred around consumer safety, hygiene, and accurate labelling, as mandated by the Food Safety and Consumer Protection Act and related laws. While these ensure product safety, they do not necessarily address service quality in a broader sense.

Finally, when considering variety, elementary education and food retail exhibit notable diversity, albeit with minimal legal codification. Most federal states offer various types of childcare facilities for different age groups, and some include options such as forest kindergartens or special education facilities. Only in Vorarlberg, however, is diversity formally recognized in law, but only as a principle. In the food retail sector, variety arises naturally due to Austria's retail structure, which includes large full-range retailers,

discounters, direct marketers and smaller independent stores. There are no legal requirements for diversity, but competition law helps prevent monopolization. In contrast, fire services do not emphasize variety at all, as there is no choice of service providers and standardization is essential for safety and efficiency.

Since the focus of the analysis is on spatial minimum standards, the spatial implications of essentially non-spatial standards, which were categorised in the analysis according to the SeGI criteria as standards of quality and affordability as well as variety, should be highlighted here. For example, quality standards such as group sizes and minimum outdoor areas in elementary education can influence location decisions and thus spatial accessibility. Also, temporal minimum standards can have spatial effects, for example when supermarkets in the home municipality have shorter opening hours than supermarkets in other municipalities, which could lead to costumers traveling further and a dependency to use the car for shopping. Even affordability can have spatial implications. An example could be longer driving times to accommodate for cheaper shopping options, especially in rural regions. Standards for variety are generally rare and of little importance. However, a certain variety in local food supply (in products as well as retailers) can lead to competitive prices, which loops back to the just mentioned topic of traveling longer for cheaper groceries. Personal preferences can also influence the choice of a particular supermarket, which can also apply to a certain extent to the area of elementary education. Thus, not only preferences for a particular educational model, but in some cases, health conditions, for example, can also influence the choice of educational and childcare facility. This shows that when setting explicit spatial minimum standards, other aspects must also be considered, which can have an indirect influence on accessibility, location selection but also on individual decision-making behaviour.

In summary, services that are publicly organized or strongly supported by public funding - such as elementary education and fire services - tend to have clearer, though not always consistent, minimum standards in relation to availability, quality, and affordability. Fire services stand out for their relatively uniform and enforceable framework across Austria. Elementary education, while strong in pedagogical quality, is marked by regional disparities, especially in availability (due to the restriction to children in the compulsory kindergarten year) and cost structures. Local food supply is influenced by both legal and internal minimum standards operating according to market-based logic. The strictest legal minimum standards are found in the areas of quality and the temporal accessibility of supermarkets, while accessibility and affordability mostly follow market logics. This also indicates the

difficulty of establishing strict cross-sectoral minimum standards, as private actors operate according to different logics (Danielzyk & Priebs, 2020).

Finally, it must be noted that the standards presented here often do not represent minimum standards in the true sense, nor do they represent minimum standards in the sense of scientific and planning/strategic discourse. Existing standards often do not specify minimum values, but rather maximum values or implicit rather than concrete values. For example, group sizes in elementary education facilities and opening hours of grocery stores are specified with maximum limits. Especially with regard to availability and accessibility, the supposed minimum standards are very vague, as, for example, the availability of elementary education facilities and fire departments is tied to the municipality. In municipalities with multiple villages, this can lead to inequality. Regarding accessibility, objectively measurable standards are not specified for any of the services examined; instead, only subjective expressions are used.

When considering these findings in light of the relatively limited theoretical discourse on minimum standards for Services of General Interest, only a few significant insights can be derived. For instance, while the claim by Bojarra-Becker et al. (2016) – that enforceable standards and guidelines are essential for achieving the objective of equivalent living conditions – cannot be refuted, it becomes apparent that the federal structure of Austria makes the implementation of uniform nationwide standards largely unfeasible. In any case, the (minimum) standards currently in place in Austria do not appear capable of ensuring spatial justice. This is primarily due to the fact that spatial requirements are often either too imprecise or entirely absent, thus contradicting the assumptions put forward by Tagai (2024). Furthermore, the hypothesis by Millbert et al. (2013) – that accessibility standards in the form of maximum distances are often politically motivated and lack scientific evidence – can be challenged to the extent that, in practice, such accessibility standards are largely absent in Austria.

The interviews with mayors provided additional insights into the issue of minimum standards and yielded findings that align with the views of several scholars. For example, municipalities, similarly to Scharmann (2015), advocated for greater flexibility and exemptions with regard to standards for SGI. The interviews also confirmed Bojarra-Becker et al.'s (2016) assertion that the effective implementation of standards requires that responsible authorities be adequately funded. This was especially evident in the smallest municipality examined (Hundsheim), where financial resources for implementing certain requirements were not available.

Apart from these few points, it is ultimately impossible to argue for or against minimum standards for SGI. Advocates such as Scharmann (2015), Bojarra-Becker et al. (2016) and Machold & Tamme (2009), as well as opponents such as Neu (2009) and Beetz (2009), do not provide reliable evidence either way. What is certain, however, is that minimum standards are very important in some areas, such as service quality. Regarding the spatial component and spatial justice of Services of General Interest, some questions remain unanswered. A central question is at what level standards can be established without being too superficial while ensuring that they are also implementable. As already mentioned in Chapter 5.3, spatially sensitive and contextually appropriate minimum standards appear to be the sufficient way forward, even if they would result in regionally different outcomes. The debate about equivalence of living conditions should be limited to the provision of essential and vital services to avoid municipalities having to bear costs for services for which there is no (or no significant) need.

7 Conclusion and Recommendations

The following chapter initiates with a concise conclusion that presents the key findings of this master's thesis, followed by recommendations for action for the treatment of the topic of Services of General Interest together with final thoughts.

7.1 Conclusion

Services of General Interest play a vital role in upholding the European model of society. They ensure access to essential services such as education, mobility, and healthcare, thereby contributing to social inclusion and territorial cohesion. Despite the individual services importance, the concept of SGI remains vague at both the EU and national levels. While the European Commission defines SGI as services that public authorities deem essential and subject to specific obligations, it leaves Member States with significant interpretive leeway. In Austria, SGI is not defined and not used directly, instead, the concept is typically addressed under the term *Daseinsvorsorge*, a socio-political construct that, although widely used in planning discourse, also lacks a formal legal definition. This conceptual ambiguity has important implications for how the provision of SGI is understood, defined, and conceptually implemented across different planning levels, and how minimum standards are used to guide their provision and how they contribute to achieving the overarching goal of equal living conditions.

This thesis aimed to explore how the EU concept of SGI is interpreted and operationalized within Austrian spatial development and practice and to what extent spatial minimum standards are used to promote equal living conditions and access to services across all regions. The findings reveal a complex and fragmented landscape in which the idea of SGI is acknowledged rhetorically but only partially embedded in strategic and legal frameworks. At the federal level, key documents such as the Austrian Spatial Development Concept (ÖREK 2030) and the regional strategy "My Region – Our Path" explicitly refer to SGI (under the term *Daseinsvorsorge*) and frame them as essential for social and spatial cohesion. These documents emphasize the need for cross-sectoral cooperation, digital innovation, and resilience in service provision, particularly in structurally weak and rural areas. However, despite this strategic emphasis, the documents do not define a concrete catalogue of services or establish binding commitments.

As one moves down the governance and planning hierarchy, the conceptual and strategic depth of SGI diminishes. At the state and regional levels, SGI are referenced in legal acts such as the Lower Austrian Spatial Planning Act and strategic plans like the REL NÖ 2035, but in a fragmented and often superficial manner. References to SGI-related goals are present, but without a coherent framework or enforceable measures. Sectoral strategies, such as those concerning mobility or digitalization, address SGI in indirect terms, focusing on accessibility or administrative efficiency, without explicitly linking back to a broader SGI concept.

At the local level, where many SGI-related measures must ultimately be implemented, the concept of SGI or *Daseinsvorsorge* loses relevance entirely. Interviews with mayors revealed that the term is either unfamiliar or unused in practice. Instead, municipalities adopt a pragmatic and demand-driven approach, treating SGI as a set of individual services such as childcare, mobility, or water management. These are delivered based on local needs and financial capabilities rather than a cohesive strategic area. Nonetheless, local governments show strong commitment and responsibility in providing and maintaining essential services, often going beyond formal requirements by developing context-sensitive solutions such as subsidized transport options or local food supply subsidies. These efforts reflect a practical interpretation of the general interest and equivalent living conditions, adapted to local realities rather than guided by abstract notions of uniformity.

The second central questions of this master's thesis concerned the role of minimum standards for SGI provision, focussing their spatial aspects. These standards are discussed in planning theory as instruments for ensuring equivalent living conditions across all regions and therefore also territorial cohesion and spatial justice. While the ÖREK 2030 identifies the development of such minimum standards for SGI as a strategic priority, their concrete implementation is limited. Legal and strategic documents rarely contain explicit, enforceable spatial standards, but rather qualitative standards which, however, can also have spatial effects. This gap between ambition and operationalization is apparent in the comparison of selected SGI sectors – elementary education, local food supply and fire services.

In Austria, explicitly spatial minimum standards are inconsistently defined and unevenly applied across sectors. Among the examined services, fire services are the most uniformly regulated. Legal obligations exist across all federal states, requiring municipalities to ensure adequate fire protection which leads to a nationwide standard of availability on municipal level, reinforced by state law and supported by public funding and subsidy schemes. In

contrast, elementary education, though also legally governed by state-level regulations, shows significant variation in availability, with obligations ranging from universal access for all pre-school children to minimal provision covering only the compulsory kindergarten year. Meanwhile, the availability and accessibility of local food supply, is governed almost entirely by market dynamics. No legal standards guarantee availability or accessibility and are shaped by market dynamics and consumer choice.

Accessibility, as a core criterion for spatial justice, is largely unregulated in all three sectors. No binding definitions of maximum distances, travel times, or catchment areas are found in strategic or legal documents. Temporal accessibility, such as opening hours, is sometimes regulated, in case of local food supply not with the explicit aim of ensuring equal access, but rather as an employee protection measure. Quality and affordability are addressed more thoroughly for all services, but particularly in elementary education and fire services regional disparities and vague formulations prevail. Variety, as a standard, is largely unregulated and emerges informally through market mechanisms or the range of different types of elementary education facilities.

Interviews with mayors further underscored the ambivalent role of minimum standards. While local authorities acknowledged the importance of benchmarks for certain services, they often criticized standardized requirements as inflexible and disconnected from local conditions. Small municipalities, in particular, struggle to implement uniform standards without sufficient funding or administrative capacity. This reinforces findings in the literature that call for adaptable, context-sensitive (place-based) standards that balance consistency with local autonomy.

In summary, this thesis shows that while the concept of SGI is prominently featured in strategic documents and political discourse, it lacks operational clarity and consistency across the administrative and planning levels in Austria. The term *Daseinsvorsorge* is used as a practical equivalent but is not conceptually delineated or legally defined. Strategic intent can be found particularly at the federal level, but implementation is mostly left to the regional level and municipalities without clear guidelines and adequate support. Spatial minimum standards, though theoretically valuable, are rarely defined in a way that ensures actual spatial justice. Instead, Austrian SGI planning is characterized by sectoral fragmentation, partially legal ambiguity, and a high degree of pragmatism.

The findings point out that SGI in Austria is primarily addressed in a pragmatic, service-specific manner rather than through an integrated, cross-sectoral framework. This reflects the broader European approach, which acknowledges the diversity of national traditions and

favours subsidiarity over uniformity, as well as the sectoral differences which are complicating a cross-sectoral approach. While these conceptual and strategic uncertainties in a way enable local adaptation, it also risks reinforcing spatial disparities, particularly in rural and structurally weak regions. As demographic, economic, and environmental changes continue to reshape societal needs, there is a pressing need to strengthen the strategic and legal foundations of SGI provision including a clearer conceptualisation and the development of spatially relevant, realistic and financially supported minimum standards that acknowledge spatial differences.

7.2 Recommendations for Action and Final Thoughts

There are still many open questions surrounding the practical implementation and understanding of Services of General Interest (*Daseinsvorsorge*). These questions could not be fully answered within the scope of this master's thesis. However, based on the findings, a recommendation for the future handling of SGI provision in Austria will now be presented.

Due to the constitutional distribution of competences among the different levels of government, the provision of SGI is regulated indirectly. As a result, public authorities know what their responsibilities are and, often perhaps unknowingly, ensure the provision of SGI. What these services are called in practice – whether "Services of General Interest" or "*Daseinsvorsorge*" – is irrelevant, as they are evidently planned and operated in a sector-specific and service-specific manner. The only important factor is that the population is provided with essential services and, ideally, is satisfied with them.

It makes sense that a collective term is used for these services in the strategic orientation of spatial development. Listing every individual service in strategy documents would be impractical, and it is generally assumed – rightly, as the findings suggest – which services are meant. Indeed, this assumption is largely accurate, as the literature reviewed in the theoretical section, the analysed documents, and the interviews conducted during this thesis all consistently reference the same types of services. However, typically, only exemplary services are mentioned rather than any attempt being made to define all services of general interest. Thus, the notion of "general interest" remains open to interpretation, even if the differences are merely nuances.

However, these nuances become problematic when the terms are used in such a way that either claims appear to arise from them, or responsibilities are implicitly delegated to a public authority. Therefore, a uniform definition should be sought at the federal level. It

must also be clarified whether this definition should imply enforceable claims – similar to the equivalence principle enshrined in Germany's Basic Law. Due to the lack of specificity and detachment from practical application, the term currently holds little significance at the most relevant administrative level for SGI provision: the municipalities. Considering that SGI is a normative concept, it runs the risk of becoming a hollow political buzzword lacking clear meaning.

Even if the term is defined more precisely in the future, it is essential that it remains adaptable to address future challenges. For example, climate change may significantly affect what is considered to be of general interest, i.e., the needs of the population. Blue infrastructure in cities might, due to rising temperatures, be seen as an SGI in the future, while retention basins for mudslides triggered by heavy rainfall are already becoming increasingly important in mountainous regions. Hence, continued flexibility is needed to respond to temporal developments and spatial differences.

In this context, the following questions should be addressed:

- Which services are included under the term "Services of General Interest" (*Daseinsvorsorge*)?
- Should it be a legal term that entails enforceable rights? (If not, it should not be used in legislation.)
- How should temporal changes and spatial differences be considered in defining the general interest?
- What is meant by "equivalent living conditions"?

Even though minimum standards for SGI are only briefly discussed in academic literature, they are undeniably a central tool for ensuring a basic level of service provision. Sector-specific legislation ensures that at least quality standards for individual services are upheld. However, minimum service provisions for municipalities and concrete spatial standards are completely lacking. While the concept of "equivalence" has not been conclusively defined, establishing certain binding standards to achieve it is essential.

In any case, the term minimum standards should be rejected because it limits standards to minimum requirements, while positive outcomes could also result from setting maximum limits. The analysis shows that very few actual minimum standards exist in the strict sense anyway. Instead of requiring every municipality to have a specific minimum level of

services, standards could stipulate that certain services must be accessible within a maximum time or distance. Whether such standards are realistically implementable remains questionable, which also brings the idea of cross-sectoral "minimum standards for SGI" into question. If they are to be defined at all, this should happen at the federal level – though the legal basis for this is unclear – otherwise it would be impossible to achieve nationwide equivalence. Furthermore, such standards should align with the general interest, which is currently undefined and assumed to be highly dynamic both in time and space. Thus, is it even possible to define SGI standards (not for individual services) without imposing requirements on some regions where there is no need, while allowing others to scale back existing services?

In this context, the following questions should be addressed:

- At what level (legally and practically) can and should minimum standards be set, considering regional differences?
- Which factors could justify deviations from these standards based on regional needs? (e.g., population size, geographical location, economic conditions?)
- Which minimum standards could ensure the essential spatial standards for SGI (availability and accessibility)?

The results and assessments in this master's thesis clearly show that taking a holistic view of SGI is challenging. The ambiguity of the general interest – shaped by a multitude of objective and subjective factors – highlights the limitations of this approach. Therefore, it should be noted that the results of this thesis are only partially transferable, as only three municipalities were examined in detail – albeit with different conditions but all located in the same region. The interviews provided key insights for the thesis, but the findings could vary significantly depending on the region and the specific municipalities involved.

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Appendix

8.1 Appendix A – Citation style of legal sources and list of translations

In view of the large number of legal sources used in the analysis of the minimum standards, it was necessary to establish a uniform citation style for Austrian laws. Since the usual citation styles (APA, Harvard, etc.) do not provide any useful guidelines, and since further research did not reveal a clear solution, the following scheme is now used:

§ 1 Abs. 2 Lit. 3 / § 1 Abs. 2 Nummer 3 =

Section 1 (2) [3]

The following table lists all legal sources that were used for the analysis of the minimum standards and in other sections of the master's thesis. The left column contains the original name of the laws and regulations, while the right column contains the English translation used in the master's thesis. The abbreviations of the laws remain unchanged and are used as in the original. The federal states listed in square brackets are for identification purposes only and are not included in the text unless the federal state cannot be identified from the context.

Actual name	As used in the master thesis (own translation)
86. Verordnung der Landesregierung vom 4. Oktober 2011, Zahl: 6-ET4-23/2-2011, mit der nähere Bestimmungen für die Tagesbetreuung, die notwendigen Inhalte der Ausbildung für Tagesmütter und Tagesväter und unter Bedachtnahme auf die Aufgaben der Tagesbetreuung durch Kindertagesstätten Regelungen über die Förderung erlassen werden (Kärntner Tagesbetreuungsverordnung K-TBVO)	Carinthian Day Care Ordinance

Bundesgesetz über die Auszeichnung von Preisen (Preisauszeichnungsgesetz – PrAG)	Price Labeling Act
Bundesgesetz über die Grundsätze betreffend die fachlichen Anstellungserfordernisse für Elementarpädagoginnen und Elementarpädagogen sowie Erzieherinnen und Erzieher (Anstellungserfordernisse-Grundsatzgesetz – AE-GG)	Employment Requirements Basic Act
Bundesgesetz über Sicherheitsanforderungen und weitere Anforderungen an Lebensmittel, Gebrauchsgegenstände und kosmetische Mittel zum Schutz der Verbraucherinnen und Verbraucher (Lebensmittelsicherheits- und Verbraucherschutzgesetz – LMSVG)	Food Safety and Consumer Protection Act
Bundesgesetz vom 19. Oktober 1988 über Kartelle und andere Wettbewerbsbeschränkungen (Kartellgesetz 1988 - KartG 1988)	Cartel Act 1988
Bundesgesetz vom 3. Feber 1983 über die wöchentliche Ruhezeit und die Arbeitsruhe an Feiertagen (Arbeitsruhegesetz – ARG)	Working Rest Act
Bundesgesetz vom 6. Juli 1960, mit dem Vorschriften über die Straßenpolizei erlassen werden (Straßenverkehrsordnung 1960 – StVO. 1960).	Road Traffic Act

Bundesgesetz zur Verbesserung der Nahversorgung und der Wettbewerbsbedingungen (Faire-Wettbewerbsbedingungen-Gesetz – FWBG)	Fair Competition Conditions Act
Bundes-Verfassungsgesetz (B-VG)	Federal Constitutional Law
Gesetz über das Feuerpolizeiwesen im Lande Vorarlberg (Feuerpolizeiordnung)	Fire Police Ordinance [Vorarlberg]
Gesetz über die Bildung und Betreuung von Kindern [Vorarlberg]	Law on the Education and Care of Children [Vorarlberg]
Gesetz über die Einrichtung und die Aufgaben der Feuerwehr im Lande Wien (Wiener Feuerwehrgesetz)	Vienna Fire Service Act
Gesetz über die Feuerpolizei in Wien [Wiener Feuerpolizeigesetz 2015]	Vienna Fire Police Act 2015
Gesetz über die verpflichtende frühe Förderung in elementaren Bildungseinrichtungen (Wiener Frühförderungsgesetz – WFfG)	Vienna Early Childhood Education Act
Gesetz vom 11. Juli 1973 über die Verhütung, Bekämpfung und Ermittlung der Ursachen von Bränden (Salzburger Feuerpolizeiordnung 1973)	Salzburg Fire Police Ordinance 1973
Gesetz vom 13. Dezember 2011 über die Feuer- und Gefahrenpolizei (Steiermärkisches Feuer- und Gefahrenpolizeigesetz – StFGPG)	Styrian Fire and Hazard Police Act
Gesetz vom 13. Dezember 2011 über die Feuerwehren in der Steiermark	Styrian Fire Service Act

(Steiermärkisches Feuerwehrgesetz – StFWG)	
Gesetz vom 15. Oktober 2019 über die Kinderbildungs- und –betreuungseinrichtungen in der Steiermark (Steiermärkisches Kinderbildungs- und –betreuungsgesetz 2019 – StKBBG 2019)	Styrian Child Education and Care Act 2019
Gesetz vom 15. Oktober 2019, mit dem das Gesetz über die Förderung von Kinderbildungs- und -betreuungseinrichtungen (Steiermärkisches Kinderbetreuungsförderungsgesetz 2019 – StKBFG 2019) erlassen wird	Styrian Childcare Funding Act 2019
Gesetz vom 17. Oktober 2019 über die Feuer- und Gefahrenpolizei und das Feuerwehrwesen im Burgenland (Bgld. Feuerwehrgesetz 2019 - Bgld. FwG 2019)	Burgenland Fire Service Act 2019
Gesetz vom 18. März 2021 über das Feuerwehrwesen in Kärnten (Kärntner Feuerwehrgesetz 2021 – K-FWG 2021)	Carinthian Fire Brigade Act 2021
Gesetz vom 3. Juli 2019 über die Bildung und Betreuung von Kindern im Land Salzburg (Salzburger Kinderbildungs- und -betreuungsgesetz 2019 – S. KBBG)	Salzburg Child Education and Care Act 2019
Gesetz vom 30. Juni 2010 über die Kinderbetreuung in Tirol (Tiroler Kinderbildungs- und Kinderbetreuungsgesetz)	Tyrolean Child Education and Child Care Act

Gesetz vom 30. Oktober 2008 über die Kinderbildung und -betreuung im Burgenland (Burgenländisches Kinderbildungs- und -betreuungsgesetz 2009 - Bgld. KBBG 2009)	Burgenland Child Education and Care Act 2009
Gesetz vom 31. Jänner 2018 über das Feuerwehrwesen im Bundesland Salzburg (Salzburger Feuerwehrgesetz 2018)	Salzburg Fire Brigade Act 2018
Gesetz vom 4. Juli 2019 über die Raumplanung im Burgenland 2019 (Burgenländisches Raumplanungsgesetz 2019 - Bgld. RPG 2019)	Burgenland Spatial Planning Act 2019
Gesetz vom 8. Oktober 1998, mit dem eine Feuerpolizeiordnung für Tirol erlassen wird (Tiroler Feuerpolizeiordnung 1998)	Tyrolean Fire Police Ordinance 1998
Gewerbeordnung 1994 – GewO 1994	Trade Act 1994
Kärntner Gefahrenpolizei- und Feuerpolizeiordnung 2000 - K-GFPO	Carinthian Hazard Police and Fire Police Ordinance 2000
Kärntner Kinderbildungs- und -betreuungsgesetz – K-KBBG	Carinthian Child Education and Care Act
Kärntner Tagesbetreuungsverordnung K-TBVO	Carinthian Day Care Ordinance
Kundmachung der Landesregierung vom 2. Oktober 2001 über die Wiederverlautbarung des Landes-Feuerwehrgesetzes 1970 [Tirol]	State Fire Service Act 2001 [Tyrol]

Landesgesetz über das Feuerwehrwesen in Oberösterreich (Oö. Feuerwehrgesetz 2015 - Oö. FWG 2015)	Upper Austrian Fire Service Act 2015
Landesgesetz, mit dem Bestimmungen über die Kinderbildung und -betreuung in der Gruppe erlassen werden (Oö. Kinderbildungs- und -betreuungsgesetz - Oö. KBBG)	Upper Austrian Child Education and Care Act
Landesgesetz, mit dem feuer- und gefahrenpolizeiliche Vorschriften erlassen werden (Oö. Feuer- und Gefahrenpolizeigesetz - Oö. FGPG)	Upper Austrian Fire and Hazard Police Act
NÖ Feuerwehr-Ausrüstungsverordnung	Lower Austrian Fire Brigade Equipment Ordinance
NÖ Feuerwehrgesetz 2015 (NÖ FG 2015)	Lower Austrian Fire Service Act 2015
NÖ Katastrophenhilfegesetz 2016 (NÖ KHG 2016)	Lower Austrian Disaster Relief Act 2016
NÖ Kinderbetreuungsgesetz 1996 (NÖ KBG)	Lower Austrian Child Care Act 1996
NÖ Kindergartengesetz 2006	Lower Austrian Kindergarten Act 2006
NÖ Raumordnungsgesetz 2014 (NÖ ROG 2014)	Lower Austrian Spatial Planning Act 2014
NÖ Tagesbetreuungsverordnung	Lower Austrian Day Care Ordinance
Öffnungszeitengesetz 2003	Opening Hours Act 2003
Oö. Kinderbildungs- und -betreuungs-Dienstgesetz (Oö. KBB-DG)	Upper Austrian Child Education and Care Service Act
Richtlinie der Vorarlberger Landesregierung zur sozialen Staffelung	Guidelines of the Vorarlberg State Government on the social stratification of

der Betreuungstarife in Kinder-bildungs- und -betreuungseinrichtungen und bei Tageseltern	childcare tariffs in child education and care facilities and with childminders
Sonn- und Feiertags-Betriebszeitengesetz	Sunday and Holiday Operating Hours Act
TROG 2016 - Kundmachung der Landesregierung vom 20. September 2016 über die Wiederverlautbarung des Tiroler Raumordnungsgesetzes 2011 als Tiroler Raumordnungsgesetz 2016, LGBl. Nr. 101/2016, idF LGBl. Nr. 114/2021.	Tyrolean Spatial Planning Act 2016
Vereinbarung gemäß Art. 15a B-VG über die Einführung der halbtägig kostenlosen und verpflichtenden frühen Förderung in institutionellen Kinderbetreuungseinrichtungen	Agreement pursuant to Art. 15a B-VG on the introduction of half-day free and compulsory early childhood education in institutional childcare facilities
Vereinbarung gemäß Art. 15a B-VG zwischen dem Bund und den Ländern über die Elementarpädagogik für die Kindergartenjahre 2022/23 bis 2026/27	Agreement pursuant to Art. 15a B-VG between the Federal Government and the States on elementary education for the kindergarten years 2022/23 to 2026/27
Verordnung der Bildungsdirektion für Oberösterreich betreffend die bauliche Gestaltung und die Einrichtung von Gebäuden, Räumen und sonstigen Liegenschaften, die für eine Kinderbildungs- und -betreuungseinrichtung verwendet werden (Oö. Bau- und Einrichtungsverordnung für Kinderbildungs- und -betreuungseinrichtungen 2023)	Upper Austrian Building and Facility Ordinance for Child Education and Care Facilities 2023
Verordnung der Bundesministerin für Gesundheit und Frauen über die	Food Hygiene Adaptation Ordinance

Anpassung bestimmter Lebensmittelhygienevorschriften (Lebensmittelhygiene-Anpassungsverordnung)	
Verordnung der Bundesministerin für Gesundheit und Frauen über Lebensmittelhygieneanforderungen an Einzelhandelsunternehmen (Lebensmittel-Einzelhandelsverordnung)	Food Retail Regulation
Verordnung der Burgenländischen Landesregierung vom 18. Feber 2010 betreffend die bauliche Gestaltung, Größe, Belichtung, Lüftung, Beheizung und die Einrichtung von Gebäuden, Räumen und sonstigen Liegenschaften von Kinderbetreuungseinrichtungen (Burgenländische Kinderbetreuungsbauten- und -einrichtungsverordnung 2009 - Bgld. KBEV 2009)	Burgenland Childcare Buildings and Facilities Ordinance 2009
Verordnung der Burgenländischen Landesregierung vom 25. Oktober 2023 über den Kostenersatz für Einsatzleistungen und Beistellungen von Geräten durch Feuerwehren (Feuerwehr-Tarifverordnung 2023 - FwTarifV 2023)	Fire Service Tariff Ordinance 2023
Verordnung der Burgenländischen Landesregierung vom 29. November 2011, mit der das Landesentwicklungsprogramm 2011 erlassen wird (LEP 2011)	State Development Program 2011

Verordnung der Landesregierung über die Bildungs- und Betreuungsarbeit in Kleinkind-, Kindergarten- und Schulkindgruppen [Vorarlberg]	Ordinance of the State Government on Educational and Care Work in Toddler, Kindergarten and School Child Groups
Verordnung der Oö. Landesregierung über die Bewilligungsvoraussetzungen und die Förderung von Tagesmüttern und Tagesvätern (Oö. Tagesmütter- bzw. Tagesväter-Verordnung 2014)	Upper Austrian Childminder Ordinance 2014
Verordnung der Salzburger Landesregierung vom 2. Juli 2019 über die Bildung und Betreuung von Kindern im Land Salzburg (Salzburger Kinderbildungs- und -betreuungsverordnung 2019 – S. KBBVO) StF: LGBl Nr 58/2019	Salzburg Child Education and Care Ordinance 2019
Verordnung der Wiener Landesregierung, mit der nähere feuerpolizeiliche Vorschriften erlassen werden (Wiener Feuerpolizeiverordnung 2016 – WFPolV 2016)	Vienna Fire Police Ordinance 2016
Verordnung der Wiener Landesregierung über die Freiwilligen Feuerwehren und die Betriebsfeuerwehren im Lande Wien (Wiener Feuerwehr-Verordnung)	Vienna Fire Department Ordinance
Verordnung des Bundesministers für Wirtschaft und Arbeit über die Zugehörigkeit der von Land- und Forstwirten hergestellten Produkte zur land- und forstwirtschaftlichen Urproduktion (Urprodukteverordnung)	Original Products Ordinance

Wiener Kindergartengesetz – WKGG [CELEX-Nrn.: 392L0051 und 301L0019]	Vienna Kindergarten Act
Wiener Kindergartenverordnung – WKGVO	Vienna Kindergarten Ordinance

8.2 Appendix B – Decision Matrix Results

The following tables serve to illustrate the selection of services addressed in the master's thesis and represent the quantitative evaluation of the decision matrix. The corresponding description of the tables can be found in the grey field. The underlying expert assessments were carried out within the MIDAS project (see Drage et al., 2024).

Intensity of the impact (on a scale from 0 to 3)

Level III	DRIVERS of SGI								row mean Ø
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources	
Pre-school education	2,0	2,0	2,6	1,8	1,9	1,5	1,3	0,6	1,7
Basic education	2,1	1,1	2,6	2,0	2,0	1,5	1,4	0,6	1,7
Secondary levl 1	2,6	1,1	3,0	2,9	2,3	2,1	1,6	0,7	2,0
Secondary level 2	2,6	1,3	2,7	2,8	1,4	1,8	1,5	0,8	1,8
Post-secondary and tertiary education	2,3	1,4	2,0	2,6	1,4	2,1	1,1	0,8	1,7
Community facilities	2,9	3,0	2,4	1,8	1,7	1,4	1,5	0,8	1,9
Care facilities	2,5	2,9	1,7	2,1	2,0	2,6	1,9	0,8	2,1
Inpatient care	1,5	2,8	1,9	2,1	2,4	2,5	2,0	0,8	2,0
Outpatient care	1,4	2,8	1,6	2,3	2,3	2,6	1,7	0,7	1,9
Pharmaceutical supply	0,6	2,6	0,4	1,8	2,0	1,3	1,1	0,8	1,3
Telemedicine	2,1	2,5	2,0	3,0	1,3	1,5	0,5	0,4	1,7
Veterinarians	0,6	1,0	0,7	1,4	1,4	0,8	1,3	0,8	1,0
Object funding	1,9	1,5	2,1	0,9	1,0	0,9	2,9	2,6	1,7
Subject funding	2,5	2,4	2,6	0,9	1,0	1,5	1,9	1,9	1,8
Culture	2,5	2,4	2,1	2,3	2,3	1,1	0,8	0,8	1,8
Security	1,4	1,8	1,9	1,4	2,4	2,0	2,8	1,0	1,8
Insurance	1,8	2,5	2,1	1,3	0,9	2,1	1,9	0,5	1,6
Administration	1,6	1,4	1,7	2,4	1,6	1,6	1,4	1,5	1,6
Local supply groceries/drugstore	2,0	2,3	2,0	2,3	2,4	1,4	1,3	2,1	2,0
Local supply (non food)	1,3	1,8	0,7	2,8	2,6	1,4	0,9	1,1	1,6
Communication infrastructure	1,8	1,3	1,3	2,9	1,9	2,1	1,4	1,6	1,8
Public transport	1,9	2,3	2,3	2,4	2,9	2,3	2,5	2,4	2,3
motorised individual transport	1,3	0,8	0,6	2,0	2,1	1,1	2,4	2,5	1,6
non motorised individual transport	1,5	1,8	1,1	1,0	2,3	0,9	2,3	2,5	1,7
Waste Management	0,6	0,6	0,7	1,3	2,1	1,4	1,6	2,5	1,4
Water supply and disposal	0,6	0,6	0,6	1,3	1,3	1,4	2,5	2,3	1,3
Energy supply	1,0	0,6	0,6	2,6	2,6	1,5	3,0	3,0	1,9
Leisure, recreation	2,1	2,1	2,0	1,1	2,6	1,3	2,6	2,0	2,0
	1,7	1,8	1,7	2,0	1,9	1,6	1,7	1,4	
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources	

Number of mentions - no effect

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	0	3	0	1	0	2	2	7
Basic education	0	3	0	1	1	2	2	7
Secondary levl 1	0	3	0	0	1	0	2	7
Secondary level 2	0	3	0	0	2	0	2	7
Post-secondary and tertiary education	2	3	2	2	2	2	3	7
Community facilities	0	0	0	1	1	3	3	7
Care facilities	0	0	1	0	0	0	1	7
Inpatient care	2	1	1	1	0	1	2	7
Outpatient care	2	0	2	1	1	1	2	7
Pharmaceutical supply	4	0	5	1	0	2	2	7
Telemedicine	1	0	2	0	2	2	5	7
Veterinarians	5	4	4	2	2	4	4	7
Object funding	1	4	1	3	2	4	0	2
Subject funding	0	1	0	3	2	2	2	4
Culture	0	1	0	1	1	2	3	6
Security	3	2	1	1	0	1	0	5
Insurance	1	2	2	3	3	2	2	7
Administration	1	3	1	0	0	3	2	4
Local supply groceries/drugstore	2	1	0	1	1	2	3	2
Local supply (non food)	5	3	3	1	1	2	4	6
Communication infrastructure	2	3	1	1	1	2	4	4
Public transport	2	0	0	1	1	1	1	3
motorised individual trans	2	2	2	1	1	4	1	2
non motorised individual	1	1	0	2	1	4	1	3
Waste Management	4	4	2	3	1	3	3	2
Water supply and disposal	4	4	3	3	3	2	1	3
Energy supply	3	4	3	1	1	3	1	2
Leisure, recreation	1	0	0	2	0	1	0	1

Number of mentions - all groups

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	0	0	0	0	0	0	0	0
Basic education	0	0	0	0	0	0	0	0
Secondary levl 1	0	0	0	0	0	0	0	0
Secondary level 2	0	0	0	0	0	0	0	0
Post-secondary and tertiary education	0	1	0	1	0	0	0	0
Community facilities	8	4	5	6	5	4	4	1
Care facilities	2	1	1	1	1	0	2	0
Inpatient care	5	4	5	7	7	5	5	1
Outpatient care	6	6	5	6	6	5	4	0
Pharmaceutical supply	2	3	1	6	6	4	5	1
Telemedicine	3	1	4	7	4	3	3	1
Veterinarians	3	3	2	5	4	2	3	1
Object funding	3	1	2	4	2	2	4	2
Subject funding	3	0	4	4	2	3	3	1
Culture	8	3	7	7	6	5	5	1
Security	5	2	5	7	7	4	8	3
Insurance	5	2	5	5	4	1	6	1
Administration	7	2	4	5	5	2	5	4
Local supply groceries/drugstore	5	2	6	4	5	4	5	5
Local supply (non food)	2	1	3	5	3	5	3	1
Communication infrastructure	6	2	6	7	5	3	4	3
Public transport	6	4	7	7	6	4	7	5
motorised individual trans	4	4	4	5	4	2	6	5
non motorised individual	7	2	6	6	6	2	7	5
Waste Management	4	3	5	4	5	4	5	6
Water supply and disposal	4	4	4	4	4	5	7	5
Energy supply	4	3	4	5	6	4	7	6
Leisure, recreation	6	4	7	6	7	6	8	7

Number of mentions - children and adolescents

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	8	5	7	7	7	4	6	1
Basic education	8	5	7	7	6	4	6	1
Secondary levl 1	8	5	7	8	6	6	6	1
Secondary level 2	8	5	7	8	5	7	6	1
Post-secondary and tertiary education	4	1	4	4	2	2	3	0
Community facilities	0	1	1	0	1	0	1	0
Care facilities	0	0	0	0	0	0	0	0
Inpatient care	0	0	0	0	0	0	0	0
Outpatient care	0	0	0	0	0	0	0	0
Pharmaceutical supply	0	0	0	0	0	0	0	0
Telemedicine	0	0	0	0	0	0	0	0
Veterinarians	0	0	0	0	0	0	0	0
Object funding	0	1	1	0	0	0	0	0
Subject funding	1	0	0	0	0	0	0	0
Culture	0	0	0	0	0	0	0	0
Security	0	0	1	0	0	0	0	0
Insurance	0	0	0	0	0	0	0	0
Administration	0	0	0	0	0	0	1	0
Local supply groceries/drugstore	0	0	0	0	0	0	0	0
Local supply (non food)	0	0	0	0	0	0	0	0
Communication infrastructure	0	0	0	0	0	0	0	0
Public transport	0	0	0	0	0	0	0	0
motorised individual trans	0	0	0	0	0	0	0	0
non motorised individual	0	0	1	0	0	0	0	0
Waste Management	0	0	0	1	0	0	0	0
Water supply and disposal	0	0	0	1	0	0	0	0
Energy supply	0	0	0	1	0	0	0	0
Leisure, recreation	1	0	0	0	0	0	0	0

Number of mentions - employed people

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	4	2	3	2	4	4	3	0
Basic education	2	2	4	3	3	4	3	0
Secondary levl 1	3	2	3	2	2	4	1	0
Secondary level 2	4	3	2	1	1	3	1	0
Post-secondary and tertiary education	3	3	4	3	4	5	4	1
Community facilities	0	0	0	0	0	1	0	0
Care facilities	2	2	3	2	2	6	1	0
Inpatient care	1	0	1	0	0	2	0	0
Outpatient care	0	0	0	1	0	2	0	0
Pharmaceutical supply	0	0	0	0	0	2	0	0
Telemedicine	2	0	1	1	0	3	0	0
Veterinarians	0	0	1	1	1	2	1	0
Object funding	4	2	4	1	3	2	4	4
Subject funding	4	2	2	1	3	3	3	3
Culture	0	1	0	0	0	1	0	1
Security	0	1	1	0	0	3	0	0
Insurance	2	2	0	0	0	5	0	0
Administration	0	1	2	3	2	3	1	0
Local supply groceries/drugstore	1	0	1	3	1	2	0	1
Local supply (non food)	1	1	1	2	3	1	1	1
Communication infrastructure	0	0	0	0	1	3	0	1
Public transport	0	0	0	0	0	3	0	0
motorised individual trans	2	0	1	2	2	2	1	1
non motorised individual	0	1	1	0	0	2	0	0
Waste Management	0	0	0	1	1	1	0	0
Water supply and disposal	0	0	0	1	0	1	0	0
Energy supply	1	0	0	2	0	1	1	0
Leisure, recreation	1	0	0	0	0	1	0	0

Number of mentions - no answer provided

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	0	3	1	1	1	2	2	7
Basic education	0	3	1	1	2	2	2	7
Secondary levl 1	0	3	1	0	2	0	2	7
Secondary level 2	0	3	1	0	3	0	2	7
Post-secondary and tertiary education	2	3	3	2	3	2	3	7
Community facilities	0	0	1	1	2	3	3	7
Care facilities	0	0	2	0	1	0	2	8
Inpatient care	2	1	2	1	1	1	2	7
Outpatient care	2	0	3	1	2	1	2	7
Pharmaceutical supply	4	0	6	1	1	2	2	7
Telemedicine	1	0	3	0	3	2	5	7
Veterinarians	5	4	5	2	3	4	4	7
Object funding	1	4	2	3	3	4	0	2
Subject funding	0	1	1	3	3	2	2	4
Culture	0	1	1	1	2	2	3	6
Security	3	2	2	1	1	1	0	5
Insurance	1	2	3	3	4	2	2	7
Administration	1	3	2	0	1	3	2	4
Local supply groceries/drugstore	2	1	1	1	2	2	3	2
Local supply (non food)	5	3	4	1	2	2	4	6
Communication infrastructure	2	3	2	1	2	2	4	4
Public transport	2	0	1	1	2	1	1	3
motorised individual trans	2	2	3	1	2	4	1	2
non motorised individual	1	1	1	2	2	4	1	3
Waste Management	4	4	3	3	2	3	3	2
Water supply and disposal	4	4	4	3	4	2	1	3
Energy supply	3	4	4	1	2	3	1	2
Leisure, recreation	1	0	1	2	1	1	0	1

Number of mentions - all spatial types

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	6	4	2	6	2	4	3	4
Basic education	3	4	2	6	2	5	4	4
Secondary levl 1	6	4	2	7	1	7	4	4
Secondary level 2	5	3	2	6	1	6	3	3
Post-secondary and tertiary education	3	4	2	6	2	4	4	3
Community facilities	6	8	4	8	2	4	4	4
Care facilities	8	8	3	8	5	7	6	4
Inpatient care	5	8	4	8	4	7	6	4
Outpatient care	5	6	3	6	5	4	5	4
Pharmaceutical supply	2	6	4	5	4	4	5	3
Telemedicine	3	2	5	5	2	4	3	2
Veterinarians	2	4	3	7	5	1	4	3
Object funding	4	4	5	5	5	4	7	6
Subject funding	6	6	5	5	5	6	5	5
Culture	4	6	4	6	2	5	4	2
Security	2	4	3	7	5	6	8	4
Insurance	5	6	4	4	4	8	6	2
Administration	6	5	4	8	5	5	6	5
Local supply groceries/drugstore	4	4	4	5	2	5	5	3
Local supply (non food)	4	2	3	6	3	5	4	3
Communication infrastructure	6	4	5	5	4	4	4	6
Public transport	6	4	6	7	5	6	7	7
motorised individual trans	5	6	5	7	6	5	6	8
non motorised individual	7	6	6	6	5	5	7	7
Waste Management	4	4	4	5	6	6	5	6
Water supply and disposal	4	4	4	5	4	6	7	7
Energy supply	4	4	4	8	5	6	8	7
Leisure, recreation	7	8	3	5	6	7	6	7

Number of mentions - urban

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	2	0	5	0	0	1	3	0
Basic education	4	0	5	0	0	0	2	0
Secondary levl 1	2	0	5	0	0	0	2	0
Secondary level 2	3	1	5	1	1	1	3	1
Post-secondary and tertiary education	5	1	5	1	1	3	2	1
Community facilities	2	0	3	0	0	0	2	0
Care facilities	0	0	3	0	0	0	1	0
Inpatient care	1	0	3	0	0	0	1	0
Outpatient care	1	0	4	0	0	0	1	0
Pharmaceutical supply	0	0	0	0	0	1	1	0
Telemedicine	0	0	0	0	0	0	0	0
Veterinarians	1	0	0	0	0	0	1	0
Object funding	3	0	1	0	0	0	0	0
Subject funding	2	2	2	0	0	0	0	0
Culture	3	1	3	1	1	1	1	1
Security	1	0	3	0	0	0	0	0
Insurance	1	0	0	0	1	0	0	0
Administration	1	0	3	0	0	0	0	0
Local supply groceries/drugstore	1	0	3	0	0	0	0	0
Local supply (non food)	0	0	1	0	0	0	0	0
Communication infrastructure	0	0	1	0	0	0	0	0
Public transport	0	0	0	0	0	0	0	0
motorised individual trans	0	0	0	0	0	0	0	0
non motorised individual	0	1	1	0	0	0	0	0
Waste Management	0	0	1	0	0	0	0	0
Water supply and disposal	0	0	0	0	0	0	0	0
Energy supply	1	0	0	0	0	0	0	0
Leisure, recreation	0	0	4	0	0	0	2	1

Number of mentions - suburban

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	2	0	3	0	2	1	0	0
Basic education	2	0	3	0	1	1	1	0
Secondary levl 1	1	0	3	0	1	1	1	0
Secondary level 2	2	1	3	1	2	2	2	1
Post-secondary and tertiary education	2	1	2	0	1	1	0	0
Community facilities	2	0	2	0	2	0	1	0
Care facilities	0	0	1	0	2	0	0	0
Inpatient care	1	0	2	0	0	0	0	0
Outpatient care	1	1	3	1	0	1	0	0
Pharmaceutical supply	0	0	0	0	1	2	0	0
Telemedicine	0	1	0	0	1	0	0	0
Veterinarians	0	0	0	0	0	1	0	0
Object funding	3	0	0	0	0	0	0	2
Subject funding	2	1	1	0	0	0	0	1
Culture	3	2	3	1	2	1	1	2
Security	1	0	0	0	0	0	0	1
Insurance	1	0	0	0	0	0	0	0
Administration	1	0	1	0	1	0	0	1
Local supply groceries/drugstore	2	1	2	1	1	0	0	3
Local supply (non food)	0	1	0	0	1	0	0	1
Communication infrastructure	0	1	0	0	0	0	0	0
Public transport	1	1	0	0	1	1	0	0
motorised individual trans	0	0	0	0	0	0	1	0
non motorised individual	0	0	0	0	1	0	0	0
Waste Management	0	0	0	0	0	0	0	0
Water supply and disposal	0	0	0	0	0	0	0	0
Energy supply	1	0	0	0	0	0	0	1
Leisure, recreation	0	0	1	0	0	0	0	1

Number of mentions - rural

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	0	1	1	1	5	2	0	0
Basic education	0	1	1	1	5	1	0	0
Secondary levl 1	0	1	1	1	6	1	0	0
Secondary level 2	0	1	1	1	4	1	0	0
Post-secondary and tertiary education	0	1	0	1	2	0	0	0
Community facilities	0	0	0	0	4	1	0	0
Care facilities	0	0	0	0	2	1	0	0
Inpatient care	0	0	0	0	4	0	0	0
Outpatient care	0	2	0	1	1	3	0	0
Pharmaceutical supply	2	2	0	2	3	1	0	0
Telemedicine	4	5	1	3	3	3	0	0
Veterinarians	0	0	0	0	2	3	1	0
Object funding	0	0	0	0	0	0	1	2
Subject funding	0	0	0	0	0	0	1	1
Culture	1	1	0	0	3	0	0	1
Security	2	2	0	0	2	1	0	1
Insurance	0	0	0	0	0	0	0	0
Administration	1	1	0	0	2	2	0	1
Local supply groceries/drugstore	2	4	0	2	4	1	0	4
Local supply (non food)	1	4	0	2	4	1	0	1
Communication infrastructure	0	1	0	2	2	2	0	0
Public transport	1	3	1	0	1	1	0	0
motorised individual trans	0	0	0	0	0	0	1	0
non motorised individual	0	0	0	0	1	0	0	0
Waste Management	0	0	0	0	0	0	0	1
Water supply and disposal	0	0	0	0	0	0	0	0
Energy supply	0	0	0	0	1	0	0	1
Leisure, recreation	0	0	0	0	1	0	0	0

Number of mentions - no answer provided

Level III	DRIVERS of SGI							
	pluralisation	aging	migration	digitalisation	location	labour market	climate risks	natural resources
Pre-school education	0	3	1	1	1	2	2	4
Basic education	1	3	1	1	1	2	2	4
Secondary levl 1	0	3	1	0	1	0	2	4
Secondary level 2	0	3	1	0	2	0	2	4
Post-secondary and tertiary education	0	2	1	0	3	1	2	4
Community facilities	0	0	1	0	2	3	2	4
Care facilities	0	0	2	0	1	0	1	4
Inpatient care	2	0	1	0	1	1	1	4
Outpatient care	2	0	1	0	2	1	2	4
Pharmaceutical supply	4	0	4	1	2	1	2	5
Telemedicine	1	1	2	0	3	1	5	6
Veterinarians	5	4	5	1	1	4	2	5
Object funding	1	4	2	3	3	4	0	0
Subject funding	0	0	1	3	3	2	2	2
Culture	0	0	1	1	2	2	3	4
Security	3	2	2	1	1	1	0	3
Insurance	2	2	4	4	3	0	2	5
Administration	0	2	1	0	1	1	2	2
Local supply groceries/drugstore	1	0	1	1	2	2	3	1
Local supply (non food)	3	2	4	0	1	2	4	4
Communication infrastructure	2	3	2	1	2	2	4	2
Public transport	1	1	1	1	2	1	1	1
motorised individual trans	3	2	3	1	2	3	1	0
non motorised individual	1	1	1	2	2	4	1	1
Waste Management	4	4	3	3	2	2	3	1
Water supply and disposal	4	4	4	3	4	2	1	1
Energy supply	3	4	4	0	2	2	0	0
Leisure, recreation	1	0	1	3	1	1	0	0

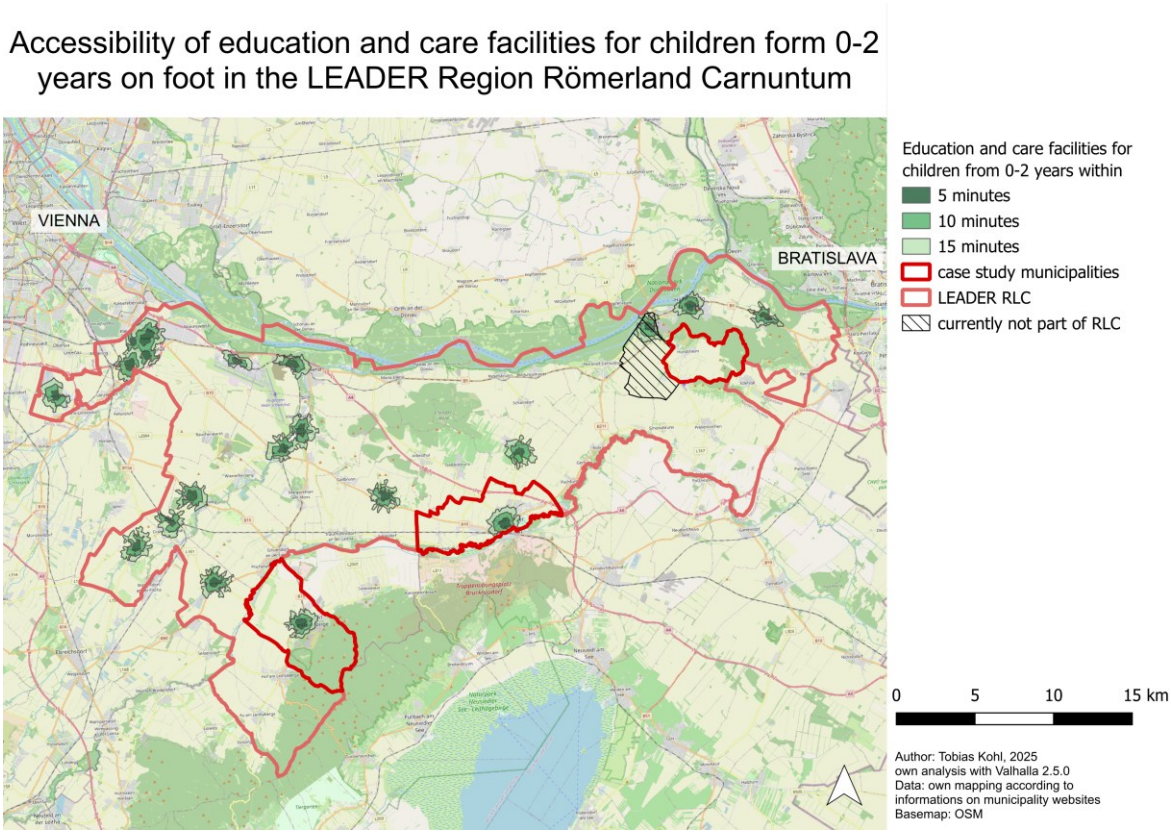
8.3 Appendix C – Guiding Questions for the Interviews

The following questions guided the interviews with the mayors:

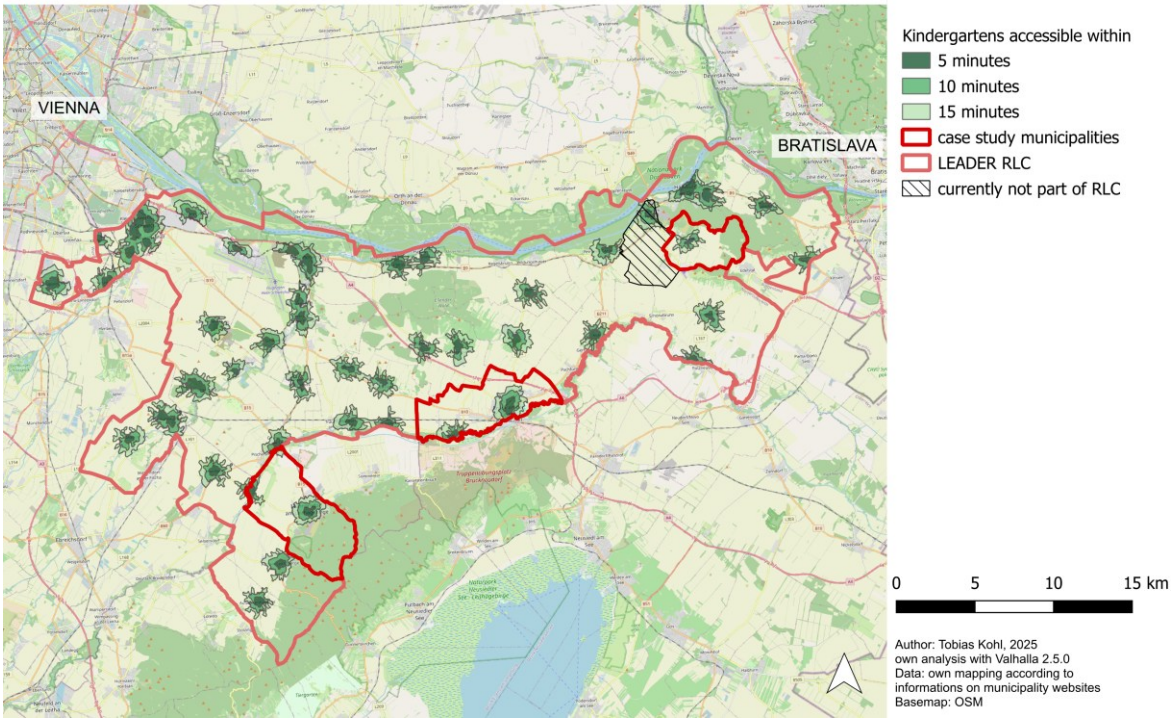
1. As the mayor of a municipality, what do you understand by public services?
2. What does "equal living conditions" mean to you, and do you think this goal is achievable?
3. What public services are available in the municipality, and what challenges does their provision face?
4. In which areas are there deficits in provision, and what options are there to address these deficits? (Cooperations? Innovations?)
5. Is there a targeted strategic approach to public services, or are all services planned individually (sectorally) according to need?
6. What actual influence do federal and state minimum standards have on the provision of public services at the municipal level?
7. How do minimum standards affect the provision of public services? (especially from a spatial perspective – e.g., site selection and the availability (or establishment) of infrastructure and services)
8. Which level of local government is best suited to establish spatially relevant minimum standards, and what legal framework must be in place to ensure an equivalent provision of services of general interest?

8.4 Appendix D – Maps of the GIS Analysis of the Case Study Region

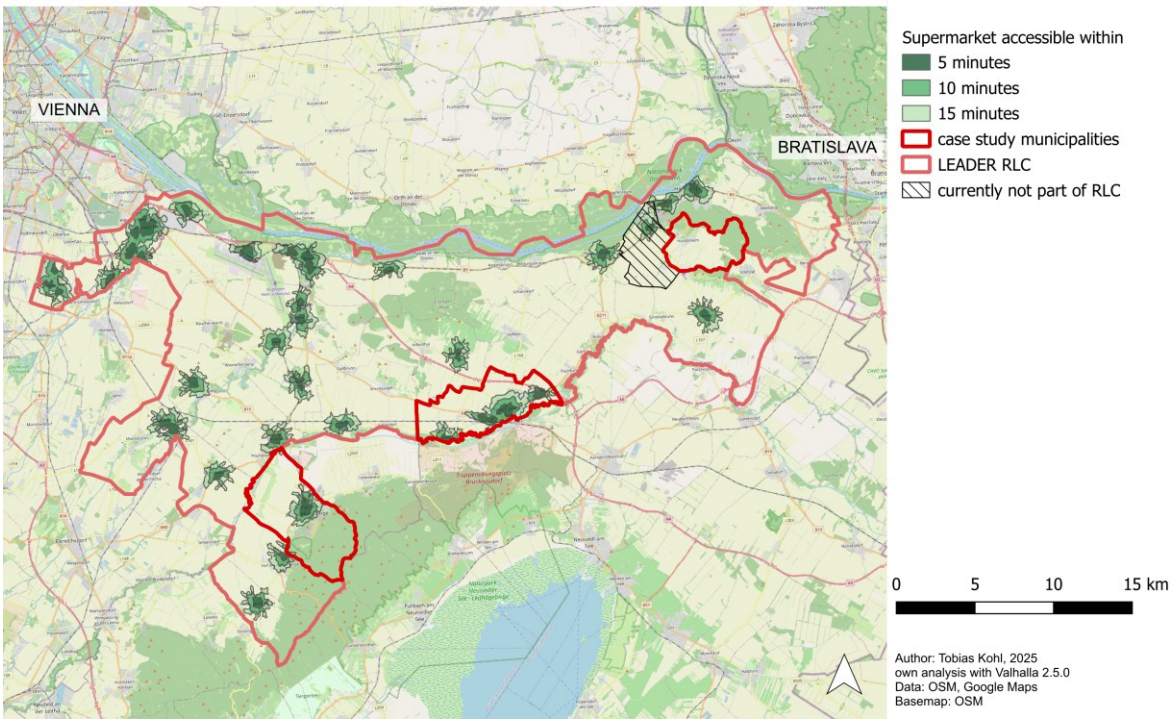
The following cartographic representations of the accessibility analysis of the case study area are provided for illustrative purposes only. The isochrones of accessibility shown in the maps formed the basis for the calculations in Chapter 5.1.2.



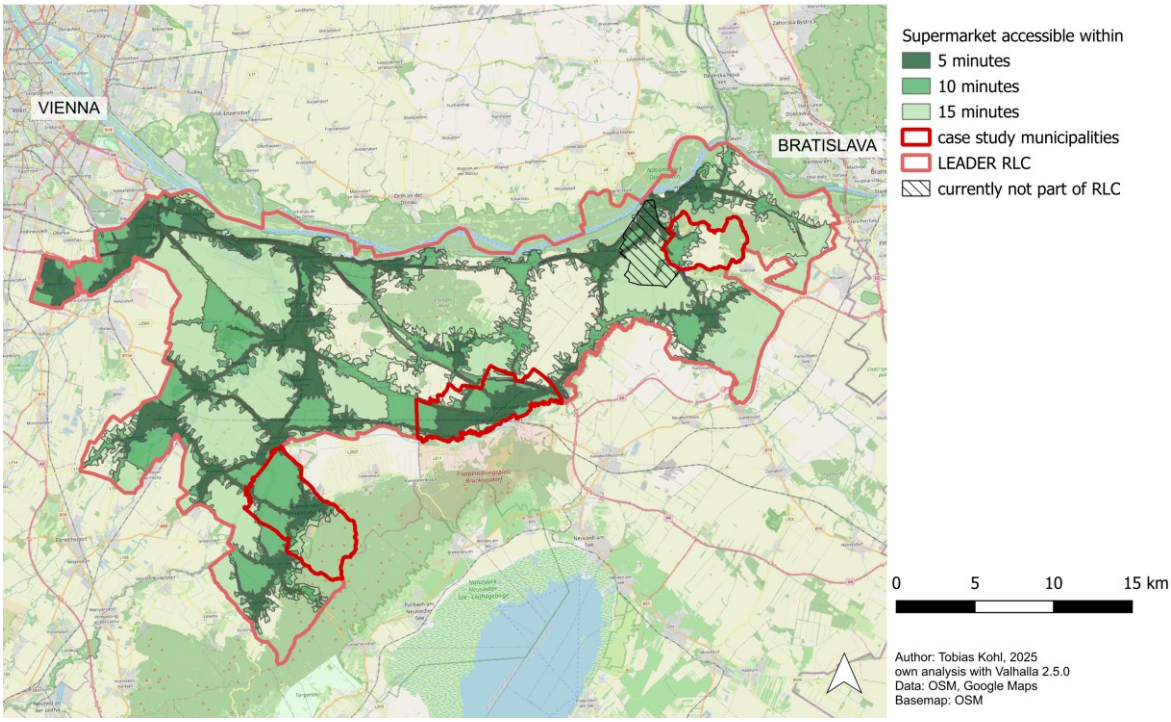
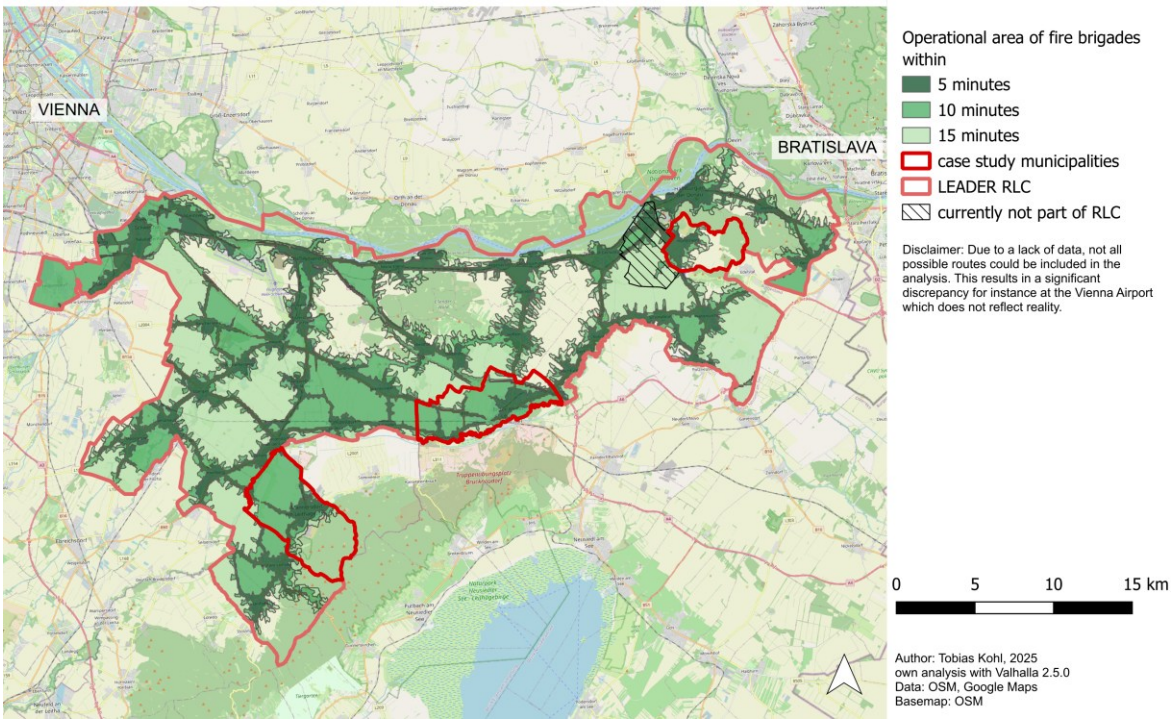
Accessibility of kindergartens on foot in the LEADER Region Römerland Carnuntum



Accessibility of supermarkets on foot in the LEADER Region Römerland Carnuntum



Accessibility of supermarkets by car in the LEADER Region Römerland Carnuntum



Accessibility of/from fire stations by car in the LEADER Region Römerland Carnuntum