

Relinquishing power in the definition of housing qualities: universal design thinking or mere rationalisation?

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Abstract:

It is still an open matter whether qualities in housing are the outcome of architects' artistic ambitions in answer to the users' needs or whether it is the meticulous realisation of users' demands and needs that national authorities stipulate. Since 2020, the Swedish building legislation is undergoing a historical change. The Swedish Government has assigned the National Board for Housing, Planning and Building to revise the 30 years praxis for how to write the appurtenant building regulations. These regulations typically present both recommendations and general advice on how to meet a specific requirement, for instance, accessibility and usability for people with disabilities. Instead, the regulations shall refer to new minimum requirements that have been defined as Swedish standards for how the specific building requirements can be achieved. This new model has several similarities with building legislation in Austria, Germany, and Switzerland. However, what is alarming, is that the national authority presume that these standards shall be developed by the building industry itself, rather than as agreements between the building industry and the welfare state what minimum housing qualities are for Swedish housing. Since participation in standardisation also presume a minimum annual fee of approximate 25 000 Swedish crowns per participants, another question materializes, can the building industry act as a representative for a broad and varied group of future users, including people with disabilities?

Key words: accessibility, usability, building requirements, people with disabilities, legal framework.

Introduction

Like many other western-European countries, the concept of accessibility was introduced in the Swedish building legislation in the beginning of the 1970s (Andersson, 2021). The concept relied upon previous research on the interaction between people with or without disabilities in different spatial situations, like kitchen work, getting in and out bed, using a bathtub or a shower and necessary space for manoeuvring an assistive device and transferring to a toilet seat. This biometric research produced spatial requirements that were included as building regulations appurtenant to the building act. The early requirements concerning accessibility relied upon a strict top-down perspective. The municipal authorities controlled the spatial implementation while the housing loan system vouched for an improved housing standard at large.

Heavily criticised by private building companies and property developer, the old building legislation were reformed in a more lenient direction by the end of the 1980s, replaced by the new building legislation, in the following called PBL after the Swedish acronym – Planning and Building Law (SFS_1987:10, 1987). Much of the fundament for the accessibility requirements was swept away since mandatory requirements were reformulated as functional requirements open for interpretation by the developer and the housing loan system was abolished. As a preliminary replacement, a handbook in accessibility was published in 1990 – still in use and an important source for practical advice on how to realise an accessible built environment – while the old mandatory requirements were converted into functional recommendations included in a new building regulation during the 1990s (Svensson, 2020).

Coinciding with a housing shortage crisis that became alarming in the early 1990s, the building industry has continued to criticise the new building legislation. Significantly for the Swedish building sector, the industry relies upon both national experiences from most of the 290 Swedish municipality regarding the implementation of the functional requirements, and international projects realised in

member states of the European Union. Based on these experiences, their assessment is that the new building legislation is still not an effective instrument for neither physical planning nor building in Sweden (Fock, 2010; NCC, 2012). According to the Swedish building industry, the PBL system is too complex which makes physical planning into a time-consuming process, while building activities are delayed by different municipal interpretations of the functional requirements. Therefore, the industry has lobbied for a third revision of the legislation.

Governmental attention to PBL critique

Over the years, Swedish governments, either with a left- or right-wing majority, have paid a keen attention to the building industry's continued critique of the PBL system. This has already resulted in a second reform of the PBL system in 2011 with a series of minor changes of the building regulations on a yearly basis (Sveriges_Riksdag, 2010). The NBHPB Building Regulations are divided into 8 different chapters that cover (NBHBP, 2021):

1. general definitions
2. comprehensive regulations,
3. accessibility and usability in housing and other building types,
4. constructive concerns, replaced by EU directive in 2013 in its entirety,
5. fire safety,
6. hygiene, health, and environment,
7. noise,
8. safety and security,
9. energy concerns.

During the period 2017-2021, three parliamentary committees have invested time in developing changes of the PBL to meet the most severe points in the critique, often, with an attentive glance on

the continuously low production of new housing (SOU2012:86, 2012; SOU_2017:106, 2017). In 2018, the government commissioned the National Board for Housing, Planning and Building, in the following NBHPB (Boverket, 2020), to revise in a completely new manner the established custom to formulate advice and recommendations concerning functional requirements of the building legislation. The new version was expected to be published in 2022. The revision work started with chapter 7, noise.

The work soon encountered problems since most of the advice and functional requirements of the present building regulations were based upon requirements from earlier building regulations and with little other factual evidence outside the regulations. Hence, the NBHPB turned to Swedish, international or EU standards on related matters. The revision team detected a great need for new standardisation projects on minimum requirements for functional matters that previously have been covered by the building legislation. The need became even more acute when taking on other chapters, for instance, chapter 3 on accessibility and usability of the built environment. However, the NBHPB did not assume the responsibility for this development, rather, the authority openly admitted that the building industry must assume this chore since they must be considered as experts in the field.

Consequently, the revision of the Swedish building regulations will presume a substantial development of new national standards on various building matters, either as new standardisation projects, or validating international standards as national ones. This means that not only the traditional way of wording regulations concerning advice and recommendations for functional requirements will change, but it also means that the Swedish building legislation will undergo a systemic change – from national welfare goals converted into functional requirements towards standardisation as means for defining a minimum quality level of the built environment.

Standardisation on accessibility and usability

Standardisation is an essential tool in the technological development of most industrial areas. It has played an important role in the gradual transfer from a primarily agrarian society into the modern industrial society. Sweden joined several standardisation projects concerning electrical and engineering components in the early 20th century. Standardisation was also an important motto for the Stockholm exposition in 1930 when the new functionalistic architecture linked architectural design intimately with user needs (Rudberg, 1999). The origin of modern Swedish requirements for accessibility and usability is actually closely connected to the standardisation quest of the late 1930s to promote an improved general housing standard in Sweden. This quest was initiated by the professional organisation for Swedish Architects and the Swedish Arts and crafts movement. It was realised as a national research project that accumulated biometric data on various spatial measurements, later used as norms in the old Swedish building legislation. An organisation for people with disabilities also participated in the project, thus, promoting spatial measurements for a person using a wheelchair in a home environment.

The driving force in standardisation is the mutual interest in developing a communal minimum requirement with a particular focus. In the field of accessibility and usability for housing, an existing national standard exists, dating back to the 1970s, (Svensk_Standard, 2006). The standard proposes three levels of accessibility: Firstly, without any accessibility concerns at all, secondly, with minimum accessibility concerns, and thirdly, with an expanded level of accessibility. The expanded level of accessibility would provide a reasonable level that most users with locomotory problems or other disabilities would benefit from. In the existing building regulations, the NBHPB makes six general references to the minimum level with reference to recommended measurements for hygiene space, entrances, space in conjunction to doorways, kitchen, and storage.

The advice and recommendations of the building regulations provides further details on how to achieve the stipulated legal demand. These details are not addressed in the standard, and they supply a more holistic understanding for why the demand is important. During the period 2017-2020, the standard has been thoroughly revised by a standardisation committee that includes both representatives from the building industry, accessibility experts and representatives of organisations in defence of the rights of people with disabilities. The NBHPB chose not to participate in the revision work. A preliminary draft of a revised standard was circulated in 2019 but generated a substantial number of comments that required further revision work to be undertaken.

In a parallel track and since 2010, the European Commission is preparing a new law on accessibility and usability in public buildings and transportation (SIS-CEN, 2021). The new law will be effective in all EU member states. As such it requires a communal standard on minimum levels for accessibility and usability for public buildings and transportation. Consequently, the European standardisation organisation was commissioned to develop such a standard. For this task, a project team with six national experts was formed in 2017, representing expertise on accessibility and usability in Austria, Denmark, Greece, Italy, Spain, and the United Kingdom. National standardisation committees were invited to participate in the process through close readings of the drafts that the group produced. After an intensive work period during the years 2017-2019, a final draft was ready and accepted with a small majority in early 2020. Partly, the European standard on accessibility and usability draws on an international standard on accessibility and usability of the built environment that dates to 2006, the ISO 21542.

Just a year later, the European Commission has initiated a revision process, since the commission finds the standard to be too regulating, thus, creating a rift between EU member-states with a rudimentary legislation concerning accessibility and usability and member-states with highly developed legislations. In this case, the NBHPB also chose to refrain from directly participating in the standardisation project, although Swedish interests were defended by two other Swedish authorities,

i.e., the Swedish Agency for Participation (Myndigheten för Delaktighet with acronym MFD) and the Work Environment Authority (Arbetsmiljöverket with acronym AV). Despite the critique from European Commission and other member states, Swedish actors in the field of accessibility and usability believe that the new standard does break a new ground in areas that hitherto has not been covered by neither standard nor national legislation regarding accessibility for people with disabilities.

Participation in standardisation

As indicated above, the NBHPB has refrained from participating in both revision work of an existing Swedish standard as well as participating in developing new European standard. On the other hand, the authority has commented drafts of the mentioned standards since new standards as well as revised ones undergo a consultation process. However, being the authority in charge of developing and monitoring the legal framework for building and planning, the absence seems problematic. It becomes even more problematic when the authority in its first report about the progress of the project states that the building industry must be considered as the key expert to define a minimum quality level in future buildings. The authority confirms this status, and it says that it will adjust functional requirements accordingly. Evidently, the government commission also suggests that the almost centennial tradition of the national state dictating and converting national welfare goals into both mandatory requirements and open guidelines for the built environment has been abandoned.

Representing the national state of Sweden, it is not unlikely to think that also the state harbours ambitions for how the development of existing and new built environment in a future-oriented perspective. For instance, ambitions for future built environment are presented in the national disability policy of 2015, in which the concept of universal design, in the following UD, is strongly promoted as the credo for future building and planning (Proposition, 2016/17:188). It may seem

logical that the concept appears in the national disability policy given its close connection with the UN convention 26, i.e., the Convention on the rights of people with disabilities, in the following CRPD (SÖ_2008:26, 2008). Nevertheless, the UD is a completely new concept for the building sector since previous disability policies have emphasized the twin concept of accessibility and usability. These concepts have a prominent status in the CRPD with individual articles while the concept of UD appears in an opening article as the envisioned finalised outcome of programming accessibility and usability as requirements for buildings and physical planning. However, with new building regulations that to its entirety are depending on how the building industry interprets accessibility, usability, and universal design as requirements for the built environment is a hollow instrument for the creation of the new universally designed welfare state in which every citizen regardless of age or potential disabilities may participate independently.

Entrusting the building industry with the prime responsibility for developing minimum requirements for accessibility and usability of the built environment seems to be an over-hasty and ill-considered decision both by the government and the NBHPB. Standardisation per se is an excellent idea which has benefitted the evolution of the modern Swedish welfare society. The relatively few Swedish standards that refer to building and construction could be explained by the building industry's preference of business agreements. Business agreements are less formal and can be restricted in time and financial costs. The building industry tends to prefer business agreements among some or several companies over standardisation projects since, like its view of the PBL, standardisation is perceived as both time-consuming and cost-generating. A normal annual fee for participating in a standardisation committee equals about 25000 SEK, but the fee may be lower if the committee attracts several experts. For a company, this fee is deductible from the revenues but for an organisation with a non-for-profit profile this may prove difficult.

As encouragement to allow a higher participation of representatives that may reflect user concerns in standardisation, the Swedish government allocates some 4.5 million SEK yearly to the so-

called SKA advisory board, SKA being the acronym for Standardisation for consumer and employees (in Swedish Standardiseringens Konsument och Arbetstagarråd) (Regeringskansliet, 2019). Interest organisations and non-governmental organisations may apply for funding of a representative in a technical committee. The Swedish government has a very positive view on standardisation in general. There is an awareness that the EU membership will generate new regulations for building and construction, but there is also a reluctance to involve the civil administration too much in standardisation. The state involvement in standardisation is still under advisement.

Standardisation requires professional background

The origins of Swedish accessibility and usability requirements date back to the mid-1940s (Andersson, 2021). These early requirements were the result of a systematic research on a person's reach horizontally and vertically both as a fully abled body and a disabled body using a wheelchair. Hence, appropriate height for sitting and free space for knees and feet came of relevance. Every requirement was the result of a test person with a fully abled or disabled body interacting in different spatial contexts. The measurements were accumulated by scientists so that an average measurement could be calculated from a series of different measurements. This biometrical data produced the fundament for different ideal numbers that were implemented in architectural designs to create accessible and usable spatial solutions for a home environment or a public environment. Thus, it was the direct interaction between the human being and the architectural design that generated data that could be converted into requirements that promoted accessibility and usability of the built environment. In the early stages of the research, in the 1940s, people with disabilities participated in the full-scale experiments, but in the later phases, during the 1960s, fully abled students simulating disabilities and using assistive equipment became the main group of test subjects.

Today, a quite substantial stock of biometrical data on different spatial interactions between users with or without disabilities and various architectural designs exists. In the European context, both the Austrian, German and Swiss building legislations relies on continuously updated or newly produced standards that supply minimum requirements for various spatial situations. In the US, the Americans with Disabilities Act, often referred to as ADA; describes several interactions between users and architectural designs that supply measurements for a minimum level of accessibility and usability. In Hispanic countries, like Spain and Uruguay, standards provide minimum measurements and gradients for stairs and ramps. These standards demonstrate a variance in values that ultimately refers to differences in body size and height between Americans, Northern-Europeans, and Hispanic people. In addition, the technical performance of assistive equipment may also influence the different measurements like the two-dimensional footprint, height, turning space for 90, 180, and 360 degrees turns with wheelchair or walkers.

Presumably, the task for up-coming Swedish standardisation projects is not to produce minimum measurements for improving accessibility and usability of the built environment acquired from full-scale try-outs with test subjects, but rather to assess the best relevance of different biometrical data that already exist in different standards. Contrary to Denmark and Norway, but like Finland, Sweden has dismantled the independent state-funded research on building requirements since the early 1990s. Instead, the state presumed that necessary research on building matters should be undertaken by the building industry. This circumstance suggests that members of these projects must have a previous knowledge of working with programming architectural designs or evaluating the level of accessibility and usability of an existing building. With all probability, this is less challenging for the building industry than for organisations that represent different users, especially people with disabilities. Consequently, these organisations will encounter larger problems in providing a competent scrutiny of different drafts for standardisation. During the consultation process, these organisations will come off as the weaker players in these discussions, and it is

reasonable that they should be back upped by the state as the state has done historically during the 20th century.

Accessibility and usability at a crossroads

Building regulations and standardisations can be considered as very specialized areas of expertise, which are relevant to a small group of experts active in architecture and building construction. Seen as an entity, they tend to regulate a substantial deal of how the future built environment will be conceived and executed, either as refurbishments or new developments. Together, they define the minimum level of how functional requirements of the PBL legislation will be realized. A building legislation based on minimum requirements defined in standard is also a definitive shift in the long tradition of Swedish building legislation. Historically and until the introduction of the present PBL system in 1989, the building legislation has also been biased, prioritising communal interests on either municipal, regional, and state level above private interests. This was also the main reason for why the PBL system was introduced since this prioritisation resulted in decade-long bans against even performing regular maintenance measures of buildings subject to municipal, regional, and state planning. However, new building regulations based on standardisation can be seen as the opposite extreme of this balance. Giving the building industry the main responsibility for developing minimum requirements can be seen as the welfare state relinquishing power in the definition of qualities in future housing.

Of course, requirements for accessibility and usability are of special interest in this context. Originally, in the first study on measurements of the 1940s, measurements for this later purpose aimed at including locomotory and visual problems as planning parameters for appropriate architectural designs for housing. In a future with minimum requirements for accessibility and usability defined by the building industry, such parameters seem at risk of being overlooked since the industry's view on these requirements is that they are cost-generating and not beneficial for all

users. Without the state backing up the inclusion of every possible citizen in the conception of every future architectural design solutions or physical planning projects, there is an evident risk that what has been gained so far in the quest for equal opportunities for inclusion and participation for people with disabilities will be conditioned by cost reasoning. Ultimately, vague cultural beliefs and views on the rights for fully abled bodies and disabled bodies may influence once again the level of accessibility and usability in society.

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