

THE QUANDARIES OF DESIGN DEVELOPER COMPETITIONS

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Public clients in Western countries, including Sweden are currently under pressure to create sustainable housing and urban environments and mitigate climate change. This calls for new types of societal planning and governance. In Sweden both architectural and design developer competitions is in use. In design developer competitions, the public client has allocated a particular piece of land, and requests responses to certain possibilities and limitations. The participants are developers or contractors who aim to develop business through winning the competition and constructing buildings on the land. The question is whether design developer competitions can deliver more sustainable housing at a fair cost. Theories of innovation, sustainable transition, and governance all contribute to the framework of understanding. The method is a critical reading and analysis of two design developer competitions scrutinizing them for sustainability aspects. All steps of the competitions, program, competition, jury verdict, and implementation, involve particular dilemmas for the actors. Sustainability aspects vary widely from singular to comprehensive solutions, reflecting a dilemma between creative designs versus controlled outcome. Competitions turns out to be less of an instrumental tool for societal planners with sustainability goals.

Keywords: design developer competitions; dilemmas; innovation; sustainability

INTRODUCTION

Municipal planners and developers attach specific expectation to Design Developer Competitions (DDCs). Such competitions are also called land allocation competitions, however translating the Swedish 'markansvisningstävling' into DDC is appropriate from an international perspective. In DDCs, proposals are presented as architecture and urban designs through drawings, illustrations and schemas together with a short text. In this study, proposals are visualised as in traditional architectural competitions. The aspiration is that these competitions will function as innovative governance tools that can address some of the dilemmas present urbanization involves such as cost versus sustainability, location versus affordability, collaboration versus independency, and affordability versus architectural quality. In DDCs, the public client allocates a piece of land, and tenders for proposals for using the land within certain barriers and enablers. The participants in such competitions are typically

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developers or contractors who aim at developing business through winning the competition with an architectural design and construct the buildings on the allocated field. From a sustainable transition perspective, this raises the question whether DDCs deliver what societal planners hope for, i.e. sustainable housing and other values such as architectural quality at a fair cost.

The paper draws on a framework of understanding combining theories on innovation processes, sustainable transition, adaptable architectural design and governance. The method is a critical reading and analysis of two DDCs scrutinizing their sustainability aspects. The result reveals how each step of the two competitions (program, competition, jury judgement and realization) involves particular dilemmas for the participating actors. The contribution of the paper is to identify and analyse these dilemmas, such as freedom for the bidder versus precise direction of the competition. In scrutinizing the competitions' results, we e.g., find that the sustainability aspects vary widely, from very singular proposals, such as proposing a charging pole for electric cars, to offering a comprehensive solution through a sustainability certification such as Miljöbyggnad (a Swedish environmental building certification).

METHODS

The study examines two cases of competition processes. Case study methodology is a method for examining cases in their natural context (Groat, 2002). This is suitable for studies of competitions due to the clear connection to practice. Competence in architecture and urban planning is based on concrete experiences from assignments. Cases form a repertoire of examples that are reused in new projects in reworked form. According to Stake (1995), it is the case and its unique properties that define the object of study. He moreover suggests that cases can be used as an opportunity to learn rather than for parametric comparison. Flyvbjerg (2006) presents the case study as a scientific method, emphasizing its use for developing theories, testing hypotheses and presenting instructive stories. We use Flyvbjerg's insights about information-oriented case selection strategies in order to maximize the utility of information from the two cases that form the basis of our study. We have accordingly chosen two critical cases where the winning proposals are expected to display high degrees of innovation, as they build on experiences from completed R&D projects that have been part of a government push for innovative housing. Critical cases produce information permitting "logical deductions of the type, 'If this is (not) valid for this case, then it applies to all (no) cases'" (Flyvbjerg, 2006: 230). We do thus not suggest that we are able to produce statistically generalizable results. Instead, we aim to contribute towards theory development by developing analytical generalizations from the cases.

Case descriptions, results and conclusions are based on written documents received from the National Board of Housing, Building and Planning, Botkyrka Municipality and the City of Stockholm. Based on a review of decisions on support for innovative construction by the National Board of Housing, Building and Planning, two R&D applications was used as guideline for chosen two DDCs that was then selected for in-depth analysis. Upon request, the National Board of Housing, Building and Planning provided application documents, decisions and companies' reports. Botkyrka municipality and the city of Stockholm have submitted supplementary data about the competitions on request. This applies to documents such as land allocation policy, competition programs, competition proposals, jury statements, assessment templates, design programs, agreements and detailed plans. Information retrieval via the web is

also included in data collection. Please note that the substantial number of primary documents studied are written in Swedish and therefore not part of the reference list.

Framework of Understanding

The overall framework understands DCCs as a part of a governance framework. An interpretive sociological approach is used to bring several theoretical components together. Governance theory provides an understanding of how a public unit, the municipality, can act under particular conditions of a legal, political and juridical framework (Koch and Buser, 2006; Torfing and Triantafyllou, 2016). This is becoming prevalent in particular due to societal attempts to mitigate climate change and create sustainability. A central concept is innovation as it is the intention of the competitions to bring about new creative and innovative solutions. One understanding of innovation comes from The Oslo Manual (OECD, 2018) where four categories of innovations are defined: product, process, market and organisational innovations. Orstavik *et al.*, (2018) defines innovation as “humanly created changes in established ways of creating value.” Innovation often takes place in a tension between value and costs. Innovation is measured and identified in a context (Tidd and Bessant 2009) and may thus be valuable in one context and mainstream in another. The concept of innovation has developed from a focus on competition improvement to service, public sector, business models and social innovation (Fagerberg *et al.*, 2004). Innovation process approaches are helpful in understanding and conceptualizing the competitions' processes (Van de Ven 1999). Further theory and concepts on competitions, housing architecture and sustainability is used in order to underpin the framework. This includes transition theory, sustainable building developments, architectural quality, competitions in architecture and urban design, and housing and adaptability. On this background, we tentatively identify the following main dilemmas in this field:

1. Organiser's dilemma: How to set a frame for innovation in the program phase?
2. Design team's dilemma: How to understand the brief and translate requirements into design-solutions in the competitions?
3. Professional's dilemma: How to support design teams' work with innovations?
4. Jury's dilemma: How to develop and appraise identified innovative solutions in the evaluation of proposals?
5. Client's dilemma: How to maintain innovative solutions throughout project implementation?

Case Study 1: Botkyrka

Case study 1 concerns A-Architects (pseudonym), which is a large Scandinavian architecture company that entered a competition in Botkyrka. Botkyrka is a typical suburb to Stockholm developed as a part of the so-called ‘million program’ a large social housing program. Since 2015, the municipality has had a land allocation policy stating that the municipality is required to prioritize housing in areas, which have good access to public transport. The land must be sold to developers on market terms, and the municipality must primarily allocate land for apartment buildings through direct provisions, tenders or DDCs. In the policy, DDCs are described as suitable for testing ideas and selling land. It is the local politicians who decide if the municipality should arrange a competition. They determine the direction, evaluation criteria and assign land to the winner. The officials in the municipality then produce documentation and draw up agreements with builders who meet the requirements.

In 2014, Botkyrka municipality announced a DDC for new homes in Alby. The competition site is located next to Alby centre with access to a metro station. Co-

utilization of existing infrastructure appears to be a driving force. Through the DDC, the municipality aims for proposals for creative solutions with a high degree of utilization, where design and choice of materials create conditions for environmental, social and sustainable housing construction. The homes will be condominiums, a form of lease that is absent in the area. This is believed to contribute to diversity in a district characterized by apartment buildings. The municipality promises to assign the land to the first-prize winner. The best project idea wins land allocation on all or parts of the area and the opportunity to buy or dispose of the future plot with a plot right. The final extent and design of the buildings will be determined in a future detailed plan, which will be drawn up after the winner has been chosen. The competition site is estimated in the competition program at 20,000 sqm. and the land price at a minimum of SEK 1,000 / gross sqm. including street costs. In the area, there are elderly affected by the plans. Proposals must therefore show how a care home can be integrated into the new buildings. Builders must inform the municipality of their financial background in an expression of interest.

The first part of the competition proposal must be quite short (6 pages). Then the following documents is included: (1) description of the project idea, (2) sketches, reference pictures, situation plan, illustrations with scale, (3) two alternative solutions for care housing, (4) description of the company's environmental ambitions, (5) assessment of number of apartments, (5) offered land price, (6) general description of implementation and estimated schedule, (7) presentation of reference projects. Interested builders are informed that the proposals will be evaluated using a template, available on the municipality's website. According to the competition program, the criteria in the valuation template must be weighted in percentages and scored based on the following order of priority: (1) Social sustainability, (2) Architectural quality, design and innovation, (3) Location (4) Environmental sustainability, (5) Economic sustainability, (6) offered land prize. How the criteria are weighted in the assessment is not reported in more detail in the program. However, they show what the organizer regard as important values in the competition and their measures (weight) tells us how valuable these criteria are in this specific case.

Competition was limited with Botkyrka municipality receiving four proposals. The winning proposal was submitted by the T-Build contractor in collaboration with A-Architects. Their proposal included 426 apartments in houses of 4-8 storeys and 30 homes in terraced houses. In the proposal, the urban space is divided into zones that have different characters, respectively a public, a common and a private zone. The private zones are areas that have space for cultivation. Playgrounds are located in a common zone. A square is the public zone. The buildings will be built in prefabricated frames with cast-in reliefs. The proposal aims at creating variations over a theme based on the topography of the land. The buildings vary in height, colour scheme and location. Saddle roof with steep angles break down the scale of the houses. It is a new design language introduced in a district dominated by functionalist principles. T-Build offers to buy the land for SEK 35 million, corresponding to SEK 1,297 pr. sqm. An expected sales rate of 70% of the apartments governs the housing construction. The buildings must be produced according to an environmental certification system.

The competition proposals are evaluated by four officials with no other interest groups being represented. The officials were a development manager from the public building administration, a project manager from the unit for land and development, a planning architect and a landscape architect. All four competition proposals meet

requirements. The jury sees the following strengths in the winning proposal: “Dense residential area but good level on the scale: does not feel like the area is too large-scale but adapted to the human scale. Complementary architecture in Alby: point-house talks well with existing architecture, the houses are placed so that further development on the Alby square is possible, the houses bring something new to the area's architecture in the form of roof slopes, colour and relief on the concrete, and they fit into the topography. Flexible floor plans for the apartments and a flexible number of rooms for businesses. T-Build has good reference objects. They have experience in building these types of projects. Good price and BTA” (Project group assessment and recommendation, p. 2).

In 2016, the municipal board instructs the city planning committee to proceed with the urban development project and produce a detailed plan for the implementation of winning proposals. The detailed plan increases the number of homes. The point houses may now be built in 6-11 floors. The terraced houses in the competition proposal will be replaced with apartment buildings in 4-6 floors and the square will be supplemented with another point house. The external environment must be clarified in a special design program in connection with the land being made available for housing construction in the detailed plan. The design program contains detailed guidelines developed in collaboration between A-Architects and partners with the city planning administration. It is a comprehensive and richly illustrated document that sets out design principles of land, conservatories and buildings. It deals with the facades, balconies, roofs, ground floor and entrances, basement, courtyards, street spaces, outdoor environment, squares/parks, lighting and signs and artistic decoration.

Case Study 2: The Competition in Stockholm

Stockholm City has a land allocation policy from 2015. It contains four methods for allocating land to companies including DDCs that are used when the city wishes to fulfil special ideas about the design or use. Competitions are marketed on the city's website. According to the policy, the competition proposals must be evaluated by a jury with a composition specified in the conditions of the competition and pricing takes place through a fixed price model at the assessed market value or leasehold. The idea of reporting a fixed price is that the design teams should be guided by internal quality ambitions in the development of competition proposals.

The DDC in Stockholm has cheap and “square meter efficient” housing for young people as its goal. The competition is organised by the city through the Development Office and is situated in a district from 1926 with mixed housing and metro stations from the 1960s. Also in this competition, densification and joint utilisation of the infrastructure appear as an underlying driving force for urban development. The City of Stockholm demands innovations, and the competition is predicated on the hope to find an innovative, smart and innovative solution. The winner may implement their proposal in collaboration with the development office and the city planning office. It should be housing that young people can afford. The development office estimates that the competition site will house 25 normal-sized apartments. The rent reported in the competition proposal will be written in future land allocation agreements.

The competition is open to all companies that meet the requirements. The client must show in the application that they have the competence and financial resources for the task. Competence must be reported as completed reference projects. The following information must be included in the proposal: (1) average rent including heating and hot water, (2) description of the project, (3) report of parking and noise management,

(4) situation plans and at least one facade and a perspective on the buildings; and (5) organisational plan for the management of the homes. The jury is informed of which companies are behind the proposals. The organizer does not require anonymous reporting of the proposal. According to the competition program, the proposals are assessed on basis of the following criteria: (1) average rent, (2) innovation and “square meter efficient” innovations, (3) adaptation to conditions, (4) architecture and design. The jury must make a balanced assessment of the proposals. Directed method of ranking is a form of architectural criticism. The winner will be chosen after an overall assessment of the qualities and shortcomings that the jury sees in the proposals. Also in this competition, there is no political participation in the evaluation. The proposals will be judged by a jury of five named members.

The DDC in Stockholm generates 15 competition proposals. All proposers meet the qualification requirements. The jury notes that the proposals vary in focus, quality and there is a wide range in housing costs. The rent varies from 1490 SEK to 2550 SEK per sqm. The number of apartments varies from 24 to a maximum of 55 homes. Some of the proposals are considered to contain new thinking, but we do not receive any further information about what the innovative solutions are. A critical aspect of the jury's evaluation is whether the proposals have apartments that are 'homes' or just 'rooms' for temporary accommodation. Some solutions are perceived as student housing and apartments with a hotel rather than home-like character. Therefore, the jury develops the assessment criteria in the program to include living qualities such as furnishability, flexibility, spaciousness and daylight.

A developer (U) and partners present a competition proposal containing 49 apartments in two attic corridors with an average rent of 1812 SEK / sqm. The proposal is the result of an R&D project that has been supported financially by the National Board of Housing, Building and Planning. The apartments have a "function wall" with kitchen equipment. The solution corresponds to the competition requirement for square meter efficiency with hidden storage spaces and other space-saving solutions. All apartments have access to a balcony. The green roofs provide a smoother flow of rainwater to the surrounding sewers. It is also possible to have terraces that used for cultivation plots. The apartments are placed in two slatted houses with attic corridors and a corridor with access to all homes. The slatted house is stepped down on each side to better suit the surrounding buildings. Street-facing apartments have glazed balconies to minimize noise. The design team emphasizes low rent through quick assembly of modules that have been equipped with maintenance-free materials and systems for heat recovery. Apartments are delivered at the construction site as complete modules, mounted in a steel frame, with kitchens, bathrooms, floors and storage. The installation time is estimated at two hours per apartment. The construction will be carried out according to the Gold standard, which is the highest Swedish environmental certification level.

U Developer and partners proposal was not included in the jury's final assessment. Their proposal received the following review: An architecturally fine proposal where, however, the ambition to bring in many apartments has led to excessive developments. The buildings are close to the nearby villas. Apartments have good housing qualities and well-studied functions. Balconies and good daylight conditions provide an indoor-outdoor relationship. Green roofs with patios replace yards. Premises in the street corners contribute to city life. On the company's website, U Developer presents the proposal for the competition in Stockholm as "very successful". It was the first time that the construction system was tested in competition. Building systems have

since been used in 2019 in a DDC arranged by Järfälla municipality, which is located in the Stockholm region, where U Developer was successful and won with a new proposal. The winning proposal includes 140 condominiums. The homes will be built as modules in an industrial production system to minimize operating and management costs. First prize in the Stockholm competition was awarded to a proposal with 30 apartments and an average rent that is 9% lower compared to the apartments from U Developer and partners. Obviously, it is neither the number of apartments nor the rent level that decides the competition. First prize is awarded instead to a proposal with an architecture that stands out, and which the jury perceives as innovative and exemplary without further specification. This proposal also includes modules to reduce cost. In the selection of winners, the jury's ideas about architectural quality thus appears as a decisive criterion when used in the assessment of competition proposals.

DISCUSSION

A comparison between the two competition processes shows several interesting similarities and differences making the cases instructive (Stake, 1995). There is no clear coordination between the competitions' objectives, the submission requirements and the assessment criteria. The program in Botkyrka contains the evaluation criteria: social sustainability, architectural quality, design and innovation. The municipality demands creative solutions and a high degree of utilization. The competition will contribute to diversity, in terms of form of lease, size, design and price of housing. The link to social sustainability is unclear. The land is offered for sale and the apartments must be leased with tenant-ownership. The governing goal for the competition in Stockholm is cheap and space-efficient housing for young people. By inviting to the competition, the organizer hopes to find an innovative, smart and innovative solution for apartments at affordable rents. The city places the same demands on competence and finances for participation as in Botkyrka municipality.

The assessment of the proposals is based on open, interpretable criteria that give the jury room for manoeuvre in selecting winners. The differences between the two DDCs do not lie primarily in the design of criteria but in the application, i.e., in the way of ranking the proposals and reporting the outcome of the evaluation. In Stockholm, the jury reports the evaluation results in an architecturally critical statement (Lundequit, 2002). The ranking is presented as evaluative descriptions and assessments, typical of jury statements in architectural competitions. In Botkyrka municipality, the proposals are scored on the basis of weighted criteria. Qualities are transformed into quantities. The assessment is based on the idea of a rational decision-making process (Svensson, 2009). First place is given to the proposal with the highest score. This strategy with measured criteria conveys a vision that the winner is chosen objectively. Architectural values and building properties represent two different scientific traditions and ways of understanding knowledge. However, a common problem for both is that the criteria are applied in judging visualized solutions showing what the future environment may look like if the proposals are implemented, and not qualities in a built environment.

The organizers' information to the participants varies in the competition programs. In Botkyrka, interested companies in the consulting, construction and real estate sector are not allowed to know who will assess the quality of the competition proposals and their professional domicile. Potential proposers are left in uncertainty. It is only in the jury's statement, after the winners have been chosen that the design teams see who

has evaluated the competition proposals and their competence for the task. The City of Stockholm, on the other hand, informs and reports in the program, which persons are included in the jury, their names, titles and organizational affiliation. The review shows that the competition process in Stockholm has a higher degree of transparency compared with Botkyrka. The program is more informative.

The jury's ranking of the competition proposals is affected by how the assessment is organized and how the solutions are categorized. The evaluation in Botkyrka is based on an individual assessment of the proposals. In Stockholm, the proposals are seen as representatives of two different ways of solving the task. Dividing proposals into categories is necessary when there are a large number of solutions to be assessed, but it is not important in competitions with only 15 proposals. It is particularly clear in the Stockholm case that the organization of the assessment process affects the outcome. The competitions in Botkyrka and Stockholm have different approaches to price and quality. Botkyrka municipality has land price and financial sustainability as one of five assessment criteria in the competition. The City of Stockholm applies the principle of a fixed price. In Botkyrka municipality, companies are forced to use the land price as a means of competition, which can be assumed to result in more expensive housing and counteract the organizer's wishes for proposals that promote social sustainability. This makes it more difficult to create affordable housing for low-income citizens. In Stockholm, the organizer wants the design teams to compete with quality and low rent instead of with tenders on the ground. From this point of view, a fixed price can be seen as a quality-enhancing strategy in competition processes.

The submission requirements are loosely linked to goals and evaluation criteria. The submission requirements in Botkyrka municipality prescribe that the proposers must describe the project idea and environmental ambitions. The homeowners, size and apartment types are up to the builders to decide. To leave the solution for the housing issue to the proposers in this way is surprising with regard to the municipality's stated desire for social sustainability and variation of housing. The program in Stockholm is clearer in terms of the number of apartments and their design. According to the submission requirements, the proposals must contain a description of the project, including the average rent. The homes must be presented as a situation plan, type plans for floors, illustration plan, suitable sections, at least one facade and perspective on the buildings. Submission requirements have a significantly higher level of detail in Stockholm. However, there are no specified requirements for participants to report on what is innovative in the proposal.

The competition proposals reinforce the differences in focus that the competition programs already established. The competition in Stockholm has a clear focus on "square meter efficient" apartments for young people. The jury clarifies this focus by extending the assessment criteria to the evaluation of the proposals to include housing qualities such as furnishability, flexibility, spaciousness and daylight. This means that proposals with minimal flats receive criticism relating to shortcomings in terms of housing qualities. The jury's assessment of the proposals means that they partially reinterpret evaluation criteria in the program in order to clarify differences in the way in which design themes solved the task. The competition in Botkyrka focuses on the urban planning level, which in this case is strengthened by linking a comprehensive and detailed design program for the external environment to the implementation. The focus on urban development in Botkyrka leads to the external environment being further developed when the land is made available in the detailed plan.

The DDCs do not have the same attractiveness. Botkyrka receives only four proposals. Only construction and real estate companies are presented as proposers. Participating architectural firms are invisible in the evaluation. The fact that competition in this case is limited to four proposers may be due to several factors. One possible explanation is the location. There might be uncertainty among developers about the possibility of selling the homes at a profit and to new tenant-owner associations. Another possibility is that the competition was marketed within a too small circle of potential construction and real estate companies. The DDC in Stockholm attracts 15 proposals. All design team companies are named in the jury statement. Despite stricter requirements, more participants are competing. Why does this competition appear more attractive? A first explanation is the plot, its size and location in the city. There are more companies able to build as specified. A second explanation is the attractive location of the competition site. A third possible explanation is that the invitation was marketed to a large number of potential consulting, construction and real estate companies. It has also been possible to get a clearer picture of the evaluation in the competition program.

The municipal organizers are blind to the role of innovator. Creative, innovative thinking and innovations are seen as a matter for the design teams. This applies to both Botkyrka municipality and the city of Stockholm. The innovation in the competition process is attributed to the companies in the consulting, and construction and real estate sectors. Since innovation and new thinking are explicit evaluation criteria, the jury members should have the task of identifying and highlighting creative and new solutions when evaluating the proposals. However, there is no information in the competition program and jury statement that shows that the organizer sees himself as an active player who tests his own ideas. A "hidden" news from the organizer in Stockholm, however, is the requirement in the program that the stated rent in the competition proposal must be determined in an agreement with the city.

CONCLUSIONS

This paper set out to scrutinize whether DDCs deliver what societal planners hope for: more sustainable housing and other values at a fair cost. The case results produce five conclusions, which revolve around the four of the five dilemmas identified previously, showing challenges and opportunities for improving DDCs as a tool for innovation.

The first, involves the organiser's dilemma and how to set a frame for innovation in the program phase. Here we illustrate how underdeveloped competition rules leads the municipality to provide highly simplified descriptions of the competitions. The potential for generating creative and innovative solutions for accommodation needs are not exploited by the municipality in the competitions. We also illustrated that the municipalities do not perceive their own role as innovator in the process from program to implementation of the winning proposal. The second main finding addresses the design team's dilemma of how to understand the brief and translate requirements into design-solutions in the competitions. Here we illustrate how the lack of transparency makes it difficult for the competition teams to get a clear picture about what is supposed to be contained in the competitions proposal and how the evaluation is done. The relation between goal demands at hand in, evaluation criteria and the jury's judgment of the proposal would need clarification in the program. Third, in relation to the professional's dilemma of how to support design teams' work with innovations, we show how topics such as team building and compensation are left entirely to the companies. Compensation for design work and establishment of the teams are viewed

as a question for the companies in the sector. The organisers do pose demands for the composition of the design team, but they do not demand specific competences or documentation. Fourth, concerning the jury's dilemma of how to develop and appraise identified innovative solutions in the evaluation, we point to the problematic of a lack of knowledge and experience exchange in the building sector. We found that there is no documentation of the competitions by the organisers to support experience exchange and diffusion of such documents as the competition program, the proposals and the jury judgment.

These are conclusions we will bring with us in a research project that will follow the competition process and focus on the fifth dilemma, namely, how to maintain innovative solutions throughout project implementation. The current critical conclusions nevertheless clearly shows that there are room for improvement when using design competitions as a governance and innovation tool.

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