Co-creation in urban station communities

– findings from working seminars involving the collaboration of transdisciplinary agents, 2015 - 2016

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*Cover photo: MKA (a multicriteria analysis tool) being used
at a co-creative activity in Stenungsund*

Preface

The background to this report is an identified need for a closer description and analysis of the co-creation processes that, within the Mistra Urban Futures platform, were led by the management team of the Urban Station Communities knowledge process and carried out from 2015 to 2016. We considered publication of this report to be an appropriate way of further developing work processes and tools in the remainder of the project period (2017 – 2019).

We would like to give our heartfelt thanks to our two reviewers who contributed many constructive opinions that have been incorporated into the final version. They are Carina Gottfridsson, urban planner at the Swedish Transport Administration's Region Väst in Karlstad and Tony Svensson, doctor of technology, senior lecturer and researcher at the Technical University of Denmark/ Sweden's Royal Institute of Technology (DTU/KTH). We would also like to thank Jan Riise of Mistra Urban Futures. His layout and text work has created an attractive report.

The overall challenges dealt with in the report are predominantly associated with improved regional and local accessibility linked to the need to create socio-economically and ecologically sustainable communities. The agents involved in the co-creative activities were (are) civil servants from municipalities, regional bodies, public authorities and academia. One of our aims was that the report's conclusions should be generally relevant for other agents, both inside and outside Sweden. We hope that the report is of use to you and that the exciting dialogue and co-creative work with everyone involved in the development of tomorrow's urban station communities will continue.

Gothenburg, May 2017
Ulf Ranhagen Amie Ramstedt Alice Dahlstrand

Contents

Abstract

Focusing on findings from the four transdisciplinary participation activities (theme days and half-days) held in 2015 and 2016, the purpose of this report is to give an overview of co-creative activities in the Urban Station Communities knowledge process. The report is targeted at: the public sector's regional and local agents; and, the researchers and experts actively involved in the knowledge process. We hope that the report will also be relevant for other agents who, in civil society and the business world, are involved in creating tomorrow's urban station communities.

The theoretical frame for our work includes: planning theory (especially discussion of communicative action and communicative rationality); action research; design theory and design-driven dialogues; and, tools for co-creation and future-oriented planning that is supported by participative backcasting and scenario methodology. This frame was significant in structuring and enabling consideration and evaluation of the activities that were carried out.

The above-mentioned activities can be grouped into three main themes: noise, vibration and risk; flexible, sustainable transport; and, design of sustainable communities. They were evaluated via questionnaires to participants after each activity and via a separate interview study. The conclusions are that there is a positive basic attitude towards participating in the processes and that the tools used have been particularly appropriate for handling complex, strategic, planning issues. Overall, it can be noted that our frames of reference have been widened through the theoretical contributions and the transdisciplinary collaborations. The mix of representatives from various organisations and professions is regarded as rewarding. Furthermore, the social capital resulting from networks being built between people from different organisations also provides a long-term basis for exchanges of findings in future processes. In one case, a more thorough analysis and evaluation of station options has facilitated subsequent municipal decision-making processes and a final choice of how detailed planning is to be carried out.

Critical factors affecting the success of the overall knowledge process include the limited time for the activities and their informal nature. The latter means that there is no guarantee of results being carried forward into standard practice. However, in the long term, it may be presumed that structural change in ongoing practices is possible. This is a subject for further research.

The report gives some glimpses into the co-creation methodology that we see as central in developing accessible, green and just urban station communities. In many ways, co-creation revolves around creative and trusting collaborations between very many different agents. Said collaborations are not only for discussing and analysing the terms and conditions for and of station communities, but also for presenting and evaluating alternative proposals and strategies for the future. Viewed in a wider context, our report is about a small-scale application of a methodology that offers great future potential in exploiting development potential not only in the Gothenburg region, but also in all Mistra Urban Futures' platforms elsewhere – local, regional, national and international.

The co-creation methodology for urban station communities (and other applications) needs to be further developed as regards, for example:
- Stronger theoretical linking to many different subject areas.
- Stronger institutional capacity to enable coordination between education, professional development, experimental planning and day-to-day operations.
- Monitoring of impact on standard practice in regional and municipal bodies as a basis for stronger network collaborations between these.

Referat

Syftet med denna rapport är att ge en bild av arbetet med samskapande inom kunskapsprocessen Det urbana stationssamhället med fokus på erfarenheter från de fyra aktiviteter (temadagar och temahalvdagar) med transdisciplinär aktörssamverkan som genomfördes 2015-2016. Den riktar sig till den offentliga sektorns regionala och lokala aktörer samt de forskare och experter som aktivt medverkar i kunskapsprocessen. Förhoppningsvis kan rapporten även ha relevans för andra aktörer inom civilsamhälle och näringsliv, som medverkar i att skapa framtidens urbana stationssamhällen.

Det teoretiska ramverket för arbetet inrymmer planeringsteori och framför allt diskussionen kring kommunikativt handlande och kommunikativ rationalitet, aktionsforskning, designteori och designdrivna dialoger samt verktyg för samskapande, framtidsinriktat planeringsarbete med stöd av participativ backcasting och scenariometodik. Det teoretiska ramverket har varit betydelsefullt för att lägga upp och möjliggöra reflexion och utvärdering av de aktiviteter som genomförts. Genomförda aktiviteter kan inordnas i tre huvudteman: Buller, vibrationer och risker; flexibla hållbara transporter samt struktur och design av ett hållbart samhälle.

De har utvärderats genom enkäter till de medverkande efter varje aktivitet men också genom en särskild intervjustudie. Slutsatserna är att det finns en positiv grundinställning till att medverka i processerna och att verktyg som använts är särskilt lämpliga för att hantera komplexa strategiska planeringsfrågor. Överlag konstateras att referensramarna breddats genom de teoretiska bidragen men också genom förbättrad transdisciplinär samverkan. En blandad representation av aktörer från olika organisationer och professioner ses som givande. Det sociala kapital som ett nätverksbyggande mellan personer från olika organisationer innebär ger också en långsiktig grund för utbyte av erfarenheter i framtida processer. En mer ingående analys och utvärdering av stationsalternativ har i ett fall underlättat fortsatt kommunal beslutsprocess och slutligt val av ett alternativ för fördjupad planering.

Kritiska faktorer för framgång har varit begränsad tid för aktiviteterna men också att de är informella vilket gör att det inte finns några garantier för att resultatet förs vidare i den ordinarie praktiken. På lång sikt kan antas att det finns möjligheter till strukturell förändring av pågående praktik vilket är en fråga för fortsatt forskning.

Rapporten ger några glimtar in i det samskapande arbetssätt som vi ser som centralt för att utveckla tillgängliga, gröna och rättvisa urbana stationssamhällen. Samskapande handlar i mångt och mycket om en kreativ och tillitsfull samverkan mellan en rad olika aktörer för att diskutera och analysera stationssamhällens förutsättningar och villkor men också för att ge och utvärdera alternativa förslag och strategier för framtiden. Sett i en större kontext handlar vår rapport om en småskalig tillämpning av ett arbetssätt som har stora framtida potentialer och utvecklingsmöjligheter inte bara i Göteborgsregionen, utan i alla Mistra Urban Futures plattformar och på andra håll – lokalt, regionalt, nationellt och internationellt. Det samskapande arbetssättet för urbana stationssamhällen – och andra tillämpningar– behöver vidareutvecklas t ex när det gäller:

- En stärkt teorikoppling till fler olika ämnesområden
- Stärkt institutionell kapacitet som möjliggör koordination mellan utbildning och fortbildning, experimentell planering samt löpande verksamhet
- Uppföljning av effekter på ordinarie praktik i regionala och kommunala organ som grund för stärkt nätverkssamarbete mellan dessa

1. Introduction

Overall context

As an international research centre, Mistra Urban Futures shall develop and apply knowledge for sustainable urban development. The aim is to accommodate continued rapid urbanisation and the worldwide need for better urban environments To meet this challenge and capitalise on the knowledge and experience of practitioners and researchers, Mistra Urban Futures has elected to use a co-creation (co-production) methodology. This involves jointly defining challenges and developing and applying knowledge across various disciplines and subject areas. New and vital insights develop when researchers and practitioners work together on various projects. Mistra Urban Futures' starting point for urban development is the guiding concept of "just, green and accessible communities". Work shall be carried out in three stages:

1. Identification of challenges and issues that need to be met (followed by the mobilisation of resources).
2. Joint development of knowledge within the framework of various research projects.
3. Contribution to implementation of results that, in their turn, contribute to sustainable urban development.

As no single agent can solve the challenges alone, work is carried out collaboratively. A broad spectrum of experience and competencies is necessary for researchers and other professionals to together develop facts and truths as supports for decision taking and action.

About "Urban Station Communities – the way to resource-efficient travel"

Urban Station Communities is a knowledge process in which the participating agents initiate various projects and co-creative activities. In line with the idea behind Mistra Urban Futures, our work has co-creation as its starting point. Projects and activities are conducted as cross-boundary and transdisciplinary initiatives They involve different public organisations and provide an interface between professional practice and various research disciplines. Currently, the following agents are involved in the overall knowledge process:
- The Göteborg Region Association of Local Authorities.

- The Västra Götaland county administrative board.
- The Swedish Transport Administration.
- Region Västra Götaland (VGR).
- Eleven municipalities (Ale, Alingsås, Borås, Kungälv, Lerum, Gothenburg, Härryda, Partille, Stenungsund, Trollhättan and Varberg).

Various research organisations assist in the projects and activities.

In the Urban Station Communities knowledge process, the focus is on the interface between town/community planning and transport planning. Our work is targeted at providing knowledge to support the development of homes and enterprises in station areas. Said development will be in combination with increased travel possibilities using energy-efficient transport (trains). As the physical development is to take place in participating municipalities, the knowledge that is provided as a support depends on what knowledge each municipality and organisation expresses as being necessary (based on its visions, plans and operating conditions). Development and the need for support can vary between participating agents, hence the particular importance of smoothly functioning dialogue.

The report's purpose

The purpose of this report is to give a picture of: how we have worked with co-creation in Urban Station Communities; and, the findings from four of the working seminars that, involving the collaboration of transdisciplinary agents, were held in 2015 and 2016.

Important research questions are:

- How do participating agents (from academia, public sector planning authorities operating in this field and consultancies) regard the tools used for analysis and synthesis? Advantages and disadvantages? Difficulties and windows of opportunities?
- What effects can be detected as regards standard practice in, primarily, participating municipalities?
- What factors (e.g. regulations, resistance from various agents, time, competence, etc.) are critical as regards bringing about changes in practice?

- To what extent has transformation/structural change of ongoing practice been initiated or, conversely, not implemented (e.g. owing to greater or lesser tendencies towards path dependence)?
- What importance does networking been municipalities have in changing and developing, in a more sustainable direction, the practical planning of urban station communities?
- How can co-creation methodology be further developed to be even more efficient and have even greater impact on practices?
- How do participating researchers and other experts regard the collaboration with practitioners in regions and municipalities?

The report's structure

The report begins with a consideration of the general starting points, theories and lines of thought relevant to our work in Urban Station Communities (e.g. action research and design theory). Here, we also touch on some of the tools that we have used and which are particularly important for promoting co-creative planning (e.g. participative backcasting). We also endeavour to link back to the research on co-production that has been specifically developed in Mistra Urban Futures and which is, amongst other things, summarised in "Co-production in action: towards realising just cities". Here, co-production relates more specifically to research that is carried out in collaborations between researchers and practitioners. The term co-creation, which is used widely in this report, covers the collaboration and co-creation that, undertaken by the involved agents, is essential for there to be co-production. However, these terms are overlapping rather than distinctly separate.

The report's target groups

The report is targeted at: the public sector's regional and local agents; and, the researchers and experts actively involved in the Urban Station Communities project. We hope that the report will also be relevant for agents who, in civil society and the business world, are involved in creating tomorrow's urban station communities. We would additionally like it to be useful in dialogues with agents in other parts of the country and internationally – not only the other platforms in Mistra Urban Futures, but also others wrestling with these issues.

Authors

The report was jointly written by Ulf Ranhagen (main author), Amie Ramstedt and Alice Dahlstrand. All three are process managers in the Urban Station Communities knowledge process. They all have links to both theory and practice in the field of urban station communities. Short presentations are given below.

With a background as an architect and a doctor of technology from KTH, Ulf Ranhagen is a senior professor. He has been active in social and land use planning for several decades, both as a consultant and (in his capacity as adjunct professor at KTH and Luleå University of Technology – LTU) as a researcher. Since 2015 he has been a process manager in Urban Station Communities.

Amie Ramstedt is a political scientist with experience in both municipal and regional planning. She is presently a regional planner and team leader at GR. Amie has been a process manager in Urban Station Communities since the start of 2013.

Alice Dahlstrand is a behavioural scientist with experience from both the private business sector and the public sector. She is currently an analyst covering road safety, accessibility, etc. at the Swedish Transport Administration's regional offices in Gothenburg. Alice has been a process manager in Urban Station Communities since the start of 2013.

2. Dialogue and co-creation in theory and practice

General starting points

With a special focus on the co-creative activities carried out in 2015 and 2016, this section attempts to delimit a theoretical context relevant to the work involved in dialogue and co-production in the Urban Station Communities project. A few examples of dialogue and co-production in other contexts are also given. Research, development and innovation initiatives with a focus on processes, dialogue and co-creation are wide ranging and, for this reason, all results and conclusions cannot easily be encompassed within the framework of a single paper.

There are important delimitation issues regarding which agents are to be regarded as participating in the processes and which stages are the most relevant. Here, good help is provided by a picture developed by Fog et al. (1989) and cited in Cars (1992). It shows the relationships between all agents involved in social and land use planning. Broadly speaking, this picture divides the agents into three categories: rule givers (municipal and state authorities); initiative takers (land owners, works commissioners and contractors); and, external stakeholders (citizens, enterprises, organisations, municipal boards, etc.).

Opinion shaping and the mass media are shown as a triangle with links to all categories. The model also distinguishes between formal and informal contacts between the agents.

In Urban Station Communities, seminars focused on co-creative transdisciplinary dialogues have, thus far, been between agents in all three of these categories. This is notwithstanding the seminars mainly encompassing rule giving authorities at state, regional and local levels. Besides politicians and civil servants, this category has also included researchers linked to the knowledge process. Unlike the situation in what is referred to as the triple helix (i.e. collaboration between academia, the public sector and the private business sector), researchers are not explicitly detailed as agents in Fog's model.

In our discussions, it has been mooted whether Fog's "agent triangle" could be developed into a "rectangle" with research and education providing the fourth corner. It might then be relevant to use the term "quadruple helix" rather than "triple helix". Academia can act from an operating background that differs from that of other agents (e.g. as regards formal and informal activities).
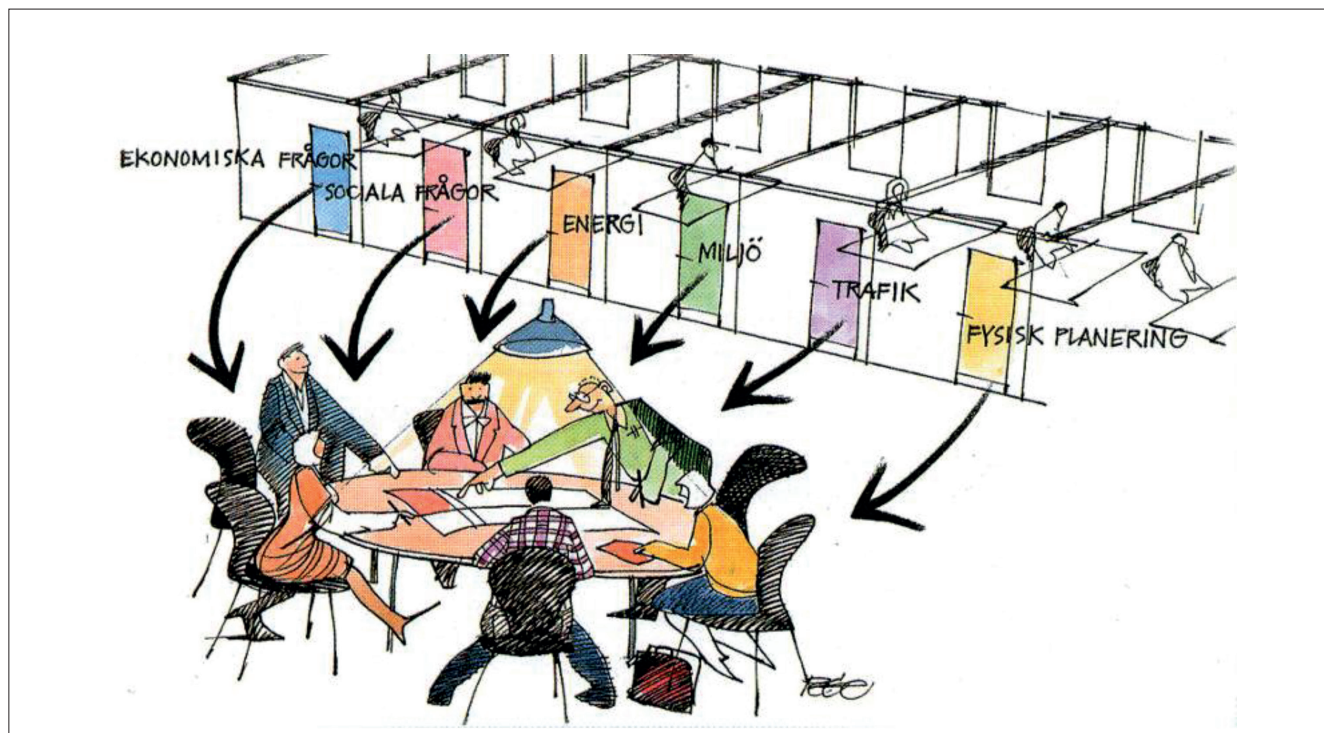

Figure 1: Cross-sector planning – new forms of collaboration between, for example, politicians, civil servants, researchers and representatives from societal associations in Urban Station Communities. Source: (Ranhagen 2012); drawing: PeGe Hillinge.

The social and land use planning process spans a large number of levels and stages – everything from the state's overall control via regulations, policies and recommendations, via regional level planning (e.g. the relevant body for the Stockholm region or joint region-municipal associations such as GR and "the Skåne regions"), to the municipalities' planning under Sweden's Planning and Building Act (Hägglund, 2013). However, the social and land use planning process also covers: continuous planning and implementation via public and private works commissioners/contractors; and, the continual monitoring and experiential feedback associated with both realised and unrealised projects. All these stages need to be permeated by a sustainability perspective that also includes the best possible participation, transparency and democracy (Ranhagen, 2006).

In Urban Station Communities, the focus is on how to promote, at regional and municipal levels, "good processes" between participating agents in different types of municipalities. The aim is that this should ultimately contribute to the planning and design of urban station communities making an important contribution to creating attractive and "climate-smart" places and nodes. At the same time, the ambition is to widen the processes to include more agents. This is also why it is important to seize on research, development and innovation in respect of citizen dialogues (and practical findings therefrom). Additionally, there is some focus on early stages in the processes. Opportunities to influence are here at their greatest in relation to finances and feasibility. This is also where the possibilities for creating continuous dialogues throughout the overall process are greatest, especially if an early start is made and arenas for collaboration and co-creation are established (Ranhagen, 2012, p. 67).

The traditional information and consultation procedure in the process under the Planning and Building Act has proved insufficient for seizing on various views and creating a transparent and inviting process (Fredrik Drotte, Den omöjliga medborgardialogen ["The impossible citizen dialogue"] in J. Bornemark, 2016, page 111). In this latter, the author, an active municipal planner, presents the municipality's invitation to discuss the political task of developing homes on a large forested area near the banks of the Mälaren lake in Upplands Väsby. Here, there were many things to consider in advance of a dialogue: "... For those who wanted to shoot the municipality down in flames, we provided the op-timum opportunity. Instead of a workshop espousing creativity, we set up a clear target at which they could fire their loaded guns."

Furthermore: "... the possibilities for a good dialogue increase exponentially the more the need to defend is dispensed with and, instead, there is listening, counterquestioning and truly experiencing the citizens' feelings and situations."

Rational and communicative planning

Another strand in the context of our dialogue and co-creation processes in Urban Station Communities is the ongoing discussion regarding rational and communicative planning in the field of planning theory. Rational planning has historically led to aberrations infected with a blind belief in the possibilities of designing towns and suburbs on the basis of pure technico-financial optimisation. There is comprehensive literature on modernism's rational mindset and enthusiasm for social engineering. This has also spread to social and land use planning as well as to urban design. Used with good judgement, transparency and participation, rational planning can be extremely useful. It can also be combined with other approaches to planning.

Communicative planning has grown as a reaction to rational planning philosophies that have been taken too far. One approach that we use in the Urban Station Communities knowledge process is to view planning as something that should validate communication while also presenting a new perspective of rationality. The terms "communicative action" and "communicative rationality" demonstrate a way of uniting these approaches (Habermas, 1981, cited in Innes and Booher, 2010).

Rationality is here conditional on open and honest communication on equal terms for all participants. The latter must also have equal access to information. Based on, amongst other things, this mindset and similar lines of thought formulated by John Forrester, Patsy Healy, John Dryzek and others, Innes and Booher have developed a theory to explain how planning in cooperation/collaboration can make positive contributions and in which conditions it can do this. This theory, which is both descriptive and normative, is named DIAD (diversity, interdependency, authentic dialogue). It highlights three conditions for a collaborative planning process to be rational (in the sense used by Habermas) and for it to give socially worthwhile results:

- A diversity of stakeholders must be allowed to participate in planning.
- Independent stakeholders.
- Authentic dialogue characterised by reciprocity, relationships, learning and creativity.

A process meeting these requirements provides the right conditions for contributing to:

- A shared feeling of identity/affinity.
- Shared understanding.
- New ways of gradually building knowledge through own reflections (i.e. new heuristics).
- Innovation and innovative thinking.

The theory focuses strongly on creating consensus. This is questioned by other researchers. Mouffe (2005) and many others feel that democracy and politics should not be unilaterally focused on developing such a shared rationality (referred to by Bornemark, 2016). This is because, when the authorities "hide" behind a seemingly rational and neutral position, such a quest for consensus conceals power struggles.

Other researchers also assert that planning is a field that is always redolent with conflicts, values and insufficient knowledge. Horst Rittel and Melvin Webber (referred to by Bornemark, 2016) are of the opinion that problems in social and land use planning are "wicked". As planning revolves around the future, the problems themselves are never unambiguous. Indeed formulating them is a "privilege of position" that also entails determining which values are to be allowed to shape this future.

Towards the end of the 1960s, to clarify various possible power balances, Sherry R. Arnstein developed a "ladder of participation" running from manipulation and information, through consultation, influence and dialogue, to participants having delegated authority or, ultimately, full decision-making power. Arnstein's ladder also implicitly illustrates a power struggle between representative democracy and the various degrees of direct citizen power (referred to by Bornemark, 2016).

Action research – background and orientation

In the "Sustainable municipality" project that ran from 2004 to 2014, action research, or participative participant research, was itself the basis for a comprehensive development initiative aimed at integrating sustainability and energy issues into social and land use planning. Below, there are references to the action research consi-

derations contained in the project's first intermediary report (Ranhagen 2006). Links are made to the relevance the theories have for our dialogue and co-creation work in Urban Station Communities.

According to Swedner (Nationalencyklopedin, 1989), an action research project entails: implementing meticulously planned measures aimed at eliminating or reducing wrongs in a social system; and, analysing the effects of this. An action research project is a project in which researchers are closely involved not only in the planning and implementation of an action, but also in the analysis of the change process and its effects. The term "action research" became generally accepted after its use by the German-American psychologist Kurt Lewin in a 1947 paper, "Action research on Minority Problems".

In the above-mentioned paper, Lewin argues for research designed "to help the practitioner". This would entail addressing real-life problems and solving them in a more grounded way than is possible within the framework of current practice (Fröst, 2004). However, Lewin did not equate practical development of a situation-tailored action programme and the research work itself. Knowledge that is more generally applicable requires a parallel, ongoing reflection process that improves the conditions for any researcher handling similar problems in the future. Thus, action research aims to:

- Benefit the operations concerned (in our cases, the processes in the region and in our municipalities developing urban station communities) and lead to further development.
- Generate generally applicable and more widely usable knowledge. It aims to do this through the participation of researchers and collaborations between researchers and practitioners.

Participation in such projects is designated by Lindahl (2001) as "interactive action research". Åke Sandberg characterises this type of action research as "collaborative action". In Norway and Sweden, action research has largely been based on Kurt Lewin's view of said phenomenon. Originally, the main focus in action research was on projects initiated and implemented in close collaboration with bullied, discriminated-against and problem-hit groups. Furthermore, action research links closely with generative planning theory. It is also called "new humanism" and places the emphasis on having a small-scale planning organisation and the planners making constant visits to the place that is to be planned.

Since the 1990s, there has been a blossoming of research literature on pedagogical action research in teaching and school environments. This literature has been relevant for our process work in Urban Station Communities. Many pedagogues have shown an interest in action research as a method for developing teaching processes and creating an approach in respect of concepts such as "lifelong learning", "learning organisations", "reflective practitioners" and "researching teachers" (Rönnerman, 2004). According to Rönnerman, action research is an initiative that: has its starting point in practice; strives for collaboration between researchers and practitioners; and, strives for research that leads to change.

What distinguishes action research from strictly academic research is that the former starts from practical issues and that it develops a collaboration between researchers and practitioners. It represents an approach that, at heart, has a practical and problem-solving orientation. However, perhaps action research should really be described as a "praxis-oriented knowledge strategy" (Mattson, 2004, referred to in Rönnerman, 2004). Even if research and development belong to different conceptual fields, openings are created between these different activities. The reciprocal exchange of knowledge contributes not only to developing and improving practices, but also to insights that improve theories and concepts.

Thus, action research entails trying something with the aim of changing an operation in a desirable direction. In our case, this something is somewhat differing methodologies and an array of tools for developing and promoting, for example, sustainable mobility, place attractiveness, health, justice and equality in urban station communities. Rönnerman describes this as launching a process that gets involved in hands-on practice. The meeting between the general and the specific takes on a central role. The researcher imparts his or her knowledge about methods and analysis instruments while the practitioner is the primary possessor of knowledge regarding what is unique in the specific, local context. In our case, this knowledge is primarily about a host of issues linked to towns and places (history, town planning and construction, mobility, environment, social conditions, enterprises and many other issues).

The process can be described as a step in going from the known and trusted to trying the unknown and then relating newly gained knowledge to own findings. In many instances, the municipalities' agents are not familiar with the tools presented both by us (process ma-

nagement) and by agents invited in from the outside. Consequently, the work involves a learning process. In return, process management has to better familiarise itself with the specific operating conditions for planning in the participating municipalities. This too is a learning process. This reciprocal learning in the meeting between researchers and participants is an important element in action research and change processes.

Over time, the "interest-representative role" that many researchers initially had in a lot of action research projects has, according to Birgersson (Chalmers University of Technology, 1996), been toned down. In Birgersson's work with processes to develop operating environments, the most important reason for action research appeared rather to be the acquisition of knowledge and findings that the researcher could not otherwise acquire. Such research was seen as a learning process that broadened the experience of all participants.

Design theory and design-driven dialogues

To find yet another basic link that is relevant to Urban Station Communities' processes, we feel that the research direction that has long been growing at Chalmers Architecture is interesting.

The above is largely based on Donald Schön's research. In the introduction to his book, The Reflective Practitioner (Schön, 1991), he states: "I have become convinced that universities are not devoted to the production and distribution of fundamental knowledge in general. They are institutions committed, for the most part, to a particular epistemology, a view of knowledge that fosters selective inattention to practical knowledge and professional artistry." Schön asserts that, in general, professional practitioners know more than they can express in words ("silent knowledge"). They demonstrate what he calls "knowing in practice".

One central concept in his work is "reflection-in-action". This latter entails reflecting on our actions while carrying them out. In creative processes (e.g. when architects, planners and others sketch out new structures, or when jazz musicians improvise) reflection tends to swing interactively between results of actions, the actions themselves and the intuitive knowledge that is embodied in the actions. In reflection-in-action, action and knowing are complementary. Action expands and deepens thought.

Birgersson (1996) reports findings from action-oriented research in respect of the planning and changing of work areas in Gothenburg. This research centred on developing knowledge for and about plan-

ning. The research initiative mirrored the architect's and planner's practical activities. Besides the designing of environments for various user groups, said activities also entailed handling and developing planning methods to both produce and implement proposals.

Thus, it is important to develop knowledge that can help to improve this praxis. According to Birgersson, such practical activities tied closely to research are interesting in: the making of analyses that increase understanding of contexts; and, achieving results that can be used in practice. Problem analysis must be contemporaneous with analysis of available tools and resources. It then becomes natural that research should seek to develop planning formats that make it possible for various agents (in this case, politicians, planners and entrepreneurs) to meet in the situation in question. Participation in a practical activity becomes the natural way to try to gain knowledge about problems and the possibilities offered by new tools.

Fröst (2004) uses design as a research method in his work. This is based on Schön (1991), Simon (1969/96) and, amongst others, the researchers Lundequist (1992, 1995) and Galtung (1977) – referred to in Ullmark (2003). Ullmark has developed a model to illustrate the differences between what he calls "mapping out and analytical" research on the one hand and "creative research" on the other. This model is based on Galtung's distinction of three knowledge types. In turn, this is inspired by antiquity's epistemological concepts of phronesis, techne and episteme. These are much used in pedagogical research (F. Eriksson, 2014). Galtung distinguishes:

- Empirical knowledge – knowledge based on data from reality.
- Critical knowledge – knowledge about reality's relationship to values.
- Constructive knowledge – how, working from values and using theories, the desired reality can be created.

In design-oriented research, it is the knowledge generated by design that is the result and not the design artefact or the design process itself. If, instead of design, we here talk about the planning and shaping of communities, there is a parallel with our work in Urban Station Communities. Furthermore, such planning and shaping is a form of design. However, it is on a large scale with more unknown factors and greater complexity than in the design of more limited artefacts. Knowledge can

be created by introducing general tools and developing these in creative processes in the local context. Subsequently reflecting on such cases leads to the gaining of knowledge that can then be used in further work with the local planning situation (and other situations too). Compared to traditional research based on empirical knowledge, one dividing line is that, in design-oriented research, imaginable future scenarios are created. These are then systematically investigated by:

- Critically analysing how the imagined possibilities match the values that prevail in the context in question (cf. environmental impact assessment).
- Examining, based on available knowledge, the feasibility of the sketched futures (i.e. sketching out an action and implementation strategy).

Is it then possible to extract "generalisable" knowledge from this methodology? In this case, in accordance with Gislén (2003), it is perhaps better to talk about "forwardable" knowledge rather than "generalisable" knowledge. The concept of "generalisable knowledge" is based on an assumption that it contains rules that are valid at all times and in all places. Nonetheless, "knowing in acting" cannot be built on established rules. It is rather based on a combination of past experience and new knowledge that has been gained through action and critical reflection over the actions taken. Work with concrete case studies that provide many place-specific findings, but which still furnish some general knowledge, is relevant in this connection (Yin, 2006; Flyvbjerg, 2006). A cornucopia of findings from work with design-driven dialogues in collaborations with clients, users and other agents in the design of hospitals, offices and suburbs is to be detailed in a book by P. Fröst, A. Gustafsson, J. Ericsson and G. Lindahl (to be published in 2017).

"Design-driven dialogue" is dialogue regarding the shared creation of spatial artefacts (e.g. drawings of future settlements or suburbs). It belongs to the category of participative-democracy dialogue processes advocating alternative planning methodologies. Society has developed these to tackle complexity, uncertainty, conflicts, frustration and inefficiency. With a focus on spatial design linked to content, culture, organisation and, above all else, the use of built environments, design-driven dialogue offers tools and methods for identifying, developing and formulating future needs. The methodology is highly relevant for the work involved in concretising ideas about the future form and structure
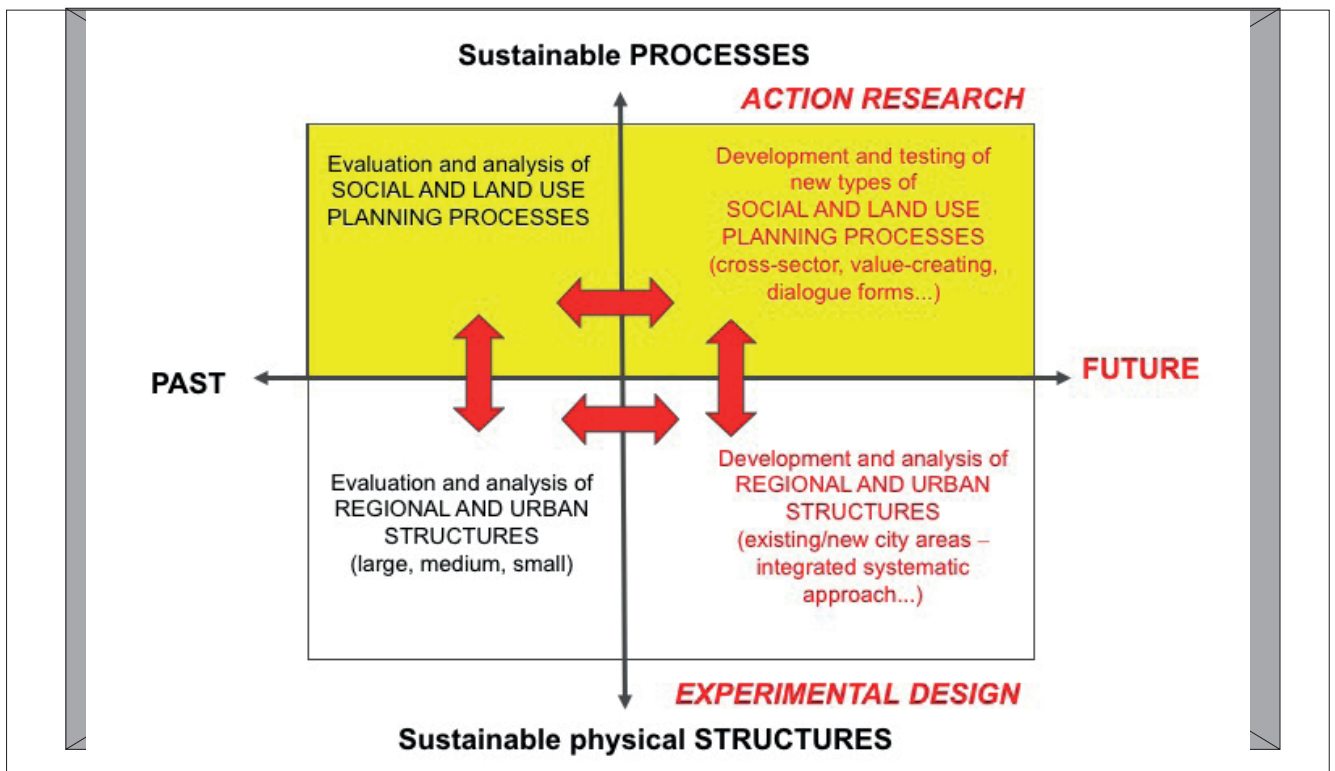
Figure 2: Illustration of the theory and method base for the "Sustainable municipality" project ("Physical planning" subproject, which was inspired by both design-theory research and action research) and which is relevant for the work in co-creative processes in Urban Station Communities (U. Ranhagen, 2012).

of urban station communities. Based on Wallén (1993), Birgersson (1996) summarises some of the difficulties associated with the action-oriented and design-inspired research methods we advocate:

- Researchers (process management) influence the process, but cannot control how a project is run as a whole. This is because such running is dependent on the political situation in the municipality, the interaction between the agents in the local context, etc.
- Researchers (process management) must be able to switch between familiarity and distanced critical overview. They must be faithful as regards knowledge, but also able to critically test even their own mindsets.

Swedner (Nationalencyklopedin, 1993) highlights the much-discussed issue of how researchers' commitment to planning and implementation initiatives leads to them losing their ability or willingness to objectively describe the change process and its effects. According to Swedner, some people have also asserted the opposite view:

- Action researchers in planning and implementation initiatives develop a sharper eye as regards what is happening in the project.
- They find relevant information more easily.
- Being self-critical is easier than criticising others.

Finally, experimental planning and design-driven dialogues can be seen as an instrument for staging processes that do not have full legitimacy or are not fully self-evident in the prevailing institutional structure in regional and local bodies. They challenge ingrained attitudes and mindsets, mobilise the "silent" hard-to-formulate knowledge possessed by practitioners and initiate transformation and structural change in the direction of just, green and accessible communities. This can be seen as an important argument for co-creation as a methodology. However, it is also important that a researcher who works as a process manager is personally aware of what are established discourses and what is his or her own mindset. After all, the researcher is not always the template for "the true and right". There is a risk that the researcher, subconsciously or not, has an "agenda" based on his/her own values, knowledge and

the "power" he/she has acquired as a researcher. When this "agenda" comes up against a local situation, interesting discrepancies can arise that make it easy to fall back on scientific notions rather than be receptive to the arguments of practitioners.

DECODE, a major ongoing project (March 2017), is also using and analysing large-scale co-creative processes. In an exciting way, an interesting paper (M. Frögård and B. Westerlund, 2016) in this project throws light on co-creation processes in urban development in Upplands Väsby and Varbergh. There is every reason to further compare and combine initiatives in the Urban Station Communities and DECODE projects in the future.

Tools for co-creative, future-oriented planning

The text below is a somewhat reworked version of text from the final report in the "Sustainable municipality – physical planning" project (Ranhagen, 2012).

"Sustainable municipality" was a 10-year, practice-oriented, collaborative, R and D project involving the Swedish Energy Agency, some 20 municipalities, KTH and LTU. With an emphasis on the detailing of overview plans, practical cases in the municipalities were used as a basis for testing quite a few of the various tools presented below. This project is a good example of how municipal planning practice can benefit from methods and tools that were previously used in pure research contexts. Backcasting (described in more detail later in this text) is one example of such a method.

First and second-generation overview plans often tilted towards mapping out and making an inventory of existing operating conditions. This was then combined with recommendations and guidelines for individual subareas. Owing to, amongst other things, the intensified debate about sustainability and the climate, the need for a more long-term perspective in social and land use planning was expressed. Our responsibility for
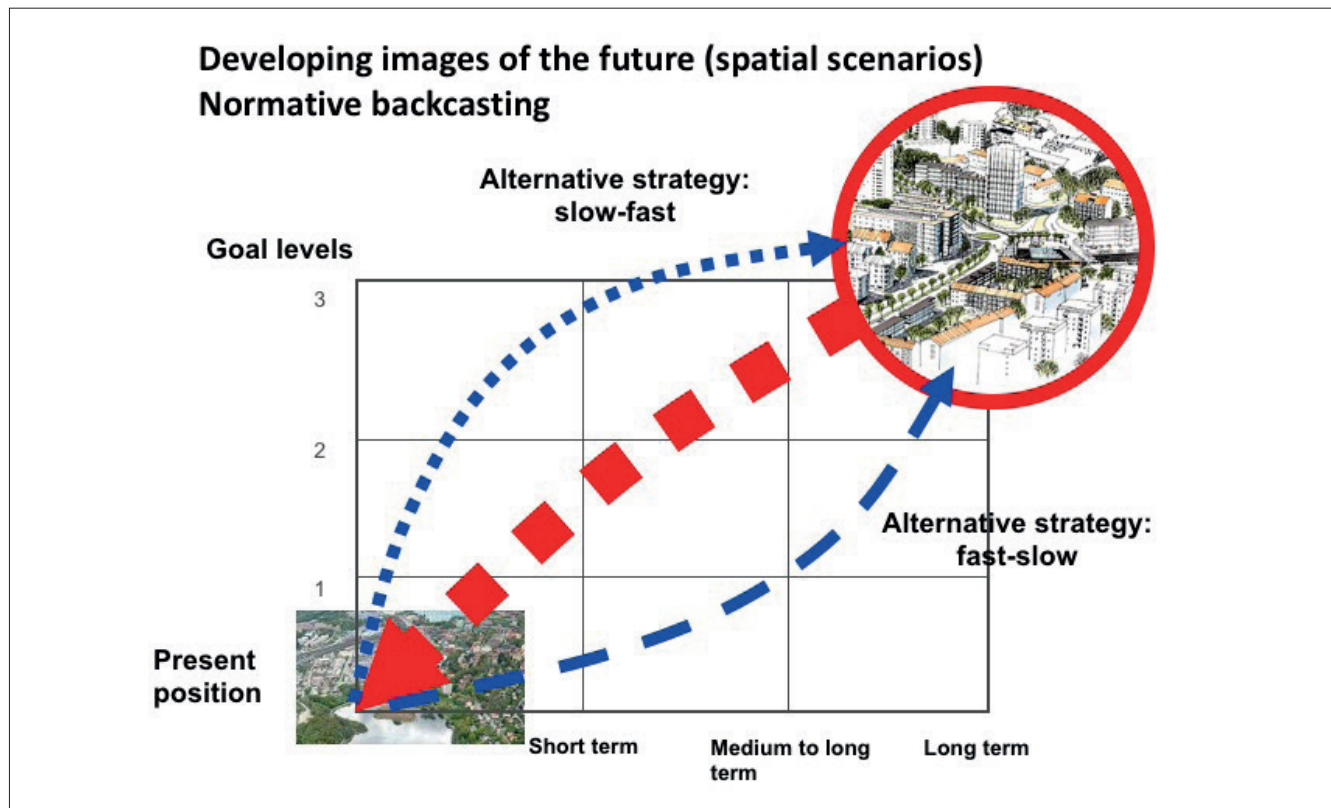
Figure 3: Illustration of the principles behind backcasting combined with scenario methodology (Source: Ranhagen, 2016). In backcasting, the starting point is using long-term goals to develop images of the future. Links are then made back to the present position and paths of action (strategies) are proposed. One of the advantages is that this breaks free from sticking points in acute problems and favours the process of finding other solutions.

future generations means that we need to try to envisage not only a 30 to 50-year perspective, but also one with an even more distant horizon.

Two important studies that have inspired the view of social and land use planning as "studies of the future" and not as "major inventory taking initiatives" are the National Board of Housing, Building and Planning's "Vision for Sweden 2009" (produced at the beginning of the 1990s) and the Swedish Environmental Protection Agency's "Sweden 2021" (produced at the end of the 1990s). Although these studies are now quite old, they are still interesting from a methodology perspective.

According to Dreborg (2001), there are three more or less "thoroughbred" approaches to working with future-oriented studies that are relevant to physical planning:

- "Thinking in predictions" – a deterministic mindset in which development trends up until the present point of time are projected into the future. This approach has given rise to forecasting initiatives, which are still the most common method of assessing the future.
- "Thinking in eventualities" – an old, human speciality. This approach is more open to various options. Its mindset has given rise to scenario planning that, strictly applied, can be seen as an advanced methodology.
- "Thinking in visions" – this entails imagining how a community or a certain operation could be designed in a way that improves on the current situation.

Here, it is reasonable to comment on the swing, in Sweden, from more prognosis-controlled planning (i.e. the first approach) to a more goal or desire-controlled planning (i.e. in line with the two latter approaches). One example is that the Swedish Transport Administration's planning is now goal-controlled and is always based on the transport policy goals decided on by parliament with a view to ensuring socio-economically efficient and sustainable transport services for citizens and enterprises throughout the country. Parliament has even set up a functional goal (accessibility) and an "impact goal" (safety and environment). The transport policy has to assign weights to the achievement of different goals so that the system's design satisfies all society's requirements and goals. It must be emphasised that future-oriented studies must always place great importance on long-term goals and finding methods that facilitate the development not only of images of the future that embody the long-term goals, but also of paths that, via short and middle-term goals, take us from the present to the future.

Backcasting and scenario methodology

Backcasting is a methodology that is compatible with Dreborg's (2001) two latter approaches – "scenario planning" (eventualities) and "thinking in visions". In Sweden, backcasting methodology was introduced via the research team for environment strategy studies at the Swedish Defence Research Agency (FOI) – now at KTH. There is comprehensive literature in this area (Dreborg, 2001). In Sweden, several studies focused on a how a renewable energy system could be developed were carried out in the 1980s and 1990s.

Instead of making projections into the future from a present position, backcasting starts by sketching out images of the future that depict possible long-term solutions to a societal problem. It is important that the time horizon is placed sufficiently distant in the future for qualitative changes to have taken place. Breaking free from the sticking points in acute problems or current development trends makes it possible to find solutions that would not otherwise have been discovered. The starting point for developing images of the future is provided by goals and key issues. After delimiting interesting long-term images of the future, possible alternative paths from now to this future can be sketched out.

From its beginning, backcasting has been a methodology used in cross-sector research teams (i.e. viewed as a pure think-tank model). Since the 1990s, backcasting with agent participation (participative backcasting) has also been introduced. It involves several agents being involved in workshops and the methodology being combined with structured brainstorming (Wangel, 2012). Wangel stresses the opportunities and need for seeking to promote (based on, amongst other things, transition theory) the development of socio-technical images of the future and not solely of demarcated, technical images of the future (which used to be primarily the case with backcasting). With the support of several other researchers, Wangel also touches on the concept of participative backcasting and the method's inherent potential for "production of knowledge and higher order learning".

Even if the ambition has been to engage non-experts in the development of images of the future, the procedures have been initiated, led and reported on by

academics or other experts. There is here a challenge for the future – achieving a pedagogic design of backcasting processes so that more agents can participate. According to Wangel, one critical factor is that certain agents may experience obstacles and sticking points in sketching out radically different futures (e.g. from a sustainability perspective).

In the Urban Station Communities knowledge process, we have the ambition of tying into and developing participative backcasting as a methodology for enabling idea development, in a long-term perspective, with the participation of many agents and with a wide sustainability perspective (not only socio-technical, but also socio-spatial, socio-economic and socio-ecological).

This entails a qualitative way of working that accords with Swedish planning tradition. This has not been primarily based on the advanced model simulations that are included in stricter applications. Participation of all those concerned has been a guiding star in all co-creative activities. In strict applications, backcasting is linked to visionary images of the future. We have sought to combine it with scenario planning, i.e. the development of different (perhaps even diametrically opposed) images of the future with the aim of achieving short, middle and long-term goals.

Some commonly met concepts in future-oriented planning have been defined as follows (Ranhagen, 2012):

- Vision = desirable future.
- Scenario = possible future situation that is dependent on the occurrence of various changes in the world at large ("thinking in eventualities").
- Prognosis = projection of current trends (deterministic mindset).
- Image of the future = concrete, spatial scenario that does not necessarily have to be linked to a certain situation in the world at large.
- Strategy = the path to the goal/images of the future/scenario.
- Utopia = a desirable value that cannot be attained.
- Dystopia = an inhuman, undesirable value (horror scenario).

In complex planning cases, painting images of the future can be very difficult, even if the goals are well-defined. The "strategic choice" approach demonstrates the possibilities for handling genuine uncertainty in planning and also for using key issues as a base for creating images of the future. To gain control over uncertainty, methodologies can be adapted to coordinate various issues and test how relationships between these can provide alternative lines of action – see Friend and Hickling (2005) and Rosenhead and Mingers (2001).

In the "Sustainable community" process, a simplified combination of backcasting and the strategic choice method was used. It entailed developing spatial "alternative options" for some of the prioritised key issues that were defined in structured brainstorming. By seeking to imagine "extreme-case" options for each key issue, it is possible to understand the span of possible solutions. Using a tree diagram, alternative options can be combined into a holistic option. This method was tested in a pilot stage when there was more freedom to work with each individual municipality (Ranhagen, 2006).

In the main stage, preference was given to the scenario matrix tool. This can be regarded as a special adaptation of the strategic choice method. It involves choosing two key issues that are significant for the spatial structure and, in a four-field diagram, combining these into a composed option. Scenario planning too has been primarily developed in disciplines other than physical planning. Examples include company organisation and institutional development (van der Heijden, 1996).

Even if the idea is to establish, based on the local analysis of key issues, the axes for the scenario matrix, the following dimensions often prove to be relevant:

- Dense – moderately dense – sparse.
- Fast, moderately fast, slow population growth.
- Spread – multicellular – limited cell structure.
- Centralisation of functions/supply systems versus decentralisation.

Some of the municipalities in the "Sustainable municipality" project saw the advantages of these methods/tools as follows:

- Good method for thinking strategically. Solutions proffered for imaginable extreme situations can also be used in normal situations – necessity is the mother of invention. It inspires a creative way of thinking (municipality of Vingåker).
- Good method for describing different choices and also for counteracting early choices (municipality of Borås).

- Can be useful when facing major strategic decisions, e.g. developing a new overview plan (ÖP) – at a workshop, we tried to find an entirely new route for European highway E4 (municipality of Nyköping).
- The method can contribute many useful perspectives and eye-openers in strategic, long-term planning (municipality of Sala).

Some of the difficulties that emerged:

- Very interesting method, but rather unclear how we are to work with it. Don't know if we presented what was expected or if we found an alternative way of working with the method. Feels like a method that requires reworking or streamlining (municipality of Lund).
- The method may be perceived as abstract and difficult. To get useful and well-anchored material, you have to find the right level of scenarios and involve the right professional groups in the work (municipality of Sala).

Although backcasting was introduced in a simplified form (compared to the "strict" applications presented in the research literature), participating agents in earlier action research had sometimes experienced a threshold that needed to be crossed for them to be comfortable with using the method. This could have been because they were unused to working "backwards" from the future to the present and, of course, because it is very difficult to handle the uncertainty associated with "long-term thinking". It is obvious that, because of these and other things, it is difficult for municipalities to have a truly long-term perspective. As a rule, a time horizon of 15 – 20 years is chosen, even though planning decisions have consequences that extend far beyond this.

Nonetheless, experience in the methodology is constantly growing and, in the Urban Station Communities' co-creative activities, we have seen openings for its committed use and application, especially as regards the extent to which issues are considered highly relevant by participating agents (see also the conclusions in chapter 5).

"Co-production in action" – Mistra Urban Futures' overall concept

The Urban Station Communities knowledge process ties into and, in its practical work, is supported by the overall orientation in Mistra Urban Futures – "Co-production in action. Towards realising just cities" as it is summarised in a publication of the same name (Mistra Urban Futures, 2016). The need to bring together researchers, practitioners and other agents in interdisciplinary teams to handle and find solutions for complex challenges is often expressed. Being able to work with a research-orientation in this highly promising way requires even greater difficulties to be overcome. Research agendas are seldom structured for multidisciplinary work. To be able to embark on new initiatives that take hold of the challenges more thoroughly, many agents, both in research and in practice, need to climb out of their individual comfort zones. Support for the transdisciplinary approach can be found in the concept of "collaborative governance". This emphasises methods that build trust in all dialogues and which underline the importance of shared commitments and visions (C. Ansell and A. Gash, 2008).

Beth Perry, leader of Greater Manchester's local interaction platform (LIP), asserts that co-production demands "curating leadership" (i.e. tending and healing). This entails: continuously maintaining the vision; and, pointing out directions of change while also enabling flexibility and autonomy to safeguard the values on which co-production is based. It is here easy to link to the concept of "curator" in artistic activities, i.e. a person who is a process manager or facilitator for exhibitions of art and artistic installations. Furthermore, in Manchester, co-production is not seen as a method but as an art form that manifests the most developed and mature relationship in collaborations between researchers and practitioners. If we interpret co-production as co-creation, then Beth Perry also sees it as a mindset that can be compared to children's games. Children often play "in parallel", each of them by themselves, before they start to play together. In the best cases, such an intense collaboration develops that it is difficult to distinguish who is doing what.

Final comments

This chapter may have seemed a little heavy and abstruse for the out-and-out practitioner. For the out-and-out researcher, it may have appeared altogether too superficial! This is a dilemma in co-creative activities. Perhaps we should bear in mind the saying: "There's nothing as practical as a good theory." There are also many good examples of how the presented methodology has been of practical benefit in social and land use planning in, for example, Ulricehamn and Borås (the "Sustainable community" project). Design-driven methodology has been of great practical use in a long list of hospital projects and also in urban development. In continued work with these methodologies, there is a great need to develop pedagogy to facilitate the communication and application of their theories and methods.

3. Themes for co-creative activities – preparation, implementation and documentation

Using inspiration images in agent dialogues to delimit focus areas

In autumn 2013, there were meetings with representatives from each of the participating municipalities, the county administrative board, the Göteborg Region Association of Local Authorities, the Västra Götaland region and the Swedish Transport Administration. Each meeting began with a discussion of images in which we talked about lifestyle values and conceptualised images. This involved around 50 images being laid out on a table. These were mixed images, everything from photographs to simple pictograms. Before each exercise, the participants heard a question and were asked to select three images that illustrated the picture the question brought to mind for them. The questions were:

1. What, for you, is an urban station community? If I say "urban station community", what pictures does it conjure up for you?
2. If I say "future urban station community [name of community]", what pictures does it then conjure up for you?
3. What pictures do you see if you imagine the station community not being developed at all, or the development going wrong and the result being a station community that we do not want?

This was followed by discussions of: which challenges the municipalities are facing linked to the development of station communities; where they are in the process; and, what knowledge they need. Based on these discussions and a joint workshop (28 Feb 2014) for the parties, seven focus areas were identified. These provided the starting point for process management to initiate activities and subprojects. The focus areas are:

- Noise, vibration and risk.
- Dialogue and collaboration.
- Lifestyle values, identity and location marketing.
- Structure and design of a sustainable community.
- Land use and land values.
- Flexible, sustainable transport.
- The station's role in its catchment area.

Figure 4: Image-based discussion of notions of urban station communities at a co-creative activity in 2013.

Participating parties then also stated their ambition levels for the various focus areas – i.e. if they wanted to: be active and responsible in planning and project design; help with the foregoing; or, simply follow the work's development via seminars and reports. At the start of 2015, process management held a follow-up meeting with most of the participating municipalities. The aim was to get a picture of their challenges, support needs and wishes in respect of exchanges of findings. The needs that had been expressed earlier and summarised in the project's seven focus areas were confirmed as still relevant for their work. Under the leadership of Ulf Ranhagen, and in a collaboration involving process management, researchers and practitioners, the issues adopted as being most appropriate for further attention were developed as the subjects for days with co-creative activities. These were held in 2015 and 2016.

The co-creative activities took four of the above-mentioned themes as their starting point:

Theme: Noise, vibration and risk
Half-day of activities focused on "pleasant sound environment" (May 2015).
Two days of theme activities focused on "obstacles and opportunities for transdisciplinary collaborations between regional and local agents" (POLA, March 2016).
Theme: Flexible, sustainable transport
Half-day of activities focused on "commuter parking" (May 2015).

Figure 5: Photo from a half-day of theme activities in which the participants discussed and proposed short, medium and long-term solutions for achieving a pleasant sound environment.

Theme: Structure and design of a sustainable community

Half-day of activities focused on "smart everyday logistics in Kungälv" (June 2016).

Day of theme activities focused on "location of a new travel centre in Stenungsund" (October 2015).

All activities were prepared by process management in collaboration with the municipalities and, in one case, in a very close collaboration with a single municipality. All the activities comprised a knowledge enhancing section (presentations) and a co-creation section (a working seminar or workshop).

The activities were carried out as transdisciplinary agent collaborations. By this we mean that the participants were a mixture of researchers and civil servants from various organisations and with different backgrounds. Via the project's website (see references in the following text), summaries of most of the activities are available.

Theme: Noise, vibration and risk

In May 2015, a half-day activity focused on how agents could work to progress their initiatives for achieving a pleasant sound environment in urban station communities. With inspirational presentations as the base, the participants undertook creative idea work to develop solutions and strategies. The provided input was based

on: a pilot study concerning safety and a pleasant sound environment in urban station communities (Larsson and Linn, 2015); the City of Gothenburg's programme of measures against noise (City of Gothenburg, 2013); and, the "City noise" collaborative project (City of Gothenburg, City of Malmö, City of Stockholm and City of Gothenburg, 2013). Altogether, some thirty civil servants (representing seven municipalities in western Götaland), the Swedish Transport Administration, the county administrative board and Västtrafik took part.

This half-day activity was based on real municipal planning cases from Ale, Härryda, Kungälv and Lerum. It thus involved the participants (split into various groups with representatives from participating organisations) working with practical cases. Methodology was based on backcasting. The results of this were then discussed and transferred (applied) to the four cases' physical environments. Proposals were presented on sketch maps. Participants' views of the process are reported in chapter 4. There is a memo giving full details of this half-day activity, see Ranhagen (2015).

With special attention paid to overcoming the possible barriers and obstacles to transdisciplinary initiatives, the work with sound environment issues continued in 2016 with a more in-depth examination of how collaboration could be developed and deepened. Creating a shared vision and then finding realistic development scenarios in volatile times requires collaborations to be more structured. As a step in taking the "safety and pleasant sound environment" focus area further using
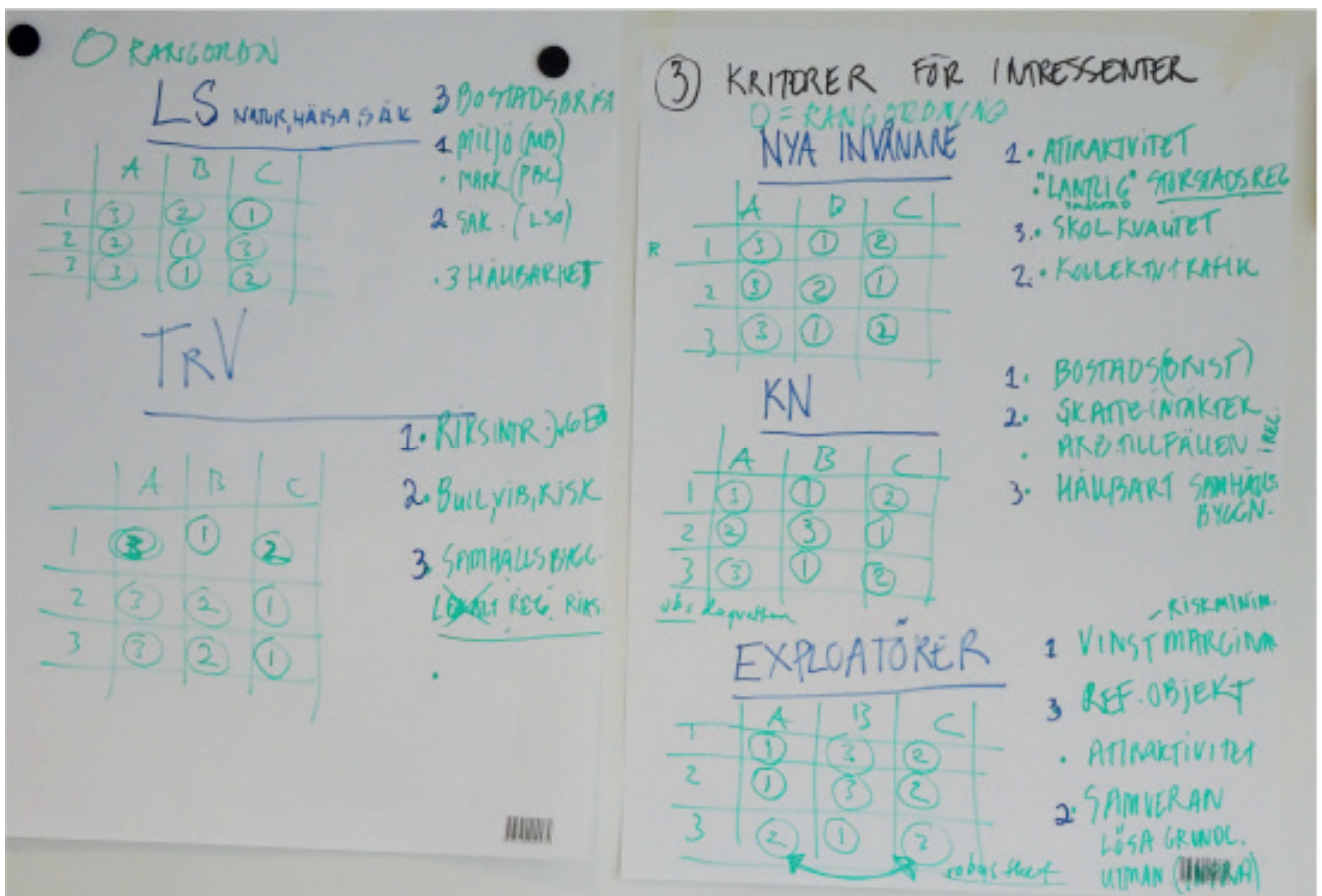
Figure 6: Photo from theme days where the POLA tool was tested to throw light on obstacles and opportunities for better transdisciplinary collaborations.

collaborative methods, the POLA method support was used and adapted. Collaboration is a challenge that needs to be tackled in all planning work. The idea was to go deeper into the "safety and pleasant sound environment" area and, using a new tool, systematically analyse the importance of how various agents view the issues.

POLA is a new method support from KTH, the Swedish Association of Local Authorities and Regions (SKL) and the Swedish Transport Administration. It uses multicriteria analysis that is based on Matthias Wärnhjelm's doctoral dissertation, "A sustainable trade policy – Trade development in towns" (SKL, 2015). Further input for the activities was provided by the "Infrastructure-related safety distances – The good town" study (2010). This examines the importance, function and handling of distance in physical planning.

As a support in the collaboration process for practical cases in the municipalities of Ale and Lerum, two days were given over to applying POLA to values and criteria from various parties. The aim was to develop a shared view of structured collaboration on the problems. As a frame for the issues, researchers and public

authorities presented knowledge and assignments. The participants then worked on their practical cases. For this, they used a scenario technique based on various spatial images of the future with, for example, settlement densities and traffic solutions either concentrated on the station or along corridors radiating from the station. The prioritisations of the various stakeholders in the practical cases were weighted into the various versions of the images of the future.

Subsequent discussions touched on: reflections on own roles and the roles of others; difficulties in explaining, to residents, the details of where construction and residence were possible; and, ideas about turning the issue round and starting from a position where the sound aspect was "ideal". While seeing the benefit of POLA, several of the participating municipalities also saw a need to collate knowledge, develop a methodology and use the practical cases of Ale and Lerum to see/learn how to concretely improve the situation and review various stakeholders' opportunities for participating in the solutions. Some twenty researchers and civil servants took part. Half of these were from the case-providing municipalities of Ale and Lerum. These theme days are

documented in a memo (A. Dahlstrand, 2016).

Theme: Flexible, sustainable transport

In May 2015, a half-day activity focused on how agents could work to progress their initiatives to meet the challenge of commuter parking in urban station communities. This half-day started with a view from Norway on the positive and negative effects of commuter parking and of how strategies could be designed to support sustainable mobility (Jan Usterud Hanssen, Norway's Institute of Transport Economics [TØI], "Strategy for commuter parking up until 2030", 2002). In addition, a present-position picture of commuter car parks in the Gothenburg region was given by Peter Blomqvist of Sweco (Västtrafik, 2015). Altogether, some thirty civil servants (representing seven municipalities in western Götaland), the Swedish Transport Administration, the county administrative board and Västtrafik took part.

This half-day activity was based on real municipal planning cases from Ale, Härryda, Kungälv and Lerum. It thus involved the participants (split into various groups with representatives from participating organisations) working with practical cases. Methodology was based on backcasting. The results of this were then discussed and transferred (applied) to the four cases' physical environments. Proposals were presented on sketch maps. Participants' views of the process are reported in chapter 4. There is a memo giving full details of this half-day activity, see Ranhagen (2015).

To exemplify and illustrate in more detail the level of concretisation at which issues are handled in a typical co-creative activity, we here give a slightly deeper insight into the work of this half-day.

The half-day activity on commuter parking concentrated on the following question. How, with a focus on the entire-journey perspective, can local commuter parking be minimised and designed to achieve efficient land use? Below, there is a short overview of: the challenges reported by the four municipalities; the inspirational lectures; and, the results of the co-creative activities.

The challenges facing the municipalities

Naturally enough, the municipalities have different operating conditions as regards planning. Nonetheless, many of the challenges still have features in common. All municipalities have ambitions to develop a traffic system that is more sustainable. Initiatives to get people to stop driving to stations and, instead, use the bus or cycle or walk are a common feature here.

In Nödinge (municipality of Ale) there is ample car parking next to the station (customer parking for the Ale Torg shopping centre, staff and visitor parking for the municipal offices and cultural centre and a commuter car park). The draft in-depth overview plan (FÖP) for Nödinge highlights shared use of parking places as a great opportunity to increase utilisation rates and thus make more efficient use of these facilities. Implementing such shared use requires the commitment of all the agents concerned, ticket sellers and operators of what are to become the shared facilities. The theoretical potential of shared use is a 50% reduction in area. However, a more reasonable ambition is 25%. This is because of, amongst other things, uneven splits between different user groups over time. A 25% reduction would entail a reduction of 1,000 parking places.

In Ytterby (municipality of Kungälv), land use next to the track comprises a commuter car park, a park and various operations. Commuter parking comprises 230 places. The utilisation rate is 60%. Ahead of initial planning of the community's development, four challenges are being discussed in Ytterby:

- Access to the commuter car park so that other parts of the community are not adversely affected by traffic (e.g. in small, local streets).
- Impact on the surroundings, i.e. how the commuter car park can be integrated into the urban environment so that good connections to the central square are created rather than a commuter parking desert.
- Competition for land, i.e. the importance of optimal localisation based on land use in general.
- Mobility into the community – how to "convert" those countryside dwellers who currently drive all the way to their final destinations because getting to the car park is seen as too convoluted?

Parking issues have long been on the agenda in the municipality. As a result, many concrete design issues have been discussed (and not just sustainability in general).

In central Mölnlycke (municipality of Härryda), just as in Ytterby, commuter parking has been put into a wider planning context:

- Attractive urban environment – how can the station and the station area become a clear and vibrant part of the town rather than a barrier?
- How to satisfy the need for commuter parking

(to contribute to increased train travel) without increasing car traffic? The present commuter car parks are small, but have high utilisation rates (65 places/99% and 77 places/75%).

- Routes into the station – how to make it comfortable, safe and easy to get to trains in various ways?
- Links between train and other modes of transport – how to arrange smooth changes and pleasant waiting facilities?
- Parking places for bicycles and cars are seen in a single context so that they are safe and not barriers. Shared use so that daytime commuter parking can be combined with resident/visitor parking in the evenings and at night. Flexibility for changed use if future needs differ.

In Lerum (Aspen Strand), the planning case is a new development area where shared use of parking by residents and commuters is being discussed in the planning proposal. One difficult balance in the project is how to design parking that is attractive to commuters as regards accessibility, platform links, etc. without thereby compromising the area's qualities and living environment. The possibilities of locating the car park in the noise zone towards the railway/motorway are being considered, as also underground parking.

Images of the future and proposals using backcasting

Work in this activity was based on a backcasting model in which different types of solution principles were discussed from short, medium and long-term perspectives. Participants were split into groups so that there was a mix of competencies and organisational affiliations. Two of the challenges facing the municipalities are: creating attractive commuter parking that encourages the use of public transport; and, at the same time, striving to ensure efficient land use in station areas where mixed urban development (work, residential and services) is being offered. There can be inherent conflict between these goals. It is important to consider the balance between goals from both a local and a regional perspective. Oversized commuter parking can, for example, make it impossible to build more densely in station areas that could otherwise offer good train commuting with easy access and connections for pedestrians. However, where such densification at a location more peripheral to the station leads to commuter parking being located further from the station, more

people may drive directly to their final destinations.

Below, there is a presentation of some of the solutions suggested in the activity. A few of them are of general interest. The various time horizons should be seen as examples. Thus, it may be entirely possible that certain solutions suggested as short-term would be better implemented in the long term and vice versa. Here, the solutions are compiled into a general list rather than divided into the four planning cases.

Examples of solution principles:

1) Replace individual car travel with other modes of transport by, for example:
- In the long term, generally strengthening public transport in the form of both commuter train services and main line services in a robust and coherent system with a greater number of stations.
- In the medium term, strengthening physical planning so that it: contributes to prioritised corridors for public transport, cycle and pedestrian connections to stations; offers more small commuter car parks at small stations/nodes; and, strengthens public transport in rural areas. The latter can be achieved by, for example, investing in service nodes that allow stops for bus services to be integrated with other functions. Charging policies that favour public transport over car traffic and doing away with free parking for company cars at workplaces and similar were also proposed.
- In the short-term, increasing public transport's service frequency and timetable coordination with train traffic, as also feeder buses to stations (to reduce the need for parking places). Commuter car parks need to be charged for in order to further strengthen other traffic laws. Possibilities for setting up car pools that enable travelling to and from stations need to be examined more closely.

2) Shared use of parking areas under measures (with different time horizons) that seek not only to make use more efficient, but also to avoid short-term solutions precluding what is best in the long run. Such measures should:
- In the long-term, create clear physical planning with, amongst other things, an integration of different functions for work, residence and service provision, said integration enabling

shared used of parking spaces as also control of parking needs at regional level.

- In the medium-term, create multifunctional interchanges where as many errands as possible can be carried out when switching between train and other modes of transport.
- In the short term, seek to facilitate the shared use of parking by several operations (e.g. through shared multistorey car parks, limited duration car parks and improved mobile apps that enable more efficient search patterns).

3) Smart location of parking spaces in relation to other functions via:

- In the long, medium and short term, integrating the station into the urban environment so that more functions can have a direct connection to the station. Cycle and pedestrian access should also be prioritised over that of cars. Increasing the proportion of cycle parking spaces in the best position for the travel centre (unfortunately, cars are often prioritised above bicycles in station locations). Manned bicycle garages of a high quality with cycle pools and outlets for cycle repairs and sales of cycle accessories (e.g. as at Freiburg or Amsterdam) should be considered.

4) Soft and hard controls at regional and local level. Discussion here was general and not tied to a particular time horizon. It covered possibilities such as clear information campaigns ("There's a bus for it!", "On your bike!", etc.) and:

- Drawing up an active parking policy (e.g. gradual reduction in the number of parking places over time).
- Including commuter parking in a monthly ticket and having distance-differentiated parking charges at stations.
- Using financial incentives that entail lower parking charges for those travelling by public transport.
- Creating flexible, interconnected public transport services featuring traffic in response to customer calls, flexible routing, etc.
- Providing better information on departures and disruptions in public transport.
- Making it possible to take prams/bicycles on buses and trains and providing bicycle-hire systems ("pedal and park").

Theme: Structure and design of a sustainable community

How, via social and land use planning, can we make it easier for residents to choose sustainable travelling and improve traffic safety where there are movement-intensive operations?

Figure 7: Photo from the work to develop ideas for handling the challenge of commuter parking in urban station communities.

Figure 8: Photo from a co-creative activity regarding smart everyday logistics in Kungälv. Using a scenario matrix for images of the future showing mobility that is more sustainable.

This was one of the main issues in focus at a theme day entitled "Everyday smart – the essentials for everyday logistics and localisation of movement-intensive operations in urban station communities" (Kungälv, June 2016). The theme was initiated by the municipality of Kungälv, which also hosted the meeting.

By way of introduction, there were presentations of some completed and ongoing research studies of the travel-linked challenges in everyday life. SKL's and the Swedish Transport Administration's comprehensive planning support "Traffic for an Attractive City" (TRAST) was presented and aspects of "Station proximity as a factor in everyday smart logistics, with findings from Swedish and international R & D" (Swedish Transport Administration 2011, Ranhagen et al., 2015) was taken up.

Most of the time thereafter was devoted to a co-creative activity with discussion of images of the future based on Ytterby's case study and using backcasting as the methodology. Working from images of the future, "ideal" travel patterns and everyday logistics for various family situations, the groups sketched out possible structures. Some twenty people took part, primarily from municipalities that are involved in Urban Station Communities.

Another theme that can be classified under the heading of "structure and design of a sustainable community" is "travel centre localisation", as illustrated by a case in the municipality of Stenungsund. This municipality has long been working on the localisation of a new travel centre. A localisation study was carried out in 2012. At the time of our co-creative activity, a localisation decision had not yet been taken. To take the travel centre localisation work further, the municipal executive board decided to hold a theme day. The background to this decision was that politicians and civil servants had identified that there were different ideas of what a travel centre was and what functions it should serve in the community. Consequently, the intention was that the theme day should assist the municipality in taking localisation of the travel centre further.

The theme day's participants were civil servants and politicians from the municipality of Stenungsund and a politician from the municipality of Tjörn. In total, fourteen politicians and nineteen civil servants participated. The day started with descriptions of: the background; the problems that were faced; and, which investigations had been carried out. Ulf Ranhagen and Amie Ramstedt of the Urban Station Communities process management team also acted as process managers for the day. A presentation of station development observations worldwide kicked the day off.

The methodology for the day's workshop was based on multicriteria analysis (MKA). The practical method used here is based on, amongst other things, a dissertation on the subject of decision methods in the planning of railway infrastructure (S. Gissel, 1999).

Here, to give an insight into a possible design of one of the tools used in co-creative activities, we detail how the work with MKA was structured.

The participants were divided into groups with civil servants from different units and politicians. In a first phase, the participants in the groups had to weigh up goals produced by the localisation study. These goals were first ranked individually and then, based on individual weightings and joint discussion, each group allocated 100 points between the goals. The results were entered in the table below.

Travel centre goals	p1	p2	p3	p4	p5	p6	Average of individual assessments	Allocation of 100 points after discussion	Comments
Create a simple and obvious gateway to Tjörn, Orust and Stengungsund – strengthen regional links									
Strengthen links to important destinations in central Stenungsund – social services, workplaces and homes									
Boarding quality and accessibility – efficient switching between train, pedestrian, cycle and bus transport modes									
Accessibility and availability of commuter parking									
Contribute to making the travel centre more than an interchange – a vibrant, safe and aesthetically pleasing place with a strong identity									
Strengthen links to social services, workplaces and homes that are semi-central and peripheral in the municipality									
Densification potential within 600 m for homes, workplaces and services									

Step 1: Weighting of selected goals via allocating 100 weighting points between them

Working from set goals, the groups were then given the task of ranking the localisation options previously identified in investigations. Each group was encouraged to jointly discuss how options could be ranked, one goal at a time. The best option was awarded 5 points and the worst 1 point. The ranking points for each option were totalled and entered in the table below.

| Travel centre goals	Current station location, 0 opt.	Centrum opt.	Brofästet opt.	Nösnäs opt.	Stora Höga opt.
Create a simple and obvious gateway to Tjörn, Orust and Stengungsund – strengthen regional links					
Strengthen links to important destinations in central Stenungsund – social services, workplaces and homes					
Boarding quality and accessibility – efficient switching between train, pedestrian, cycle and bus transport modes					
Accessibility and availability of commuter parking					
Contribute to making the travel centre more than an interchange – a vibrant, safe and aesthetically pleasing place with a strong identity					
Strengthen links to social services, workplaces and homes that are semi-central and peripheral in the municipality					
Densification potential within 600 m for homes, workplaces and services					
Total ranking points					

Step 2: Ranking the five travel centre localisation options

Finally, using Excel, process management weighted together the weighting points and ranking points from each group.

Travel centre goals	Current station location, 0 opt.	Centrum opt.	Brofästet opt.	Nösnäs opt.	Stora Höga opt.	Total ranking x weight per goal
Create a simple and obvious gateway to Tjörn, Orust and Stengungsund – strengthen regional links						
Strengthen links to important destinations in central Stenungsund – social services, workplaces and homes						
Boarding quality and accessibility – efficient switching between train, pedestrian, cycle and bus transport modes						
Accessibility and availability of commuter parking						
Contribute to making the travel centre more than an interchange – a vibrant, safe and aesthetically pleasing place with a strong identity						
Strengthen links to social services, workplaces and homes that are semi-central and peripheral in the municipality						
Densification potential within 600 m for homes, workplaces and services						
Total weighting points x ranking points for each option						

Step 3: Weighting together of weighting points and ranking points (done in Excel).

For each group, process management could then show bar charts of how the various groups ranked the various localisation options based on weighting of the goals and the assessment of how well the options could satisfy goals. An example chart is given below. By varying the weighting points between the goals, a "robustness analysis" was also performed. This involved testing whether total points changed so much that the assessment of which option was best, worst, second, third or fourth changed.
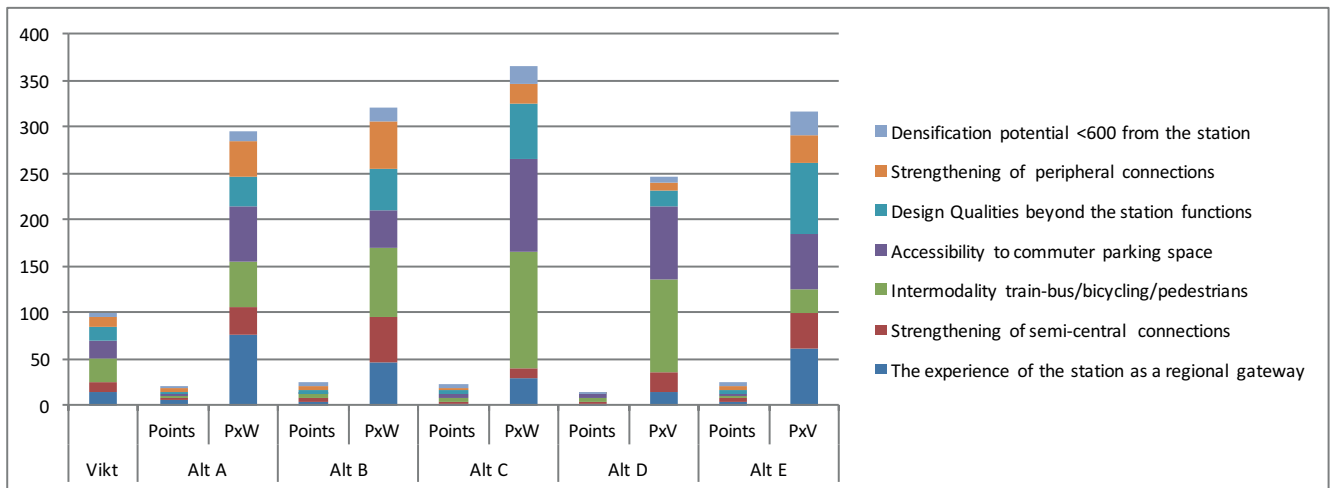
Step 4: Discussion of the results of weighting together of weighting points and ranking points and of the robust-
ness analysis (in which weighting points were changed to see if this changed the ranking of the options).

Based on several different charts of this sort, there was discussion of the results and how the evaluation of various
goals affects the results.

Reflections

In Stenungsund's case, the localisation issue has been
hot for many years and process management saw a
need to contribute a method that could help break the
deadlock in the localisation discussion. The idea be-
hind the activity was not that it should provide direct
grounds for a localisation decision, but that it should be
a basis for discussion between politicians from various
parties and civil servants from different departments.
Using MKA, the groups began evaluating goals and
the desired function of the travel centre rather than the
localisation itself. Process management considered that
gaining a concrete result from each group, and being
able to see which option was given the highest rating,
was important for the activity to be able to provide in-
put for future discussions in the municipality.

What happened after the workshop?

After the workshop, there was a meeting between: poli-
ticians and civil servants from the municipality; regio-
nal agents; and, Västtrafik. The decision was then taken
that the new travel centre is to be located in the centre.
An interesting question here is whether the activity car-
ried out using MKA as the tool contributed to what was
both a quicker and a more transparent decision process
(compared with standard results using a more traditio-
nal methodology).

A conversation with a municipality representative
who had taken part confirmed that weighting the im-
portance of the various goals had contributed to crys-
tallising the ranking of the localisation options and of
the prioritisation of measures. This indication needs to
be followed up with further research involving more
in-depth interviews and analyses.

4. Co-creative activity evaluation results and reflections from participants

Evaluation methods

The activities that have been carried out have been evaluated via questionnaires to the participants immediately after each activity. Two of the 2015 activities (the sound environment and commuter parking theme day in May 2015 and the localisation of the travel centre in Stenungsund theme day in September 2015) were also followed up by an empirical study based on semi-structured interviews with a total of 15 participants from the various activities. This study was carried out by David Eriksson, a master's student at Blekinge Institute of Technology (BTH). It is summarised in a report (D. Eriksson, 2015). The questions below were asked.

- Did the activities generate any subsequent discussion amongst the participants? If yes, what were they about and what has this led to for the participants' organisations?
- Did the activities result in the participants having new perspectives and ideas? If yes, how have these been expressed?
- Did the activities give rise to learning processes and contribute to understanding of the participants' various areas of responsibility and roles? If yes, how has this affected relationships between participants from various organisations or participating civil servants and politicians in the same organisation?
- Have the activities affected the way that participants communicate internally and externally?
- What is the perception of the methods used in the activities?
- Are these types of activities of value for the participants?

The participants' general perceptions

The results recorded in D. Eriksson's report (2015) show that:

- The participants felt positive about their participation in the studied theme days. They also felt the structure of the days was good.
- The participants felt that their frames of reference had, to a certain extent, been widened through theoretical knowledge communicated in the theme days.

- Findings in respect of the theme days are largely communicated in informal contexts within each participant's organisation. There has been no major, formal feedback within or between the organisations.
- The relationships developed by the 12 May 2015 theme day revolve primarily around the importance of working together with civil servants who, in their day-to-day work, provide support in municipality-wide problems. The 23 September 2015 theme day has primarily developed relationships between civil servants and politicians at an individual level.
- The tools used in the theme days were felt to provide good ways of handling major, strategic planning issues.

The reflections on the results highlight the need for findings from the activities to be followed up. That there has been no following up by the participants may be down to the extent to which they saw the activities as either: a way of progressing in specific cases; or, general knowledge development that could have long-term impact. The co-creative activities have been a way for the participating civil servants to feel a certain solidarity and to jointly discuss difficult development questions. Tools used in the theme days were also a structured way of handling strategic issues.

Specific perceptions linked to various themes

The results from the questionnaires used after each activity (as also the results from the wider ranging interviews) show that the participants considered that: the content of the theme days was relevant to their work and their decisions; their participation gave them new knowledge and new contacts; and, the knowledge will benefit them in their work.

Based on the immediately subsequent questionnaire and the process managers' reflections, the following are amongst the views to emerge from the theme day dealing with a pleasant sound environment and commuter parking linked to local mobility:

- The content of the activities was relevant to the municipalities' work and gave further support for important decisions.

- The activities provided good input in early phases of planning.
- The participation of state agents (the Swedish Transport Administration and the county administrative board) in creative work in an informal context was appreciated. These agents are otherwise primarily dressed with the role of rule-enforcing reviewers of documents in the formal process.
- The day provided new knowledge, inspiration, stronger contact networks and strategically innovative thinking in issues that otherwise present many sticking points in day-to-day work.

The planning cases that were presented, and which were then the base for the co-creative activities, were regarded as unique assets because they represent the complex reality with which municipalities and others wrestle and which also concern citizens. The opportunity to escape for one day, the normal work routines and, along with others working with similar issues, tackle these cases without being held back by formal sticking points seems to promote creativity and foster the commitment and mettle to give more energy to work further with these issues that are seen as major challenges.

Emerging from the two theme days on safety and pleasant sound environment (which gave greater depth to the preceding half day of theme activities on a pleasant sound environment) are reflections such as it being a challenge to turn development around and challenge previous mental perceptions when old areas acquire new values. Method supports such as POLA (p. 18) can be useful for grouping solutions into scenarios. Amongst the expressed needs was that of developing more inter-agent methodologies to create better understanding: of how various roles affect assessments of goals, scenarios, etc.; and, of how role-tied perceptions can be reconciled. Ensuring a pleasant sound environment is a challenge for all parties working with the issue. It involves difficulties in interpreting not only rules, but also own and others' responsibilities. Notions were presented of addressing the issue not from the starting point of a problem but of, as regarded the sound aspect, an "ideal" position. Discussion after the groups' reports also revolved around social and land use planning assignments creating conflicts and there being a need for more regional collaboration to counteract "the town mentality". It is very positive if a "co-creative methodology" facilitates such counterbalancing in any way.

This area requires more research and development. Discussion here often highlights ambiguities about the community-development roles, responsibilities and assignments of public authorities. It brings to the fore that "goal conflicts" are a constantly complicating factor in planning. Thanks to their monopoly on planning, their business world contacts and their many other areas of responsibility, municipalities have a key position in such contexts. On the other hand, there are not always resources equal to these mandates. Matters are further complicated if the roles of public authorities are seen as being unclear. Thus, "co-creative activities" are even more useful if these roles are allowed to interface. This too is an issue for further research.

The participants proposed taking the scenarios in the practical cases from Ale and Lerum further and seeing if the pleasant sound environment issues could be handled in concrete cases of development in station areas.

Some of the views to emerge here (and which were also taken up in evaluations of earlier activities) related to wishes for the involvement of more agents, e.g. enterprises, chambers of commerce and politicians.

The evaluation of the "Everyday smart" theme day highlighted the good structure with its balance between theory and workshop. The workshop activities and testing and applying new methods such as scenario planning were considered very interesting. Being in on testing "extreme-case" options and discussing how these could affect "life's puzzle" was seen as very exciting. The methods for working with overview plans were considered particularly valuable.

The participants' perceptions of the theme day on travel centre localisation can be summarised as follows:

- Through the theme day, politicians and civil servants acquired a shared idea of what a travel centre is.
- The politicians saw the theme day as an opportunity to progress the decision process while the civil servants expressed the perception that it was a way of developing dialogues with the politicians.
- Meeting up as civil servants and politicians (from many parties) in an informal context was felt to be positive. The participants were able to get to know each other as individuals and develop an understanding of, and relationships with, each other.
- Results of the theme day have not been followed up in an official context. However, there

have been limited discussions in more informal contexts.

- Views of the venues for the theme day and the structure provided by the process managers were very positive. The tools were generally perceived as useful.

In summary, the participants' completed questionnaires awarded good scores and stated that participants had acquired new knowledge, new methods, new contacts and increased understanding. What we cannot learn from the questionnaire form of the evaluation is whether the workshop days gave rise to learning processes in the home organisations or how knowledge, methods and contacts are used in day-to-day work.

Recommendations for future theme days and activities

In preparation for future activities, the evaluation report covering two different theme days (D. Eriksson, 2015) offers the following observations/recommendations:

- Switching from "theory" to "practical application" is a good structure. The methodology starts with presentations (which widen the participants' frames of reference) and then applies the results of this to a planning case on which the participants work together.
- The mix of representatives from various organisations and professions is a worthwhile way of initiating a productive discussion. Reviewing a phenomenon and then working on it in the activities expands the participants' perspectives.
- Working with real cases is valuable. However, it is important that the formal planning in the cases has not progressed to the phase where issues of detail have already been decided.
- To make the most of the opportunities presented by a theme day, it may be necessary to have a forum that subsequently follows up the work and the lessons that the participants took from the activities. This could counteract participants falling back into old habits and not capitalising on their new knowledge. Such a forum might also maintain the relationships developed in the activities.

- It is important to make it clear that the participants have a responsibility to nurture the lessons taken from the activities.
- One option to achieve continuity might be to always have the participation of the same organisations and civil servants. The knowledge that these participants gain from their participation could then be relayed further in their own organisations.

Reflections from process management

One frequent comment is that participants would like more time for the activities we organise. This illustrates a paradox that we have to deal with in our work. We sometimes receive post-activity emails to the effect: "Friday was truly fun and interesting. However, I feel we perhaps could have had a little more time to discuss the various themes. We look at these things from a different angle than researchers do. That is why discussing things with them is interesting."

As organisers, we can always deepen and widen all theme days, meetings, seminars and co-creative activities. Yet the agents constantly tell us that they have limited time for participation and then subsequently comment that we should have allocated more time. This provides some sort of confirmation that what we do provides support, is appreciated and is in demand.

Process management's role is to provide support in process work. For measures to be implemented, politicians and leading civil servants have to take decisive decisions on action. It is easier for such decisions to be taken in an organisation where initiatives are well-anchored with key agents and in various control documents (e.g. strategies and overview plans) or a municipal vision. There is also extra impetus if leading civil servants and representatives from those they collaborate with are active participants in projects and/or steering groups. In the implementation phase itself, the municipality's personnel and project organisation are important. To capitalise on the knowledge generated in the "Urban Station Communities – the way to resource-efficient travel" knowledge process, the project's participants must jointly have wide expertise and sufficient resources earmarked for the work.

5. Conclusions from co-creative processes

The conclusions have been structured along the lines of the research issues presented in the introduction to the section on the report's purpose.

The participating agents' views of processes and tools

- There is a positive basic attitude towards participating in the processes.
- The tools used are particularly appropriate for handling major, strategic planning issues.
- Method support based on backcasting and scenario methodology complements the tools commonly used in municipal planning practice.
- The following up of findings from theme days and activities is deficient. Consequently, there is a need for a forum to follow up the activities so that there can be long-term positive effects.

Effects on standard practice in participating municipalities

- Wider frames of reference because theoretical contributions from co-creative activities with new ways of working and thinking had provided new input for hands-on practice (all themes).
- Improved cross-sector collaborations (sound and commuter parking) between not only civil servants, but also politicians and civil servants (station localisation).
- Wider ways of thinking about mobility in a whole-journey perspective when handling commuter-parking issues.
- Deeper way of looking at station localisation using methods for consequence analysis (multicriteria analysis) have made further decision processes easier (station localisation).
- A deeper way of looking, from a future perspective, at everyday human problems in relation to urban areas and functions at different distances from a station has made planning in the early phases of station areas deeper and resulted in it being linked more comprehensively to surrounding areas (development of station areas).
- Used with scenario methodology, method support for working with various roles in complex issues has provided valuable inspiration for working on concrete cases (the noise problem).

- New ways of tackling noise issues with a wider holistic grip and a focus that combines process and issue.

Critical factors in bringing about changes in practice

- The processes are informal activities that provide an opportunity for moving forward in decision processes. However, to have true impact, they must also be able to influence formal decisions.
- To progress even further, other agents (e.g. enterprises, chambers of commerce, civil society and more politicians) also need to be involved in the processes.
- Notwithstanding that they are judged useful in hands-on practice, too limited time for the organised activities.

Transformation/structural change of ongoing practices

- Difficult to assess because long-term processes are concerned and, consequently, there needs to be more comprehensive monitoring in specific cases. The evaluation of station localisation may have had an impact on the municipality's ways of taking complex decisions as regards urban station communities (hypothesis).

Importance of networking between municipalities and other agents

- Broadly speaking, a mixed representation of agents from various organisations and professions is seen as a worthwhile way of initiating a productive discussion. It contributes to widening the participants' perspective when examining phenomena.
- The social capital resulting from networks being built between people from different organisations also provides long-term value for exchanges of findings in future processes. It also improves anchoring with various parties. In its turn, this improves the conditions for political decisions/action, smoother implementation, etc.

The conclusions we draw above (in line with the research issues) can also be related to the theoretical starting points detailed in chapter 2.

The conditions for the communicative rationality (highlighted by, amongst others, Innes and Booher) that enables a planning process to deliver socially worthwhile results while still being rational are relevant to many of the research issues. For achieving good network collaborations in transdisciplinary dialogues between a large number of agents at both regional and municipal level, the authentic dialogue in the co-creative activities involving various agents with diverse and independent interests has proved important. According to Booher and Innes, authentic dialogue entails: all participants having equal access to common information; process managers ensuring that all are heard and understood on the same terms; anomalies being revealed by the free flow of ideas; and, creative, problem-solving ideas being generated. Consequently, the right conditions were set up for the theme days' informal processes to lead to good decisions in future, formal processes.

One link running throughout the co-creative activities was that the practitioners were seeking relevant problems and usable results for their practical planning work with urban station communities. Action research's ambition that a praxis-oriented knowledge strategy (Rönnerman, 2004) should create openings between theory and practice has proved fruitful in the co-creative activities (e.g. through the practitioners being offered widened frames of reference and the legitimacy to work more open-endedly with various options).

Findings from design-driven dialogues (Fröst et al., to be published in 2017) were a source of inspiration for the activities in which various images of the future were explored (e.g. "everyday smart", "sustainable mobility" and "pleasant sound environment"). Enabling the participants to work with a combination of a symbol library and traditional sketching resulted in knowledge and learning being generated in a playful process that stimulated commitment and creativity.

The work with the tools provided for co-creative future-oriented planning initiatives gave us confirmation that simple and well-proven tools (e.g. mind mapping, SWOT analysis and structure brainstorming) can help overcome barriers and, for agents from various disciplines or municipal organisations, create shared insight into a problem (A. Laitila, 2007).

There is greater resistance to more advanced tools (e.g. multicriteria analysis, scenario methodology and backcasting) but, according to Laitila, these become more usable if opportunities are provided for learning outside the organised activities. The application of participative backcasting (Wangel, 2012) has proved capable of providing inspiration for future-oriented work with the above-mentioned themes ("everyday smart", "sustainable mobility" and "pleasant sound environment").

The work has also given us confirmation that a critical factor in bringing about changes in practice and achieving structural and transformative changes is that methodologies such as multicriteria analysis and backcasting need to be linked to implementation issues and that the evaluated images of the future and the localisation options emerging from the co-creation process need to be further processed and anchored in the political process. At the same time, it can be assumed that a good backcasting process provides good conditions for giving impetus to transparent and committed implementation. This is because long-term, well-anchored images of the future and visions can have an inspirational force in stimulating gradual change with a holistic perspective, not least because fragmented and random changes are counteracted.

Collaborations between practitioners and researchers were brought about through: one of the process managers having a research background and thus being able to introduce methods and tools linked primarily to practice-oriented research; and, researchers and other experts participating and contributing their professional knowledge within the themes that were the subjects of co-creative activities. More extensive collaborations with researchers (e.g. direct in the many working groups that took part in the work) could not be achieved practically. Nor could we organise systematic follow-up research, e.g. through a doctoral student participating in all activities. On the other hand, it was possible to organise worthwhile assistance for the evaluation of two theme days.

Overall, for co-creative planning to deliver efficient and dynamic results or the desired effect, it can be noted that we assess that great importance needs to be attached to good process management, preferably with process managers who have a research background.

To create anchored, shared visions, it is necessary to find consentient starting points and discover the participants' knowledge levels. Challenges such as resources and time (touched on above) need to be constantly addressed, as also ongoing anchoring with politicians and civil servants.

6. Future development opportunities for co-creation methodologies

The report has given some glimpses into the co-creation methodology that we see as central in developing accessible, green and just urban station communities. In many ways, co-creation revolves around creative and trusting collaborations between very many different agents. Said collaborations are not only for discussing and analysing the terms and conditions for and of station communities, but also for presenting alternative proposals and strategies for the future. Viewed in a wider context, our report is about a small-scale application of a methodology that offers great future potential in exploiting development potential not only in the Gothenburg region, but also in all Mistra Urban Futures' platforms elsewhere – regional, national and international.

The co-creation methodology for urban station communities (and other applications) needs to be further developed as regards, for example:

- Stronger linking of theory to several different subject areas, some of which we have touched upon (e.g. communicative rationality, design theory, action research and co-production). With the ambition of strengthening collaboration theory and practice, the most relevant theoretical linking here is that which covers the mindset "there's nothing as practical as a good theory".
- Stronger institutional capacity is needed in the organisations that participate in co-creative activities. This is so that the agents with a political anchoring can communicate, capitalise on and convert good ideas and proposals into deeper planning that prepares the way for decisions and implementation. A forum for this was one of the requests from participating municipal agents. To use Patsy Healy's terminology (Healy, 2006), this would be both a forum (i.e. a place for broad dialogues with civil society) and an arena (a place for more operational work in transdisciplinary collaborations to develop the concrete proposals necessary ahead of formal implementation in the "court").
- Coordination with education and professional development so that these can be interspersed with co-creative activities. It is important that the activities can be prepared for with training in theories, mindsets, methods and tools that are subsequently applied. Findings and reflections are to be documented and analysed ahead of further work in the next stages. This creates voluminous input that facilitates implementation.
- Coordination (via inclusive everyday planning and design work) with standard, day-to-day operations so that co-creative activities using an experimental and exploratory methodology are possible as an important element for providing support for inspiration, innovative thinking, rethinking, etc.
- Stronger network collaborations, not only between municipalities and regional organs, but also between business-word representatives and civil society. The Urban Station Communities knowledge process is here, in parts, already a model as it has an established network that can be "mobilised" for participating in and benefiting from co-creative activities on theme days, etc.
- Monitoring of impact on standard practice in regional and municipal bodies. We have had some evidence of changed mindsets, but far less of real changes in practices and decision processes. A decision on the localisation of the travel centre in Stenungsund was, for example, influenced by a co-creative activity organised by Urban Station Communities. However, a deeper investigation is needed here. This also applies to many of the other activities. With the aim of throwing light on direct and indirect consequences of co-creative activities, it is appropriate that deeper contacts should be forged with institutions interested in R & D linked to the monitoring of said activities. Degree, master's and licentiate papers as well as doctoral dissertations could be included as an element in this.

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