

The Urban Station Community: Towards a Resource-efficient Transport System

FINAL REPORT FOR THE YEARS 2017-2019



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Authors: Ulf Ranhagen & Anna Gustafsson
Corresponding author: ulf.ranhagen@chalmers.se

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Mistra Urban Futures is an international Centre for sustainable urban development. We believe that the coproduction of knowledge is a winning concept for achieving sustainable urban futures and creating accessible, green and fair cities. The Centre is hosted by Chalmers University of Technology and has five platforms in Cape Town, Kisumu, Gothenburg, Skåne and Sheffield-Manchester as well as a node in Stockholm.

Mistra Urban Futures is financed by the research foundation Mistra and Sida, together with a consortium comprising: Chalmers University of Technology, the University of Gothenburg, the City of Gothenburg, the Gothenburg Region Association of Local Authorities (GR), IVL Swedish Environmental Research Institute, the County Administrative Board of Västra Götaland, and the Region of Västra Götaland, along with funders on the various regional platforms.

From 2020 Mistra Urban Futures continues into two different organisations. One being a new organisation under the name Centre for Sustainable Urban Futures, which is a continuation of the previous work of Mistra Urban Futures in Gothenburg and Sweden. While the parts of the international work will be integrated within a new organisation Global Sustainable Futures. Both organisations are integrated under Gothenburg Centre for Sustainable Development (GMV), co-hosted by Chalmers University of Technology and Gothenburg University.

Front cover photograph and photographs from workshops: Ulf Ranhagen



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Foreword

What exactly are urban station communities and why are they important? Throughout 2017, 2018 and 2019, the Urban Station Community knowledge process has discussed and scrutinised the various aspects of the concept together with researchers, practitioners and, on occasion, politicians. Through co-creative processes we have expanded our joint knowledge regarding how we can work cross-sectorally to create sustainable communities. The intention of this report is to offer the reader an image of why we are working with urban station communities, why co-creation is both exciting and important to a sustainable future and how we worked within the framework of Mistra Urban Futures in the final phase of the knowledge process .

We see enormous potential in urban station communities and a need to create even better conditions for their planning and design as a vital component of a sustainable built environment. It is our hope that the toolbox we have developed and applied can continue to be used and that the knowledge process itself can live on through the deepening of co-creative collaborations between practitioners and researchers.

The project's Steering Group has been drawn from the Gothenburg Region, the County Administrative Board of Västra Götaland, Mistra Urban Futures, the Swedish Transport Administration and Region Västra Götaland. In addition to the above organisations, the municipalities of Ale, Borås, Gothenburg, Halmstad, Härryda, Kungälv, Lerum, Partille, Stenungsund, Trollhättan and Varberg have also participated in the project. It is with the help of and thanks to all of these partners that the Urban Station Community has been able to develop to the extent it has. We would also like to take this opportunity to thank all of the municipal officials, researchers and other stakeholders who have participated in our activities with boundless commitment and enthusiasm.

Gothenburg, December 2019

Anna Gustafsson & Ulf Ranhagen

Summary

The Urban Station Community has spent many years working in co-creative processes to study the development of these very specific communities. The aim of this report is to describe, illuminate and analyse the work conducted in the final stage of the Urban Station Community, between 2017 and 2019. Our point of departure for the knowledge process has been co-creation processes between practitioners and researchers linked to practice-led research.

The Urban Station Community knowledge process has been based on seven focus areas: 1) dialogue and collaboration; 2) noise, vibration and risks; 3) lifestyle and identity; 4) the structure and design of a sustainable station community; 5) land use and land value; 6) flexible, sustainable transport; and 7) the role of the station for a surrounding area.

With the aid of actual planning cases in both existing and new station communities, methods and tools have been tested and further developed in cross-sector collaboration between research and practice. Based on this work and in combination with new research, the process managers are able to draw the following conclusions regarding processes and the design of urban station communities:

- There is a great deal of curiosity regarding co-creation and co-creative processes.
- Co-creative methods have influenced the ways and means practitioners analyse, develop and evaluate proposals in formal municipal planning processes.
- Co-creative processes have influenced the normal working methods of participants and been developmental for collaboration within and between municipalities and with external stakeholders.
- The opportunity to 'borrow' mandates from external process managers means that planning processes can develop in an exploratory manner.
- This exploratory element in activities creates an environment in which there are no predetermined answers.
- The combination of research and practice creates the conditions for identifying well-founded answers to the complex challenges facing public administrations.
- There is clearly a need for a nuanced picture of what 'density' might mean for various types of station community.
- The location of stations is crucial in a regional system and must be viewed in relation to large, medium-sized and small urban areas as well as the surrounding rural areas.
- It is important to identify and work with the unique qualities of each local area.
- Although sometimes a high level of urbanisation is the right way to go, it is generally important to find a balance between urban and rural characteristics if one is to create a thriving station community.

Abstract

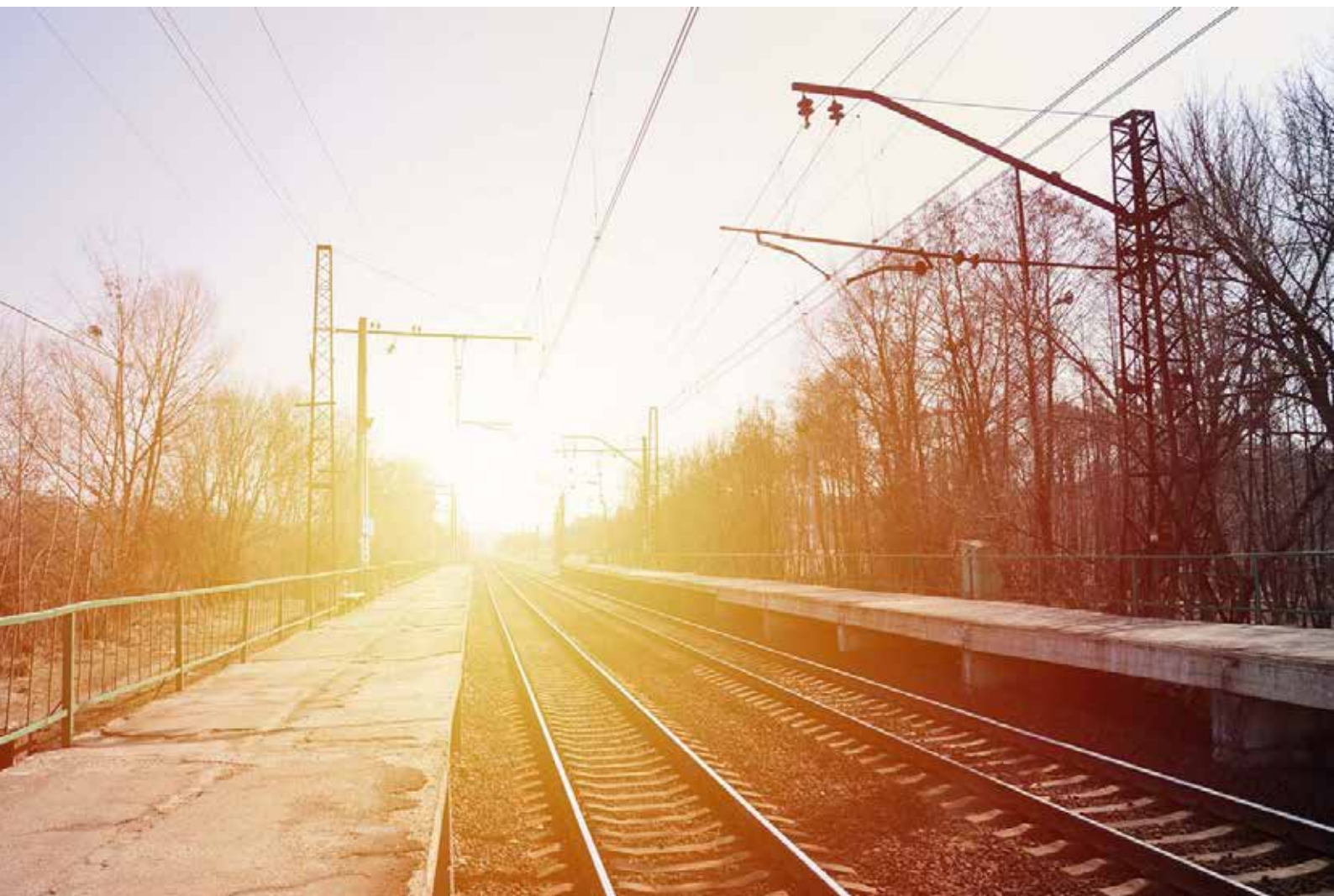
The knowledge process Urban Station Communities has worked for several years with co-creative processes focusing on the development of station communities. This report aims to describe, illustrate and analyse the work conducted within the Urban Station Communities process during 2017 – 2019. The work has been grounded in co-creation between practitioners and researchers, as part of a practice-oriented research process.

The Urban Station Communities knowledge process contains seven focus areas: 1) Dialogue and collaboration; 2) Noise, vibration and risks; 3) Lifestyle, values and identity; 4) Structure, design and sustainable society; 5) Land use and land value; 6) Flexible and sustainable transport; and 7) The station's role in the surrounding area.

By using actual planning cases in both existing and new station communities we have been able to test and further develop methods and tools in a cross-sectoral collaboration between research and practice. Based on the work carried out, in combination with new research, the Urban Station Communities knowledge process has reached the following conclusions:

- There is extensive interest in and curiosity about co-creation and co-creative processes. Co-creative methods have influenced and changed the way practitioners carry out and evaluate proposals in formal municipal planning processes
- Co-creative processes have influenced participants' regular working methods, advancing collaboration within municipalities, between municipalities, and with external actors
- The opportunity to "borrow" a mandate from external process managers makes it possible for planners to work in an exploratory way
- The exploratory element of the activities creates an environment where there is no predetermined answer
- Combining research and practice creates the conditions for finding well-founded answers to the complex challenges faced by public administration
- There is a need for a more nuanced picture of what "density" means for different types of station communities
- Localisation of stations is of great importance in a regional system, and needs to be understood in relation to large, medium and small urban areas and their surrounding countryside
- It is of great importance to identify and develop the unique qualities of each local area
- High density is sometimes the right way to go but often it is important to find a balance between urban and rural features to create lively and thriving station communities

1. Why urban station communities?



THE HISTORICAL ROLE OF RAILWAYS IN SWEDEN'S URBAN DEVELOPMENT

From a historical perspective, railways and railway stations have played an important role for social and commercial development. They have succeeded in strengthening the links between town and country and thus between urban areas and rural areas. The overall experience of the Urban Station Community knowledge process is that the rail network and its station districts have major potential for contributing to sustainable social development. It is in the interplay between the built environment, transport infrastructure and green structures that fair, green and accessible social development takes place.

One important source of inspiration for our own work is the comprehensive work *Stationshus: järnvägsarkitektur i Sverige* (Station Buildings: Railway Architecture in Sweden, Bjur & Engström 2010), which explores in breadth and depth the development of the Swedish railway network and its significance for both urban planning and architecture over a period of 150 years.

“The rise of the railways presented a real challenge for architects and engineers in the mid-nineteenth century. In Sweden, a whole new infrastructure complete with associated buildings sprang up at a hectic pace during the initial period. There was no lack of international role models to learn from. Across Europe stations were equipped with new terminals in the form of station buildings and railway yards. After a few brief decades, the railways and these buildings were established as a self-evident component of the built environment.” (Bjur & Engström, 2010, p. 11)

Even if station buildings and their architecture are a focal point for these developments, the book also demonstrates just how important the links have been to regional and urban development since the establishment of the first railways. In comparison with the rest of Europe, for sparsely populated Sweden with its long geographical distances between settlements, the railway brought about a special tangible and profound alteration. One reason was the dramatically faster transportation offered by trains compared to the old horse-drawn means, which also led to the more rapid dissemination of information and news. The multitude of stations that grew up along the tracks came to serve as a new form of public space – a kind of window on the world. The establishment of the railway also offered new employment opportunities for rural inhabitants, with fixed wages, uniforms and workers' cottages.

In many towns, the station became a focal point for all urban planning. Obvious examples include Nässjö, where an esplanade was constructed between the station and the town square, and Hässleholm, where the station and church were located at either end of the main street. The wellspring of inspiration was Adolf Edelsvärd's principle for planning published in 1859 in *Tidskrift för byggnadskonst och Ingeniörvetenskap* (Journal of Civil Engineering). Edelsvärd's ambition was to create open spaces and a rational street grid; a more flexible structure of districts and streets to facilitate the gradual expansion of the town. This also eliminated earlier disordered maze-like urban forms that led to congestion, as well as the risk of recurring fires. This principle for planning is seen as a milestone in the history of Swedish urban planning and has even attracted international attention. Although it has come to be known as his *ideal city*, Edelsvärd's purpose was largely practical as exemplified above. In hindsight, it is clear that railways and stations would become a hinterland

between the more prosperous areas of the city and its industrial and warehousing districts. Only recently have technological developments and the rationalisation of freight handling made it possible to even plan the transformation of these areas on the ‘wrong side of the tracks’ into mixed-use developments of housing, light industry and services.

“The period around the fin de siècle has often been called the heyday of the railways. The railway companies, whether private or state-owned, were in rude financial health. The train had proven itself to be the superior means of transport and was not simply viewed as a supplement to the waterways.” (Bjur & Engström, 2010, p. 203)

The role of the station as an important building and landmark in society meant that trained architects were increasingly entrusted with designing these prestigious projects.

This changing view of their architectural status went hand in hand with the desire and willingness to manifest the increasing respectability of the railways and their importance to urban and rural development. International and national influences were united with a striving for local identity. During the pioneer period of the nineteenth century, major stations and even railway sheds were primarily constructed in cities and larger towns. After the turn of the century, the process intensified as stations arrived in smaller communities. A few interesting examples around Gothenburg and Västra Götaland include Hindås Station (architect Yngve Rasmussen 1907, see Figure 1), Partille Station (architect Folke Zettervall 1901) and Långenäs Station on the Gothenburg-Borås line (architect Teodor Folcke 1906). When no longer required for its original purpose, the unique art nouveau Partille Station was sold to dedicated private owners who have carefully and considerately restored the old waiting room for reuse as a restaurant.



Figure 1.

The station community has important historical roots; for example, Hindås Station built in 1907. Photo: Ulf Ranhagen

This period also saw the opening of the Bohus Line, an important extension of the West Coast Line intended to provide southern Sweden with a direct link to the united kingdom of Norway. With the dissolution of the union in 1905, the original purpose of the line fell by the wayside. The investment did leave behind a series of stations, uniform in style but of varying sizes, designed by a central figure of Swedish railway architecture, Folke Zettervall. These stations remain important local hubs contributing to the identities of their communities.

The railway and the communities that grew up around them and their stations have always been strongly influenced by major social events. During the period 1910 and 1930, as the First World War came and went, electricity was introduced as a new energy source. Electric propulsion demanded new types of spaces, with architects combining station and electricity substation in a single building, most famously in Abisko in the far north of the country (architect Folke Zettervall 1911). New administrative buildings were added and railway yards were expanded to cope with increasing traffic. Waiting rooms were built to meet the increasing demands of passengers. The role of railway stations as an important gateway to the city is made clear in a photograph of Drottningtorget in Gothenburg taken on 12 May 1923, when Crown Prince Gustav Adolf arrived by train to attend the city's Tercentennial Jubilee Exposition.

The 1930s saw the increasing nationalisation of Swedish railways and by 1939 the state owned 58% of the rail network. That year, the Riksdag reached a decision in principle to nationalise the entire rail network, leading to the demolition or extensive renovation of many privately owned railway buildings. This coincided with the adoption of many of the radical ideas on architecture and urban planning presented at the 1930 Stockholm Exhibition. The Swedish State Railways architectural office had played an important role in developing the rail network since 1862 and would continue to do so in realising these ideas. The concept of the railway station as a monumental gateway to the city was abandoned as they were no longer considered the natural start and endpoint of a journey. Buses and cars were increasingly seen as an attractive alternative to the train. The period between 1931 and 1955 saw 75 new stations erected in Sweden, often replacing demolished aging buildings. Falköping Central Station is one of the most obvious and best preserved examples of functionalism's breakthrough in railway architecture.

From the 1950s onwards – as the car and, to a certain extent buses became increasingly dominant means of travel – Swedish public investment was steered towards road construction. According to Bjur and Engström (2010), the nationalisation of practically the entire rail network led to a three-decade-long identity crisis that affected the adjacent architecture and urban development. Between 1950 and June 1971, 130 sections of track were closed down and in most cases ripped up. By 1981, the rail network had shrunk by 4,400 kilometres of track and to all intents and purposes the station had lost its role as the central local meeting place and gateway to the community. Many station buildings were demolished and those that remained were often marooned on anonymous islands, surrounded by heavy traffic or scattered locomotive sheds, workshops and warehouses with declining business. Those station districts that also housed hotels, homes, restaurants and other services could no longer be perceived as a coherent whole but rather “stood as symbols of a lost golden age,” as Bjur and Engström (2010) express it.

After a long period of stagnation and decline, the next major change in the rail network occurred in 1988, when Swedish State Railways was split into the Swedish Rail Administration,

responsible for tracks, and SJ, now purely a public transport company. Since 2001, previously state-owned stations and associated properties such as train depots and cargo terminals have been managed by a separate company, Jernhusen, which currently owns 154 properties in Sweden, 37 of which are stations. This new division of responsibilities, with the emphasis on collaboration between public and private stakeholders, has also had a major impact on the design and location of stations and the built environment.

A wave of optimism regarding the future of the railways was readily apparent at the beginning of the 1990s, when SJ's property division (which would later be hived off to create Jernhusen) invested heavily to renovate and expand stations. A large number of station environment projects to renovate some 70 stations were followed by 25-30 travel-centre projects. A typical example from Västra Götaland is the 1998 redevelopment of the nineteenth-century station in Trollhättan, when the existing building was refurbished and supplemented with a new pedestrian subway, new canopies across the renovated station square and a new semi-open-air bus terminal with a large canopy roof and windbreak walls.

Centrally located stations have also been the focal point for extensive urban transformation in many medium and large Swedish towns: Varberg, Borås, Uppsala, Lund, Västerås, Linköping and Norrköping to name but a few. Intercity and high-speed trains also actualise less central and peripheral locations with major potential for urban expansion; for example, the planned high-speed line station and associated urban development of Jönköping, the planned and proposed peripheral stations linked to Södertälje Syd and two new stations on the West Coast Line, Laholm and Falkenberg. As Bjur and Engström (2010) put it, it is hoped that these stations will “activate the urban periphery, be community-building and eventually reinvent urban patterns”. The new Hyllie Station, on the line through the City Tunnel between Malmö and Copenhagen, offers the opportunity for the urban densification of Malmö's sparse and fragmented outskirts, thus becoming a hub for urban qualities in an outlying area.

THE CONDITIONS AND POTENTIAL FOR THE FUTURE DEVELOPMENT OF URBAN STATION COMMUNITIES

A historical overview reveals that interest in the role of railways and stations in community development has fluctuated over the years. It is particularly interesting to note that – from being almost discounted as an important future mode of transport for almost three decades from the 1950s until the 1980s – the railway now has a new lease of life, in part due to investments in local travel centres as hubs for smoother connections between trains, buses, bicycle and pedestrian traffic. Since the beginning of the twenty-first century, these investments have increased to the point where stations are clearly viewed as important hubs for major urban transformation and development, especially in large and medium-sized towns. The conditions are good for this development to continue and grow in strength, not least given the intense debate on climate change.

Vehicles and domestic transport in general account for one third of Sweden's greenhouse gas emissions, of which road traffic accounts for 91%, domestic flights for 3% and maritime transport 4%. Emissions from rail traffic have more than halved since 1990 to 44,000 tonnes CO₂e from diesel in 2018. This represents less than 0.5% of total emissions. A more detailed account of the transport sector's climate impact is available from the Swedish Environmental Protection Agency (2019). Given current circumstances such as climate change, it is crucial that trains are able to carry more passengers and freight over short and medium distances of 50-600 kilometres. Demands are also rising for improved rail links to the Continent.

Something that was once accomplished relatively smoothly, in our topsy-turvey world travelling to the rest of Europe by rail has become an undertaking requiring extreme tenacity. In practice, it also requires the passenger themselves to perform the roles of travel agent, caterer, luggage porter and delay advisor (Peter Wolodarski in Dagens Nyheter, 26.08.2019).

Here, one can see a correlation between planning and associated measures at local, regional, national and international levels. Even if we succeed in creating greater opportunities for long-distance rail travel, it will still demand local and regional planning initiatives to achieve seamless transfer to bus, bicycle and foot. Otherwise, there is a risk that good access to international, national and regional services will remain unutilised due to flaws in the local accessibility of hubs from surrounding districts and towns. Physical planning must go hand in hand with planning for more sustainable and efficient transport that also fulfils requirements for gender equality and ecological sustainability.

A study conducted by Region Skåne in collaboration with regional public transport provider Skånetrafiken, the County Administrative Board and the Swedish Transport Administration highlights the potential for developing station districts, encouraging planners, landowners and other stakeholders to realise the potential inherent in smaller station communities (County Administrative Board of Skåne et al., 2010). One remarkable observation in this study is that 80% of land within one kilometre of the stations remains undeveloped. This implies that population growth and commercial development should be possible to a far greater degree than at present in locations close to stations as an alternative to outlying, more car-dependent locations. Elsewhere in Sweden too, not least in the major conurbations around Stockholm and Gothenburg, there is deemed to be considerable potential for developing station communities, although no cohesive picture of the national situation is currently available.

The Gothenburg Region's Structural Plan, an important point of departure for the Urban Station Community knowledge process, illustrates the basic elements of the sub-region's development based on clearly defined corridors with attractive regional centres, see Figure 2. The development of station communities may be concentrated around the station or along corridors leading to and from the station. It is not always possible to build a community concentrically around a station, something that is discussed later in this paper. One interesting study that highlights this problem is *Lokalisering av järnvägsstationer – effekter på samhällsplanering*,



Figure 2. The Gothenburg Region's Structural Plan, an important point of departure for the Urban Station Community knowledge process.

resande och tillgänglighet (Locating railway stations: the effects on urban planning, travel and accessibility, Fröidh et.al., 2018). The study looks at 14 new or renovated stations, primarily serving intercity and long-distance regional traffic, that have offered significantly improved services since 1990. While central or semiurban stations appear to be more attractive and even better from a systems viewpoint than outlying stations, excessive construction costs or disproportionate intrusion into already developed built environments or areas of natural and cultural heritage may make it difficult to locate railways and stations centrally. According to the study – given that passenger satisfaction and security, as well as the interest in establishing businesses and services, tend to decrease in proportion to the station's distance from the centre – there is a need for especially active, long-term municipal cooperation with the business sector in order to create functioning outlying stations. Physical design, access to basic services, service frequency, convenient public transport links and other support strategies must be supported in municipal planning monopolies, traffic strategies and other policies, programmes and plans. One lesson from history is that, while many of the stations established in the late nineteenth and early twentieth centuries were located on the outskirts of urban areas, they subsequently developed into central stations due to the gradual construction of homes and workplaces in the direction of the station.

THE BENEFITS OF URBAN DENSITY FOR SUSTAINABLE MOBILITY

The spatial aspect of most interest in terms of benefiting sustainable mobility is urban density, its interactions with other factors and the role it plays in promoting sustainable public transport in the form of buses and trains. The benefits of urban density include dynamic economic development, high contact intensity, a better basis for various service functions, public transport and district heating, as well as reduced dependency on cars and lower environmental emissions per capita. Its disadvantages include congestion, intrusion into green spaces, impact on existing cultural heritage, light and noise pollution and increased risks due to the number of people likely to be exposed to major incidents, such as explosions.

There is a need for a more nuanced assessment of the importance of urban density to a sustainable city. Density at district and neighbourhood level can be an ineffective means of increasing proximity between various activities, reducing car use or enabling safe independent mobility for children. In part, this is because locating a densely populated area somewhere without strong links to the city or society in general prevents residents from benefitting fully from urban density, among other things because good accessibility is strongly dependent on interaction with urban functions as a whole (Westford, 2010).

One crucial issue is how one views mobility in relation to accessibility and proximity between various functions. By consistently mixing and integrating urban spaces, proximity can be significantly increased (Stähle, 2016). One important aspect of proximity/accessibility is the perceived distance as opposed to the geometric distance measured in metres. The perception of distance is affected by a great many factors: shortcuts and navigable routes, landmarks and signposts, visual and physical barriers and the lack of experiential quality to name but a few (Schylberg, 2008).

Dense, high-rise built environments in central locations can contribute to increased economic activity but also to increased housing prices and segregation (Glaeser, 2011; Bradley, 2009). There is however a risk that an unbalanced prioritisation of market forces may lead to overexploitation in this respect, with a concomitant negative impact on the city as a whole. There are many examples where a policy of pursuing increased density at all costs has overlooked the wider consequences of the measures taken. There are positive examples of densification, for example in the form of vibrant, multifunctional areas with housing that allows people to get on the property ladder and where new cultural centres can be found (Ranhagen, 2017).

Although extensive research has been conducted on the correlation between urban form (including density) and efficient transport, the results have been ambiguous due to the extremely complex and highly context-dependent relationships. It is also difficult to separate the influence of density from other factors such as centrality, configuration and location relative to the city centre.

Social planning of physical structures in the broadest sense is deemed to contribute to reducing the demand for transport and increasing transport efficiency by 10-20% (SOU 2013: 84; Hickman & Banister, 2007). Traditionally, a great deal of importance has been placed in the 5Ds of Urban Development: Density, Diversity, Design, Destination Access and Distance to Transit. Cervero and Kockelman (1997) highlight a further two Ds that also impact on transport demand and efficiency: Demand Management and Demographics, see Figure 3.

At regional and conurbation level, the major breakthrough regarding the significance of density in transport and energy contexts came with a classic study that demonstrated that, as a rule, petrol consumption per capita is significantly lower in densely populated urban areas than in more sparsely populated ones (Newman & Kenworthy 1989, 1996, 1999).

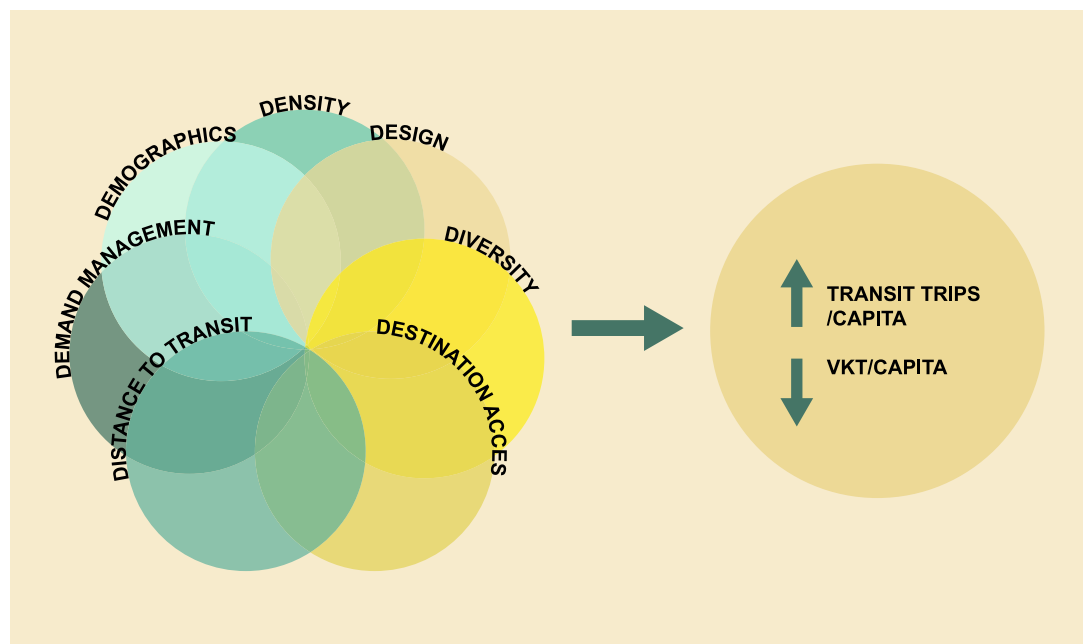


Figure 3. The 5Ds: factors with the greatest impact on travel. Density is often linked to the other factors.

The Newman-Kenworthy thesis has been widely criticised for its failure to weigh factors such as income, car ownership and fuel prices, all of which reduce the significance of density (Naess, 2006). The thesis inspired the Swedish Transport Administration to apply a somewhat simplified methodology to studying the correlation between density and car-related energy use in towns with little commuter traffic, using the selection criteria < 37% commuting, > 10,000 inhabitants and > 80% density; i.e., excluding large cities with a high rate of commuting, see Figure 4. The selection criteria are intended to limit the study to towns with few commuters in order to provide a good link between inhabitants and the fuel being purchased (SOU 2013:84 Part 1 p. 289).

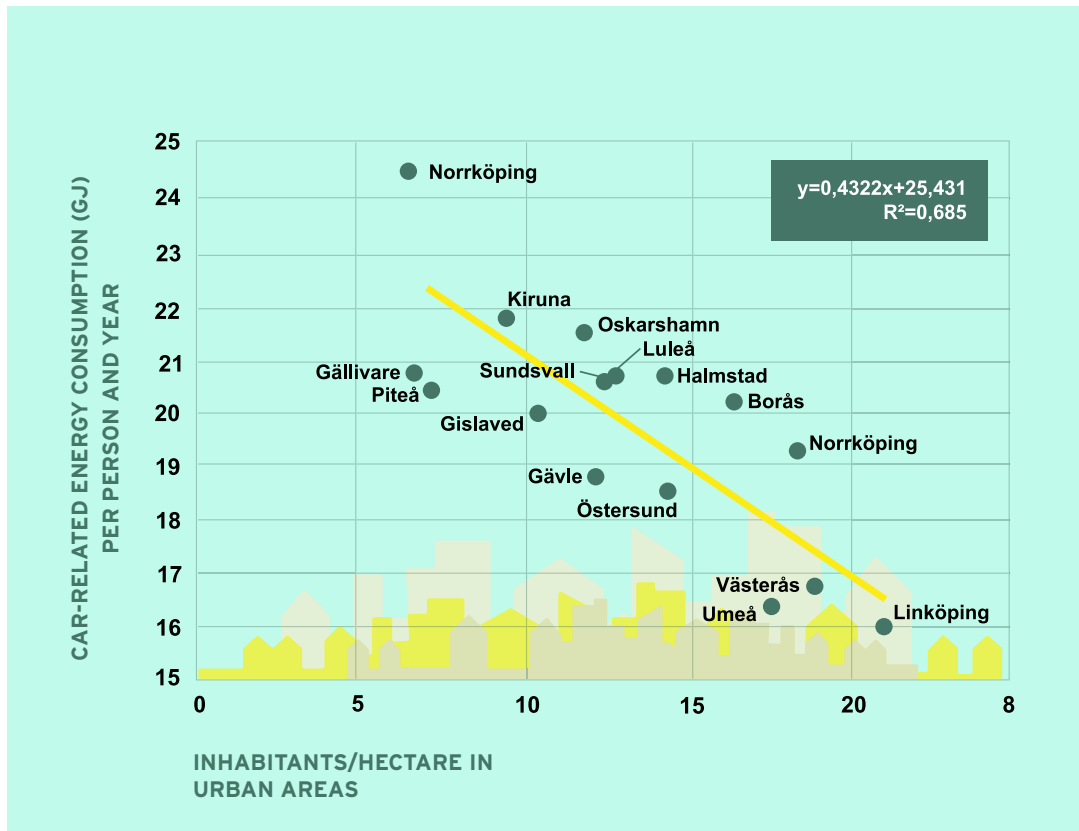


Figure 4. Correlation between density and car-related energy consumption in Swedish towns.

BUILDING DENSELY AROUND STATIONS

The most researched aspect in this context is the significance of spatial and temporal access to stations (Ranhagen, Ekelund, Troglio, 2015). The *principle of proximity to stations* implies that the percentage of pedestrians increases significantly when knowledge-intensive workplaces are located within a five minute walk (approx. 600 metres) of a transport hub (Hartoft-Nielsen, 2003; Schylberg, 2008). A number of other studies conducted in Sweden and internationally also support this correlation. Here there is a clear link to density, given that a consistent application of the principle of proximity to stations leads to the assumption that a fully concentric, dense urban design with a radius of 600 metres around a station should be the ideal for a station community.

Interesting developmental work along these lines has been conducted using Ytterby in Kungälv Municipality as a field study, resulting in a basic model for the distribution of land use around the station hub as well as various possible site coverage ratios at different distances from the station, see Figure 5 (Nordström et.al., 2017). Among other things, the study is based on previously reported density recommendations and studies of land use in a Nordic context (UN Habitat, 2014; Spacescape & Asplan Viak, 2016; City of Gothenburg and GR et.al., 2016, all of which are referenced in Nordström et.al., 2017).

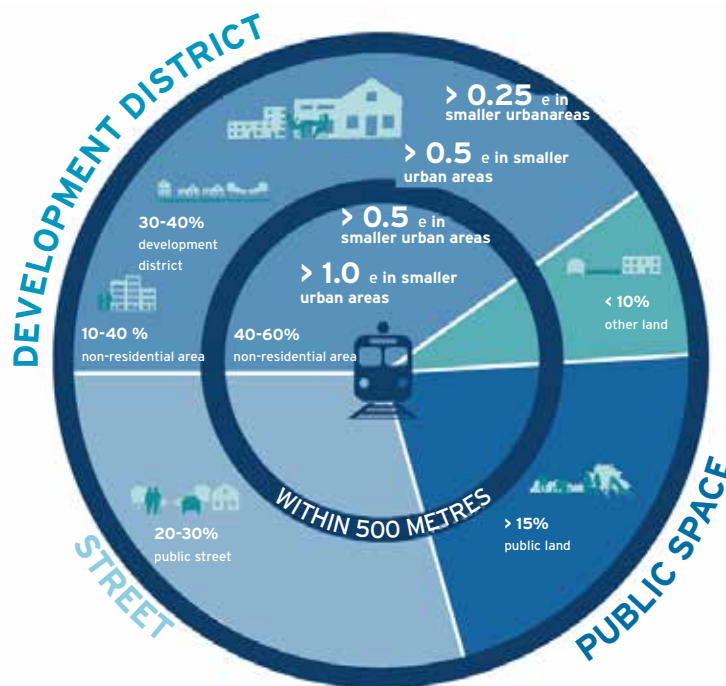


Figure 5. Summary of guidelines for sustainable density in urban station communities (Nordström, 2017)

Although these guidelines are a useful point of departure when planning new and densified built environments around new or existing stations, caution should be exercised when using absolute figures for land use and site coverage ratios. Many local conditions will inevitably come into play, including cultural heritage and the preconditions for connecting traffic. The resulting local situation will often differ from the ideal model for concentrically locating functions around transport hubs and stations. Densification does not always occur in desirable

locations or according to plan. One example of this from Uppsala is examined in the doctoral dissertation *Varför gör vi inte som vi säger?: Realitet, retorik och dialektik i svensk stadsutveckling med fokus på energi och fysiska strukturer* (Why don't we do as we say?: Reality, rhetoric and dialectics in Swedish urban development with the focus on energy and physical structures, Svensson, 2015). This thesis points out the importance of analysing the gap or consistency between the rhetoric of planning and the reality of urban development within one's own region/municipality and what structures and mechanisms may be behind any gap.

Working in co-creative processes with local stakeholders in Borås, Uppsala and Lund, the research project *Klimatsmarta och attraktiva transportnoder* (Climate-smart and attractive transport hubs, Ranhagen, Ekelund, Troglia, 2015) demonstrated the need to link station communities to their wider urban surroundings, specifically at a radius between 1,500 and 3,000 metres. Routes serving large volumes of continuous pedestrian and bicycle traffic and a high frequency of public transport services were identified. Attractively designed streets and public spaces that take into account density and functional mix were highlighted as crucial to both enabling more sustainable travel and creating urban density in the immediate vicinity of the station. Walk-through evaluations and route studies were used as methods for analysing the area in Borås, see Figure 6.

Urban structural plan

Comprehensive description of the urban development strategy.
It is proposed that the city should grow from the inside outwards by concentrating new buildings in the city centre and adjacent districts, as well as along designated corridors. Other areas of the city also offer opportunities for densification and supplementation. Development areas offer especially large potential for urban developments with many homes, workplaces, retail and services.

The divisions shown here are schematic. They are shown in greater detail in the Land and Water Use map.

Urban areas

Central

Other

Built-up area

City centre

Centre-adjacent districts

Development areas (short term)

Development areas (long term)

• District centres

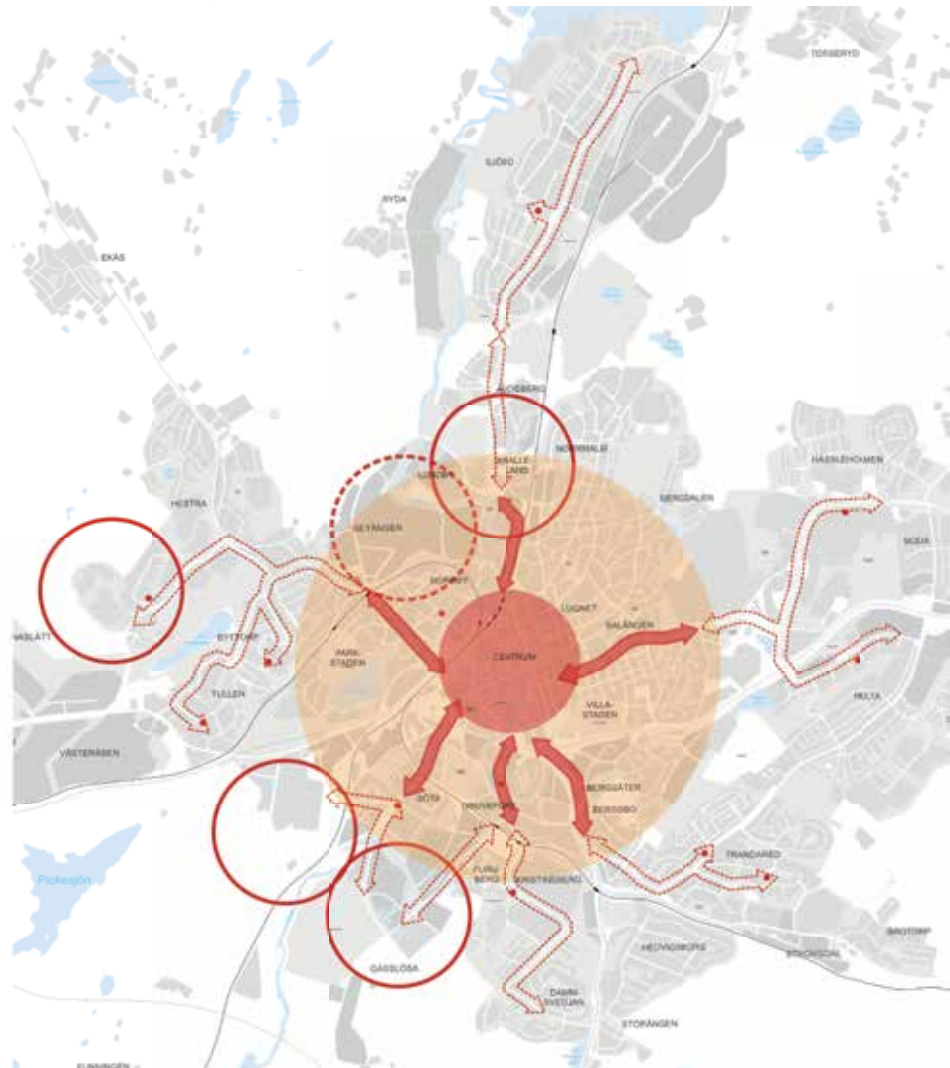


Figure 6. Comprehensive plan of development corridors from the station area and city centre of Borås.

The Netherlands is one place where interesting examples of the consistent application of the principle of proximity to stations can be found in urban and community planning, something that has also led to the far-reaching prioritisation of bicycle traffic as the primary means of transport in interaction with train services, see Figure 7. The town of Houten provides one example of successful concentric densification around two stations. The town has a population of 44.000 living in an urban area of 8.2 km², equivalent to a garden city. Car ownership is approximately 400 vehicles per 1,000 inhabitants and the majority of the built environment is within 1 km of one of the two train stations, with bicycle routes to the stations highly prioritised. Houten boasts a high percentage of sustainable day-to-day journeys, 60-80% of which are taken by bicycle (Foletta & Field, 2011).



Figure 7. An urban station community in a suburb of Utrecht in the Netherlands. Photo: Ulf Ranhagen

2. The Origins and Point of Departure for the Knowledge Process



HOW DID THE KNOWLEDGE PROCESS COME ABOUT AND WHAT WAS ITS POINT OF DEPARTURE?

Background and objectives

The Urban Station Community knowledge process is part of the Mistra Urban Futures international research and knowledge centre, the aim of which is to develop and apply knowledge for sustainable urban development. The overriding ambition of the Urban Station Community knowledge process is to bring improved knowledge and collaborative abilities to bear on meeting the challenges of accelerating global urbanisation and to contribute to addressing the urgent need for better urban environments from ecological, social, economic and spatial perspectives.

An emphasis on utilising a combination of co-production and co-creation is crucial to meeting these challenges, something that has led the process managers to adopt a range of methods and tools for co-creativity and joint reflection on the part of the various stakeholders. Co-creation has taken place between researchers and practitioners, as well as between practitioners undertaking different tasks in areas such as national, municipal and environmental planning. These various combinations of participating stakeholders have been crucial to developing fair, green and accessible communities.

In terms of the Urban Station Community, development takes place in three stages:

- The identification of challenges and key issues to be addressed and monitored through the mobilisation of various resources.
- Joint knowledge development within the framework of various projects.
- Contributing to the implementation of results that in turn contribute to sustainable urban development.

The purpose of the Urban Station Community knowledge process has been to:

- increase knowledge of the complexity of developing communities around stations;
- create the preconditions for the sustainable development of urban station communities based on the watchwords **fair**, **green** and **accessible**;
- improve the knowledge base for achieving the delicate balance required to develop coordinated public transport, stations and local communities;
- revitalise and support regular planning processes in order to build efficient regional transport networks to promote attractive, functionally mixed, reasonably dense and cohesive urban station communities;
- involve affected stakeholders from the public and private sectors and civil society in co-creative processes conducted in close collaboration between practitioners and researchers; and
- initiate, support and follow up research, development and demonstration projects that illuminate and augment different perspectives and approaches to urban station communities.

Taking direction from Mistra Urban Futures and the described purpose, with the help of process management a range of projects and activities were initiated by the participating stakeholders, see Figure 8. This work has largely been conducted in the form of co-creative processes together with cross-border and interdisciplinary collaborations between various public-sector organisations, practitioners and research disciplines. The business community and various civil stakeholders have also participated in a number of activities. The stakeholders who have participated in the overall knowledge process and provided continuity since it began in 2013 are:

- The Gothenburg Region
- Region Västra Götaland
- The County Administrative Board of Västra Götaland
- The Swedish Transport Administration

The number of participating municipalities has been increased over the years and at the end of the project in 2019 Ale, Alingsås, Borås, Gothenburg, Halmstad, Härryda, Kungälv, Partille, Stenungsund, Trollhättan and Varberg were taking part. Some of the motivations behind the Urban Station Community knowledge process have already been described in this document, including links to historical developments and the potential space available to develop communities in close proximity to stations. There is a clear need to further develop knowledge and experience of substantive issues such as urban density, functional mix, travel patterns, transport modes and traffic. Experience gained in the knowledge process shows the need for all of the involved stakeholders to collaborate and co-create in order for these issues to be given due consideration in real-world planning.

The project has come to be designated as a knowledge process due to the emphasis on co-creation between the various stakeholders and the importance of good planning processes.

THE ORIGINS AND MILESTONES OF THE KNOWLEDGE PROCESS

The following section describes the origins of the knowledge process, as well as selected milestones since 2012 when the concept of the project was born and its organisation developed.

2012 **2013** **2014** **2015** **2016** **2017** **2018** **2019**

The idea of the project/knowledge process was first raised in late 2012 in conjunction with a workshop organised by Mistra Urban Futures, the Gothenburg Region and the Swedish Transport Administration on the theme The Urban Station Community: Towards a Resource-efficient Transport System, which was attended by stakeholders from municipalities, regions, public authorities, academia and the business sector. Separate workshops were held with each of the stakeholders in order to clarify the image of the urban station community and the knowledge required. Together with the larger collective workshop attended by all stakeholders, this provided an in-depth description of what knowledge the various parties were in need of.

During the first two years, the following seven focus areas or themes were crystallised, each of which was deemed crucial to developing urban station communities:

- Dialogue and collaboration
- Noise, vibration and risks
- Lifestyle and identity
- The structure and design of a sustainable station community
- Land use and land value
- Flexible, sustainable transport
- The role of the station for a surrounding area

These themes were jointly identified by the project partners and have since been the common thread running through the entire project. All of the themes are interlinked to form an intricate pattern and must therefore be addressed as such in planning processes. In the next section we offer more detailed examples of how the themes have been dealt with in various planning cases.

In the first phase of the knowledge process, a first draft analysis of the gap between the desirable situation and the expected development of urban station communities in the Gothenburg region was performed. Based on this gap analysis, the experiences gained from selected relevant projects and initiatives were studied. The experiences gained from planning urban station communities, as well as other civic arenas and projects, were summarised in a knowledge overview (Dahlstrand, Forsemalm, Palmås et.al., 2013).



Figure 8.
Themes identified in the Urban Station Community knowledge process

2012 **2013** 2014 2015 2016 2017 2018 2019

The overall Urban Station Communities knowledge process was launched on a more formal basis in 2013. The Gothenburg Region, Region Västra Götaland, the Swedish Transport Administration and the County Administrative Board of Västra Götaland decided to finance overall process management and co-financing agreements were signed with participating municipalities.

2012 2013 **2014** 2015 2016 2017 2018 2019

During 2014, process management initiated a range of projects, including Good Sound Environments in Station Communities (*Stage 1*) and The Station's Role in the Development of Smaller Towns and Surrounding Areas. A number of activities were also arranged during the year.

2012 2013 2014 **2015** 2016 2017 2018 2019

One milestone for process management was reached in 2015, when process managers from the Gothenburg Region and Swedish Transport Administration were reinforced with a process manager with a practical research background. The R&D projects Sustainable and Attractive Station Communities and Co-creative Urban Planning for Energy-efficient, Sustainable Station Communities (Stage 1) were initiated.

2012 2013 2014 2015 **2016** 2017 2018 2019

Projects continued to be initiated during 2016 and activities were arranged with municipalities. At the beginning of 2016, the project Sustainable and Attractive Station Communities (Stage 2) received a grant from the Swedish national innovation agency, Vinnova.

2012 2013 2014 2015 2016 **2017** 2018 2019

An intensive period in 2017 was a number of projects start and conclude. *Sustainable and Attractive Station Communities (Stage 2)* was completed, while *Co-creative Urban Planning for Energy-efficient, Sustainable Station Communities (Stage 2)* and *Good Sound Environments in Station Communities (Stage 2)* were launched.

2012 2013 2014 2015 2016 2017 **2018** 2019

In 2018, the knowledge process welcomed two new municipalities as members and further projects received funding. A number of activities were arranged and the Sustainability Toolkit project started. The knowledge process also participated in discussion forums and interviews with students at Challenge Lab at Chalmers University of Technology.

2012 2013 2014 2015 2016 2017 2018 **2019**

During 2019, a major focus has been on tying together and completing a couple of ongoing processes and projects; for example, the conclusion of the Good Sound Environments in Station Communities project, the results of which included a digital tool for experiencing the differences created by various noise measures. A workshop resulted in the publication of a density analysis of central Mölnlycke by Hälaryda Municipality (Svenning & Ranhagen et.al., 2019).

A CORE PROCESS FOR CO-CREATION AS A WORKING METHOD

The primary working method developed within the knowledge process, what we call our *core process*, is co-creation based on municipal needs and interests. The urban planning of station communities linked with one or more of the seven focus areas has always been the focus of our activities. Activities organised by process management have been open to all members of the Urban Station Community knowledge process. In addition to municipal officials, participants have included politicians, regional and national representatives and researchers with specialist expertise, see Figure 9.



Figure 9.
Example of co-creative processes

A THEORETICAL BASIS FOR CO-CREATIVITY

R&D built around the core method of co-creation is dealt with in greater depth in the working paper *Samskapande i det urbana stationsområdet* (Co-creation in the Urban Station Community, Ranhagen, Dahlstrand, Ramstedt, 2017), see Figure 10. This is not a matter of traditional research – which primarily studies and analyses present-day reality and history – but rather an attempt to study future opportunities for development in specific cases. This is achieved by mobilising local, largely tacit knowledge held by stakeholders and combining this with the expertise of researchers regarding methodology, tools and matters of fact. The point of departure is to combine planning theories that emphasise the importance of communicative planning, rational planning and strategic planning. DIAD is a descriptive, normative theory that highlights an approach to good collaborative processes based on the

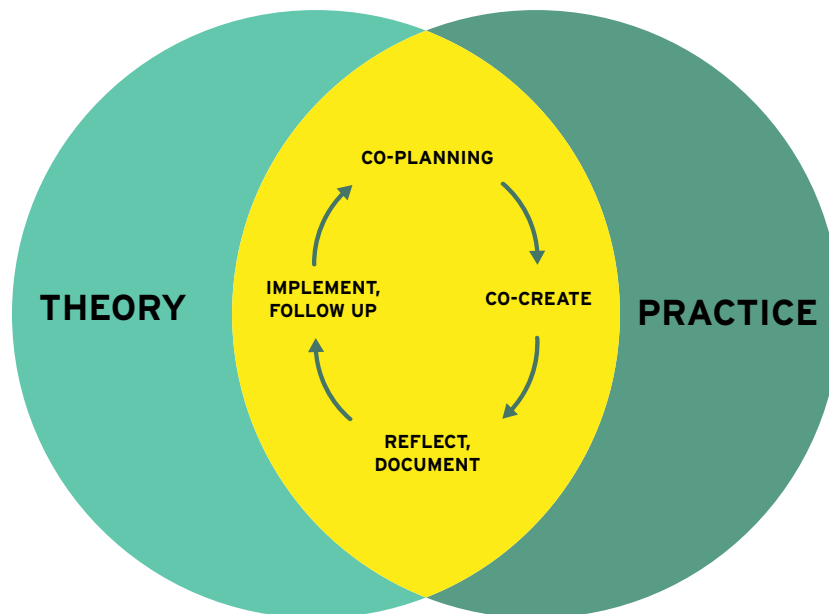


Figure 10.
Illustration of the interplay between theory and practice

three conditions Diversity, Interdependence and Authentic Dialogue ((Innes and Booher, 2010). For the collaborative process (in our case, between practitioners and researchers) to be rational in the sense of “communicative rationality” as defined by Habermas, we take these three conditions as our point of departure:

- **Diverse** stakeholders must be given the opportunity to participate in planning.
- The stakeholders must be **interdependent** to a significant degree.
- The stakeholders must engage in **authentic dialogue** characterised by reciprocity, relationship building, learning and creativity.

A process that fulfils these conditions provides the preconditions for:

- a common sense of identity, solidarity and trust;
- common understanding;
- new ways of gradually accumulating knowledge through independent action and reflection; and innovative solutions and mindsets.

Co-creativity in the Urban Station Community combines and integrates three different but compatible approaches with theoretical legitimacy: *action research*, *design theory* and *research by design*. Action research has been designed so that local planners provide specific local knowledge of the planning issues and cases addressed, while researchers provide data analysis and synthesis tools for those planning cases, ideally leading to a fresh outlook and alternative solutions to those arrived at using standard procedures. Design theory supports a working method characterised by reflection-in-action and reflection-on-action (Schön, 1991). Creative processes are reinforced through interaction between action and reflection. Research by design largely relies on the knowledge generated by the design process, rather

than any design object or process in itself. Applying this mindset to developing urban station communities implies that the processes will be experimental and examining in nature, rather than being directly linked to the formal process and its regulations and procedures. Participants have the opportunity for broader contemplation and to try new analytical methods to examine existing locations and routes, as well as to study and evaluate various alternative future development possibilities for the station community. This will not only generate solutions applicable to the practical planning situation but also knowledge, approaches, methods and tools that may be generally useful to participating practitioners.

Governance theory has proposed a division of processes into forums, arenas and courts (Healy, 1997; Bryson, 2004; Fredriksson, 2011). Formal planning processes can be designated as *courts*. More informal planning involving a broad group of stakeholders, including from civil society and the private sector, can be designated as *forums*. Creative collaborations and development work conducted among stakeholders, primarily officials from various administrations, can be designated as *arenas*. In the Urban Station Community knowledge process, the emphasis has been on experimental analysis and planning that facilitates the study of diverse methods and tools to develop and evaluate a broad spectrum of future solutions – processes that can be assigned to forums and arenas. These activities can serve to support the formal planning work conducted by municipalities in courts. In this way, the leeway enjoyed by participants in terms of perspective and approach has been increased and the process has come to be viewed as some form of planning laboratory, which we have taken to describing as an “urban living lab” (Marvin, 2018).

3. The Organisation and Implementation of the Knowledge Process



ORGANISATION AND IMPLEMENTATION OF THE WORK

Previous chapters have described the point of departure for the Urban Station Community knowledge process, highlighting the core process as a central working method. The organisation and activities of this core process are based on a responsive, needs-oriented perspective on the challenges facing municipalities. Figure 11 shows the six municipalities that have provided planning cases during 2017, 2018 and 2019. Figure 12 extends this to show which themes have been addressed in each planning case. On each occasion, all of the municipalities in the network have been offered the opportunity to participate, as well as regional and national stakeholders.

This network-based approach has allowed each planning case to be illuminated from many more perspectives than would otherwise be possible in a traditional planning process; in other words, each planning case has been the subject of input from many more stakeholders than normal, at a far earlier stage and through a creative process. Further conclusions regarding this approach can be found at the end of this report.

Municipality	Case
Borås	Urban corridors in comprehensive planning
Härryda	Densification of central Mölnlycke
Kungälv	Development of Ytterby with the SMART-MR project
Partille	Working in conjunction with the Målbild Koll2035 public transport programme
Varberg	New station development in Väröbacka/Limabacka
Halmstad	Development of a detailed comprehensive plan for Norra Halmstad

Figure 11.

The six municipalities that offered planning cases during 2017, 2018 and 2019.

During the early years of the project, seminars were arranged around the themes and collaborations in the process, without any direct link to specific planning cases. The experience gained during the years 2012, 2013 and 2014 were mainly established and applied during the years 2015 and 2016. The process up to and including 2016 is documented in the working paper *Samskapande i det urbana stationssamhället* (Co-creation in the Urban Station Community, Ranhagen, Dahlstrand, Ramstedt, 2017).

	Borås	Härryda	Kungälv	Partille	Varberg	Halmstad
Dialogue/ collaboration	●	●	●	●	●	●
Noise and vibration			●			
Lifestyle and identity		●	●		●	
Structure and design	●	●	●	●		●
Land use and land value		●				
Flexible transport	●					
The role of the station for a surrounding area					●	●

Figure 12.
The themes in focus for each planning case.

Members of the municipal network established during the Urban Station Community knowledge process have consistently raised ideas about how these communities can be developed, ideas that the process can develop further. The knowledge process is built on the engagement of the participants and the challenges they face.

The knowledge process offers proximity to other practitioners and researchers, meaning that challenges have often been addressed in greater depth in other research projects. Generally speaking, the planning cases have been linked to the municipalities' comprehensive plans (programmes or planned use) rather than detailed development plans and have often been at a very early stage of planning or in pre-planning discussion. Our focus has been on experimental planning linked to forums and arenas, rather than purely formal issues linked to the municipalities' undertakings pursuant to the Swedish Planning and Building Act (see theoretical basis).

Analyses and proposals that push the boundaries of what might be deemed realistic and feasible can be tested in a situation that can be likened to an "urban living lab" (Marvin, 2018). This provides the opportunity to investigate alternative solutions without the pressure to deliver proposals and solutions that often only meet short-term needs and desires. Ultimately, this has not prevented some of the results being put to practical use in the formal, statutory process (see further results and conclusions).

THE TREATMENT OF THEMES AS CO-CREATION WITHIN THE KNOWLEDGE PROCESS

As complex, integrated wholes, planning cases touch on many procedural and substantive issues in parallel and interactively. As illustrated in Figure 12, even if workshops have mainly focused on one or two areas, they have all examined multiple themes. Other issues that cannot be classified under one of our seven themes have also come up for discussion. The planning-related themes described below have been introduced in previous chapters. As the Urban Station Community knowledge process has progressed, projects have been initiated within its framework linked to the themes. The following is only a selection of those projects and it does not present an overall image.

THEME 1

Dialogue and collaboration

Dialogue and collaboration has been a common thread running through the knowledge process. Given that work has been based on co-creativity, dialogue and collaboration play a central role in linking the issues that have been addressed. A broad group of municipal stakeholders have participated in the form of representatives from urban planning at various levels, as well as various administrations such as traffic, environment, energy, commerce, social services, etc. Invitations have also been issued to representatives of regional stakeholders such as county administrative boards, the Swedish Transport Administration and regional and municipal associations.

The primary focus of the Urban Station Community knowledge process has been on reinforcing cross-sectoral public-sector collaboration. On occasion, dialogue and collaboration has even been expanded to include other stakeholders, including representatives of civil society and politicians. In Halmstad Municipality, the methods used in the process have inspired further dialogue with the Urban Planning Committee.

During all workshops, methods and tools have been tested for the dual purposes of i) highlighting substantive issues relating to the planning case and ii) strengthening collaboration, co-creativity and problem solving.

THEME 2

Noise, vibration and risks

Noise, vibration and risks are problems commonly experienced as the result of increased passenger and freight traffic and exacerbated by the inability to address noise at source and at the different stages of expansion. These issues have been raised at a general level in several workshops but more specifically in Ytterby, which has provided one of the field studies for the RISE research project Good Sound Environments in Station Communities. Within the framework of this project, our knowledge process has supported project management with co-creative methods to develop the resulting digital toolbox.

THEME 3

Lifestyle and identity

Although a somewhat intangible theme, to a degree lifestyle and identity deals with the prejudice that, even in smaller towns or villages, station communities must strive after urban lifestyles. The term *rurban* has become useful in the process to symbolise the creation of a unique local identity that may contain elements of both rural and urban life. The use of the word *urban* in the title of the overall knowledge process also reflects the complexity of that word's meaning and the need to adapt it to diverse locations and local identities. The theme has been especially highlighted in small and medium-sized towns and newbuild communities in need of identifying ways to attract new residents and business enterprises. In planning to reinforce the positions of Ytterby and Mölnlycke as existing station communities in Kungälv and Härryda respectively, one important question has been how densifying existing communities affects local identity. In Varberg and Halmstad, interest has to a greater extent been focused on building entirely new station communities outside town centres, in areas that at the outset had limited built environments. Here, the creation of a specific local identity presents more of a challenge when developing an urban station community. In working with Varberg Municipality, a number of new station locations were discussed affecting two districts, Väröbacka och Limabacka, something that developed into a major theme for the process. The issue of preserving, developing and merging communities with strong local identities poses additional questions for this work going forward.

THEME 4

Structure and design of a sustainable society

Theme 4, the structure and design of a sustainable society, deals with holistic urban spatial development around the station as an important hub; for example, the balance between built and unbuilt (green spaces, ecosystem services), creating density while giving consideration to existing natural and cultural heritage, functional mix and whether to build concentrically or in urban corridors leading to and from the station.

This theme is just as universal as dialogue and collaboration as one of the principal issues addressed in the knowledge process is how urban design can strengthen sustainable mobility. The theme addresses issues such as how to achieve a balance between density in the built environment and green spaces and mixed functional use. It also deals with how urban corridors and public spaces can strengthen local and regional public transport, cycling and pedestrian access, including the 'last mile problem'; the challenge of identifying effective local solutions for bridging the final part of a journey. In cases such as Varberg and Halmstad largely concerned with planning new communities, the process has had greater opportunities to optimise urban structure based on the proximity to station principle and transit-oriented development (TOD) (Stojanovski, 2019). In existing station communities such as those in Kungälv, Partille and Härryda, the restrictions are inbuilt – for example, cemeteries, listed buildings, etc. – necessitating a holistic view of the interaction between old and new.

THEME 5

Land use and land value

Land use and land value deals with how we can describe and measure land use with the aid of the site coverage ratio, land-use mix index for the ratio of workplaces to homes and other key ratios. It also looks at how land use is regulated in the Swedish Planning and Building Act and property legislation. Among other factors, land value is based on location and how this affects property values. The possibility to levy land tax to ensure that developers contribute to the public good – for example, in the form of public spaces – is an important issue for the future.

The theme has been illuminated in conjunction with structure and design but not the economic calculation of property values; for example, in the analysis prepared for Mölnlycke to assess how the urban station community can be densified in an appropriate manner (Svenning, Ranhagen, et.al., 2019).

THEME 6

Flexible, sustainable transport

Flexible, sustainable transport deals with creating mobility solutions that facilitate efficient transfer between trains and local transport modes such as buses, bicycles, walking and, in future, self-driving and ideally shared vehicles. Here too the last mile problem plays a part, as it is often difficult to lay the foundations for frequent transfers from stations to workplaces and homes, especially in smaller towns.

This theme has largely been highlighted in different structural and land-use alternatives that provide various conditions for developing cohesive routes for public transport, cyclists and pedestrians. The most obvious example of this is contained in the Borås Comprehensive Plan in the form of an analysis and proposed improvements to the quality and continuity of urban corridors – even beyond the immediate station area.

THEME 7

The role of the station for the surrounding area

The role of the station for its surrounding area goes well beyond the immediate area and walking distance to include the creation of regional and sub-regional connections using on-demand, coordinated transport solutions running on optimised routes. Although this is strongly linked to Theme 6, it also deals with how the station can act as an engine for growth-generating business development in small and medium-sized towns and even in entirely rural areas.

Although in one way or another this theme has been touched upon in all workshops, it was especially relevant to Varberg and Halmstad, where the development of the built environment needs to be viewed from a sub-regional perspective of many villages and rural areas that need to be linked to provide efficient connections to new planned stations on the West Coast Line. The station and its surrounding area are mutually dependent, the whole reflecting the potential for development.

THE USE OF TOOLS FOR DATA ANALYSIS AND SYNTHESIS IN THE KNOWLEDGE PROCESS

One important element of the knowledge process has been the processing of municipal planning issues related to the renewal and expansion of urban station communities through co-creation between practitioners and researchers using a range of planning tools. The emphasis has always been on addressing current, relevant planning cases and the municipalities' need for support in their own processes. The use of the toolbox has been closely linked to the various stages of municipal planning processes and the various steps in a basic working method developed in previous practice-led research projects such as SAMS, Sustainable Regions and Sustainable Municipalities, Symbio City and Climate-smart and Attractive Transport Hubs (Ranhagen, Ekelund, Troglio, 2015; Ranhagen, 2008; Ranhagen, 2011; Ranhagen & Groth, 2012)

A rough division allows us to differentiate between analysis and synthesis tools (see Figure 13). Figure 14 shows which tools have been used in each workshop, demonstrating that tools are often combined to highlight certain themes in each planning case. The tools have also been combined and used in other stages that might not be considered their 'natural habitat'; for example, it is quite possible to use a SWOT analysis to obtain a general overview of future scenarios or a density puzzle as part of a site analysis.

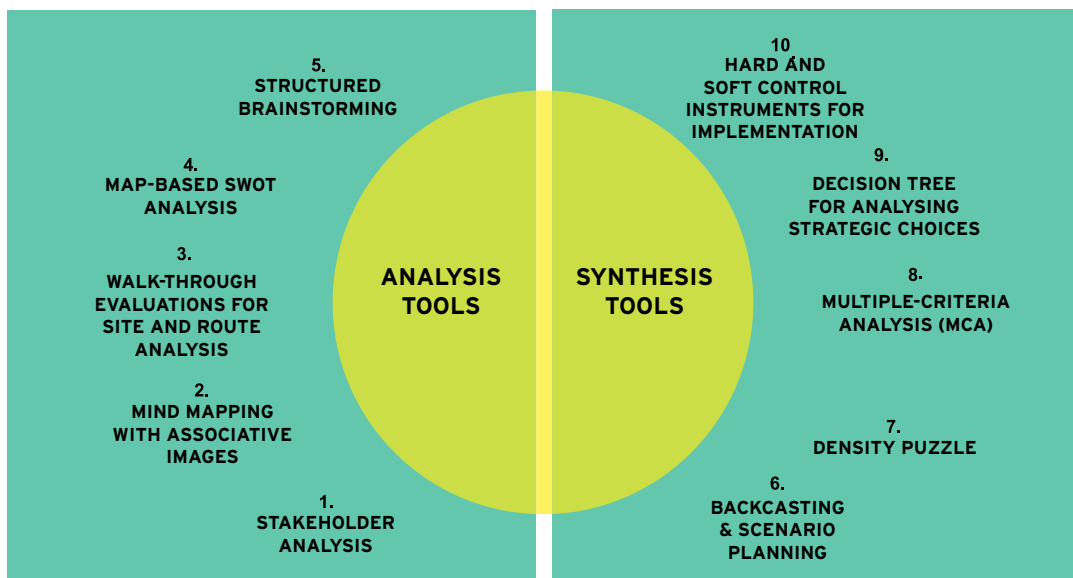


Figure 13.
Illustration of analysis and synthesis tools.

As shown in Figure 15, the tools have also been used to process the chosen themes as described above. This figure exemplifies use but does not provide a comprehensive image of the tools' application or any time axis.

For a more complete description of the tools used and how they are anchored in theory, please refer to the abovementioned research projects or the Mistra Urban Futures website and reports.

Thus far, the stakeholder analysis, decision tree and control chart tools have not been used actively in the process; however, there is potential for their future use, particularly in those planning cases approaching a practical application of proposed solutions.

	Borås	Härryda	Kungälv	Partille	Varberg	Halmstad	
ANALYSIS TOOLS	Stakeholder analysis						
	Mind mapping		●		●	●	
	Walk-through evaluations	●	●	●	●	●	
	Map-based SWOT analysis	●	●	●	●	●	
	Structured brainstorming				●	●	●
SYNTHESIS TOOLS							
	Backcasting with scenario planning	●	●		●	●	
	Density puzzle		●		●	●	
	Multiple-criteria analysis (MCA)	●	●		●	●	●
	Decision tree for strategic choices						
Soft and hard control instruments				●			

Figure 14.
Table showing which tools were used in the various municipal workshops, 2017-2019.

	Dialogue and collaboration	Noise and vibration	Lifestyle and identity	Structure and design	Land use and land value	Flexible, sustainable transport	The role of the station for a surrounding area
ANALYSIS TOOLS	Stakeholder analysis	●					
	Mind mapping	●		●			
	Walk-through evaluations	●	●	●			●
	Map-based SWOT analysis	●		●			
	Structured brainstorming	●					●
SYNTHESIS TOOLS	Backcasting with scenario planning	●			●	●	●
	Density puzzle	●		●	●	●	
	Multiple-criteria analysis (MCA)	●		●	●		●
	Decision tree for strategic choices	●					
	Soft and hard control instruments	●					

Figure 15. Table showing which themes were illuminated using various combinations of tools.

Analysis tools

To a large extent, the analysis tools used in the Urban Station Community knowledge process have been experiential. These analysis tools often create the conditions for participants to impart tacit knowledge by documenting their subjective impressions and reflections. Thanks to these individual impressions, we not only uncover tacit knowledge but also stimulate the participants' creativity and flow of ideas. The experiential tools cannot replace more quantitative analyses but should be considered as an important complement that offers a broader view in the final analysis.

The following analysis tools are presented below:

- Mind mapping
- Walk-through evaluations including route analysis
- Map-based SWOT analysis
- Structured brainstorming

The tools mind mapping, walk-through evaluation/route analysis and card-based SWOT analysis have been combined to support site analysis for both existing and planned urban station communities. In December 2017, a field study of Ytterby Station in Kungälv was organised through the project SMART-MR, during which urban planners from 10 European countries joined Swedish colleagues in groups of six to eight people on a circuit with predesignated observation points. During this walk-through evaluation, groups or individuals noted various qualities of the location, with strengths, weaknesses and potential uses providing useful starting points for further discussion. In many cases the participants also marked points on a map whenever ideas and discussions arose spontaneously during the walk-through, see Figure 16.



Figure 16.

Walk-through evaluation in Ytterby, December 2017.

The international planners found a great deal to reflect on regarding the need and possibilities for better utilising nonproductive land for building, as well as smaller park areas close to the station, thereby reducing the risk of having to build on valuable local farmland. The groups gathered later to compile their observations, reflections and proposals on maps with the aid of a map-based SWOT analysis, see Figure 17. A summary of the results could then be used as one of the bases for ongoing planning of the station community. This proved to be a valuable supplement to a density study commissioned by the Gothenburg Region (Nordström et.al., 2017), also within the framework of SMART-MR.

Kungälv Municipality has participated in many research projects and is exemplary in how it has been able to carry on the work in formal planning processes. At the time of writing (December 2019), the proposed detailed comprehensive plan for Ytterby has been out for consultation, providing a fine example of how research results can be incorporated into such plans.

A similar combination of tools was used to analyse urban corridors in conjunction with



Figure 17.
Working on a map-based SWOT analysis in Ytterby, December 2017.

comprehensive planning in Borås. A previous R&D project (Ranhagen, Ekelund, Troglia, 2015) conducted in collaboration with Borås Municipality among others defined the urban corridors extending from the existing station that need to be strengthened beyond a distance of 500-600 metres. These corridors were then included in the Comprehensive Plan for Borås and analysed in a workshop in Borås in Mat 2017. Similarly to the Ytterby field study, groups were tasked with conducting walk-through evaluations of the areas in question to observe and

document flaws and qualities. The groups then gathered at the Swedish School of Textiles in Borås to compile their evaluations with the aid of a map-based SWOT analysis, see Figure 18. The analysis was also used as the basis for developing and evaluating route scenarios, see synthesis tools and Figure 25.

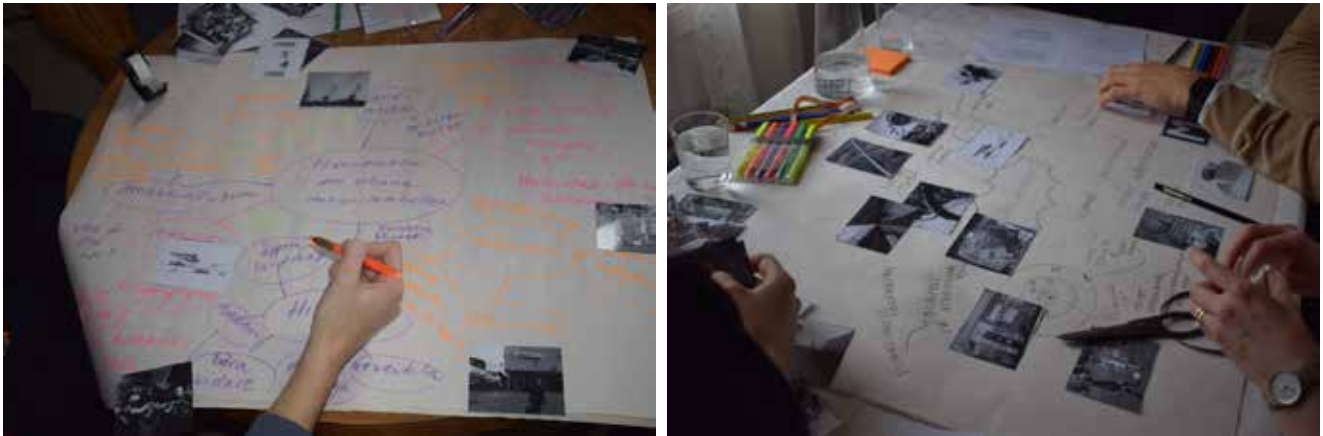


Figure 18.
Working on a map-based SWOT analysis in Borås, May 2017.

In Härryda, a site analysis was performed with the aid of a walk-through evaluation and map-based SWOT analysis linked to the density analysis of central Mölnlycke around the station. As the area involved is fairly limited, this largely involved intensive discussions along the entire route, hence the term *walkshop*.

These analytical methods were also used prior to planning the new urban station communities in Varberg (Väröbacka and Limabacka) and Halmstad (Norra Halmstad) to study existing partially developed and undeveloped areas. This was intended to create an appreciation for conservation values and opportunities to thoughtfully integrate existing buildings and valuable natural surroundings into future urban densification. Here, an additional tool was also used to allow working groups and the various participating stakeholders to settle on what they considered to constitute an attractive place with a strong local identity: a set of 30-50 associative images of various kinds featuring a widely diverse range of motifs representing urban environments prepared prior to the workshops. Each participant was asked to pick between three and five images that represented qualities they considered to be desirable in the new or expanded station community. They were also asked to pick between three and five images representing flaws and undesirable characteristics of a future urban station community, see Figures 19 and 20. The result of this analysis was then used as an inspiration

and point of departure for walk-through evaluations and subsequent map-based SWOT analysis. There is a significant difference between conducting walk-through evaluations prior to developing a new station community and analysing an existing environment prior to densifying an existing station community. In Varberg and Halmstad, the exact locations for the planned expansions had not yet been decided – the task at hand was to assess existing environments before entering into discussions regarding possible demarcations and expansions of the communities. This also encompassed discussions regarding how existing buildings, green spaces and infrastructure



Figures 19 and 20.

Working with associative images for a site analysis of Väröbacka, March 2018.

should be integrated with relatively extensive developments of homes and workplaces. In Väröbacka/Limabacka, two alternative routes were proposed based on the existing agricultural environment. In the case of Norra Halmstad, planning was based on a view of the new station as a hub/location to reinforce regional and local accessibility to a number of smaller urban areas and towns. In order to facilitate an analysis during a one-day workshop, we arranged what might be termed a *bus-through evaluation*, with all participants touring the urban areas and towns in question by bus, disembarking in selected locations to walk in groups to observe flaws and qualities both in terms of the locations themselves and the opportunities to strengthen links between the towns and the proposed station locations. One detail worth mentioning is that, due to time constraints, it was not possible to conduct the exercise on local identity carried out for Väröbacka/Limabacka in Norra Halmstad, as the larger planning area required a more time-consuming bus-through evaluation. The exercise was however enriched by many discussions regarding the local identities of the various locations.

One analytical tool that is widely applicable to defining key issues in conjunction with planning urban station communities is structured brainstorming. In brief, key issues can be described as those important questions that can be answered by subsequent work on scenarios, future scenarios and solutions, see also synthesis tools below.

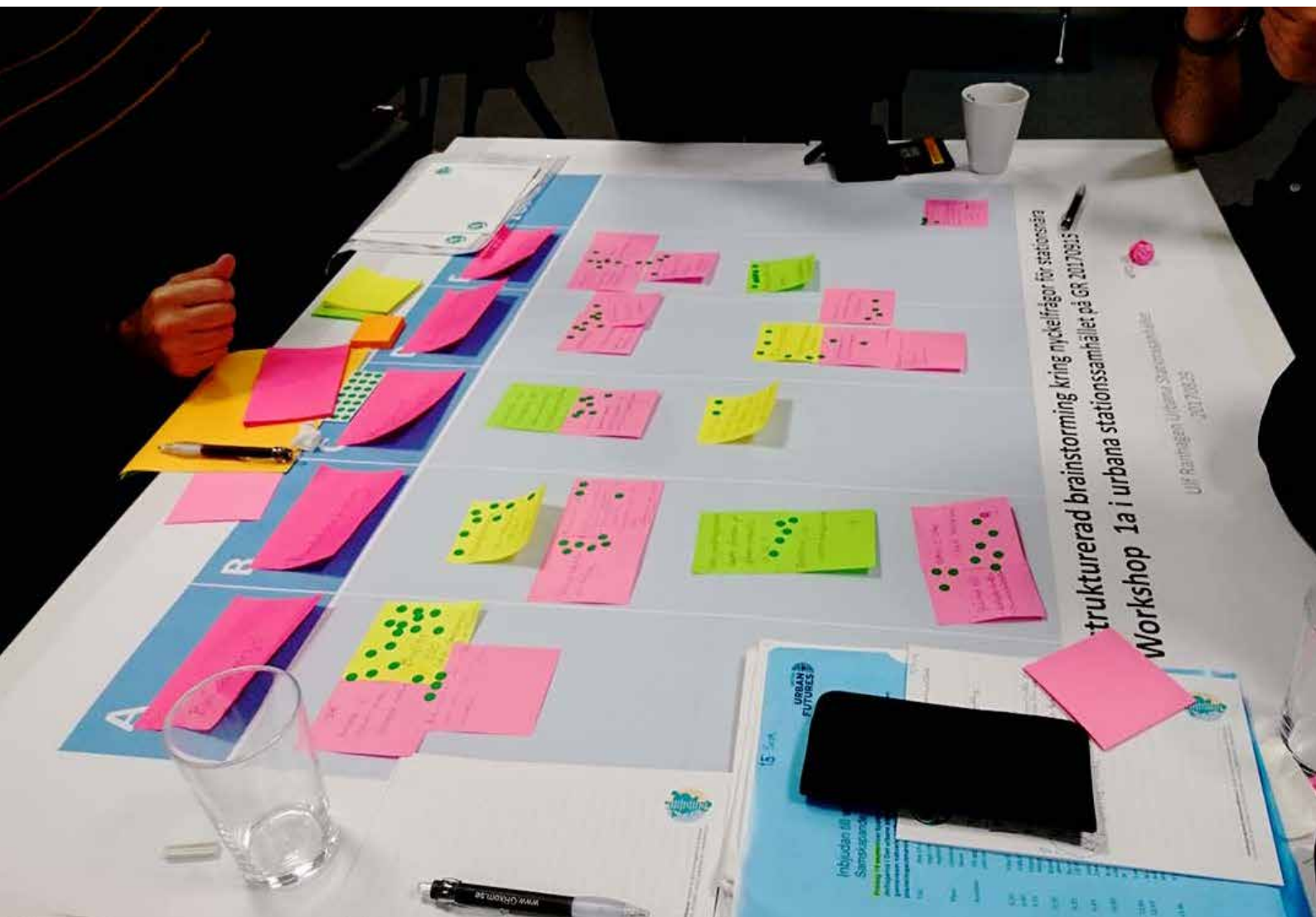
This tool was used in the Sustainable Municipality project and was further developed in the EU projects SPECIAL, in which Kungälv Municipality participated (Lundström, Engström, Rånghagen, 2016). This can be seen as an intermediate link between business and site analysis, with the emphasis on current conditions and preliminary ideas for change and working with more general scenarios, future scenarios to attempt to identify possible holistic solutions.

Workshops were conducted linked to planning processes in Partille, Varberg and Halmstad, which generally speaking worked with the following elements:

- Participants individually identify key issues and write them on post-it notes.
- Proposed key issues are presented to the group, clustered or themed
- Issues are individually prioritised using a points system then regrouped according to priority.
- Finally, a Top Five list of the most important key issues is compiled.

At a network meeting with several participating municipalities held in September 2017, challenges encountered in Partille while working on Målbild koll2035 and the municipality's *close* concept (close to each other, close to the city, close to everyday life, close to culture, close to nature, close to business) were taken as the starting point for structured brainstorming in four groups, see Figure 21. Responses from all four groups were then compiled for further work. At workshops held in Varberg and Halmstad in March 2018 and February 2019 respectively, structured brainstorming was used to formulate key issues for the future based on the site analyses described briefly above. As both of these planning cases have strong regional and municipal links, it was decided to work in groups in parallel on key issues at regional, municipal and local level.

Figure 21.
Structured brainstorming in Partille.



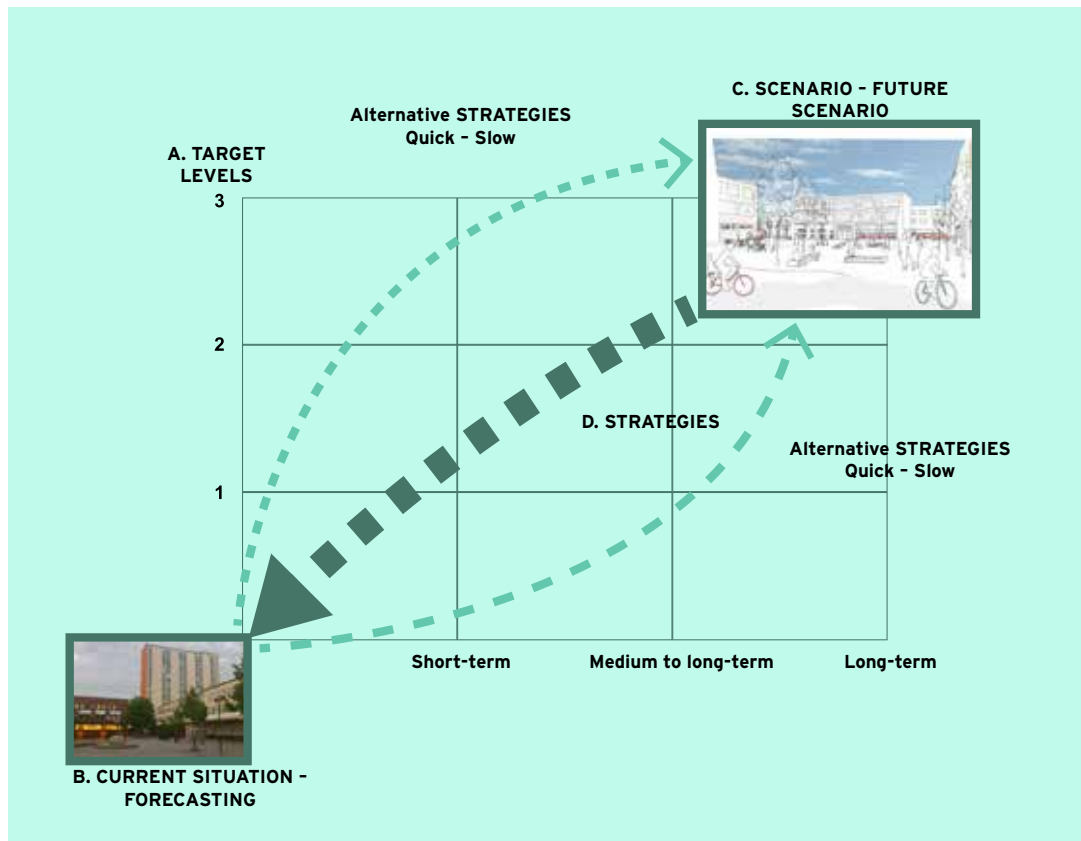


Figure 22.
The principle behind backcasting methodology

Synthesis tools

A combination of analysis and synthesis tools have been used during the Urban Station Community knowledge process. Synthesis tools are used to develop scenarios and future scenarios based on a broad spectrum of ideas. This group also includes tools for evaluating the various scenarios in as much as they have been used in direct conjunction with scenario tools. The development and evaluation of scenarios and future scenarios has been an interactive process; i.e., in close interaction during workshops. No exhaustive consequence analyses have been performed at workshops; rather, the focus has been on comparing various alternatives as a basis for prioritisation.

The following synthesis tools are presented below:

- Backcasting in combination with scenario planning
- Scenario matrices
- Multi-criteria analysis including robustness analysis
- Effect profiles
- Density puzzles

The ability to work with future scenarios in a structured, creative manner is one of the key issues in urban planning, which has long been dominated by a prognostic mindset. We have committed to identifying a pedagogical and achievable method for municipalities to work with backcasting in combination with scenario planning.

As illustrated in Figures 22 and 23, we begin by examining diametrically opposed alternatives using scenario matrices to highlight a wide range of development opportunities. In a scenario matrix, one axis may represent a spatial dimension (e.g. few nuclei vs. several nuclei) while another represents a mobility dimension (e.g. focus on cycling vs. focus on public transport). Four policy scenarios can be identified by combining the four poles of the

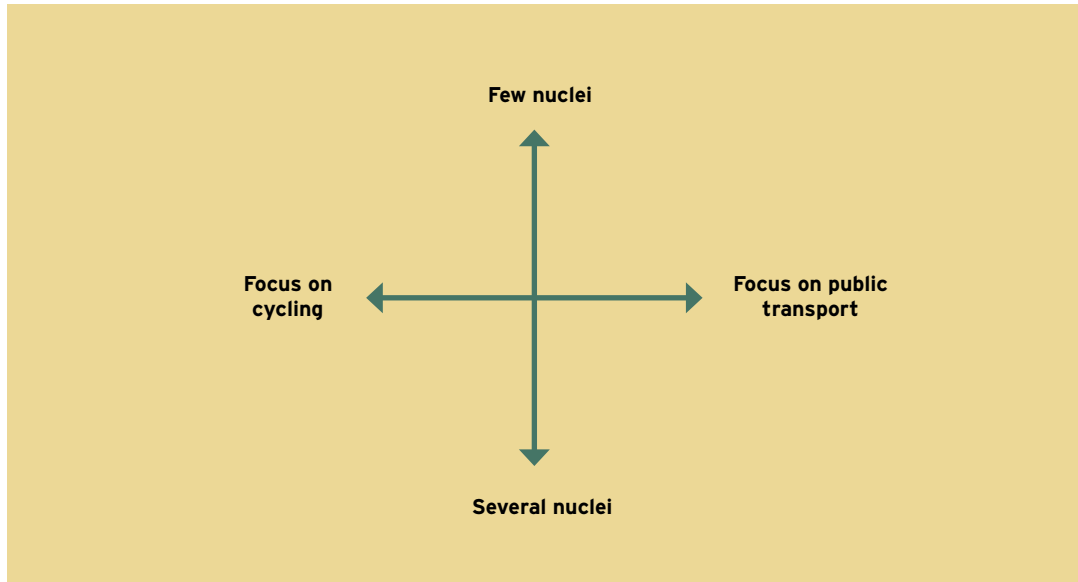


Figure 23.
Example scenario matrix as a tool

matrix. It is important to avoid extremes that might be perceived as a positive choice versus a negative one as the scenarios will be evaluated at a later stage. The alternatives have been evaluated either based on the key issues and objectives developed using tools such as structured brainstorming (see Figure 24 and previous sections) or on municipal policy decisions and objectives. Evaluation has primarily been performed using multiple-criteria

Figure 24▶
Structured brainstorming in Väröbacka

Figure 25.▼
Evaluation of scenarios using MCA in Borås, May 2017



analysis (MCA), with selected objectives and key issues weighted and used to rank scenarios or future scenarios, see Figure 25. Rankings and weightings are then multiplied to provide a balanced image of the evaluation. One important element is to test various weighting profiles to see how they alter the balanced image. Once different weighting profiles have been applied, the evaluation is tested in a robustness analysis. If an alternative retains its ranking after testing, it can be considered to be *robust*. A simpler tool that can also be used is effect profiling, in which the alternatives are ranked without weighting objectives or key issues.

Density puzzles are an important tool used in one of the research projects associated with the knowledge process, Co-creative Urban Planning (SamSam). In brief, the tool involves preparing a number of puzzle pieces equivalent to a given number of people living and working in the urban area based on seven or eight building typographies, see Figure 26. This allows participants to see the spatial consequences of, for example, choosing densely populated urban neighbourhoods or sparsely built-up residential suburbs or many other possible combinations of typologies, such as garden cities and medium density neighbourhoods. A more detailed description of

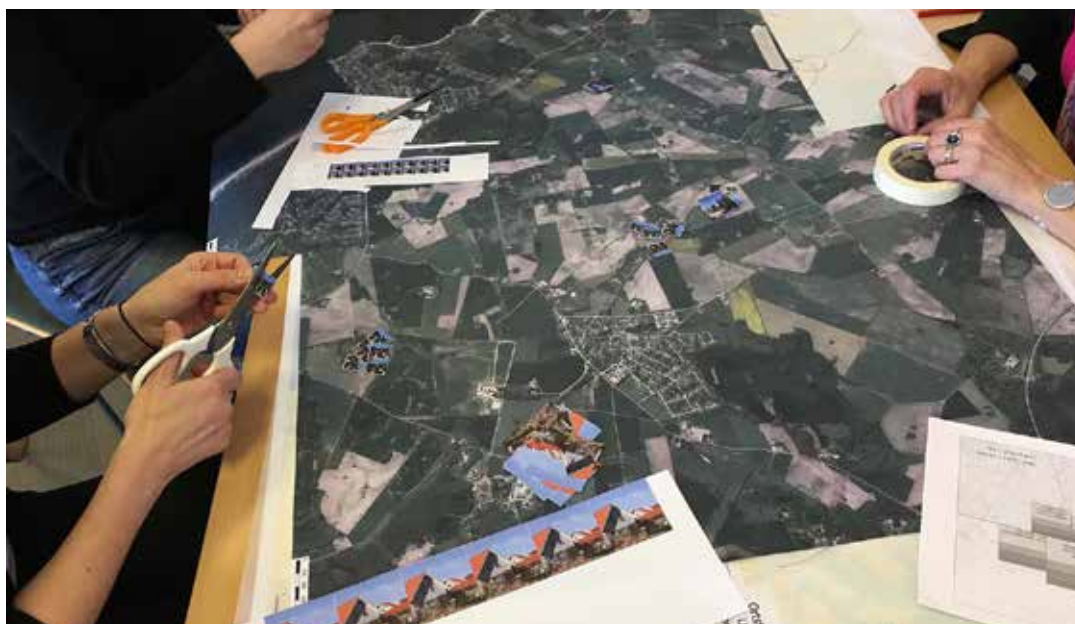


Figure 26.
Density puzzle of Norra Halmstad

this tool and its applications will be included in the final report of the SamSam project in 2020. With the aid of walk-through evaluations and map-based SWOT analysis, the tool was used in Borås as the basis for working with scenarios for the five urban corridors identified in the ongoing Climate-smart and Attractive Transport Hubs project. As the groups themselves were able to choose axes for scenario matrices, a great many variants were selected based on the prevailing issues in each corridor; for example, motorised and rapid vs. human and slow/corridors vs. hubs or focus on walking vs. focus on cycling/dense urban area vs. lots of parks.

These scenarios were evaluated using an MCA based on six criteria from the earlier research project plus one optional criterion. Finally, the prioritised alternative was sketched out and then all selected alternatives were combined on the floor, leading to discussions regarding the possibility of creating a holistic approach based on the corridors concept, see Figure 27.

In the case of central Mölnlycke, scenarios were developed and evaluated in a co-creative process as part of the density analysis prepared in comprehensive planning that also included an urban planning study (Svenning, Ranhagen, et.al., 2019). As described in more detail earlier in the report, scenario planning was preceded by the use of the density puzzle tool, combining various building typologies to provide an image of what was generally considered to be a feasible and appropriate density structure, see Figure 28. This density puzzle were subsequently supplemented by a walk-through evaluation, leading to a more nuanced image of the group's view on the potential for densification than the theoretical image obtained from the density puzzle.



Figure 27.
Interwoven scenarios in Borås, May 2017



Figure 28.
Working on a density puzzle in Härryda, 2018.

In scenario planning developed using scenario matrices, all groups used the axes: building evenly distributed throughout the town centre vs. building in proximity to the station and high densification vs. medium-high densification. Evaluation criteria consisted of the four adopted policy strategies supplemented by general aspects such as risks (including climate change), financing, resource efficiency and local identity. In short, the density analysis corroborates the conclusion of the municipality's urban planning study regarding the need to increase density significantly in order to achieve a vibrant urban town centre. The analysis demonstrates that there is significant potential for densification in the core of the town centre, as well as in the more outlying central areas and in corridors extending further out from the centre.

Scenario work in Väröbacka and Limabacka in Varberg Municipality and in Norra Halmstad linked to the development of new urban station communities was preceded by walk-through evaluations and map-based SWOT analyses in accordance with the two variants described above, see Figure 29.

Although this scenario work followed a similar approach, the scale of Norra Halmstad required a more general focus on a larger geographical area than in Väröbacka/Limabacka. In developing Väröbacka/Limabacka during 2018, it was decided to combine the scenario axis few nuclei vs. several nuclei as a common denominator in three scenario matrices in which the other axes were: max. rural land use vs. max. urban land use; dormitory town vs. functional mix; and max. private vehicles/max. shared vehicles. In Väröbacka, two groups highlighted a northern location for the station and two a south-central location, although both still discussed the link to Limabacka.

A multiple-criteria analysis based on five adopted policy objectives failed to provide an entirely unambiguous result, pointing towards a main priority of both a more gathered/few nuclei and a several nuclei solution. The groups were asked to complete a density puzzle for the most



Figure 29.
Working on scenarios for Väröbacka/Limabacka

highly prioritised scenarios, comprising of 28 pieces depicting seven building typologies, each equivalent to 100 apartments. This resulted in a rich mix of different typologies with differing degrees of development around the station areas and corridors leading out from them. By overlapping the results obtained from all of the groups, it was possible to delineate an approximate outer boundary of the planned built environment of 2,800 homes plus workplaces and services.

In working with Norra Halmstad during spring 2019, the spatial scenario axes with several nuclei were retained but several nuclei was complemented by multiple nuclei on one of the axes, as there are a number of urban areas in Norra Halmstad that need to be considered in interaction; for example, Getinge, Steninge, Haverdal, Harplinge and Kvibille. See Figure 30. For this purpose, *several nuclei* includes medium-sized localities while *multiple nuclei* also includes smaller localities and villages. The other axes were also chosen based on the need to study the potential for developing the sub-region:

- Additional housing: location of additional housing in proximity to the station in a functional mix vs. housing in other locations along corridors to and from the station.
- Commerce: large-scale specialist businesses vs. differentiated small-scale businesses.
- Mobility and transport: max. public transport vs. max. cycling and walking.



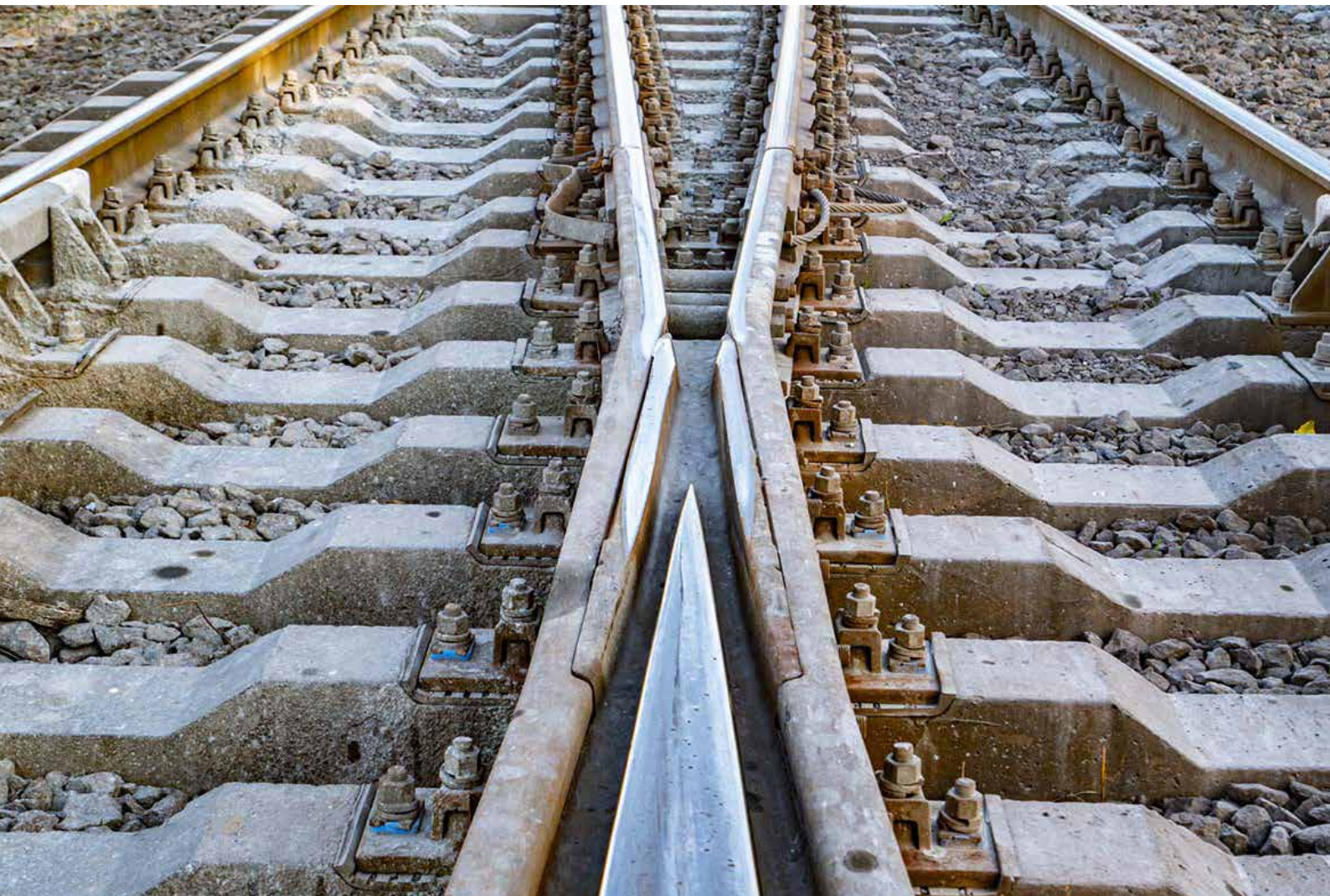
Figure 30.
Working on scenarios in Halmstad

A multiple-criteria analysis was conducted based on a list of 10 criteria combining adopted policy objectives and objectives based on key issues formulated in WS 1, see Figure 31. This analysis suggested that development in Getinge – the most likely location for a new station – was highly prioritised. However, significant development in Harplinge was also deemed possible, as was strengthening the links between Steninge and Kvibille. The groups were also asked to apply the density puzzle to localities they deemed most suitable for additional housing. This process resulted in some interesting proposals for densification within and adjacent to Getinge, as well as various types of densification in other urban areas, albeit in more limited form.



Figure 31.
Evaluating scenarios for Norra Halmstad using multiple-criteria analysis

4. Conclusions From the Knowledge Process



The results of co-creative processes have been subject to various forms of evaluation including questionnaires and joint workshops, with the emphasis on reflecting on various types of processes. The most recent evaluation was conducted through a concluding seminar held in October 2019, at which participants were able to address issues related to the seven themes and the knowledge process as a whole. Their opinions are reported below.

In working with the seven thematic areas, participants considered the following questions:

- What knowledge has the Urban Station Community contributed to local planning?
- What local experiences need to be highlighted?
- From a local perspective, what are your planning needs?
- What else is important for the Urban Station Community going forward?

Noise, vibration and risks

Noise, vibration and risks have long presented a major challenge to local planning. Within the frame work of the Urban Station Community and perhaps primarily the Good Sound Environments in Station Communities project, the knowledge process has contributed:

- insight into available measures for both rail and road;
- a deeper understanding of the problem;
- an improved understanding of roles and responsibilities; and
- insight into the available measures to deal with these three challenges at source and that measures against noise, vibration and risks are more easily implemented at an early stage of planning.

Participants emphasised the need to develop working methods going forward, especially how we plan safe communities around railway lines.

Dialogue and collaboration

Dialogue and collaboration have been cornerstones of the entire Urban Station Community knowledge process, something that was also made apparent at the seminar where participants too highlighted the theme as a cornerstone rather than a challenge. The participants emphasised that their mindsets have been positively challenged by the participation of external experts at workshops. Dialogue and collaboration have also resulted in an increased regional understanding when planning cases have been placed in a wider geographical context.

Concerns were raised regarding how the results of co-creative methods were received, in particular that the risk of conclusions being dismissed as ‘only the results of a workshop’. Dialogue and collaboration can take place in many different ways and one conclusion we can take away is that it may be necessary to encourage a more nuanced view of the workshop as a working method. The workshop itself does not provide the finished result; it is the subsequent work and analysis of the workshop that is crucial to our ongoing work.

On the question of what else is important for the Urban Station Community going for-

ward, participants responded:

- maintain it as the basis for work;
- develop how workshop results can be afforded greater legitimacy (without being given too much weight);
- provide additional support for processing and sifting results;
- develop dialogue and collaboration between municipalities, regions and the state;
- conduct co-creative urban planning with all parties;
- maintaining continuity is important;
- work with strategies to achieve long-term effects;
- where possible raise questions to an idea stage with colleagues; and
- work requires participants to set aside time for discussion.

Flexible, sustainable transport

This theme has been a constant presence in the knowledge process without being a specific focus of any of the activities. Although flexible, sustainable transport is an important element of creating a sustainable society, it has proven to be weak as an aspect in its own right. During the concluding seminar, participants highlighted that tests to address the ‘last mile’ problem (largely as part of the Sustainable and Attractive Station Communities project) have made no progress. That said, the challenge was still highlighted as important to continue working with in the Urban Station Community knowledge process, with the emphasis on how we can build structures for a sustainable society. Participants also emphasised the inherent challenge in synchronising local, regional and national planning.

Structure and design of a sustainable society

The recent widespread interest in urban densification has also been reflected in the knowledge process’ activities. That said, their remains debate as to whether dense development around a station is always a good idea. In this regard, the contribution of the Urban Station Community knowledge process has been to increase understanding of the development site and provide good examples of how a planning process might be designed. On the question of what other aspects are important for the Urban Station Community going forward, participants responded:

- continue to work on the density issue;
- there has been too much focus on rail structure - buses are also important;
- highlight the importance of intermodality;
- work on the concept of the urban station community and associated facts; and
- remember that a sense of security is an important experiential aspect of station design.

Lifestyle and identity

Local identity has been highlighted on many occasions during the knowledge process. Lifestyle and identity often have strong links to a location and constitute local knowledge that must be taken into account. While working in central Mölnlycke, it has become clear that residents do not view their town as an urban station community. It is proposed that the continued development of this theme should address issues such as:

- how can a specific local identity be combined with a station community identity?
- is a community with a station the same as an urban station community?
- how can we avoid 'hat' thinking by long-term planning and continuity?
- how can we benefit from the tacit local knowledge?
- what effects does the urban station community have on local identity?

The role of the station for a surrounding area

In reviewing responses, participants emphasise that the station's role for its surrounding area is perceived as one of the main points of the Urban Station Community – i.e., what the station can offer and what foundation the surrounding area can provide – while at the same time they point out the difficulty of shifting the focus from commuter parking. With regard to the ongoing development of this work, participants highlight the need to:

- make clearer the role of not only the railway but also the travel centre;
- address the relationship between densification and commuter parking; and
- find ways to explicate our knowledge to counter the undeserved bad reputation of trains.

OPINIONS ON THE KNOWLEDGE PROCESS

At the concluding seminar, participants were also given the opportunity to discuss the general knowledge process and how it has contributed to local development. Their deliberations began with the following questions:

- Why urban station communities?
- What has the knowledge process involved?
- How has work been organised and implemented?
- What are the most important experiences to be carried forward?

Why urban station communities?

Several of the participants in the seminar highlighted the importance of the knowledge process for connecting with colleagues in other municipalities. Regional networking was also highlighted as a useful and important point. The benefits of the knowledge process include increased knowledge and expertise. The benefits have been great in relation to the cost of participating in the knowledge process.

What has the knowledge process involved?

The regional aspect was highlighted in terms of the benefits of more people employing the same working methods, something that also leads to a bigger regional picture. The work has been anchored internally, with several people from the same municipality working jointly on the same issue but approaching it from more perspectives than in a 'normal' process. This has broadened the urban planning process, with a higher degree of inclusion in urban planning. Another benefit was that process management was able to provide municipalities with a knowledge bank and process-management support for urban planning.

How has work been organised and implemented?

Conducting work in projects proved to be a good organisational form for participants. Since a broad group has been invited to all activities, there has been added value in being able to keep abreast of other municipalities' planning work. Many of the municipalities face similar challenges and this working method has allowed them to learn from one another. The close links to research is also highlighted as an important benefit.

The timing of activities in relation to ongoing processes has been very good over recent years, with the majority of activities providing the basis for continued work in the municipality. The organization and implementation of the knowledge process is also described as "outside the box" regarding both subprojects and the workshops' structure, which has been appreciated.

What are the most important experiences to be carried forward?

Collaboration and co-creative processes have been of great benefit to the participants and where the timing has been good the results have also been clearer; however, as it places considerable demands on time to host activities it is important to be able to justify them. It is not only the contacts in the host municipality who must invest a great deal of time in the process but also the participants from all of the other municipalities.

At the seminar, several people stated that they have found participation in the knowledge process to be personally developmental. The competence-enhancing nature of the process, both during ongoing work and subsequently, was also discussed.

With the support of the knowledge process, participants have been able to 'borrow' mandates to test new methods and implement new knowledge. The combination of practice and research has been incredibly important in this regard.

CONCLUSIONS AND RECOMMENDATIONS FROM PROCESS MANAGEMENT

The seminar held in October 2019 played an important role in capturing the views of participants regarding the knowledge process. Their needs form the basis for the knowledge process' existence and the flexibility of the work has been a key factor.

Another important aspect has been the shared responsibility between research and practice in process management. At the term of writing (December 2019) the Urban Station Community knowledge process is moving from one phase into another. Process management now intends to bring several new lessons and insights to bear on ongoing co-creation processes, practice-led research and the development of sustainable station communities.

Conclusions regarding co-creative processes

- It is important to provide a forum where planners have the opportunity to discuss common challenges.
- There is a fundamentally positive attitude on the part of participants to collaboration and co-creation.
- There is considerable curiosity and interest in learning more about co-creative working methods.
- Co-creative processes have influenced the normal working methods of participants and been developmental for collaboration within and between municipalities and with external stakeholders.
- Co-creative methods have influenced the ways and means practitioners analyse, develop and evaluate proposals in formal municipal planning processes.
- A great deal of knowledge has been generated with relatively small means, something that is apparent in the impact the knowledge process has had on formal municipal plans, programmes and policies.
- The tools and methods used and tested in the knowledge process have proved useful to the participating stakeholders, who have gone on to test them independently in contexts where process management was not involved.
- One critical factor in how well the results have been applied in municipalities is the perception among participants that constraints of time present a recurring challenge.

Conclusions regarding practice-led research

- Practice-led research is a necessary component of co-creative methods.
- The link between practice and research has resulted in innovative projects in which municipalities have been active partners.
- The opportunity for participants to 'borrow' mandates from external process managers means that planning processes can develop in an exploratory manner.
- Practice-led research has created shortcuts to sharing existing and new research that often leads to new insights on the part of participants.
- Practice-led and exploratory research also enables participants to test, develop and, ultimately, implement new research.
- This exploratory element in activities creates an environment in which there are no predetermined answers.
- The combination of research and practice creates the conditions for identifying well-founded answers to the complex challenges facing public administrations.

Conclusions regarding the development of sustainable urban station communities

- There is clearly a need for a nuanced picture of what 'urban density' might mean for various types of station community, something that may for example be achieved with the aid of the tools and methods described in this report.
- Tools are available to provide a good point of departure for discussion, even if they will need to be adapted to the case in question.
- It is possible to develop a station community concentrically; however, as with all built environments, respect must be shown to natural and cultural heritage.
- In a concentric form, the urban station community is often discussed in terms of a 500-600 metre radius from the station itself. The development of urban corridors extending out beyond this nominal area can however create a better basis for the station and improve accessibility for more residents and commuters.
- The location of stations is crucial in a regional system and must be viewed in relation to large, medium-sized and small urban areas as well as the surrounding rural areas.
- Placing the development of such a delineated area in a regional context can facilitate the planning of routes and connections that improve accessibility for residents and commuters alike.
- The local identity of the urban station community, whether it surrounds an existing or new station, is important to the locality's development and attractiveness.
- It is important to identify and work with the unique qualities of each local area.
- Although sometimes a high level of urbanisation is the right way to go, it is generally important to find a balance between urban and rural characteristics if one is to create a thriving station community.

5.

Reading Tips and Further Information

There is enormous knowledge within all of the organisations and municipalities participating in the Urban Station Community knowledge process. Those reading the report as a PDF will find links below to organisations and documents that may be of interest in addition to those stated in the reference list.

- [Detailed Comprehensive Plan for Ytterby \(not adopted at the time of writing\)](#)
- [Sustainable density in urban station communities](#)
- [Co-creation in the Urban Station Community \(working paper, 2017\)](#)
- [Density analysis of central Mölnlycke](#)
- www.boverket.se
- www.goteborgsregionen.se
- www.lansstyrelsen.se
- [Mistra Urban Futures: The Urban Station Community: Towards a Resource-efficient Transport System](#)
- www.trafikverket.se
- www.vgregion.se

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Mistra Urban Futures strives towards Realising Just Cities which are Accessible, Green and Fair. This is achieved through transdisciplinary co-production and comparative urban research at Local Interaction Platforms in Cape Town, Gothenburg, Kisumu, Sheffield-Manchester and Skåne.

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MISTRA URBAN FUTURES

Postal address: Chalmers University of Technology, SE-412 96 Göteborg, Sweden

Visiting address: Läraregatan 3, Göteborg, Sweden

www.mistraurbanfutures.org

