Station-nearness Principles in the Copenhagen Region and Scania-

Integrating Urban Functions with Public Transit

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Abstract

Station-nearness principles as we will discuss in this paper, deals with the coordination of urban functions with the public transportation network. When we talk about functions, we mean residences, workplaces, commercial services, entertainment venues, places of culture, etc. These functions should be high density, there should be a mix of them and they should be pedestrian friendly in nature. Effective integration of functions around train stations brings many benefits and is one of the best means by which you can increase public transport use and increase the accessibility for people in a region. More and more, cities in North America, Europe and other places, are exploring the idea of how this concept can be applied. The Copenhagen region as we will discuss, has placed station-nearness principles at the forefront of their finger plan. Since the Copenhagen region has applied these principles, they have seen clear results with increased public transit ridership, as well on the overall, an increase in the standard of living. As many places are exploring the concept, not everyplace has been able to make the concept work. When we look at Scania, the concept is under utilized to a degree. There continues to be many populated and dense areas in Scania where the coordination of urban functions with public transit is lacking. The automobile is also gaining stronger competition over public transportation; this is a concern in terms of the sustainable future and quality of life for the region. It is not always the solution to simply expand the public transportation network, rather it can be significant to explore more upon the concept of station-nearness principles so that the existing public transit network can be made more effective. It is important to compare places,
see in our case study how the concept has worked in the Copenhagen region and look into why the concept is lacking in Scania, as well, what can be done to implement it more in Scania. It is also important how the Öresund region as whole, can play a role with developing the concept, as well, how the concept can benefit the Öresund region vice versa.
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**Methodology**

The theoretical framework for this thesis was obtained from various literature sources. Much of the North American background was information from Transportation Planning journal articles. Much of the historical background of the Copenhagen region was through policy documents. The empirical data was mainly through figures and maps from various government policy documents. Most of the photographs are personal, the satellite maps are mainly “Google Earth” images; there were also on-site observations that were made. Interviewing was common in the thesis. The thesis topic is somewhat political in nature, those interviewed are experts in their field and are among a group of actors who have significant influence over station-nearness principles in the Copenhagen region and Scania.

**Limitations**

Much of the limitations of this thesis could be that there are many more factors and many case studies that could have been looked into to form a greater part of the whole picture however there is also length limitations with this thesis. I had to pick and choose my cases and ensure that the cases I chose could receive the quality that they needed. There is also the issue that there are no concrete definitions of station-nearness principles, I more or less had to look at common definitions in a North American sense as well, I also looked into case examples of what principles have worked and then based on that, I constructed a criteria of what principles will receive focus in this paper. Lastly the thesis
has been significantly influenced by interviews, I tried to make it clear that the interviews
were a matter of opinion. I also tried when possible to find facts to support the opinions
from the interviews; as well I attempted to incorporate personal analysis from the
interviews.

**Spelling**

In this thesis, we have two countries that have different languages. This is an English
thesis, if a place or organization is known internationally, it will be referred to with an
English name, if the place is in Denmark, it will be Danish spelling and the same with
Sweden where it will be Swedish spelling. Typically, the places with English names will
be Scania, Copenhagen, Denmark and Sweden. If the place or organization serves both
countries in the Öresund region, it will be spelled with the Swedish name, the reason for
that decision is the fact that the education institution, which supports this thesis, is from
Sweden.

**Places of Focus**

There will be a focus on existing stations and future stations in the Copenhagen region as
well, southwest Scania. Discussion of the inner core of the city of Copenhagen was
avoided as station-nearness principles already are strong there and because of population
demographics, it would not be suitable to compare them to outer city stations or stations
in Scania. Part of the reason for focusing on these stations, is that they have similar
population densities, as well, they are somewhat of a similar commuting time to a specialized labour market in the Öresund region. There are many more stations that I could have compared, however research resources were limited as was also limitations for the length of the thesis, as mentioned earlier.

Öresund region focus area

(Google Earth)
1) Transit Oriented Development in North America

I will first bring to the attention station-nearness principles in North America. Before I start, I will make clear the terms I will use. For North America, I will use Transit Oriented Development or TOD for short, as it is the term that planners use there; this is a term that is typically not used in a European context. The term that I will use for the European context will be station-nearness principles. This is a term that is commonly used in Europe, including Scania and the Copenhagen region; the two places for the basis of the discussion.

The reason why I am choosing to first discuss North America is that there remains to be less developed public transit infrastructure than there is in Europe, as a known fact. With this in mind, the economies of public transit face difficult economic competition against the car; planners must work creatively to come up with sustainable solutions to increase the ridership of public transit. Amongst the most effective mechanisms for increasing public transit ridership while making use of existing facilities at a reasonable cost, has been the idea of Transit Oriented Development; this in turn has brought successful results.

A) Criteria

To first start off, we must have some idea as to what typically is Transit Oriented Development is. In truth, it is rather difficult to define what exactly it entails of, as there
are many viewpoints on it. Of the common definitions offered through literature, the common elements of Transit Oriented Development include the three factors of:

- Mixed land use development (different uses of commercial, residential, places of employment)
- Development that is close to and well serviced by public transit
- Development that is conducive to transit riding (helps increase ridership)

(Transit Cooperative Research Program, 2002)

There are also (4) less universally known aspects of Transit Oriented Development which seek to include:

- Compactness (high density)
- Pedestrian and cyclist friendly environments around the stations
- Public and civic spaces near the stations
- Stations which can act as community hubs

(Transit Cooperative Research Program, 2002)

A later section of this thesis will attempt to clarify what aspects of station-nearness principles will receive focus, when discussing the Copenhagen region and Scania.
B) Benefits of Transit Oriented Development

Now that we have somewhat of an idea of what Transit Oriented Development is in North America, we can focus our attention briefly towards the benefits that many claim there are with Transit Oriented Development. The most popular benefits of Transit Oriented Development are that it:

- Provides choices of mobility
- Increases public safety
- Increases transit ridership
- Reduces the rate of vehicle miles traveled
- Increases household’s disposable incomes
- Reduces air pollution as more people use public transit
- Conserves resource lands and open space
- Plays a role in spurring economic development
- Contributes more to affordable housing-less costs for car transport
- Decreases local infrastructure costs as a result of more people using transit

(Transit Cooperative Research Program, 2002)

The benefits of all these points can be universally applied to the discussion of the Copenhagen region and Scania as well. These benefits that are mentioned here are more
or less focused around increasing the ridership of public transit, however there are numerous more effects ranging from the social, economical and ecological scales of sustainability. There is also the aspect of increased accessibility of people in a region. Greater accessibility can often mean greater integration for those in and even outside the region. We will discuss these factors and other additional benefits with Transit Oriented Development, and what it means for Station-nearness Principles, in another section.

C) Vancouver example

Vancouver still does not have an urban motorway and this could suggest a sign of progress in terms of a sustainable perspective (Newman/Kenworthy, 1996). From a personal viewpoint, traffic congestion has worsened over the years in Vancouver, however in a way, this has encouraged the city to look into other means to move people
around effectively. So what exactly has made Vancouver a success? As congestion worsened over the years, population density increased by a large scale and as a result, large-scale inner city urban villages flourished (Newman/Kenworthy, 1996). One example is the central area of Vancouver has grown 23% with an additional 19 000 residents from 2001 to 2006 making it one of the fastest growing population centres in North America (City of Vancouver, 2007). The central west end area of Vancouver, along with other inner city villages, can easily be the highest priced high-density living in Canada; this can confirm a high popularity for this type of living (MLS, 2008).

With Vancouver’s high-density population came the opportunity to build what is known as Transit Oriented Development around its SkyTrain system (the local rapid transit system). The SkyTrain system started with one line, this line acted partially as a showcase for world transportation for the World Expo in 1986; at the time it was modern, futuristic and was driverless (Taggart, 2001). In the new millennium, the new Millennium line as it was called, was opened and was built to form a new ring line. The new line was state of the art with it is cutting edge architecture and high frequency trains (Taggart, 2001). This aspect by many means made public transit particularly attractive to use. When the system was built in 2001, many areas around the station were underutilized and some people questioned why it was put in such a place. Today when traveling along the line however, there appears to be much construction along the new SkyTrain line, construction that perhaps points out to Transit Oriented Development flourishing. Translink, the main service provider for Vancouver, has received government funding for projects dealing with the improvement of transit villages around some of the SkyTrain
stations (Translink, 2008). When critiquing transit systems across North America, a particular comment was made about Vancouver:

“The most effective system in terms of shaping urban growth is the SkyTrain. The corridor that the SkyTrain runs through became the main development axis of Vancouver with a notably denser urban form after the opening of the SkyTrain. Development densities along the SkyTrain route have changed especially as a result of the rezoning plans of the municipalities. These plans increased the densities at station areas, and encouraged office and retail centres at stations. Some of the SkyTrain stations became the ‘new town centres’ as proposed in the metropolitan development plan.” (Babalik, 2000, p.11)

The author went on to explain that the SkyTrain increased the density of the city and with that, there were the successful formation new town centres for which they had planned.

**Brentwood SkyTrain station**

(Personal photograph)

Many stations along the newer Millennium line including Brentwood station as shown above here, have incorporated cutting edge architecture to improve the image of public transit in Vancouver.
Joyce-Collingwood station as seen above, high-rise, high-density housing was created along the older expo line. These types of trends are common at other stations as well. The
station lacks workplaces and leisure functions however it makes good use of the land around the station and allows a large amount of people greater accessibility to the region, being along a SkyTrain line.

Metro town station, Burnaby (Vancouver region)

Burnaby city hall
Station
Mall

(Google Earth)

Metro town as seen here, this serves as the downtown of Burnaby, the city hall is here, there is high density residential, high density office as well as a large scale shopping and entertainment complex (the largest in the province of BC) all within steps of the SkyTrain station (Metro Vancouver). This is the idea was to create a regional centre; today it has the many different forms of amenities as well it is accessible for most of the region by being on the rapid transit line.
2) The Copenhagen region

A) History of the finger plan

The Copenhagen finger Plan

(Hartoft-Nielsen, 2007)

The finger plan as shown above has finger extending from the centre of Copenhagen, which is designed to contain the growth in the region.

The finger plan could be perhaps a key factor in bringing success to the region of Copenhagen. The reason I am choosing to discuss it here is that station-nearness principles form an integral part of the finger plan. To start with the history, since the 1960’s, there was a vision laid out for the region of Copenhagen that included the development of extending out of the centre that can be in the shape of finger. The plan
was that development would be controlled into the finger and that green space would exist between the fingers (Cahasan, Clark). The idea was that people should have access to infrastructural facilities such as green spaces, bicycle pathways, commuter trains and motorways. The green belt was there to ensure that agriculture and recreational activity could occur, as it should. There would be high density urban activities such as workplaces, housing, community centers, commercial activity, as well as extensive connections for bus travel and cyclist use around the S train stations so that people can have access to the stations easy, reducing the need for automobile use (Cahasan, Clark). Despite all the station-nearness politics that emerged, the automobile was still increasing in dominance, something else needed to be done, as many thought. There were measures that were incremental in nature, the city came up with the idea to reduce parking availability in the inner city by 3% each year, renovate inner city housing, introduce 3000 new seating places in front of cafes and introduce many new street artists and entertainment venues (Newman/Kenworthy, 1996). Over time, the city took initiatives to make the inner city attractive, provided disincentives for people to use the car and then had the opportunities to attract development around the public transport network. It was not just station-nearness principles that brought success to Copenhagen but other factors combined.

**B) How station-nearness principles fit into the larger picture**

We can see here that Station-nearness Principles alone was not enough to transform the city, rather that other factors were combined in order to create a high standard of living
for the region. The diagram that I have below here shows the overall picture that was envisioned for Copenhagen. The top of the pyramid is quality of life while the base of the pyramid is based on where you locate urban functions.

Measures in necessary cooperation

(Hartoft-Nielsen, 2007)

In order to achieve a high standard of living for a region, we look at the bottom of the pyramid, it starts with the village structure and how we locate the village functions. Once we have located the functions properly, we look at the public transportation system that is in place. Once public transit is established around urban functions, we look at the parking policies. We have to find a way to get people to use public transit, sometimes you need to put park and rides, other times you refrain from them so that station-nearness can function properly. You have to consider disincentives to car use, reducing parking availability or increasing fees, is a strong deterrent to people using the car. The next one,
could perhaps go hand on hand with parking policies however to an even greater extent. Copenhagen currently has no congestion charge, however measures could be further implemented to provide higher fees for drivers, which will encourage them to use public transit. Once people are out of their cars and using public transit, there could be greater incentives for workplaces to locate near public transit. You can also encourage full functions around the stations, residences, services, cultural functions. The quality of life will increase for a region when there is less car use and more freedom for the use of different modes of transportation public transportation.

C) Successes from the finger plan

People initially questioned what the city of Copenhagen was implementing when attempting to implement the finger plan. Many made statements such as “Danes do not promenade like Italians” and “Danes will never get out of their cars” (Newman/Kenworthy, 1996, p. 15). This was however not the case, it was a long term plan, the results took time, and many started to see the city transform into what is known as a city with vibrancy and urban life (Newman/Kenworthy, 1996). The finger plan is still the basis for planning today and as a result of such policies, there typically tends to be high amounts of pride for the city, the economy is vibrant and the city is certainly on the stage of being an international city. There is a high amount of coordination of the different travel patterns involved; people have a freedom of choice for different types modes of mobility in Copenhagen region (Cahasan, Clark). I had the chance to meet with two Copenhagen region strategic planners to get their viewpoint on the effectiveness of
the finger plan; their opinion was that it has been something which has worked for many years and because of that, they have integrated many aspects of the old finger plan into the 2007 head region long term plan. They mentioned that the plan allows the Copenhagen region to be competitive and takes into account the growth for four decades (B. Petersen, H. Lundgaard, personal communication, April 11, 2008). One of the planners did mention though that even though many have seen the successes of the plan, there are also critics of the plan. Some people can say it encourages sprawl as the fingers thicken and lengthen, the commutes increase, and there is more pressure for road and public transportation infrastructure (H. Lundgaard, personal communication, April 11, 2008). In addition to this, the planner mentioned in an email, this point, “the fingerplan is not sprawl in a 'wild west' unregulated sense, but rather 'controlled sprawl'. Meaning that, we cannot prevent sprawl if we also want to develop our region, but we can control the development/sprawl.” (H. Lundgaard, personal communication, May 7, 2008). As we can see from this, it appears the plan is very positive on the overall; unplanned growth would occur if the plan is not there, there does never the less need to have other environmental factors taken into consideration when you plan for long-term growth under the finger plan. With this, no sprawl means perhaps developing your region will be limited, so in a sense, it comes down to the fine art of how you balance the factors as mentioned.
D) Evidence of station-nearness principles working in Copenhagen

The results of the Station-nearness principles in Copenhagen are many, one source has it that over the past 15 years, offices which lie near the station have seen a reduction of 800 000 Km per day of automobile traffic, 2-3% daily reduction of car traffic and corresponding to 6% of automobile during peak travel times (Bjerkemo, 2006). The station-nearness principles thus have been effective somewhat at reducing car use, though it is also important that other factors are taken into consideration such as the amount of bicycle use or the increase with people walking more.

One particular academic Peter Hartoft Nielsen did a considerable amount of studies on the idea of station-nearness principles and how they actually work in the Copenhagen region.
There are three places that are compared, the Copenhagen region in green, Århus in red and other smaller towns in Denmark in blue. The table to the left illustrates the average distance people travel with reference to distance to the centre. We can see here that the Copenhagen region generally has a gradual contrast when distance is increased from the centre. The table to the right indicates the average distance people travel by car when the distance from the centre increases. We can see there is an even more gradual increase of car travel when the distance is increased from the centre.

What can we conclude from this? That the Copenhagen region compared to two other places in Denmark has generally a high proportion of people who still use public transit and when the distance increases from the centre. This shows that people have strong accessibility to public transit for daily functions such as workplaces and residences even
when they are away from the core. This is not common everywhere, you could attribute much of this to station-nearness principles.

**Car use in Copenhagen**

<table>
<thead>
<tr>
<th>Daily car usage how many?</th>
<th>Daily car usage how long?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilbenyttelse – hvor mange?</td>
<td>Bilkørsel – hvor langt?</td>
</tr>
</tbody>
</table>

![Graph showing car usage and travel distance](image)

(Hartoft-Nielsen, 2007)

The table to the left illustrates that percentage of employees in the region Hovedstad who use the car when the office is located a) inner city, b) near a station and c) not near a station. The table to the right shows the average number of kilometers that car users travel when the workplace in the Copenhagen region is located a) inner city, b) near a station and c) not near a station.

The results of this show that people who work in the inner city of course have the lowest car usage however more, there is a significant difference for car use when an office is
located near a station compared to that which is not located near a station. Much of this can be perhaps attributed to strong station-nearness principles, that generally if a workplace place is near a public transit station, then people are less likely to use public transit.

**Carl Bro vs Cowi an experiment-seeing how station-nearness works**

There was an investigation done on two consultancies both of which were situated 10-11 kilometres via the motorway to the centre of Copenhagen. Carl Bro was not located near an S Train station while Cowi was located near an S Train, we can see here the results.

Two companies, Carl Bro versus Cowi, no station-nearness versus station-nearness

![Carl Bro versus Cowi](image.jpg)

(Hartoft-Nielsen, 2007)

Both of these companies lie within 10-11 Km from the centre of Copenhagen however only one of these companies, Cowi to the right, is located close to an S train.
The results- Both Companies are situated 10-11 Km from the centre via the motorway however Carl Bro creates 10 Km more car use per day (Hartoft-Nielsen, 2007)

<table>
<thead>
<tr>
<th>Station</th>
<th>Distance</th>
<th>Car use per employee per day</th>
<th>Employee use of public transit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cowi, Lyngby</td>
<td>200-300 m</td>
<td>22 km</td>
<td>25%</td>
</tr>
<tr>
<td>Carl Bro, Glostrup</td>
<td>2.4 km</td>
<td>33 km</td>
<td>12%</td>
</tr>
</tbody>
</table>

The results here show that Cowi which is closely located to Lynby S Train, has roughly double the public transit use of its employees than Car Bro, being a distance from Glostrup S Train station. We of course cannot say this is the case for all stations, never the less it is evidence that the principle of station-nearness works somewhere.

3) Criteria for established for analysis

A) Greater accessibility for a region

One of the strongest of benefits of establishing station-nearness principles and encouraging functions around the stations is the idea that you are creating strong accessibility to public transit for a region. The S Train, Regional train and metro system are particularly effective at moving people in a time efficient manner. What needs to be also ensured is moving people from the station to the functions in a time efficient manner. Thus the way land is planned around the station becomes key for accessibility for a
region. You could say that the Copenhagen Metro, the S trains and the Regional trains are limited in where they can go, there will always be inequalities in terms of the distance the inhabitants are from a train station. It does become significant however to better use the land around the stations so you increase the number of people in a region who have accessibility to public transit.

**B) Establishing criteria**

Now that we have established an idea of why station-nearness principles work, we must move on to the politics of what criteria has been made out for station-nearness principles, in order for them to work effectively. When we are accessing the effectiveness of station-nearness principles, we will look into four areas. I will attempt to incorporate some or all of these factors when we are discussing specific stations. Many of these factors are linked together as well. The four factors include 1) Use of the land near the station, 2) Functions which are located near the station, 3) Connections to the station and 4) The quality of the public transportation trains serving the station.

**1) Focus area around the station**

It is essential when planning for station-nearness principles to focus upon an area that is 600 metres or less from the station as studies have shown that once you leave the area, the amount of people who use public transportation, will drop sharply.
Station-nearness core area, pedestrian distance less than 600 metres

(Hartoft-Nielsen, 2007)

What is station-nearness, why have a maximum 600 metres to focus on?

(Hartoft-Nielsen, 2007)

This table shows us different types of companies, public administration in yellow which typically has the highest share using public transport followed by insurance companies in
red and the engineering-consulting firms in blue-green. Despite the differences of public transit use, the thing these three types of companies have in common is around 500-600M there is a sharp drop in the number of public transit employees. What we can conclude from this is that public it is essential to focus on the area maximum 600 metres from the station; otherwise, the results of station-nearness are not particularly significant. The density of the area around the train station should be high thus maximizing the area of 600 around the station.

2) Types of functions around the stations

Once we have established the focus over the area, we then need to debate over which urban functions are the best to have placed around the stations. It. Many argue stations should include functions such as-

- High density housing
- High density office places
- Service centres nearby
- Culture institutions
- Exhibit is and conference places
- Multi use places which people can use for leisure time
- Hotels

(Hartoft-Nielsen, 2007)
The functions that are listed above, can if they are combined in mixed land uses, create a functional regional centre around a train station thus allowing station-nearness principles to effectively work. Effective station-nearness principles include functions of where people are able to work, live, access services as well spend time all within close proximity of public transportation. Most cases is it not possible for stations to provide all the functions in a persons day or week however by incorporating a variety of functions, you are however reducing the need to have to commute to other places in order to access functions.

3) Connections to the station

Connections to the station are a very important factor when incorporating factors of station-nearness principles. A station may have many functions nearby however the greater the connections, the more people will most likely people will make use of the functions nearby public transit stations and use the public transit itself. We will need to consider factors such as the station itself and how long it takes to maneuver around it, whether the routes to the station are efficient and safe and how well we are doing in terms of creating a pedestrian and bicycle friendly environment around the station.
4) **Quality of the service**

This factor is important once factors 1-3 have been properly established. Usually the quality of service is increased but not always when factors 1-3 have been strengthened however in rare cases, the service quality is established with the expectation that factors 1-3 will develop. This is the case of Ørestad where the transport network is put in place before development. When we are referring to the quality of service, we are generally focusing upon the frequency of trains and the number of connections that are available. The quality of the service could include factors of comfort such as ticketing however we will only focus on frequency and connections and in a minimal sense. Why is quality of service important for station-nearness principles to work? Well the answer is very obvious as if the conditions are right but the service is poor, people will chose the car over public transit. It can happen where there are many useful functions such as workplaces and residences around train stations however people may use the car when the public transit serving the area has poor service.

4) **Examples in the Copenhagen region**

**A) Ørestad**

Ørestad is example of a tremendous success and is certainly a type of development that could not occur everywhere. It is one of the very few developments where the public transit infrastructure is put before the development. The station-nearness principles that
have been implemented around the development are never the less strong. There is high density around the metro stations, and there are a variety of mixed used functions such as workplaces, residences and services all serviced by a new modern and efficient metro system. The Ørestad corporation (now By & Havn) has in the plans to develop the community to have at least 20,000 people living there and 80,000 people working there as it becomes fully developed in 20 years (Ørestad, 2008). The goal as we can see here is the creation of a new urban centre around high quality public transportation.

Ownership of the Ørestad Corporation (now By & Havn)

![Ownership chart](image)

(Als, 2006)

The Ørestad company is owned 55% by the Copenhagen municipality and 45% by the Danish state; this secure sense of financing has played a large success.

Shares by which the metro is financed by

![Shares chart](image)

(Als, 2006)
The plan was to develop the land and then use real-estate sales on the land to partially finance public infrastructure such as the metro. We can see here how the metro really was made possible, 51% of the metro expenses are funded by the real estate of the metro, and only 30% of metro operational revenue makes the whole picture. Financing a metro in this manner typically allows nearly everyone to be happy (Als, 2006). I had the opportunity to ask two Copenhagen region planners about their opinion of what the public reaction was to the Ørestad development; they confirmed that even though the Ørestad corporation (now By & Havn), (which is state owned of course), is expropriating large amounts of land, the reaction has generally been positive by most as the Ørestad is doing something good for the city, they are providing a new metro line with real-estate sales (B. Petersen, H. Lundgaard, personal communication, April 11, 2008). So with this, the political support has been established, which partially contributed to the success.

Budget for paying off the metro debt

(Als, 2006)
We can see how careful planning has made this project a success; they have carefully carved out the success, everyone is happy when the timeline is set out clear.

The success of the Ørestad development and its effect on the metro has shown successful results. The number of metro passengers in 2003 was 20 million, in 2004 the number reached to 34 million, the overall long-term aim is to have it at 59 million passengers annually (Als, 2006). The sale of real estate in the Ørestad development has been so far has exceeded what was predicted, making the development already ahead of budget (Als, 2006). There may be ups and downs in real estate cycles over the years, never the less, when you start off strong, public support and confidence appears to remains strong.

You can say the community was a success for many reasons, however two key reasons could include the fact that 1) right place the right time and 2) Training people to use transit from the start. Some of these ideas were gained from an interview from a planner working on the Ørib project; others were gained from my own opinions.

Being in the right place at the right time was what many can say has attributed to the success of Ørestad. It started out as a piece of land that sat vacant for many years; it held little value and it was given to the Ørestad Corporation virtually free of charge. Europe’s economy was at lows from the start of the project right from the start of the economic boom which made it a good time to start to invest into a new development (S. Hansen, personal communication, February 22, 2008). The barrier to this land was that it lacked any real form of transportation infrastructure, up front capital was needed to establish
infrastructure in order to allow development to flourish. The Danish state and 
municipality of Copenhagen who own Ørestad development corporation (now By & 
Havn) came to the position to provide the loan for transportation infrastructure which 
was needed for the project (S. Hansen, personal communication, February 22, 2008). So 
on the overall, the time to invest on the land was the perfect timing as well the loans 
needed for transportation infrastructure was provided up front.

The second point could be the location and transportation infrastructure was particularly 
significant in the shaping of the success of Ørestad. You can see that it is in close 
proximity of the busiest airport in Scandinavia Kastrup, near the Öresund bridge as well 
not too far from the centre of Copenhagen. There are also the transport networks that 
were established around Ørestad that put the development at an advantage. You could say 
that the Ørestad development is perhaps the most accessible in the Öresund region with 
its location.
Modes of transport offered for Ferring Pharmaceuticals in Ørestad

We can see from the image above here that Ferring in Ørestad is the excellent example for providing different modes of transport, the motorway access, the metro, movia bus service, regional tog and even cycling and walking for residences nearby.

Those who moved into Ørestad had a world-class metro to use. There have been other developments in the Copenhagen region such as Køge which were built in the 1960’s however rail service did not come until the 1980’s 20 years later (Unterschlak, A). There was the comment made that it was not that effective and that there can be a lesson learned from this is that it often takes a generation to get accustomed to using transit (S. Hansen, personal communication, February 22, 2008). Ørestad is attempting to do just that. Now of course building everything from scratch and so quick has many disadvantages as well. The metro took nearly three years to properly function and the technical works were very
hard to come by (Als, 2006). It is interesting to note that once service quality levels drop, it is very difficult to gain passenger satisfaction back. The major metro technical difficulties at start were never the resolved without losing too much passenger satisfaction (Als, 2005).

**B) S train stations**

**S train line towards Høje Taastrup**

This S train line B out to Høje Taastrup is particularly successful for station-nearness principles in terms of the high-density nature of the residences, workplaces and services near the stations. The terminus station for the line Høje Taastrup is under much transformation; there is the filling of numerous high-density row housing. There is one piece of criticism I can make about the stations on this line and that is they are places which you can work, live and access your services however based on my observations, many stations typically are not places you would think to spend your free time at. I did ask the two head region planners what can be something which can be improved upon in terms of station-nearness principles in the head region, their response of this personal opinion was that there could be more life around the stations (B. Petersen, H. Lundgaard, personal communication, April 11, 2008). With that said, these personal opinions can somewhat go along with my observation. Which stations in The Copenhagen region are perhaps strong in creating an atmosphere to spend your free time at?
Steps from Taastrup S Train station

(Personal photograph)

This photograph taken within steps of Taastrup S train station. From this photo, we can see there are many services and workplaces within steps of the station however this does not appear to be a place where people can gather out. The building appears to be outdated; as well the place appears to only cater to those doing business there. The area within steps of the station should be public space that allows social interaction to occur.
Høje Taastrup station

(Google Earth)

Høje Taastrup station as seen above, appears to be under much transformation, high-density housing is maximizing the use of the land around the station and bringing many people within walking distance in the Copenhagen region to the public transportation network.

**S train Line towards Køje**

Stations along the S train line E to Køje are particularly successful with principles of station-nearness being incorporated with regards to creating public space. Karslunde and Ølby have incorporated pedestrian promenades at the S Train stations that is particularly useful in terms of providing places where people can gather for free time activities or where cultural events could even happen. The two stations lack workplaces nearby, never the less, there are many residences, services and public space that contribute positively to station-nearness principles by the creation of public space.
These figures are taken within steps of the Ølby S train station. We can see here with the benches, the area around the station creates an atmosphere where people can gather and spend free time at. There is a public library, easy access to commercial services; as well there is high-density housing all within walking distance of the train station.

C) North harbour proposal

The ring line metro is under construction right now and has an estimated completion date of 2017 (Als, 2006). One of the major proposals is the north harbor of Copenhagen. This new development hopes to incorporate 50 000 residences and 30 000 workplaces (By & Havn, 2008). There is in the proposals right now the possibility of 3 more metro lines, one of which would branch off the newly constructed ring line (Københavns Kommune, 2008). The company in charge of this project is also the company in charge of Ørestad
(By & Havn, 2008). One of the added advantages is that when planning for this development, much can be learnt from perhaps from Ørestad being that it is the same company that worked with Ørestad. I spoke with a Copenhagen planner, he mentioned that the underlying foundation of this development and Ørestad is that there needs to be adequate transport connections when you create a new town, often times it is the other way around where a population has to develop before adequate transport is justified (H. Sylvan, personal communication, March 11, 2008). We can see the success of Ørestad came from implementing the infrastructure before the development, with Nordhavn and the implementation of infrastructure before development, could be the instrument for success in terms of creating high ridership of public transportation and allowing station-nearness principles in the form of regional centre developing.

**D) Targeting the right businesses**

The question was asked during an interview with a planner for the city of Copenhagen as to what the city does to attract businesses around the station. The response was that the city wants to try to attract businesses which are service-based, around the train stations. Those that are however transport-intensive or use high amounts of energy are targeted against for locating near a train station, as they do not typically contribute positively to station-nearness principles (H. Sylvan, personal communication March 11, 2008). Often when you have heavy industry, it takes up valuable space as well creates a automobile based environment, so targeting service based companies around train stations is a smart planning move in many ways.
The planner went on to mention that there is also the targeting of some of these transport-intensive, high-energy businesses to relocate them to other areas. One large-scale example of this is businesses along the port of Copenhagen. Many container-shipping companies are relatively manageable to move away (H. Sylvan, personal communication, March 11, 2008). The port of Copenhagen particularly where the new town will be developed, has particularly easy conditions to move heavy industry away for two main reasons in his opinion, one being that there is joint co-operation with the port of Malmö to share the ports and refer to it typically as the port of Scandinavia. There is much more flexibility to adapt to different needs in different places and balance that between two countries (H. Sylvan, personal communication, March 11, 2008). The second factor, which makes re-locating companies an easier task, is that a company through some affiliation to the state owns the port. With this, for the most part, most things which are done are managerial issues in the company, it does not so much become a political issue and with this, things can get done easier (H. Sylvan, personal communication, March 11, 2008). This appears to be a positive step in integration for the Öresund region; perhaps station-nearness could work better if there were integration in more ways in terms of sharing space.

What does this mean for station-nearness principles? You want to have businesses that are able to maximize the space around the station as well are conducive for public transit use. Car users, not those who typically use public transportation, typically access transport-intensive industries, you should thus locate these transit-intensive industries
away from train stations. The second point that he makes about relocating certain industries away from train stations shows that this is a challenge. There is limitations of space thus cooperation with different actors as well cooperation with different regions such spanning across the Öresund is even sometimes needed in order to create an environment where the right businesses are located in the proper place.

E) Congestion charging

When we are discussing the efficiency of station-nearness principles, they only form part of the picture for increasing public transit ridership, as discussed earlier. We look in the past of the finger plan where there was the realization that station-nearness principles could not be relied on alone to curb congestion, other measures such as reducing parking availability, was implemented. This has worked to a degree as we discussed earlier, however what Copenhagen really needs to look into is congestion pricing. The issue many can ask in Copenhagen is why they do not have a congestion charge yet? Well even though Copenhagen is ahead in many ways, they certainly need to curb congestion; they count the approximate economic losses due to congestion will amount to societal costs of 11.5 Billion Danish Kronor by 2015 because of road congestion in the Copenhagen region (The Capital region of Denmark, 2008). I spoke with a strategic advisor to get his opinion as to why the congestion charge has not been reached. The barriers as he mentioned are mainly a political, the local government in Copenhagen wants the charge however they need the permission from the national government. The national government likes the idea of the charge however they do not seem proactive in a way to
act on it now (H. Sylvan, personal communication, March 11, 2008). The idea is not completely new; they have had toll roads in the Copenhagen region for a while, also the centre of Copenhagen congestion only accounts for roughly one third of congestion in the region (H. Sylvan, personal communication, March 11, 2008). He also went on to mention that besides deciding on whether to do it, there is another barrier of disagreements over how the charge money will be used. The national government is in favor of using the charge as perhaps national revenue whereas the city of Copenhagen wants the charge to be used towards several needed public transportation projects (H. Sylvan, personal communication, March 11, 2008). This whole process of negotiating slows down the process needed to implement the charge. To conclude, the need is certainly there, however the state needs to approve it, they seem to like the idea however the politics of how to use the money slows the process down considerably.

5) Scania

In Scania, the concept of station-nearness has not clearly caught on yet in the same degree by which it has caught on in the Copenhagen region. In this analysis, I looked at stations on the outlying areas of the Copenhagen region. In many ways some of these outlying areas in the Copenhagen region are further away from the centre than some places in Scania are to the centre of Copenhagen. Four key areas of focus in Scania will be Helsingborg, Landskrona, Lund and Malmö, the reason for that is that they contain the highest population in Scania as well they have among the strongest labour markets in
Scania, making it perhaps suitable for comparison to the Copenhagen region (Region Skåne, 2006).

**A) The examples of Lund and Landskrona**

**Lund central station**

Lund central station has many principles of station-nearness which are particularly very successful, the train station is where many consider the town centre, there are many high density mixed land use functions around the station such as housing, commercial, park space, service based businesses, as well there are public spaces for people to gather. This aspect has been a strength for the station, however what Lund central lacks is workplaces within walking distance from the station. One of the main aspects of station-nearness principles is to incorporate work places where there are a high number of employees and locate it near a train station. You can see many IT companies in Lund such as Sony Ericsson that have chosen to locate near a motorway instead of locating near the train station in Lund. There are busses that service the office parks frequently, however they are not within walking distance of the Lund central station. When we look at the train and bus service at Lund central station, it could be regarded in terms of one of Scania’s most important stations in terms of it is accessibility (Skånetrafiken, 2006). Station-nearness principles involve creating a variety of function types, in the case of Lund it is not possible for most people to work within walking distance of the station. There are historical elements on the east side of the station that would probably become hard to
development, however on the east side, there are residences, which do not appear to be too old. There also appears to be some undeveloped space north of the station that could be used for offices. In Lund’s case especially, you have a very accessible station for the region, station-nearness principles should be a very high priority.

**Landskrona station**

The history of the new Landskrona station was learned about through an interview with a transportation planner who conducted a study for a tunnel station in central Landskrona. The previous station of Landskrona used to be located in the town centre, however there were problems as the train was required to go into the city and then go back and from a perspective of more efficient rail service for the region, this was seen as a hindrance as one of the factors. What was explored was the idea of putting a tunnel underneath Landskrona similar to what they did in Helsingborg however there were barriers. The specific geology of the ground beneath with the water table in Landskrona made building a tunnel difficult, the costs to build it were very high and as a result the railway administration did not go with a decision to build a rail tunnel underneath Landskrona for the time being (S.A. Bjerke, personal communication, March 14, 2008). A new station instead was located on the outside of the town near the motorway.

The current station today is underdeveloped and station-nearness principles are not fully established. The immediate area around the station is prime land, as we have illustrated earlier, when you leave the immediate area, there is sharp drop in the number of people
who use public transport. I had the chance to make some observations about Landskrona station. The east side is virtually untouched agriculture land and is adjacent to a motorway, though that could change in terms of developing that land. The west side has low density, car oriented service based businesses. Much of the businesses around the train station are very dependent on car use, they require large parking lots, which in effect, make relatively poor use of the land. The buildings are also only one storey tall and are not very dense. You can see here, that there is much unused space in the immediate area; if you were to develop it with more functions and higher density, probably a very larger percentage of people would use public transit. In terms of services that are available, you have mainly commercial services and low density residential, however it lacks workplaces, high-density residences, and recreational/entertainment functions. You want to get as close to being regional centre as you can around the train stations; Landskrona station still needs to have lots more functions incorporated in order to form more of a regional centre.

Landskrona central station today

(Google Earth, both images)
The image to the left is a close up view of Landskrona station where the east has nothing developed upon. To the west, there is small amounts of development however it is mainly automobile dominated businesses and low density in size; the space could be used better.

The image to the right shows us the position of the station in comparison to the city centre. The density appears to be the lowest in the city where it is placed; for now, there is not anything done to the east of the station, however development is possible in the future.

There is also the factor that the station has a poor link with the surroundings, the bicycle connections are strong; there are dedicated lanes however other factors are lacking. Speaking with a transportation-planning consultant, his thoughts were that the station relatively poor coordination with the surroundings. The time that it takes to get from the station to the platform seems somewhat time-consuming as you maze your self through long stairs and a narrow tunnel. The tunnel in itself is very poorly lit making it appear unsafe (S.A. Bjerkemo, personal communication, March 14, 2008). From my personal observations, it appeared the same as he described. The tunnel is not well lit and does not feel safe as well it seems like a lot of mental time to go through the tunnel and walk a bit of a distance to the bus area. You should be able to step off the train and have easy accessibility to the surroundings around the station.
B) Reasons for a lack of station-nearness principles in Scania

We looked at Lund and Landskrona as to why the station-nearness principles are lacking for the time being. I will take a look now at the overall reasons why the concept is typically underutilized in Scania. I will look into three factors that include 1) Lack of coordination with different actors and lack of awareness 2) Population pressure is minimal in Scania 3) Scania is not in a capital region

6 A) The planning system and a lack of awareness

In order for station-nearness principles to come about, you do need a degree of regional planning around it. You need to look at your region as a whole and attempt to incorporate regional centres around train stations. The different actors who are working with development around the stations need to establish common criteria to work with in terms of establishing effective station-nearness principles around the station.

Just about all the actors that were interviewed on the Scania side had one common response when the question was raised as to why station-nearness is strong in the Copenhagen region however relatively under utilized in Scania. The response was that Sweden has a local planning monopoly and that there is a lack of regional planning. We do have to say that the Copenhagen region has no regional planning rather strong national planning directives now that is effective in many degrees.
Most places can admit that station-nearness principles are an effective way to plan however in Scania, most planners have a lack of awareness about the principle. One opinion from a transportation planner in an interview was that you have different actors such as city planners and they know much about specific buildings, however what often is lacking is actors coming together and finding means to integrate city functions where there is public transportation in an effective way according to common station-nearness principles (S.A. Bjerkemo, personal communication, March 14, 2008). There is in general, a lack of awareness of looking at your municipality as a whole and seeing how development can be concentrated around the train stations and doing that development around the stations the right way (S.A. Bjerkemo, personal communication, March 14, 2008).

The story in the Copenhagen region remains to be very different, as there is the finger plan and it is national and binding for the most part. Station-nearness principles forms a major aspect of the plan and with it, the conditions for how development should be around train stations is laid out relatively clear (Bjerkemo, 2006). In Denmark, just like in Scania, you of course have different actors who probably have specific roles while they serve the interests of the municipality, never the less they must take into account national planning regulations to ensure the plan benefits the region. It is of course important to note that this type of system does of course have limitations though. When speaking with a strategic advisor from Copenhagen, his opinion of Sweden was that planning laws are open to interpretation, if the actors are able to cooperate together, things can get done,
whereas in Denmark, the plan is only changed every 4 years and can get caught up in politics (H. Sylvan, personal communication, March 11, 2008). There is never the less more advantages to the Danish system you could say, you have goals for the region as a whole, even though planners may want to serve the municipality, the national regulations are strict and with this, things can often get done the way planned. In Denmark with strong national planning directives and station-nearness principles forming a major part of national planning directives, it is a major reason the Copenhagen region has an advantage over Scania in terms of station-nearness principles.

B) Lesser population pressures

You can not say you have the same population growth issues in Scania than that of the Copenhagen region. One planners opinion was that Denmark, particularly Copenhagen, experienced widespread housing shortages throughout the post war years, this might of put the political pressure on using all the available land as possible to make way for housing, the finger plan perhaps aroused out of this strong need for housing, the city was probably forced to find a solution such as increasing density around train stations (S. Hansen, personal communication, February 22, 2008). The need for housing in Scania was not as widespread thus the demand to plan around stations was not as significant around stations. A planner mentioned that Malmö for example is by many means ahead in terms of congestion; they had some very talented traffic engineers in the 1960s of whom designed the ring road and even today, the traffic congestion is not high compared to other places (S. Hansen, personal communication, February 22, 2008). That does not
mean we should not look around better ways to plan at a later time, there is very rapid change occurring in Scania today. For example, the local market in Scania since the 1970s went from 16 labour markets to 4 today, this makes for an ever increasing amount of commuting which Scania residents must do (Region Skåne, 2006). The motorway network has expanded, however public transit must be enhanced so that it can effectively compete with it. There is also the factor of the Öresund region as a whole, the amount of people working on one side and living on the other has increased drastically since the bridge was constructed (Region Skåne, 2006). The population pressures in the Copenhagen region may need to be relieved to Scania, thus investing in station-nearness principles in Scania now, should be a priority. Station-nearness principles and establishing them more in Scania, requires change, in order to convince people it is a good idea to do, you need to convince people there is a strong need to do so. Typically the average person is concerned with the present conditions, getting people to focus on what is long term, is difficult. Because there is a lack of congestion pressures seen in other places, it may become difficult to convince people and politicians that we must incorporate station-nearness principles immediately as a key way to plan for the future.

C) Not a capital region

There was one response as to why station-nearness principles are carefully laid out in the Copenhagen but not so much in Scania, the response from an interview with a previous planner was that Copenhagen is a capital region, whereas Scania is not (P. Molding, personal communication, February 19, 2008). There is the aspect that a capital city is at
an advantage to receive money more than other regions in the country, Malmö must compete against two much larger cities, Gothenburg and Stockholm in terms of receiving funding in Sweden. Scania is however increasing in dominance within the aspect of the Öresund region. In the future, perhaps a significant way to get political support for station-nearness principles in Scania will be to justify that it benefits the Öresund region as a whole and encourages integration.

7) The City Tunneln project

The City Tunneln project you could say is an example of success and a step in the right direction in terms of station-nearness principles that will be implemented around the new stations. The City Tunneln project will consist of two new stations in Malmö as well doubling the capacity to the already existing Malmö C station (Malmö stad, 2004). The project has priorities to provide more efficient rail connections to the Copenhagen region as well from a whole EU perspective; train travel between Denmark and Sweden will become more efficient as trains can move faster through the city of Malmö (Malmö stad, 2004).

A) The driving forces

With the history mentioned, the driving forcing forces need consideration. I had the chance to speak with a public relations representative for the City Tunneln project with his thoughts about the driving forces. The need to increase integration in the Öresund
region and in Malmö can be perhaps a strong force he mentioned. The city of Malmö was largely in favor as it would strengthen the image of the inner city. The social democrat party in Malmö certainly by a large degree persuaded the Swedish national government that this project should go through. The EU was also a large supporter of City Tunnel project mainly due to the fact that it speeds up transport across the continent (A. Mellberg, personal communication, March 12, 2008).

The less favorable parties the public relation representative mentioned was that it was more difficult to convince the business community in Malmö with the project. Many businesses were aware that the bridge was good enough, and once they were even aware of what the project was, they figured the political process could be too much work. As the far as the project goes for Denmark, it is relatively unknown to many there, at least there are little studies done to assess it (A. Mellberg, personal communication, March 12, 2008). That is not to say that the Danish side would not use the line, perhaps once it is there, it will make more places on the Scania side more accessible, people on the Danish side may begin to explore more of Scania, thus it is key to integration in the Öresund region.
B) The benefits

An attractive and sustainable city, what areas will be strengthened as a result of the City Tunneln project?

The diagram illustrated above has three goals with the City Tunneln project; social, economic and ecological. For economic, we have highlighted regional centre strengthening and the strengthening of the housing market. For the social we have increased integration and freedom of travel for all in Malmö. For the ecological we have environmental travel and the condensing and return of the city. For combined social and economical we have the condensing of city live and increased job opportunities. For the economic and ecological we have the returning of infrastructure.

(Malmö stad, 2004)
Upon interviewing a transportation planner, he mentioned that just about the greatest of all benefits the City Tunneln project is that you are increasing accessibility for a whole region because of the project (S.A. Bjerkemo, personal communication, March 14, 2008). The project will bring many workplaces and entertainment functions near the station. You could have many using those functions who live outside Malmö and when they take the train to their destination along the new City Tunneln line, many will be within walking distance once they are at the station in Malmö.

C) Stations of discussion

Map of the City Tunneln line

(Malmö City Tunneln, 2008)
The components of the City Tunneln project include the stations of Malmö C, Triangeln and Hyllevång, Svågertorp is not part of the line however it serves as a temporary park and ride function for what will soon be moved to Hyllievång.

The number of residences planned and existing at various stations in Malmö

![Bar chart showing residences planned and existing at various stations in Malmö](image)

(Malmö stad, 2004)

This chart above shows us the number of residences that are existing in yellow and the planned number in pink. Triangeln will not have any planned; it already has the most residences that exist. Hyllievång on the other hand has a different story, it will have the most housing development planned of all stations in Malmö, followed by Malmö C.
The number of workplaces proposed and existing at various stations in Malmö

This chart shows us the number of work places that are planned, dark blue is existing, and light blue is planned. Central station, followed by Triangeln has the most existing workplaces; meanwhile central station and Hyllievång have the most planned.

From the two charts for workplaces and housing, Hyllievång will see the most transformation meanwhile Triangeln station already has many workplaces.
D) Malmö central station

Malmö central station is Scania’s most important station with its range of local, regional and international train connections. Västra hamnen and a major university lie near the station. The new station design, will double the capacity of the station.

Universitetsholmen will transform to a city of 2000 workplaces, and at least 10 000 students, around half of the development potential lies within 500 metres from the station and within 1000 metres, there will be 6200 workplaces and 8500 residences (Malmö Stad, 2004). Västra hamn which lies nearby is expected to have around 10,000 workplaces, Nyhamnen will have also 3000 workplaces, and 7500 living places within a distance of 1000 metres to the station (Malmö Stad, 2004).

Proposal of land use around Malmö central station

![Map of Malmö central station area]

(Malmö stad, 2004)

The service of the station as mentioned is excellent being a hub, the developments are certainly successful at combining different land uses, it is high density and it is also in the
proximity of cultural and educational institutions, which is an added benefit. The
criticism is we can see the city of Malmö is focusing on the immediate area around the
station, however unlike the Copenhagen region with the 600 metre area of focus around
stations, 1000 metres is almost too large of an area to focus on. From a personal
observation, Västra Hamnen from the central station is not within 5 minutes walking
distance, a bus with many stops is required to get there. It will be essential that there is
the establishment of adequate bicycle accessibility and better bus service in order station-
nearness principles to work and people to make use of public transportation.

E) Triangeln proposed station

This station has been assessed to be the most intensively used stations for the City
Tunneln, more travelers than Malmö C. The station lies in a very significant part of
Malmö where there are many good bus connections and many nodes of activity, it holds a
good foundation for station-nearness to occur (Malmö Stad, 2004). There is plans to have
approximately 30 000 living flats and 20 000 office workers within 1000 metres walking
distance to the station. The goal is for there to be 100 000 travelers who use the station
everyday by the year 2020 (Malmö Stad, 2004). There was the question as to how much
studies were done abroad in order to ensure that station-nearness principles will work? I
spoke with a public relations representative regarding this, his opinion was that
consultants are hired and that they typically have global expertise as they have worked on
various projects. As a specific example, he mentioned that Triangeln station will
incorporate the design similar to that of the modern Canary Wharf station in London (A.
Mellberg, personal communication, March 12, 2008). Now of course the City Tunnel project forms only part of the picture when attempting to create station-nearness principles, never the less, with an architecturally appealing station, you have potential for other effects of station-nearness principles to flourish as more people are typically drawn to the station. So on the overall, Triangle station as we saw from our earlier table on the types of land uses around the stations, has already at the existing site, many principles of station-nearness in terms of the functions. There just needs to be adequate connections for cyclists and pedestrians so that the station can remain accessible for many.

**F) Hyllieväng proposed station**

Hyllieväng is in a strong prominent location, once the project is completed, the train connections to Kasturup airport will be only 15 minutes away, Malmö city centre 5 minutes away and Copenhagen city center 25 minutes away (Malmö Stad, 2004). There are the proposals to have a hotel, sports arena, a shopping centre, and a theme park all that lie in the nearness of the station. Hyllieväng will also take over the prominence of Svågertorp as the function of a park and ride (Malmö Stad, 2004). The original plan which was laid out in the year 2000 where it called for there to be 5600 workplaces and 5600 residents to be situated within 1000 metres of the station area. During 2003, there arose a modified plan which attempted to incorporate even greater amounts of functions such as an arena for 15000 spectators and a shopping complex with a size of approximately 50 000 Kvm (Malmö Stad, 2004). We can see from this that Hyllieväng will have many station-nearness principles; residences, workplaces and commercial
services that can in turn create a regional centre. One of the strongest benefits is that Hyllievång can provide strong integration with the Öresund region and with that, the integration is being done in a sustainable matter, creating a new population centre for the population to settle and for adequate public transportation to increase the accessibility of the Öresund region as a whole.

The parking plan

Parking plan around Hyllievång station

The plan for the parking in Hyllievång station could be somewhat questionable. The plan will call for a total of roughly 6500 parking places. The station will need to serve as a park and ride function, as it will replace the function of Svågertorp. With the arena and the shopping complex, there will be somewhat of a need for parking (Caesar/Morland, 2006). The issue is difficult to decide upon as the parking space takes up valuable space that could otherwise be used to enhance station-nearness principles. The large amount of
parking also encourages people to use non-sustainable ways to reach the station; part of station-nearness involves walking or taking the bicycle to the station.

I had the chance to ask my questions via an email to a Malmö city planner, I asked him why the planned parking space availability is so high. The response was that there will be an arena, a shopping complex and many other types of uses and that you need parking for the types of uses (W. Liepack, personal communication, March 25, 2008). This can be true in that people need places to park however I asked him why the city can not explore the idea of forcing people to use other non-car means to the station? The response to that question was that you have to work with people who like to use the car, it is better to have people using the trains at least part way than for people to use the car the whole way (W. Liepack. personal communication, March 25, 2008). My other question was how they are planning to implement station-nearness principles despite the high amounts of parking? The response from the planner was that the parking plan is attempting to place parking stalls so they face towards residences so it does not look unappealing, as well, parkades will be used to make it higher density. He also mentioned that a pedestrian only square is being established and that that alone is sending the message that people should take the bicycle and walk to the station (W. Liepack, personal communication, March 25, 2008). From a traffic plan, it did mention that traffic planners are never the less stressing the important of encouraging people to take the bicycle to the station; there is a complete bicycle plan. There are also pedestrian aspects around the station such as a main square and all things such as lighting will be taken into consideration (Caesar, Morland, 2006). Even though the parking plan is not the best solution, it might be able to work if it can not
disadvantage those who walk and cycle to the station, as well, that the pedestrian environment around the station can be maintained.

One transportation planner suggested a possible solution for Hyllievång station could be to maintain Svågertorp as a park and ride station and connect the station to Hyllievång through a train connection to Hyllievång (S.A. Bjerkemo, personal communication, March 14, 2008). That could be a difficult move as the line from Malmö C goes straight to the south to Ystad and is not on the way to Svågertorp. It might be able to happen though it would need to probably be a ring line and the financing for that would be much of a question. We will discuss Svågertorp more in detail and end off on what the future of it is.

**G) Svågertorp station**

The land south of Svågertorp has very little development on it as it is part of land that lies south of the ring road and according to the overview plan for Malmö, they seek to preserve the land outside the ring as agricultural land. The area south is never the less a possibility to development on perhaps if it can support strong station-nearness functions (Malmö Stad, 2004).

The development plan reports that within 1000 metres of the station, there will be a plan for there to be 1500 workplaces. Around half of that development will be within 500 meters of the station. There is also the possibility for a long distance bus station to be
established at Svårgertorp. Current plans right now have not included the possibility for residences around the station (Malmö Stad, 2004).

It is also interesting to note that once the City Tunneln is finished, Hyllievång station will replace the park and ride function of Svårgortorp. For now, Svårgortorp remains to be a temporary park and ride station; it has difficult to yet plan for which functions will settle. The city of Malmö has never the less sold some of the land which can be used for private interests (Malmö Stad, 2004).

Svågertorp station

(Google Earth)

It is really difficult to determine right now the plans for the station, the purpose of the station is to serve as a park and ride function until Hyllievång can be completed (Malmö stad, 2004). The land use right now is by no means productive for station-nearness functions, as many of the businesses such as furniture stores, are not conductive for users of public transit. You can also only get to the station by car or bus; there is inadequate
bicycle or pedestrian connections to the station. To conclude with this, Svågertorp is an example of poor planning for the time being partially because its future is difficult to determine.

8) Helsingborg

A) Helsingborg Central station

Helsingborg is a classic example of many successes of station-nearness principles coming to work. The city was highly divided throughout the 1980’s and 1990’s, there was high amounts of segregation, putting a rail station in the centre was though to be a solution to strengthen the core and give the city an identity (Helsingborg stad, 2002). There was also the transport hub with ferry service to Helsingør; a more integrated rail station meant that there would be more efficient travel throughout the Öresund region. One planners opinion was that there was the debate on whether there should be a railway which should go through the heart of the city, there were however many objections, one of the biggest being that a railway would obstruct valuable views from the harbor, others being noise factors and other undesirable effects by having a rail (S. Hansen, personal communication, February 22, 2008). Despite the high cost, a tunnel was built and now today as a result of this, came a vibrant core with many strong principles of station-nearness.
Helsingborg core

(Horizontal photographs)

Helsingborg centre in both these images, the image to the left shows us the centre of Helsingborg, the un-obstructed view that the city can enjoy as the result of an underground tunnel. The central station to the right, modern in design, connects easily to the heart of the city as well as being effective for connecting, regional and national rail, city busses and ferry connections to Denmark.

B) Helsingborg master plan

Outside the city centre, there is also the possibility of more station-nearness to work in the advantage for Helsingborg, the outer city has not utilized the principles of station-nearness yet, however there is much potential for this to occur. There is the railway lands, there just needs to be the coming together of actors, they have never the less for 10 years,
made the reservations for development according to a Helsingborg city planner (H. Lindström, personal communication, March 19, 2008).

**Helsingborg master plan with various nodes of development and green belts proposed**

(Helsingborg stad, 2002)

The green belt plan for Helsingborg as outlined in the overview plan of 2002. This green belt is somewhat similar to that of the Copenhagen region finger plan, where it is polycentric development based and where there are nodes of development are typically based around the station-nearness principle where you focus around train stations. They believe following this plan will ensure a strong quality of life for future generations (Helsingborg stad, 2002). Helsingborg could be regarded as one of the only city in Scania that truly makes use of the station-nearness principles in the plans.
C) Railway infrastructure around Helsingborg

One of the concerns that came to mind was how station-nearness principles can be enacted if there is limited infrastructure available, as right now the service which the suburban stations receive are limited and mainly only serviced by regional trains. A traffic planner mentioned that the city tried to get more train stops however it is in the hands of Skånetrafiken where they typically try to have limited stops for a regional train service in a municipality. Track capacity is up to the maximum now, and north of the city towards Angelholm, there is only one track available (H. Lindström, personal communication, March 19, 2008). Some regional trains make stops at other stations in Helsingborg during the day, however for the most part, the local pågatag trains run roughly only twice an hour (Skånetrafiken, 2008). The service at this time is somewhat of a barrier for station-nearness principles as if the trains do not run frequently, the wait time will deter people from using public transit even if stations have urban functions around train stations.

D) Progress made

Helsingborg has had in the plans for about 10 years now to develop around some of the stations in city as they have made reservations to do so however we could question what has been done so far? A transportation planner mentioned that since he has been in the office 11 years ago, he can say a lot has happened, Rydebäck has transformed from a village to typically medium density housing (H. Lindström, personal communication,
March 19, 2008). Maria station is supposed to experience much development however they must wait for a Banverket study which will look into double tracks, they aren’t sure where to place the station yet, the study should begin shortly and be done around the summer of 2009 (H. Lindström, personal communication, March 19, 2008). So perhaps his response is that much is happening already, that perhaps when the infrastructure is not there, it makes it difficult to know how to plan.

We also need to determine how Helsingborg is going about implementing the station-nearness principle. The planner mentioned that the station-nearness strategy was in the overview plan in the 1990s and then later, much of it talked about the strategy to build around train stations, there have been 9 train stations, the focus has mainly been on where people live and work, in some of the smaller areas, they hope to have some light industry nearby, family living areas preferred (H. Lindström, personal communication, March 19, 2008). We could say that the density could increase more around the station, however we must remember too that Helsingborg is not the same size as Malmö, it will be much more of an effort to convince people that higher density is needed around train stations, the population pressures are not there yet; it will probably take time to develop.
Proposed development around Maria station

Maria station as shown above, the plan is not complete, however they hope to make the station the largest as mentioned before, yet we can see the development is not necessarily high, never the less it is focused around the station, something which is a step in the right direction.
9) Integration

A) Integration in the Öresund region

Does the station-nearness principles increase integration in the Öresund region or does integration in the Öresund region drive the development of station-nearness principles? It can be a complex question to answer never the less to put it simply, it goes both ways. Station-nearness principles increase integration in the Öresund by many means. We have discussed this in some of the case studies, never the less, on whole, station-nearness principles have to the advantage to increase accessibility for the region, people have greater accesses to a specialized labour market, it also increases tourism for both sides as entertainment venues become more accessible, giving a chance for both cultures to integrate better. There is also the population pressures which can be relieved from Copenhagen as people there can move into carefully planned regional centres in Scania which are accessible by public transit and have strong station-nearness functions. Those outside of Southwest Scania may have greater accessibility by public transportation if functions in southwest Scania are located near train stations instead of someone needing multiple transit connections. The integration within the Öresund region also drives the development of station-nearness in the region more, specifically Scania. More integration means more political support for projects around station-nearness principles. The European union and the national government in Sweden provided some funding for the City Tunneln project in Malmö, much of that decision was probably justified on the basis that it increases integration in the Öresund region and even the European union to
mention not that it would just benefit the city of Malmö. As regional integration in the Öresund region increases, political support may be stronger for integration and this could be more political support for station-nearness principles.

B) Working together in Scania

Various groups of people who work with planning on a regional scale all know very well that Sweden has a planning monopoly on the local level for physical planning. As we did discuss though earlier, local planning has a local monopoly and is partially a barrier to establishing station-nearness principles. What can be done about the lack of regional planning in Sweden? You could say there needs to be reform in the planning system however that is political and is something that might take time if it happens, for now, there needs to be a focus on making better use of what exists now.

Upon speaking with an actor working with regional transportation in Scania, the question was what tools Scania has for addressing regional issues? He mentioned that there is a project called “Strukturbild för Skåne” (M. Petersson, personal communication, February 29, 2008). This project attempts to meet with many different actors of the sectors and combine that of physical planning, with specific regards to station-nearness policy, the topic is a very popular talk in most of the meetings as an opinion from the interview (M. Petersson, personal communication, February 29, 2008). It can be difficult to access the effectiveness of the project, never the less making it an intention to bring more regional issues to the local level and the working together of different actors is certainly a step in
the right direction. The project does never the less remains to be voluntary and non-binding. When asking a Skånetrafiken planner about his opinion on “Strukturbild för Skåne”, it was that right now they have just taken inventory, looking into what is ahead for the region, eventually they will get into the deeper issues such as where to put infrastructure however for now, it will take time to develop. With that, his opinion is that it is just dialogue, you need to have legal responsibilities; there is a big difference between talk and action (A. Ekberg, personal communication, March 13, 2008). With respect to that, there certainly are limitations when anything is not binding, never the less; they have just started base discussions with more in-depth issues on the table. Perhaps as time goes on, there may be growth pressures, the sides may be able to make some progress and come to common ground on some aspects. With regional issues being discussed more frequently with municipalities, there is a greater chance “Strukturbild för Skåne”, can bring up discussion of station-nearness principles in municipalities in Scania.

C) The Örib project

The Örib project is a European union funded project (Örib, 2008). One comment from a planner in Copenhagen is that the Örib project is an interesting story when speaking about the Öresund region integration and that along with that, there can be an opportunity to try to establish common planning laws on both side of the sound (H. Sylvan, personal communication, March 11, 2008). The project works in many areas with different actors as it attempts to act as dialog between different actors. Even though it is non-binding, suggestions are put forward and planners can become better educated (S. Hansen,
personal communication, February 22, 2008). How does the project particularly help with the creation of station-nearness principles in Scania? Perhaps through discussions on both sides of the sound, there is much talk about the increasing use of car use and that more and more often that offices are choosing to locate where there is more there is access to motorways. The common solution is to share on both the sides the possible solutions on both sides that need to be implemented. One of the popular solutions is looking into the issue of station-nearness policies that need to be implemented. There is limitations though, a planner with the project expressed that most local planning agencies make long term plans, the Örib project must make suggestions and implications many years beyond the long term plans of the local planning authorities (S. Hansen, personal communication, February 22, 2008).

There probably have been many projects before which have attempted to increase integration in the Öresund region, however the question of interest is what will make the Örib project better than all the other projects in terms of increasing integration in the Öresund region?

The response to this question from an Örib transportation planner was that before the Öresund bridge, there was very little corporation. He did mention however that the Örib project is covering two countries and that there could probably never really form a binding plan but just recommendations. He went on to mention that municipalities are not used to seeing their city on a regional level, the municipalities have the chance to work with it more through the Örib project (S. Hansen. Email interview, May 13, 2008).
It can be difficult to say what will happen, the organization is relatively new, the bridge is relatively new, you have Malmö City Tunneln, you have a tunnel in Helsingborg station-nearness proposals, you have a sharp increase in the amount of people working and living on different sides. With these factors in mind, in a global economy and governments talking more about integration, the future looks promising for the role of Örib in increasing integration in the Öresund region. In terms of station-nearness principles being enhanced in Scania, more integration could mean a spread of what works in the Copenhagen region to becoming applied more in Scania.

**Overall conclusions**

We started off in our first section with discussing how the station-nearness principle applies in North America through their definition termed transit-oriented development. There are many definitions of transit-oriented development however we have narrowed it down to the seven most popular ones that revolve around making development around stations and having development that is high density, mixed and conductive for public transit use. These concepts can be easily applied in the European context of station-nearness principles as well. Vancouver in Canada can be perhaps one of the best examples of transit-oriented development in North America. There was the pressures to improve upon the road networks however neglected the needed motorway expansion and with this over the years came high density urban villages, some in the form of transport oriented development, public support for this type of development was increased over the
years. The public transit system developed over time and up until today, transit-oriented development continues to flourish along the rapid transit lines in the city. The Copenhagen region gained its success through the finger plan that called for developing around the stations and providing disincentives for automobile use. Up until today, the finger plan is still in use for planning in the Copenhagen region, partially because it is something that has worked over the years it has worked. Studies have been done on station-nearness in the Copenhagen region; there is specific evidence of the principles working. Because of station-nearness principles, a large percentage of people have increased accessibility to different modes of transportation, this allows the city to promote growth yet handle it in a sustainable way, as well, it provides for a strong quality of life for those living in the region.

In Copenhagen, there are many S train stations that have high-density functions around them, however some of the stations lack mixed-land use planning. Many stations have residences and workplaces however many stations lack public space, something which needs to be improved upon. Some stations south of the Copenhagen region have been able to create public spaces and entertainment functions around them, thus allowing people to remain in their communities during their leisure time.

One example of success has been Ørestad. You have a development that was at the right place and right timing at the start, and then you have state support and money upfront to invest in a world-class metro as a foundation for transport infrastructure. You have chance to use real estate sales to pay the metro loan back. The development company has
expropriated much land however generally people see how the development has benefited the city and the support remains strong. Perhaps the new way to plan cities is to have adequate public transportation before development is built. There still remains to be issues for getting people out of their cars, Copenhagen still does not have a congestion charge, it is the national government versus the municipal government caught in negations and political talks on how the system would work and who would keep the revenues.

We crossed the sound to Scania, the principles of developing around the station is somewhat lacking in awareness. The lack of regional planning and a lack of coordination with municipal actors often takes the awareness away from how development is integrated with public transportation. The population pressures are also less as well the region unlike Copenhagen is not a capital region, growth pressures are less, government actors and the general public may not see the need to carefully plan for the long term. You look at some stations such as Landskrona, the land around the station is not maximized at this time by many means, you could have far more functions and mixed land use, as well, you could and you could integrate the station better with the surroundings. Lund has many functions around the central station however workplaces are not typically near the station and in reality Lund is perhaps the most accessible station in Scania, there should be more functions integrated around the station because of that.

Ørestad was successful partially because transport infrastructure was there before development happened. Malmö City Tunneln project happening now presents an
opportunity for Ørestad’s success to happen in Scania. It was not just the city of Malmö that came up with the funding, the national government and even the European union came in, and the project was partially justified that it could increase integration in the Öresund region you could say. There is much planned, many station-nearness principles can be enhanced along the line. Hyllievång will be a new complete town centre and will increase accessibility for all not only in Malmö but those in the Öresund region. There are two aspects that could be improved upon, one is they are focusing on a area of 1000 metres which in reality is too large and is not within walking distance, there will have to be strong bus and bicycle connections in order for people to make use of the new line. Secondly the proposed parking plan for Hyllievång is far too much and will only take away from valuable land around the station; creative solutions will have to be there in order to make the parking plan work so that the pedestrian environment around the station can be maintained.

Helsingborg for around 10 years could be one of the only places in Scania that has a plan similar to the Copenhagen region finger plan for containing growth and focusing development around train stations. The decision to put the central station under a tunnel has allowed the inner city to flourish in functionality and diversity, by many means. Other stations around the city will flourish over time, the service needs to be improved on the rail network also too it will simply take time as the population grows. Reservations are made to develop around the stations; the direction seems to be positive for Helsingborg with station-nearness principles being implemented.
Lastly we look at how regional actors are coming together to enhance station-nearness principles. An organization called “Strukturbild för Skåne” has started out for various actors to discuss regional planning issues; station-nearness principles form a significant part of the talks. The criticism is that it is dialogue and that it can not implement binding directives, the talks however just started, more in depth issues will surface, and even though it is not binding, positive change is possible to come out from the project.

Lastly the Örib project has potential to play a large role in the integration process in the Öresund region, it is non binding and they have to be against strong local planning authorities never the less many actors are interested in integration and perhaps the need for integration is great than ever, the role of the Örib project in the future looks bright. With more integration, there is more of a chance that the success of station-nearness principles in Copenhagen will blend over to Scania.

Building more around station-nearness principles through the right coordination of urban functions with public transit, will increase the accessibility of those in the Öresund as a whole. With this, increased integration in the Öresund region will occur as result. Both sides can not be sustained alone, they need to come together for many solutions, station-nearness principles on both sides of the region is one means of increasing integration and providing greater accessibility to public transportation.
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