



Transport, Mobility & Urban Planning Rönneholm & Östra Sorgenfri

Group 9

Joakim Andersson

Elias Egnell

Emilia Stålhammar

André Wiedewilt

Districts

Land Use & Morphology

The two district this work focus on is Rönneholm and Östra Sorgenfri, both district is located just outside the city centre, Rönneholm southwest and Östra Sorgenfri east of the centre. Both districts got similar area of their district Rönneholm is 50 hectare and Östra Sorgenfri is 40 Hectare.

Morphology

The Morphology is similar in the districts, both is brought up from the beginning of the 1940's to the late 60's with some exception for some single buildings in the areas. Most of the buildings are apartment buildings some with services on the groundfloor along the bigger streets. Both districts have mixed building style with majority of high- and low rise-housing (länsstyrelsen. 2005). The big difference in the areas is that Rönneholm got more public green space in the district while Östra Sorgenfris green space is more semi-public and smaller.

Land use

Looking at the land use in the districts it's also similar with service among the bigger streets with restaurants, supermarkets and some other services. Both districts got schools but Rönneholm got healthcare in the area while Östra Sorgenfri doesn't but got it just outside the district.



*Fig. 1. Source: Quick OSM.

*Fig. 2. Source: Quick OSM.

*Fig. 3. Source: Dataset Package 2021, Malmö University.

Fig: 3 *

Road Types



Streets

Both districts are surrounded by arterial roads as seen in Rönneholm Fig. 1:1 and in Östra Sorgenfri in Fig. 1:2, Östra Sorgenfri has a railway to the east and that is one reason to why there only is a collector road there while Rönneholm is surrounded in all directions by arterial roads. Another differences between the districts are that local streets in Östra Sorgenfri isn't connected to the arterial roads while in Rönneholm most of the local streets are connected to arterial roads.

Bicycle paths

Rönneholm and Östra Sorgenfri both have proper bicycle paths, these are marked in green in fig. 2:1 and fig. 2:2. In some cases people riding bikes are forced to share the roads with the cars and buses, this is shown by the green dotted line connected to the green lines at the start and end. Rönneholm is surrounded by two horizontal bicycle paths and one crossing the area just off-center. Other than that the area is greatly lacking bike-lanes and riding a bike in the area might be considered dangerous since people riding bikes are forced to share the road with cars and buses on a majority of the roads. Looking at the figures you can see that there are many crossings for people riding bikes, except for the vertical path which has no crossings at all. Apart from that Rönneholm is very bike-friendly with two bicycle pumps. Östra Sorgenfri has no surrounding bicycle paths, however a majority of the roads in the area have bicycle paths on at least one side of the road, about 9 out of 16 roads have a bicycle lane. In this area there are two vertical paths going straight through, and are shared with pedestrians and one horizontal partly shared with cars. Östra Sorgenfri is lacking crossings and getting from one side of for example Nobelvägen to the other side is almost impossible. The major road Amiralsgatan has got no bicycle lane at all at some parts and lacks an alternative bike lane close by.

Pedestrian paths/Sidewalks

Every road in Rönneholm and Östra Sorgenfri has sidewalks. These are marked in orange in fig 3:1 and fig. 3:2. They are broad, mostly well lit and straight which means good visibility. There are several traffic light crossings along two of the biggest roads, Nobelvägen and Amiralsgatan in Östra Sorgenfri and the safety of the pedestrians can be considered high, as in Rönneholm with its exclusive vertical road shared between pedestrians and bicycles. The connectivity can be considered good with easy access to major roads when walking.

Rönneholm

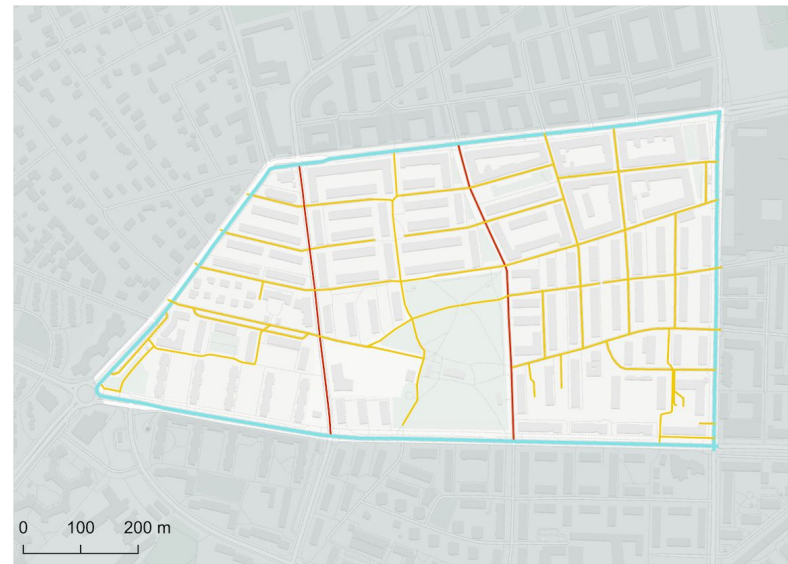


Fig. 1:1. Source: Group Observation

Östra Sorgenfri

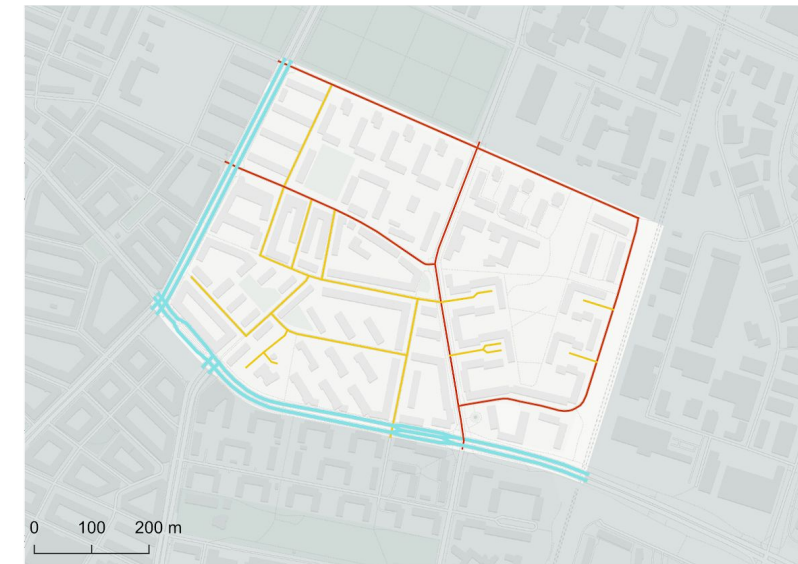


Fig. 1:2. Source: Group Observation

- Road types
- Arterial
 - Collector
 - Local

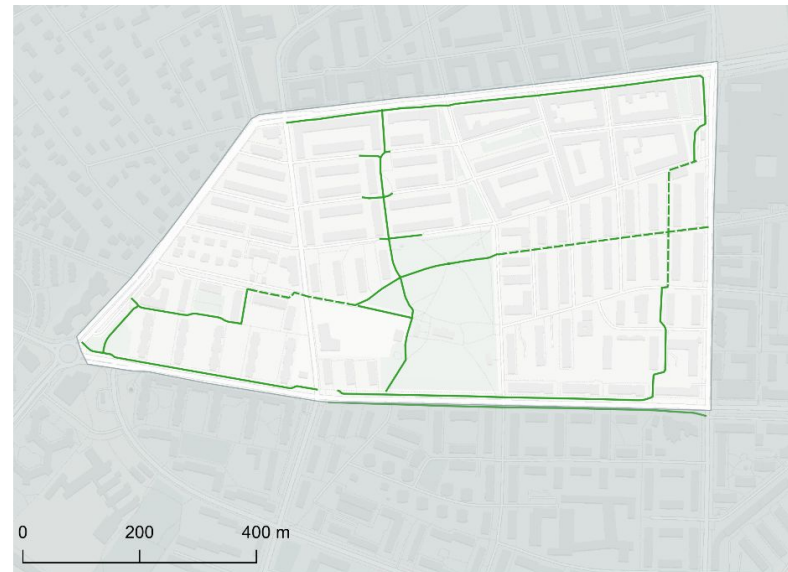


Fig. 2:1. Source: Quick OSM.



Fig. 2:2. Source: Quick OSM.

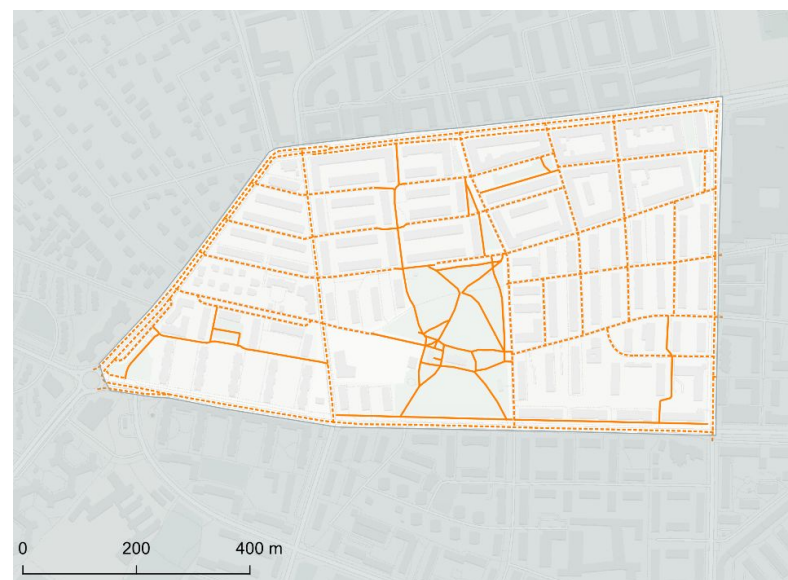


Fig. 3:1. Source: Quick OSM.



Fig. 3:2. Source: Quick OSM.

- - - Pedestrian path and Sidewalk
- - - Bicycle path on street
- Bicycle path

Parking

With the heavy traffic on Östra Sorgenfris two main streets there is a decent amount of land dedicated to parking lots. Visible in figure 3 there are three public parking lots and in figure 4 there are five private parking lots. Apart from those there are several streets in the area where you can park your car for a fee, about 90% of the roads offer on-street-parking in Östra Sorgenfri. The parking area for private parking is about 5550 m² and the public parking area is about 8150 m². The total land area that is occupied by parking lots is close to 13600 m². To add to that Östra Sorgenfri has got 11 garages that offer underground parking though all of them are private. To park at the public spots, you got to pay a small fee 10kr/h 9-18 monday to friday, the other hours and the weekends are free of charge (Parkster, 2021)

It's similar in Rönneholm, but with less parking lots and more street parking. The street parking is available at close to 100% of the streets in Rönneholm. To add to that, Rönneholms private parking area is 5150 m² and public parking area is 6210 m². The parking fee in Rönneholm is 10 kr/hour 09.00-18.00 Monday-Saturday and every other hour it's a fee of 2 kr/hour (Parkster, 2021)

The garage entrances are marked by red dots. These show that there are more private parking available in garages underground in the areas than just the parking lots and on street parking above ground. We have no estimation of the actual parking space underground since it's private property and not available to us. The price for parking your car in the garages isn't available to us either since it's decided by each and every landlord in the area.

Car Owners

As shown in Fig. 1:1 and Fig. 1:2 the car ownership per person is higher in Rönneholm than in Östra Sorgenfri. That can not be considered in line with parking area in each district where Östra Sorgenfri has more land set aside for parking and is smaller than Rönneholm in area.

Rönneholm

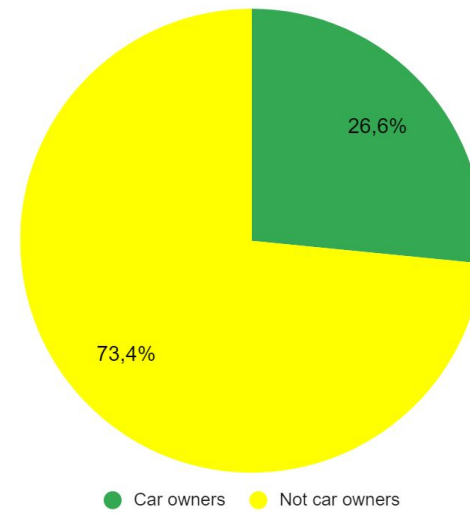


Fig. 1:1. Source: Stadskontoret Malmö.

Östra Sorgenfri

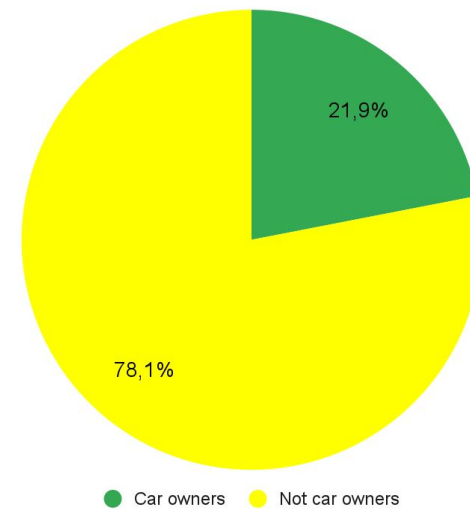


Fig. 1:2. Source: Stadskontoret Malmö.



Fig. 2:1. Source: Google Earth.



Parking space
▣ Private
▣ Public
● Garage



Public Transport

The two districts are well connected within the public transport network with good alternatives to reach most major parts of Malmö by bus, increasing accessibility in the districts. Compared to Rönneholm, Östra Sorgenfri has more bus trips with route 5 being the most frequent with 12 buses per hour passing through the district during the daily hours (Skånetrafiken.se, 2022).

Östra Sorgenfri is also well connected to the rail transit service due to the close proximity to Rosengård Railway station just outside the district.

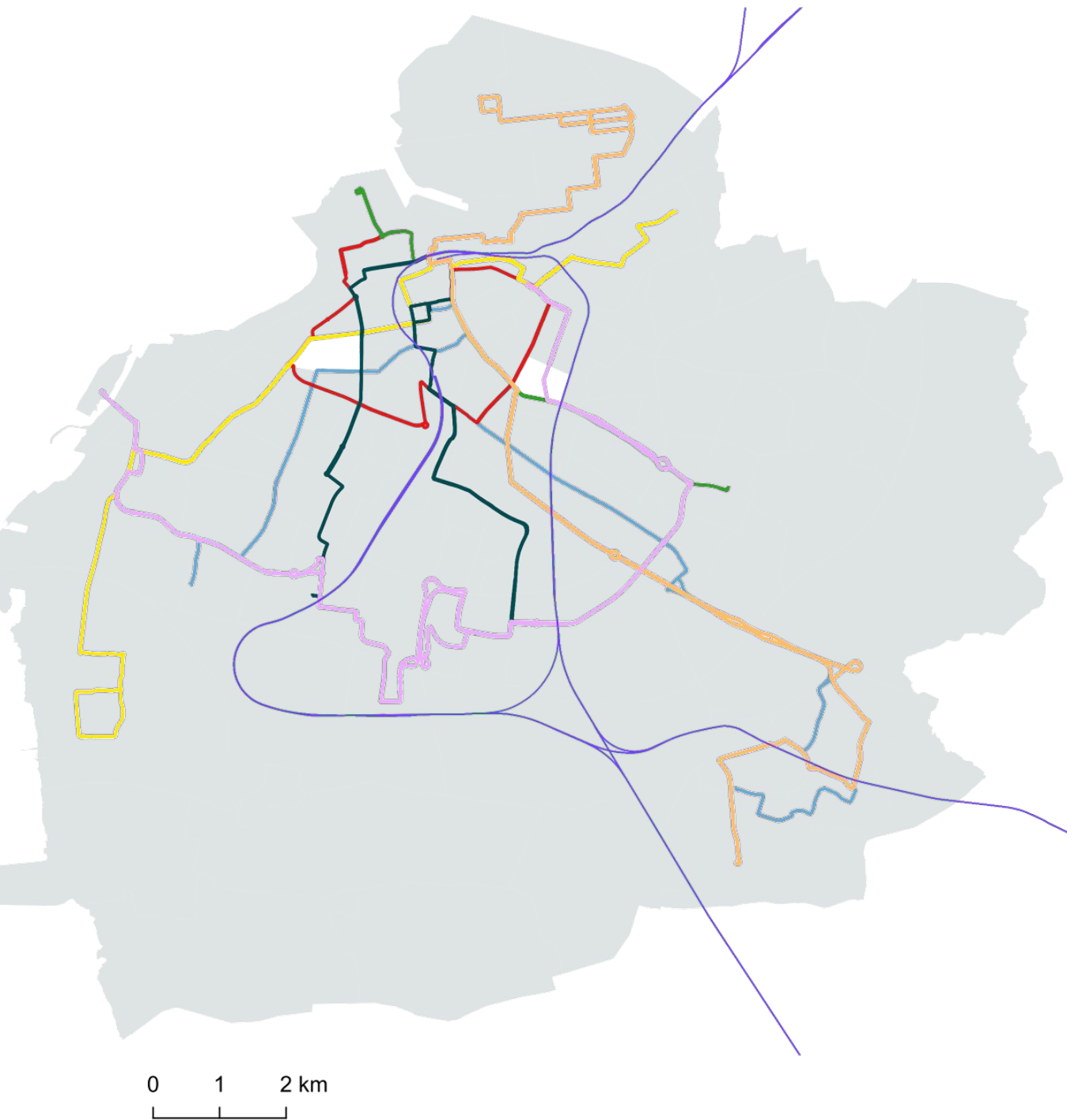


Fig. 1:1. Source: GTFS Go.

Rönneholm

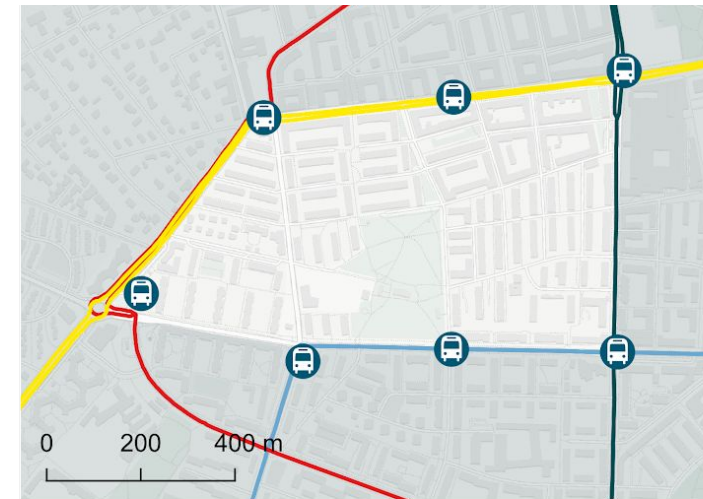


Fig. 2:1. Source: GTFS Go.

Östra Sorgenfri

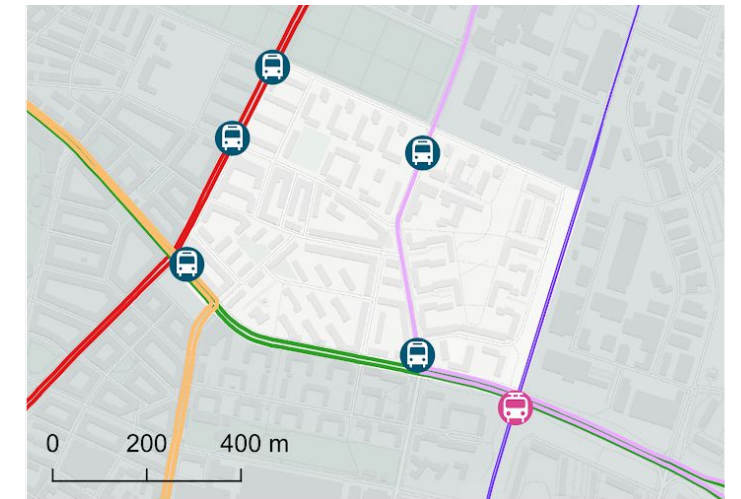


Fig. 2:2. Source: GTFS Go.



Bus Trips - Östra Sorgenfri

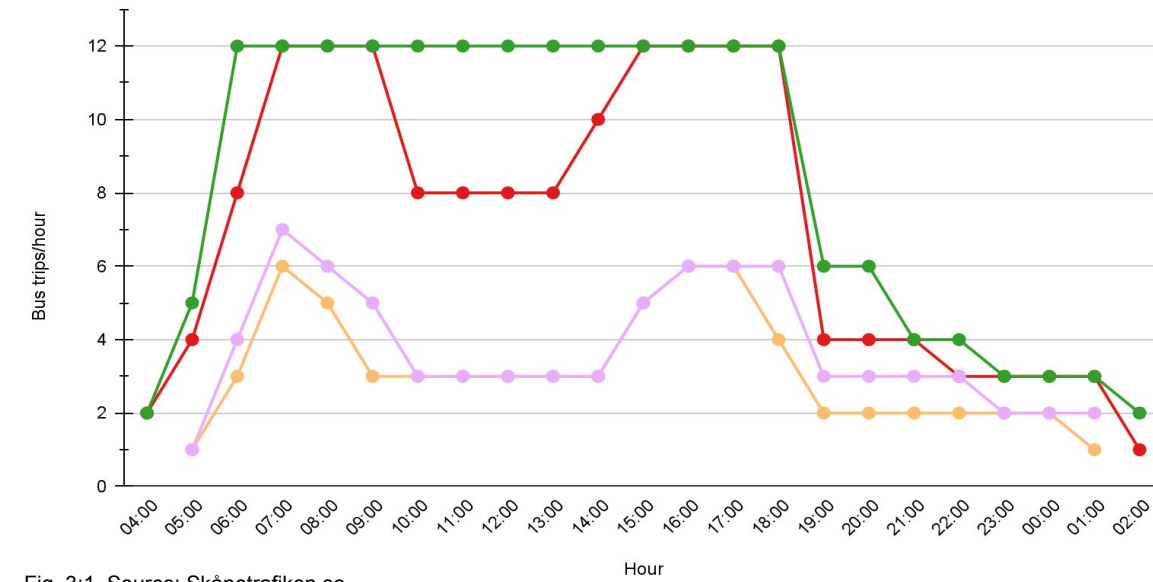


Fig. 3:1. Source: Skånetrafiken.se.

Bus Trips - Rönneholm

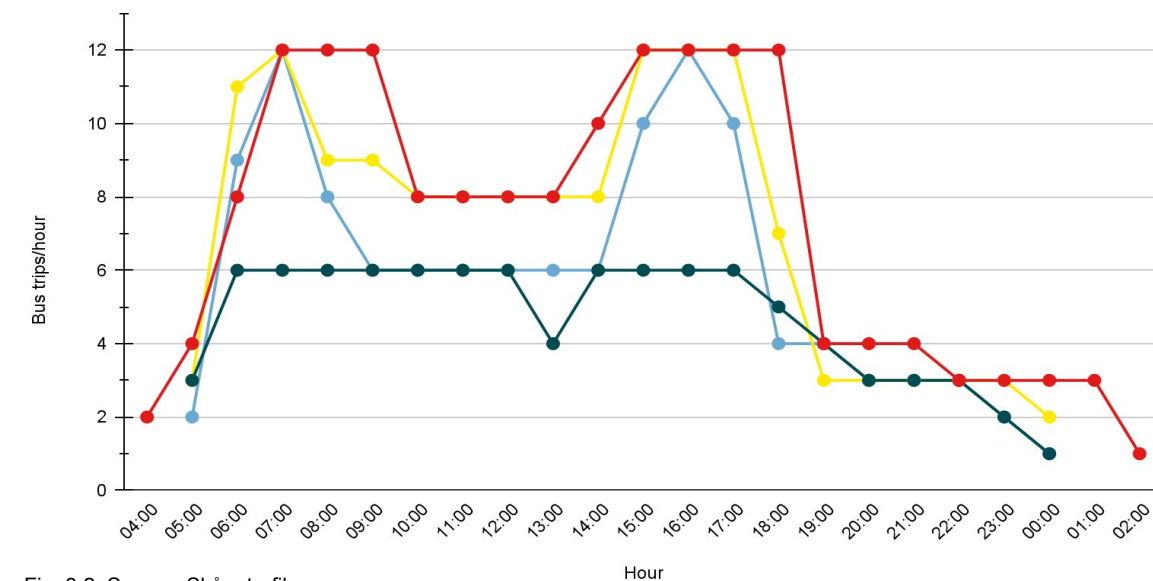


Fig. 3:2. Source: Skånetrafiken.se.

-  Bus Stops
 -  Railway Station
- Routes
- 1
 - 3
 - 4
 - 5
 - 8
 - 32
 - 33
 - Rail Line

Public Transport - Service Area

The service area of the bus stops, 500 meter walking distance, has good coverage in both the districts.

Rönneholm



Fig. 1:1. Source: GTFS Go

Östra Sorgenfri

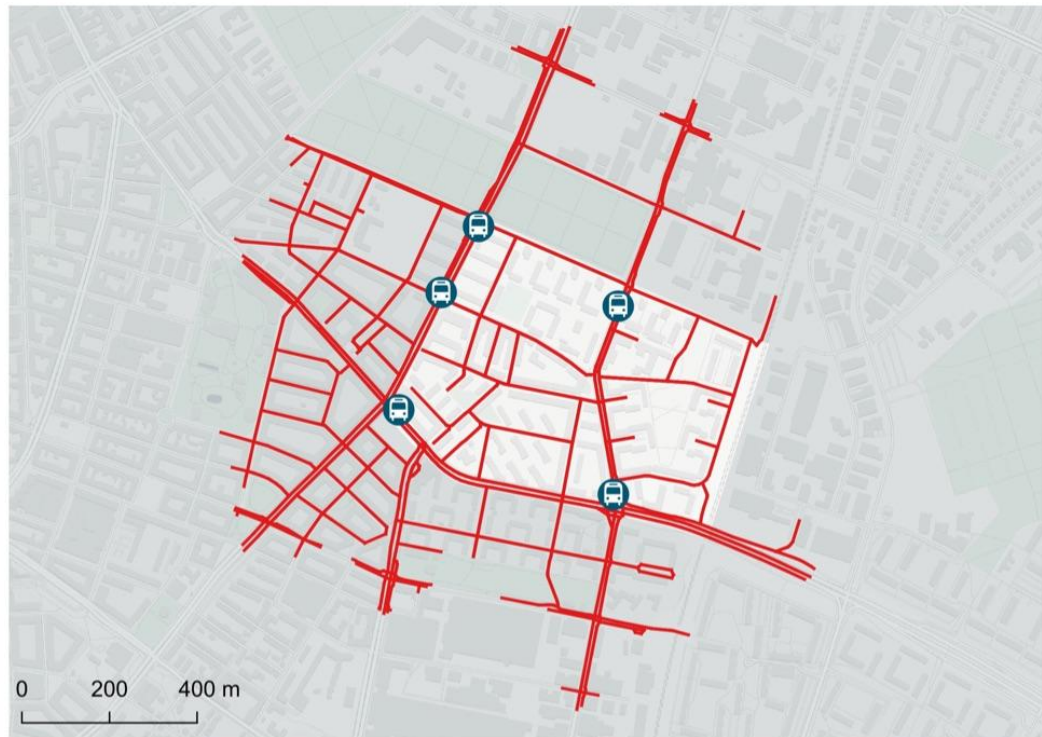


Fig. 1:2. Source: GTFS Go

 Bus Stops
 Bus - Service area 500m

Malmö by Bike - Rental bikes

Rönneholm is also very well connected to the Malmö by Bike network. Östra Sorgenfri lacks connectivity in its northern part. A drawback for users of the rental bike system in the district.

Rönneholm





Fig. 2:1. Source: Dataset Package 2021, Malmö University

Östra Sorgenfri



Fig. 2:2. Source: Dataset Package 2021, Malmö University

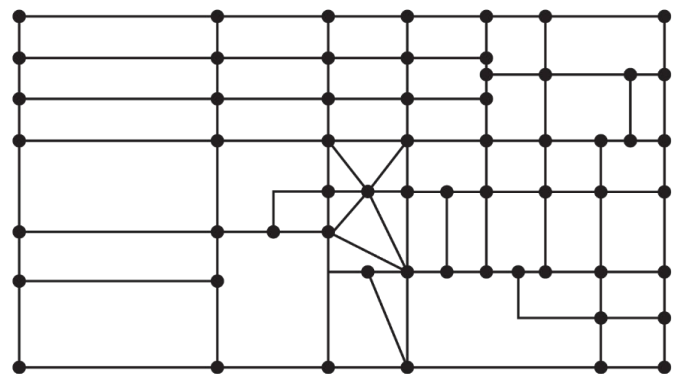
 Malmö by Bike Stations
 Service area 500m



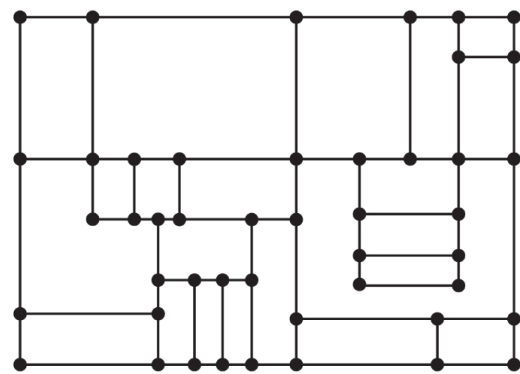
Street Network Analysis

Conventional Transport Network Analysis

Using a graph theoretical conventional transport network analysis it is possible to analyse the street network configuration regardless of the morphology and the absolute geographical scale, and capture properties such as connectivity (Marshall, 2005). The network configuration of both districts have clear similarities where as the older parts have a more dense collection of nodes and links.



Rönneholm. Link to Node Ratio 1.75



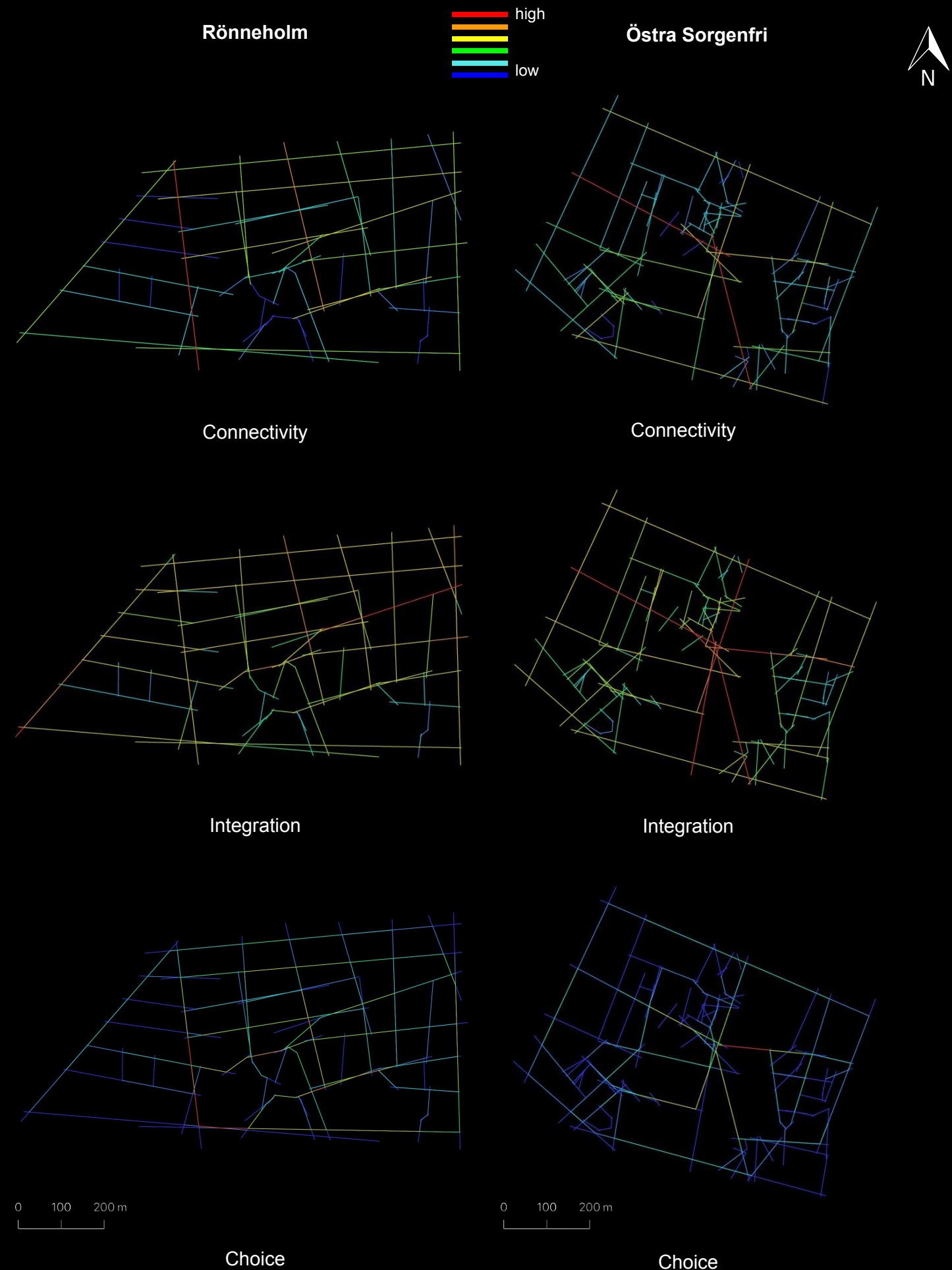
Östra Sorgenfri. Link to Node Ratio 1.46

Space Syntax Analysis

Public spaces can play a vital role in today's society and development of the city. The urban areas is a continuous spatial system built with different elements, such as parks, city centers, neighborhood, open areas ect. Monokrousou & Giannopoulou (2016) says that the network is "connected in a certain way with the other components, so as to affect the social and economic characteristics of the entire network" (Monokrousou & Giannopoulou, 2016, p. 510). A space syntax analysis shows the relationship between space and society by analyzing the street network and making us understand the city on a spatial and functional level. By applying the theory of natural movement and knowing how the human brain works we know that humans choose the simplest route to their destination (Hillier et al., 1993).

Rönneholm: Based on the **connectivity**-map of Rönneholm the connections are different depending on the street. The least connected streets in the area are the paths in the park, maybe because they are the paths that curve the most. The best connected street is the Major Nilssonsgatan with 13 connections to other roads. The map of **integration** shows that the area is not very integrated, most lines are yellow. The most central street to the network is Östra Kristinelundsvägen which starts in the outline of the area and ends sort of in the middle. The **choice** map of Rönneholm shows that the most important through-road for the network is the Major Nilssonsgatan och Köpenhamnsvägen.

Östra Sorgenfri: From the **connectivity**-map we get the result that the Spånehusvägen and Östra Farmvägen have the best connectivity with 14-15 connections. The streets with the worst connection are the pedestrian paths. Based on the **integration** map we can confirm that the area has good integration. Mainly because the most central streets to the network run from north to south and east to west. The **choice** map of Östra Sorgenfri shows that the most important through-road for the network is the pedestrian path by a school. At first this seems off because it is such a small street but when looking at the big areas without any street network right beside the small path we can see why it is important as a through-road.



Travel Pattern Survey

We created a digital survey that was sent out to residents in the districts with questions related to their travel habits. The participants were personally asked by us, which limited the number of answers but gave us the opportunity to analyze the answers better because we knew more about our participants in advance.

The majority of the respondents daily trips started at home and then ended either at school or work. On weekends it differs more, then the trips may go to the city center or families in other locations. Most make between 2-4 trips per day and the time spent on these can be divided into two categories, short trips of 8-15 minutes, and longer trips of 30-70 minutes. Respondents who indicated that they study make shorter trips while many of those who work make longer trips. As many go to school and work, many are going out of the district in the morning (7-9) and back again in the afternoon (16-18). On weekends this may be different as fewer people work or study.

The most common mode of transport on weekdays is cycling, public transport and walking. Several respondents add the car as an alternative mode of transport on weekends. When asked "Why do you choose to travel the way you do?" many respondents say they choose cycling because their destinations are close. Those who choose to travel by public transport do so because it is cheaper, better for the environment and they do not have access to a car. Those who take the car do so because they do not have to adapt to bus timetables, it's quicker and good for picking up large items. Those who walk usually do so because it is pleasant and the center is close. This means that people in the areas use car roads, cycle paths and public transport. Those who cycle are likely to use the cycle paths that exist in the areas today and those who use public transport will get to the appropriate stop. At weekends, car roads may be busier as many people report traveling by car at that time.

The follow-up question is about what people think should change in order for them to choose to take the bicycle or travel by public transport. To this question, some responded that public transport could be cheaper, have more departures and less crowding. Many believe that a major area for improvement are the cycle paths. It is important to know that the majority of those who cycle live in Östra Sorgenfri whilst all of the participants from Rönneholm own a car. This is why everyone who responded that the bike lanes should improve live in Östra Sorgenfri.

“Missing bike path on Amiralsgatan, a lot of traffic there and can feel unsafe to cycle among cars on such a busy road”

“Maybe even more cycle paths so you don’t have to cycle on the road in some areas”

“Smooth and wide bike lanes with good lighting and safe crossings”

Some feel they sometimes need a car and these respondents make between 2-8 trips per day that are longer than 40 minutes. The most common reasons for needing a car are for longer trips, when buying larger pieces of furniture, to make the journey quicker and when you want to be more flexible in your travel. Those who do not feel that they need a car are studying and their journeys are between 10-15 min. Some respondents say they own a car and the majority of them work and make between 2-6 trips per day ranging from 10 min up to 1h 10 min. Unfortunately we only got a total of 11 answers which makes this form of analysis less reliable.

Accident Statistics

As shown on the maps there are some accidents in both Rönneholm and Östra Sorgenfri. According to Nationalföreningen för trafiksäkerhetens främjande (NTF) the accidents are in the type of gentler kind like minor accident and moderate accident. (NTF, 2019)

In Östra Sorgenfri you can easily see that most accidents are in combination with big roads and bicycle paths, then it's clearly that the safety of bicycle paths doesn't is safety enough to ride on. When bicycle and motor vehicles need to share the streets are where the accidents are more common.

In Rönneholm the statistic according to NTF shows that there is less accident Bicycle-Car and more single bicycle accident. The only two Bicycle-Car accidents in Rönneholm 2018 were in place where bicycle and cars need to share the space on the road.

Rönneholm

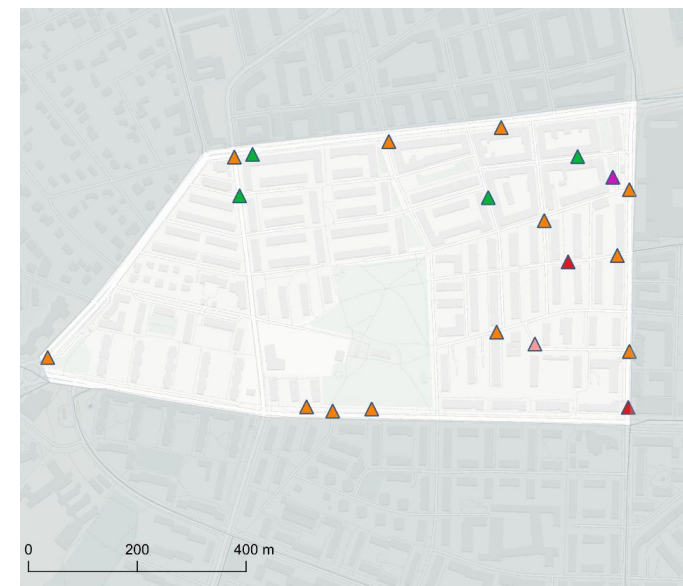


Fig. 1:1. Source: NTF, 2019. Cartographer: André Wiedewilt

Östra Sorgenfri

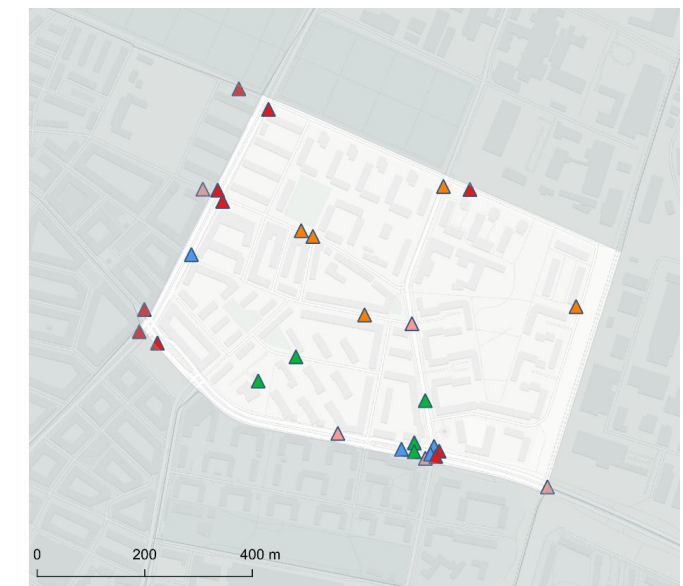


Fig. 1:2. Source: NTF, 2019. Cartographer: André Wiedewilt

- Traffic accidents
- ▲ Motorist-Motorist
 - ▲ Bike-Motorist
 - ▲ Bike single
 - ▲ Pedestrian single
 - ▲ Pedestrian-Motorist
 - ▲ Pedestrian-Bike

Other Plans Around the Districts

One of the planned expansions in the nearby area is a development of Amiralsgatan to a city main street with residences near Rosengård station. The plan is to prioritize the street space for bike lanes and public transport, shortening public transport travel times, improve the punctuality, make crossings safer, have separate and more connecting bike lanes and prioritize cyclists where they and cars are mixed. The plan may result in that people in Östra Sorgenfri will have easier access to Rosengård station, better and safer bike lanes along Amiralsgatan and facilitate public transport, which opens up more opportunities within these transport alternatives.



Fig. 1



Fig. 2

There are also ongoing plans for Norra Sorgenfri. The purpose of the plan is to make the district part of the inner city with a dense structure and mix of housing and businesses. The plan may affect Östra Sorgenfri as more housing and a preschool means that more people need connections with bicycles and public transport, which may result in these transportation modes eventually developing in the area.

MalmöExpressbuss line 10 (MEX line 10) is included in the development of Malmö. They want to improve public transport and supplement the roads with cycle paths if possible. The sub-project, Mariedalsvägen, aims to investigate public transport promotion and to improve cyclists' accessibility. It includes Mariedalsvägen from Limhamnsvägen to John Eriksson's road. In the plan, the street is designated as a lane for public transport and a main cycle lane. This plan develops the Rönneholm residents' opportunity to get around safely and quickly on cycle paths.



Fig. 3



Fig. 4

North of Östra Sorgenfri, two new areas are planned, Brännaren and Smedjan. Brännaren is intended to include 500 residences, an elementary school, a sports hall and two preschools. A new street network with squares and parks is planned for increased security and well-being. The eastern part of Smedjan is intended for residences, a preschool, shops, a park and offices, while the western half remains unchanged. The plans will involve more residents in the area, which can develop public transport and bike networks, as in the proposal for Amiralsgatan.

Fig 1: Malmö Stad. (2021). *Planprogram 6051 - Amiralsgatan och station Persborg*. Illustration: Mandaworks. Bakgrundsbild: Globespotter
Fig 2: Foto: Malmö stad, stadsbyggnadskontoret Malmö Stad. (2008). *Norra Sorgenfri - Planprogram*.

Fig 3: Malmö Stad. (2020). *Projektdirektiv - Projekt 10.2 Mariedalsvägen inom MEX linje 10 - Storstadspaketet*.

Fig 4: Malmö Stad. (Last updated 16 februari 2022). *Brännaren*. Illustration: Ludvig von Hofsten

Conclusion

Based on the results from the analysis and inventory we can draw conclusions connected to the quality of the neighborhoods' transport infrastructure and travel patterns. In our observations in both districts we saw that big spaces were dedicated to the pedestrians with pedestrian paths along all roads, safe crossings, good lighting and good visibility. Less space was given to the cyclists. From our observations, the results from the digital survey and maps over the areas, we can safely say that the bike lanes and connection with Malmö by Bike are in need of improvement. Often the cyclists are forced to share the space with motor vehicles which means difficulties and unsafe crossings. In our analysis we looked at the accidents in the districts, most accidents include cars and cyclists on the roads where they share the space. In Östra Sorgenfri only two Malmö by Bike station is available and it does not cover the whole district. Based on the analysis we can see that both areas dedicate big spaces to cars, in both road space and space for parking. When observing the areas we see that almost all roads have double sided parking, plus the multiple garage parkings and private parkings in the districts.

The current transport infrastructure does not support equity in mobility and accessibility because all transport modes are not equal. Too much space is given to the cars, both for driving and parking, and very little is given to the cyclist. Malmö Stad (2016) uses TÖI, Norges Transportøkonomisk institutt, as a reference when confirming that the car is the least space efficient transportation mode because it covers 22,1 m²/person whilst a pedestrian only covers 0,8 m²/person, a traveler by bus 2,1 m²/person and a cyclist 9,7 m²/person. This means that any of the other transportation modes is better than traveling by car, and since the districts are very carfocues the neighborhoods do not encourage commuters to choose sustainable travel patterns.

Although the neighborhoods do have a strength in the public transportation and pedestrian paths. Buses in the area have good connectivity with big nodes, many alternatives and possible connections with trains. Based on the analysis we have found weaknesses in the districts linked to the bike paths as it can be unsafe to cycle on certain roads. There are also not great connections in the bike network from east to west in both areas. The biggest threat affecting the travel patterns in the districts is the overuse of private cars, taking parking space and road space. According to Schiller et al. (2010) private vehicles cause crowding on roads which can slow down public transport considerably. They say that "Transit delay can be viewed as doubling of traffic congestion's externalities: it adds delay to each of the bus passengers as well as increasing cost, such as driver time and fleet size requirements, to the public agency itself." (Schiller et al., 2010, p. 155). Choosing the car as transport mode does not just affect your travel pattern but everyone else's too.

Fortunately, the opportunities for the neighborhoods are many, fewer cars, improved bike lanes, safer crossings and less carparkings on the streets. Many of the current bike lanes in Rönneholm run from north to south but not east to west. According to the Space Syntax analysis the most integrated street is the Östra Kristinelundsvägen which would be ideal for a new bike lane but when zooming out we can see that there already is a perfect bike lane running all the way from Fersens väg to the border of Rönneholm. This makes Fågelbacksgatan more adaptable for building a continuous bike lane, and it also is parallel to the most integrated road which could affect the outcome positively. This lane could also connect to the most connected street, Major Nilssonsgatan, which is also a through-road together with Köpenhamsvägen, which strengthen the use of the new bike lane. In Östra Sorgenfri it is very clear that the Spånehusvägen and Östra Farmvägen are both connected and integrated which makes these optimal for a bike lane. The best through-road is already adapted with a bike lane which is good for connecting it with a new bike lane.

Our Plans & Strategies

Our plan is to connect the two areas Rönneholm and Östra Sorgenfri, with an extended bike lane along Spånehusvägen in Östra Sorgenfri to Folkets Park, Spångatan to Malmö Central and in Rönneholm we would like to expand the bike lane at Fågelbacksgatan to Erik Dahlberggatan and onward towards Davidhalls Torg. To add to that we're also looking to expand Malmö By Bike at Spånehusvägen, Östra Farmvägen intersection in Östra Sorgenfri. We chose this location because it's a good intersection with great connectivity north and south (Fig. 2:2). We would also like to reduce the amount of cars on the roads, mostly because the accidents around Nobeltorget (page 8, Fig. 1:2) may be considered a risk for bikers and might lead to people refraining from using their bikes.

Schiller et al. (2017) talks about mobility management and how it most of the time involves improvements to the already existing infrastructure. What we want to do is just that, improve the existing bike lane by expanding it through out our two districts. By expanding it at the cost of road side parking we would take giant steps towards a greener and more sustainable Malmö and even though Malmö already can be considered astoundingly bike friendly, we want to make it even more so.

To do this we've come up with two different albeit similar strategies. The first one is to remove the side of the road parking possibilities overnight, making the available parking spots fewer by a large number. Which can result in car owners finding other alternatives such as bikes or buses. This will result in fewer cars in the area, less sound pollution, less congestion and the well being in the areas will rise. In short, this strategy would be forcing people to find alternatives and giving us the opportunity to expand the bike lanes and place a line of trees between the bike lane and the road to make it greener, more attractive and most importantly safer for people riding bikes. The pros with this strategy are obvious, safety and minimal car-use but the negatives are that most people won't take their car to visit the area if it's a hassle to find a parking spot, this might lead to reduced movement at the sidewalks and less customers for the local businesses. This in turn might lead to that the businesses will struggle to keep open and the districts will not feel as alive and safe. Jane Jacobs (2005) writes that a flourishing street, full of people moving and just existing feels safe, she calls this the eyes of street and it greatly increases the feeling of safety in the area. This is not something we're wishing to change for the worse.

According to Schiller et al. (2017) incentives to encourage other modes of transportation relies heavily on pricing, they talk about bus lanes and transit priority but we believe this is applicable on steering people towards using the bike and the bike lanes too, This is what we would like to do in our second strategy.

By raising the price on parking in the two areas we hope would lead to the average car-user eventually getting rid of their car, leading to more space and less congestion. Malmö stad, Gatu och fastighetskontoret is already doing this across all of the city with the intention of improve the mobility, it's expected to be implemented fully november 2023 (Malmö Stad, 2022), however the increased fee is still too small and we think the city would benefit far more in sustainability if they charged even more. These are all good external benefits to raising the price but there are also some cons to this. By raising the price we would mostly be targeting people who can't afford it, these people tend to need the car the most instead of just having it for leisure. The high income households in the area will remain mostly unaffected and we might find ourselves in a situation where we're pushing away the ones who are in an economic struggle as is. This might lead to gentrification and it's not something we're aiming for. The best outcome would be that the people living in the areas try to utilize the many underground parking garages (Page 4, Fig. 2.1-2.2) and by doing that freeing up space along the roads while still being able to keep their cars for example emergencies or out of town trips.

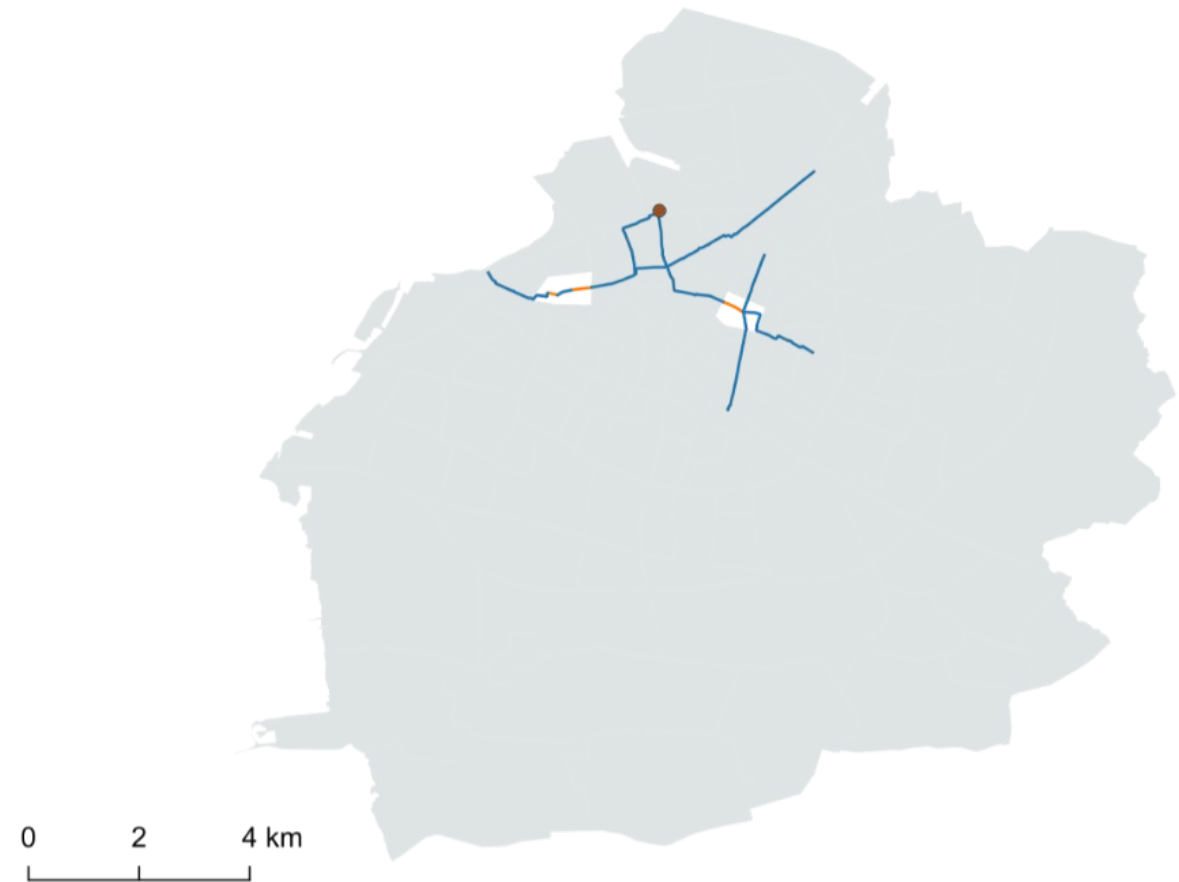


Fig. 1:1. Overview of our proposal covering both Rönneholm and Östra Sorgenfri as well as Malmö C. Source: Malmö Stadsatlas..

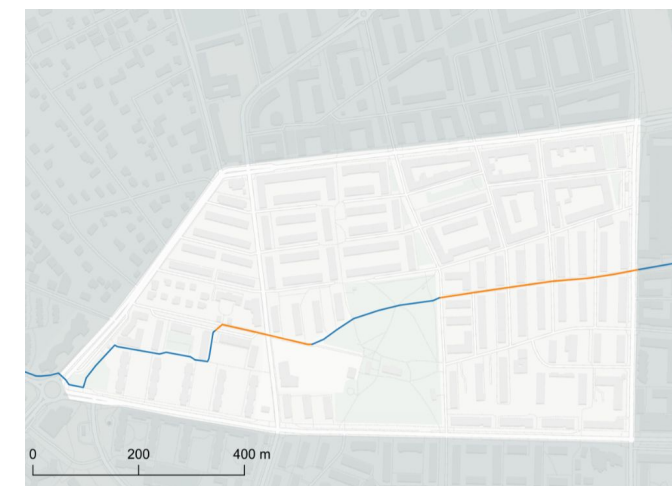


Fig. 2:1. Rönneholm, with two extensions marked in orange to the existing bike lane at Nordlings väg to the left and Fågelbacksgatan to the right. Source: Malmö Stadsatlas.



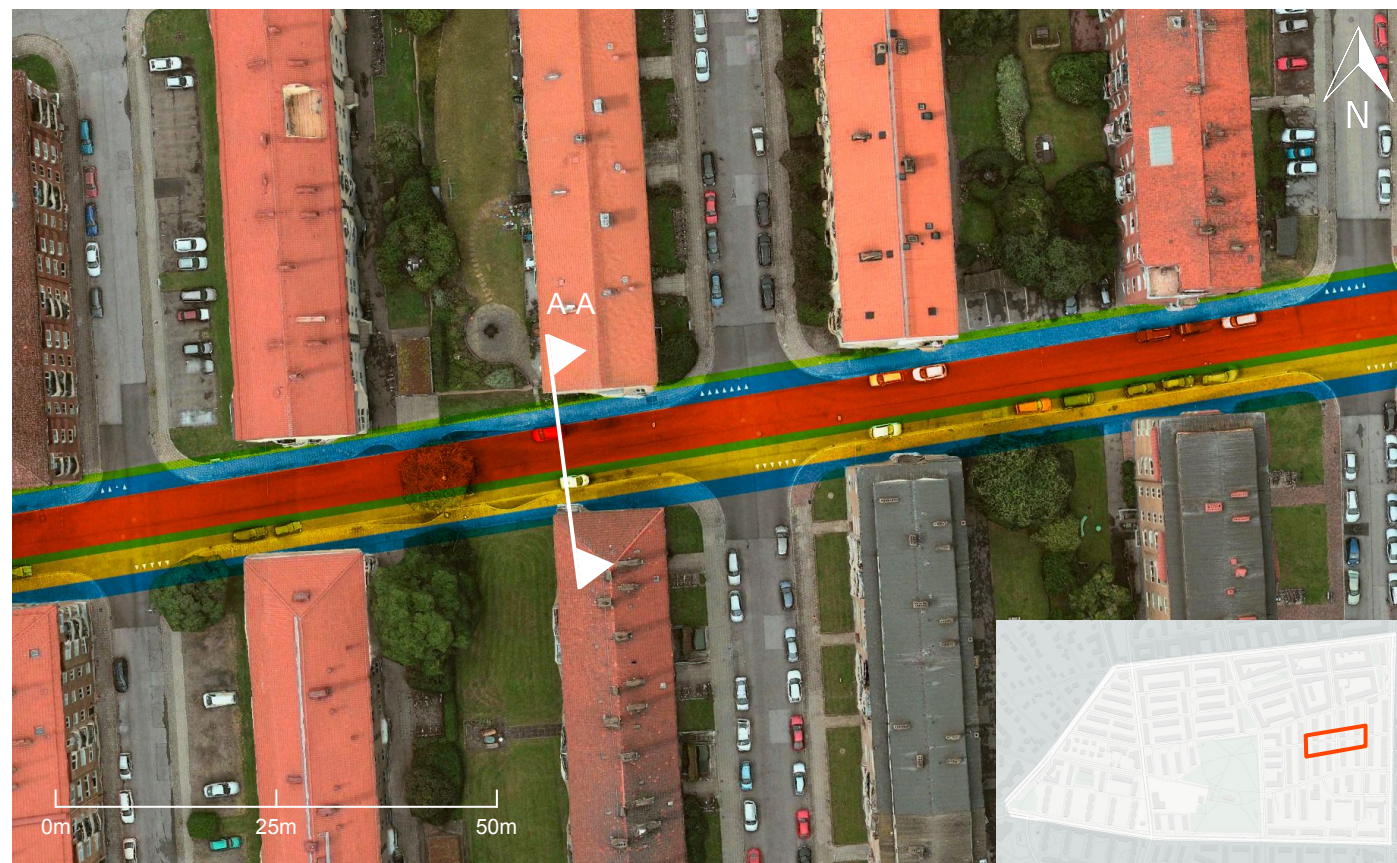
Fig 2:2. Östra Sorgenfri with extension of the bike lane marked in yellow at Spånehusvägen Source: Malmö Stadsatlas.

- New Malmö by bike station
- Malmö C
- Proposal
- Connectivity to Malmö's bike lane

Rönneholm

Based on the previous analysis our proposal is to expand the existing bike lane network and run a new route through Rönneholm. The suggested path is supposed to go from Fersens Väg, connect to Fågelbacksgatan, through Rönneholmsparken, across Major Nilssonsgatan and connect to an existing bike lane on Spegelgången and Lekgången. In the analysis we could see that many parts of the district are designed for cars, with a lot of on street parking. Our suggestion would result in removing one of the double sided parking on Fågelbacksgatan to make space for a bike lane. Schiller and Kenworthy (2017) writes about a theory which seeks to limit car-based design. They say that “the main objectives in this theory and practice are to promote walkability, cycling and greater use of transit (...) and facilitate the development of healthier communities” (Schiller & Kenworthy, 2017, pp. 196-197). The bike lane would go parallel with the most integrated road in the area, through the most connected road and an important road for choice. All these factors could help the bike lane be more used by cyclists.

We chose to improve the bike lanes because the results from our analysis showed that a lot of space is already dedicated to pedestrians and the public transport has good connectivity. Based on the conventional transport network analysis we could see that both areas had a developed network for the pedestrians with many connections and nodes. Our new bike lane could instead be an addition to these transportation modes since it now would be available to safely take the bike to the bus. This would solve the problem of cyclists and motor vehicles sharing the road space and make the transport more safe. The respondents of the digital survey living in Rönneholm all own a car and use it in their daily transportation. We want our proposal to open up more opportunities for people living and visiting the area and make it possible to choose a more sustainable mode of transportation without risking their safety.

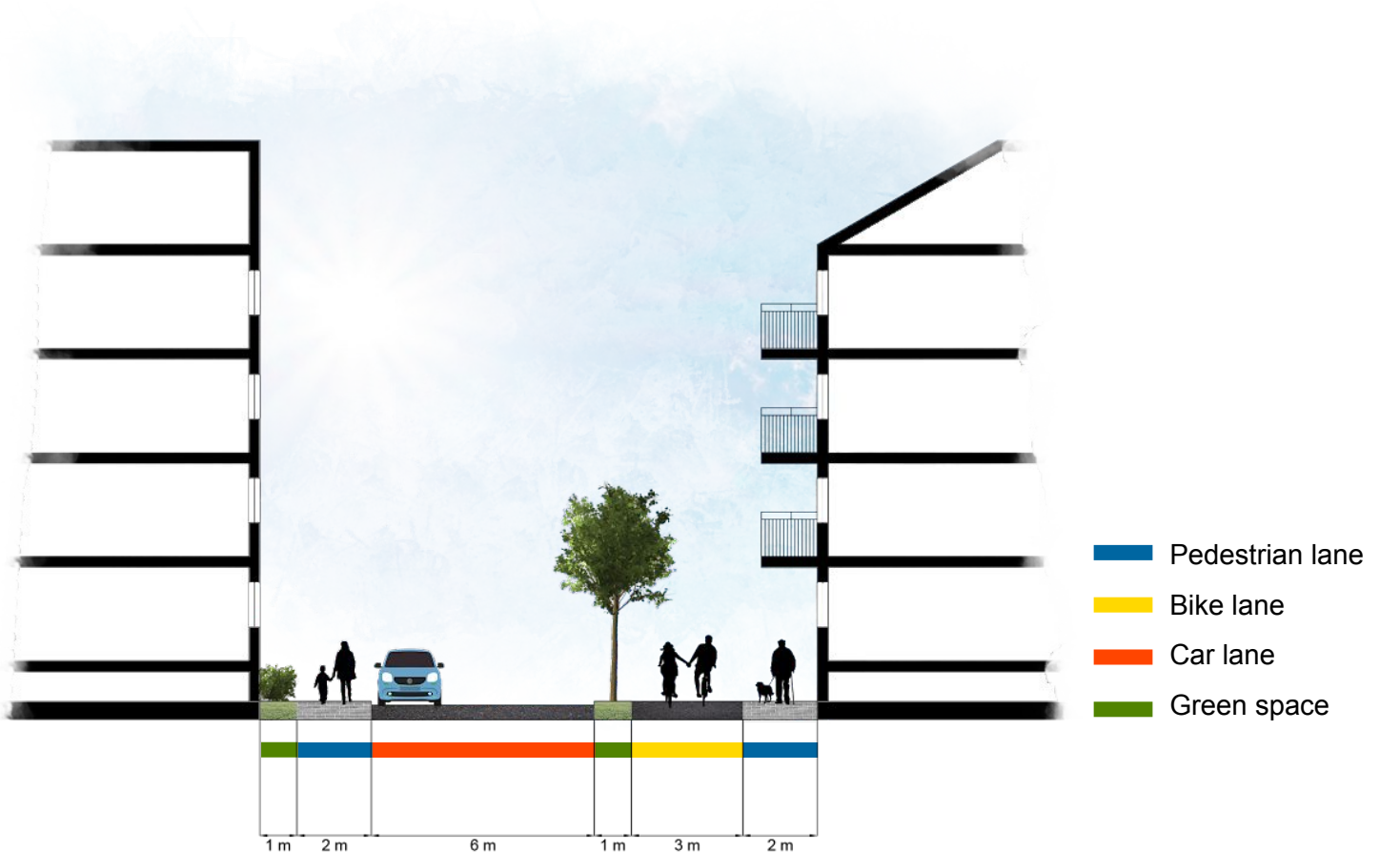


Birds eye view over Fågelbacksgatan. Source image: Apple Maps

A-A Before



A-A After

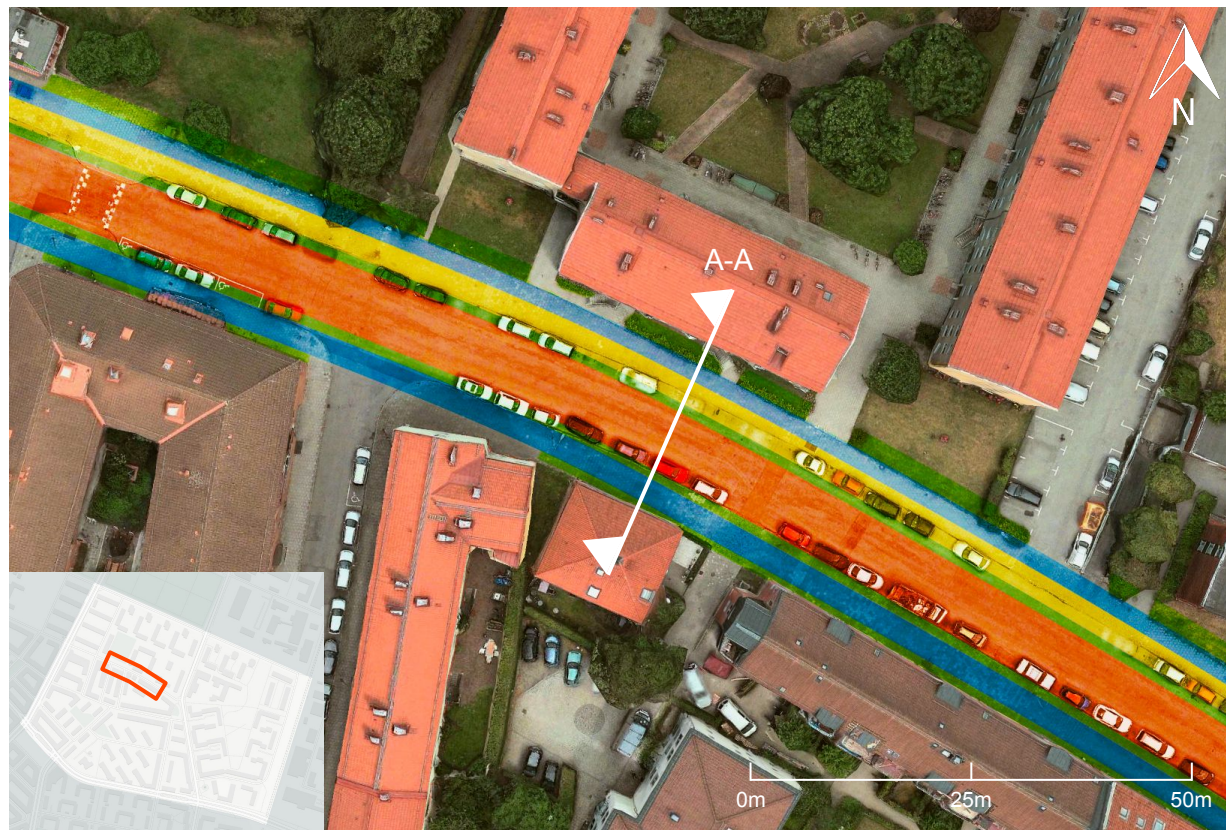


Östra Sorgenfri

Östra Sorgenfri has a very similar urban design to Rönneholm with pedestrian paths along roads, many parking spaces and mixed bike- and car roads. Our proposal is to develop the bike lane on Spånehusvägen by removing one of the double sided parkings. In our analysis we can see that less people own a car in Östra Sorgenfri compared to Rönneholm but still there is more land set aside for parking. It is clear that Spånehusvägen and Östra Farmvägen are both connected and integrated which makes these optimal for a bike lane. The best through-road is already adapted with a bike lane which is good for connecting it with a new one.

We chose to develop the bike network since this district has a well developed public transport already with buses and a connection to the railway at Rosengårds station. Malmö by Bike does not cover the whole district and that is why we have decided to implement a new station connected to Spånehusvägen. This could also improve the planned expansion of Norra Sorgenfri. In the conventional transport network analysis we can see that the district has a developed network for the pedestrians with many connections and nodes.

In our digital survey the majority of the participants living in Östra Sorgenfri want to improve the bike lane. They describe the bike experience of the area as inadequate and unsafe. Schiller & Kenworthy say that “Most importantly from a sustainable transportation perspective, urban design is a major player in whether urban fabrics are developed to encourage trips by foot, bicycle and public transit, as opposed to primarily facilitating the movement of cars.” (2017, p. 195). The new bike lane would fulfill the needs of the residents and promote a more sustainable mode of transportation.

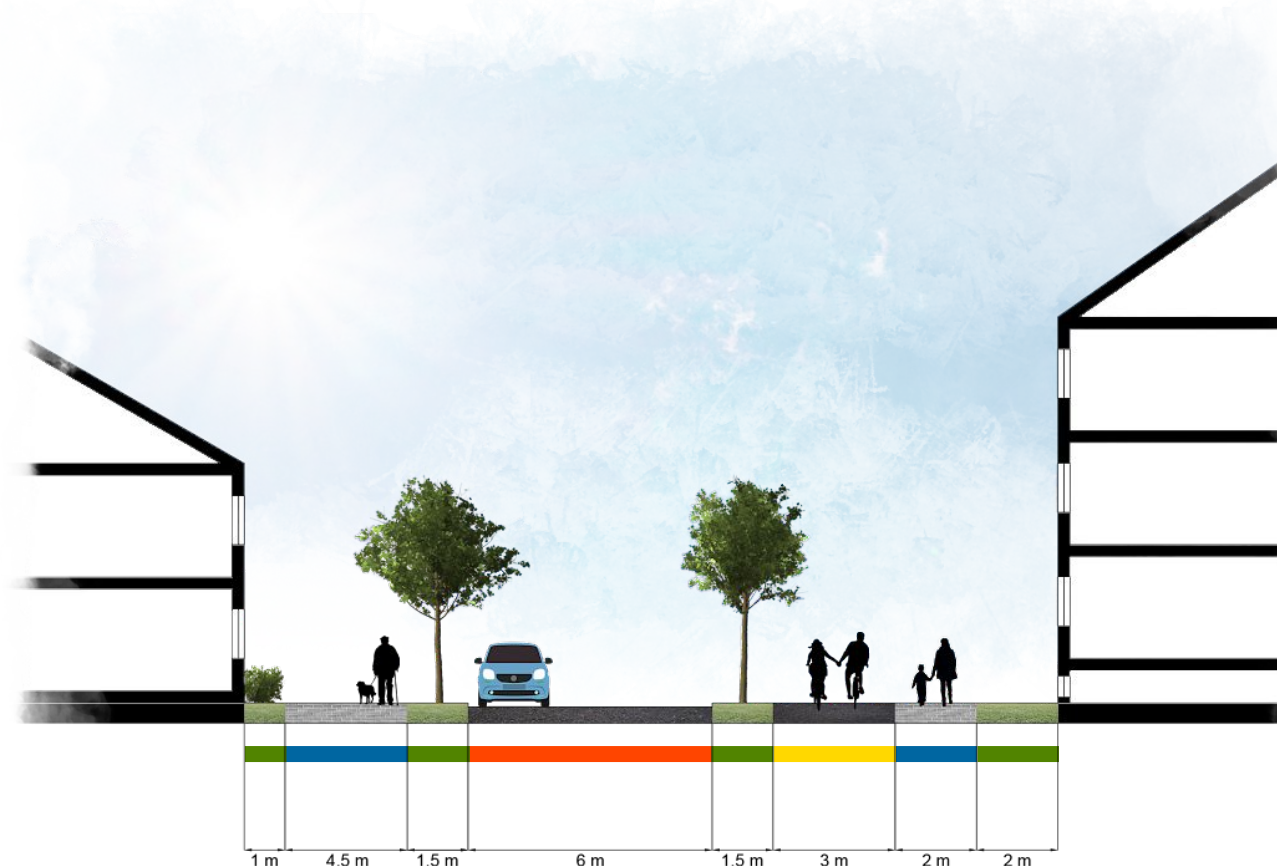


Birds eye view over Spånehusvägen. Source: Apple Maps

A-A Before



A-A After



Individual Reflections

Elias Egnell

“The assignment was challenging and fun, I think the whole group agrees that we’ve learned a lot and really understood the importance of transport planning. I believe we all would’ve liked more time to explore our proposals and areas for a more in-depth analysis.

Over all the process has been smooth, we’ve divided the tasks in a fair and just way. We’ve met at campus several times as well as on Zoom for digital meetings and discussed our proposals from what data we gathered and the analysis we made.”

André Wiedewilt

“The assignment was a good way to get the whole picture of Transport and mobility planning, or mostly accessibility. But the way we needed to collect information and create solutions for districts we choose by ourselves worked well. The time we got to work with the assignment was to short for the size of the assignment

The group dynamic was good, everyone takes their responsibility to make the work as good as possible and we had a great communication from the beginning. The distribution of tasks was clear from the beginning.”

Emilia Stålhammar

“This assignment was educational and we learned more about transport infrastructure and urban planning. The group experience was good and we handed out assignments to the group members as the projekt moved forward. We began with the inventory and analysis by looking at our districts and visiting them. Our proposal came quickly since we saw an improvement in the bike lanes. Then we started to collect data from maps, websites, observations and surveys to create different maps in the analysis. A wish would be to have more time for the group assignment, but overall a great experience.”

Joakim Andersson

“The group project has been an interesting and exciting challenge. The subject of Accessibility and Mobility through out the course has given me new tools to analys cities and the districts in the group assignment.

During the assignment we have had mixed roles in the group, though the majority of my work have been visual related parts such as maps, stills, and layout.

Inventory and analysis was made both together and individual. This way the analysis is based on both a group conclusions and individual “undisturbed” conclusions, making for a broader end result. This also paved the way for a well established proposal and an effective production.

The data used through the assignment has mostly been from plugins and shape layers in QGIS, some of which has been provided from Malmö University.”

References - APA

Literature:

Hillier, B., Penn, A., Hanson, J., Grajewski, T., Xu, J. (1993). Natural movement: or, configuration and attraction in urban pedestrian movement. *Environment and Planning B: Planning and Design* (20), pp. 29-66. https://discovery.ucl.ac.uk/id/eprint/1398/1/hillier-et-al-1993_NaturalMovement.pdf

Jacobs, J. (2005) *Den amerikanska storstadens liv och förfall*. Bokförlaget Daidalos. 9789171732163

Monokrousou, K., & Giannopoulou, M. (2016). Interpreting and Predicting Pedestrian Movement in Public Space through Space Syntax Analysis. *Procedia Social and Behavioral Sciences* (223), pp. 509-514. <https://www.sciencedirect.com/science/article/pii/S1877042816303925>

Marshall, S (2005). *Streets and Patterns*. Routledge. London.

Schiller, P. L., & Kenworthy, J. R. (2017). *An Introduction to Sustainable Transportation*. (2nd ed.). ProQuest Ebook.

Schiller P. L., Jeffrey, R. K., & Litman, T. (2010). *An Introduction to Sustainable Transportation: Policy, Planning and Implementation*. Routledge. ProQuest Ebook.

Websites:

Länsstyrelsen Skåne län & Malmö Kulturmiljö. (2001), *Bostadsmiljöer i Malmö, Del 1, 1945-1955*, <https://docplayer.se/5023907-Bostadsmiljoer-i-malmo-inventering-del-1-1945-1955.html>

Malmö Stad. (Last updated 22 february 2022) *Avgift dygnet runt*. <https://malmo.se/avgiftdygnetrunt>

Malmö Stad. (Last updated 16 februari 2022). *Brännaren*. <https://malmo.se/Stadsutveckling/Stadsutvecklingsomraden/Sorgenfri/Brannaren.html>

Malmö Stad. (2022). *Malmö Stadsatlas*. https://kartor.malmo.se/rest/leaf/1.0/?config=../configs-1.0/malmo_atlas.js

Malmö Stad. (2008). *Norra Sorgenfri - Planprogram*. https://malmo.se/download/18.af27481124e354c8f1800020125/1491302549563/Norra%20Sorgenfri%20planprogram_reviderat.pdf

Malmö Stad. (2021). *Planprogram 6051 - Amiralsgatan och station Persborg*. <https://malmo.se/Bo-och-leva/Bygga-och-bo/Detaljplaner/Planprogram/Pp-6051-Amiralsgatan-och-station-Persborg.html>

Malmö Stad. (2020). *Projektdirektiv - Projekt 10.2 Mariedalsvägen inom MEX linje 10 - Storstadspaketet*. <https://motenmedborgarportal.malmo.se/welcome-sv/namnder-styrelser/tekniska-namndens-trafikutskott/mote-2020-03-10/agenda/projektdirektiv-projekt-102-mariedalsvagen-inom-mex-linje-10-storstadspaketet-pdf?downloadMode=open>

Malmö Stad. (Last updated 22 december 2021). *Smedjan*. <https://malmo.se/Stadsutveckling/Stadsutvecklingsomraden/Sorgenfri/Smedjan.html>

Malmö Stad. (mars 2016) *Trafik- och Mobilitetsplan: För ett mer tillgängligt och hållbart Malmö*. <https://malmo.se/Stadsutveckling/Tema/Resande-och-infrastruktur/Hallbar-mobilitet.html>

Nationalföreningen för trafiksäkerhetens främjande (NTF), 2019, *Trafikolyckor*, <https://ntf.se/trafikolyckor/?county=skane&municipality=Malm%C3%B6&year=2018&month=0&accidentType=0&trafficCategory=0&injuryGrade=0&roadSpeedLimit=all&statsView=map>

Skånetrafiken. (mars 2022). Timetables for local buses.

GIS Data:

DataSetPackage. (2021). Malmö University

GTFS Go

QuickMapServices (Carto Light)

Quick OSM

Software and application:

Parkster. (2021). (Version 5.1.0). Hämtad från <https://itunes.apple.com>.