

Group Assignment BY260E

Districts: Videdal & Ribersborg

Group 2



Analysis and suggestions of improvement for; Videdal and Ribersborg

Part 1 - Inventory and Analysis

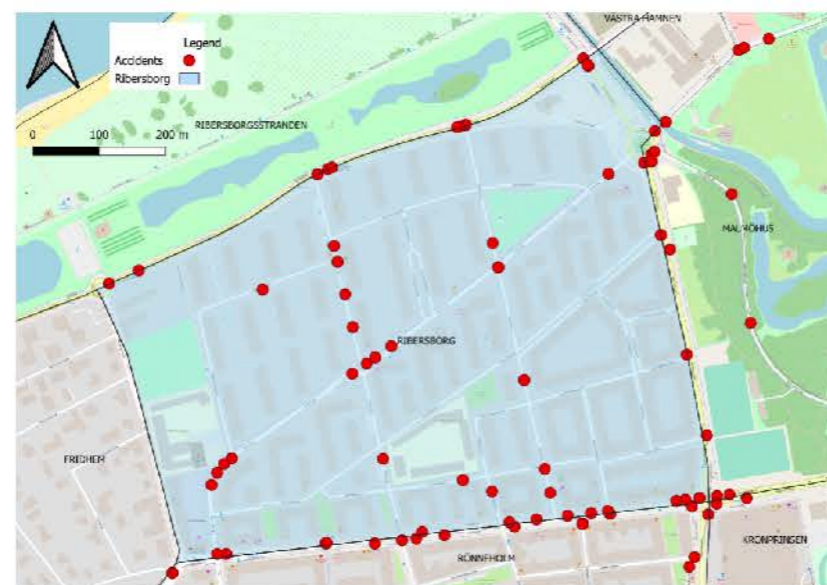
a) Existing Transport Infrastructure

1. Roads including highways, major and local streets, type of streets and their qualities, ...

The following distinctions between the streets have been made from site observations but we have also looked at maps, since we did not find an official report from Malmö stad. The maps and observations have given us information such as streets widths, the streets connectivity to the rest of Malmö, usage, traffic volume, speed et cetera. We did then based on *Table 3.3 A taxonomy of road typer, classification themes and theme types* (Marshall 2005. p. 54) distinguish the roads different purposes which then lead us to the classifications (arterials, collectors, local streets et cetera).

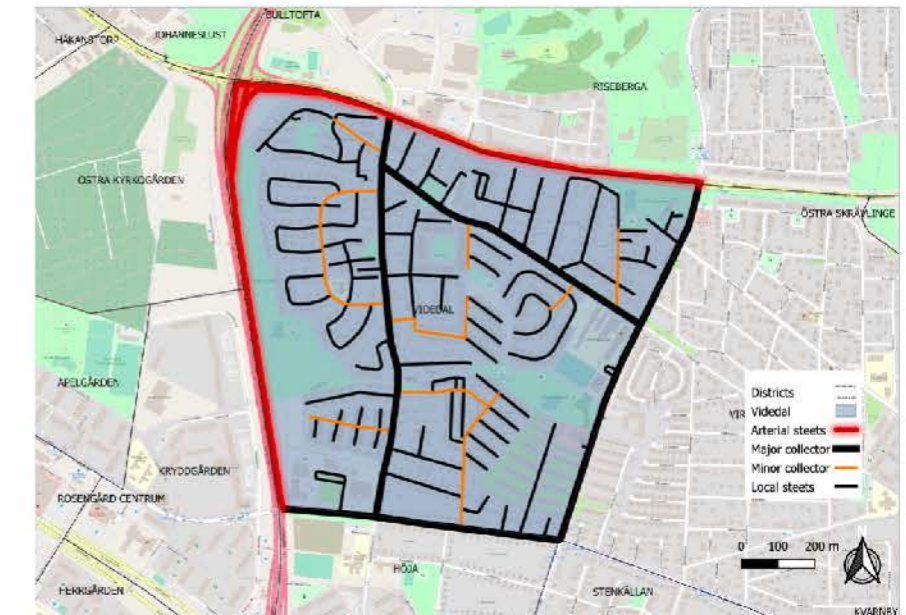
The orange line (Regementsgatan) is what we call a major collector in the area, the traffic volumes are at its highest here. Regementsgatan also has close connections to busy roads that lead directly to the city center of Malmö. The thick black lines are what we call minor collectors since they carry heavy traffic but also in turn distributes traffic to the local roads. The minor collectors are vital for a smooth traffic flow through the area. Since the area mostly consists of housing apartments the drivers then choose the local road which leads to where they live (thinner black lines). The local streets usually lead very close to each housing apartment since many of them do have private parking garages underground.

The quality of the roads in Ribersborg is very good, many of the roads have recently received reorganization and been renovated. Amongst these streets is one of the minor collectors Tessins väg, a reorganization that we think is for the better in the area it adds mobility for cars, buses and cyclists. There are three circulation sites in the area which are very crucial for the functionality of the traffic

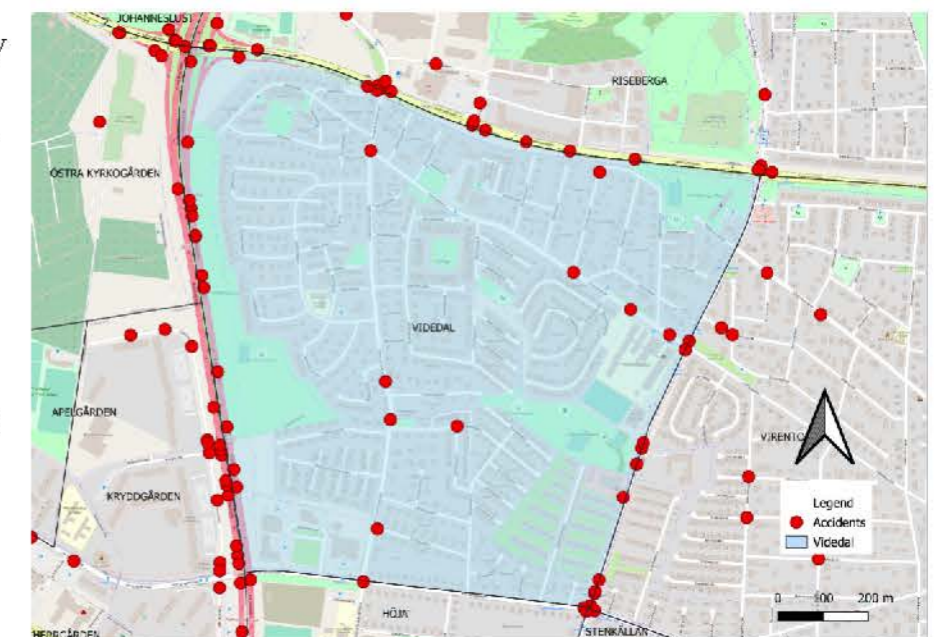


system. The circulations make the traffic move easier and opposes congestion which otherwise could lead to traffic jams and accidents. As we can see on the accident map there are quite a few accidents, they are mostly on the major and minor collector streets, nevertheless it sends us a signal that there are problems in the traffic network.

Videdal is a district with little traffic but it is still mostly built for cars. It is a suburb with mostly villas and therefore has two main streets (the black lines in the middle of the district) in the middle of the district. Around the sub-area there are two larger streets (also thick black lines) which enclose the entire district. The theme throughout these four streets (thick black lines) is that they carry the heaviest traffic that comes from nearby arterial streets of the city. We therefore call the main streets of the district for major collector streets. We have then identified streets that collect the traffic (orange lines) from the major collectors and we call these streets for minor collectors. The minor collectors distribute traffic from the major collectors to individual villa streets. Sprouting out from the major- and minor collectors are the local streets; these streets lead to individual housing (thinner black lines). The two thick red lines are arterial streets of the city, they are very busy and transport people from all over Malmö.



The roads in Videdal are all and all in pretty good condition but this is probably as a result of minimal movement rather than regular upkeep from the authorities. The traffic flow thanks to the major collectors is good. Looking at the accident map we can see that there are not that many accidents in the heart of the district. But the arterial roads and even the outer major collectors have quite a few accidents mainly at exits and intersections but it still shows that these areas are not that secure and might need some reorganization.



2. Public and private parking facilities

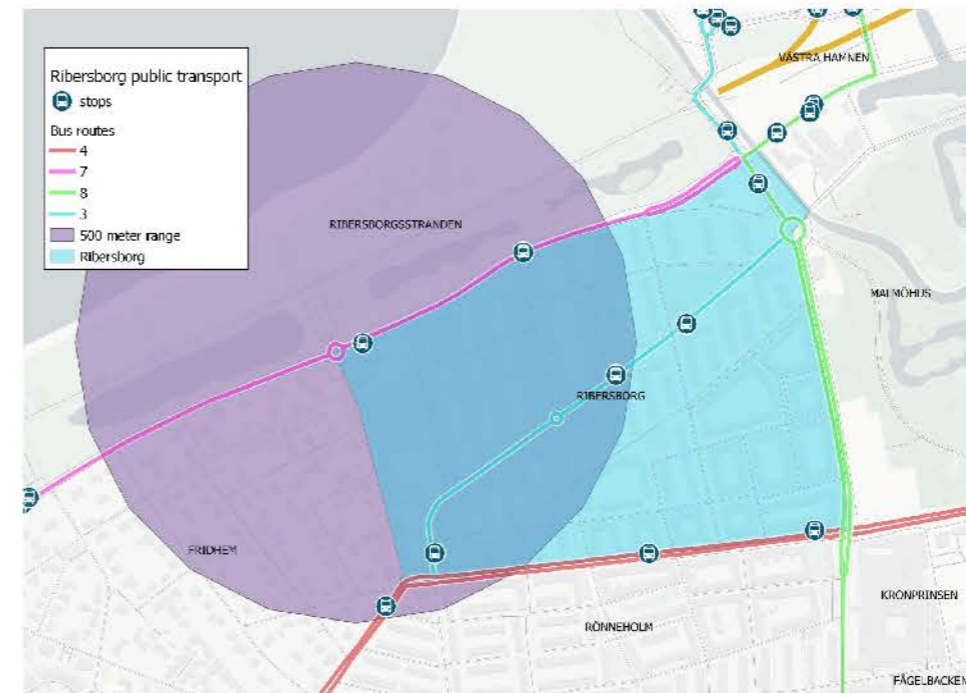
Ribersborg is a neighborhood with a lot of parking possibilities both for residents and for other people that are in need of parking. Almost every apartment building has its own parking garage which is used by the residents. Moreover parking on the streets is prohibited for a fee, the fee for parking in Ribersborg is considered low, It is in the payment zone “E” which means 10 swedish crowns an hour monday to friday 09:00-18:00 and other hours it is 2 swedish crowns an hour (Malmö stad 2022). Parking on the streets seems to be well used since there were almost no free parking spots when we walked there. The district is in the close proximity of Malmö’s city center which makes it attractive for daily commuters. The district is also in a suitable position for tourists since it is close to Malmöhus castle and the technical museum et cetera. As a result the fees in the area boils down to high demand which in turn may be a way for Malmö stad to better distribute the parking throughout the city, some people are willing to pay the price of zone “e” some are willing to pay higher for even closer parking and some are willing to walk the extra length for free parking. But the zoning also encourages people to choose other types of transportation, “Parking management and pricing should serve policy goals such as traffic reduction and the enhancement of alternatives to driving” (Schiller & Kenworthy, 2010, p. 168).



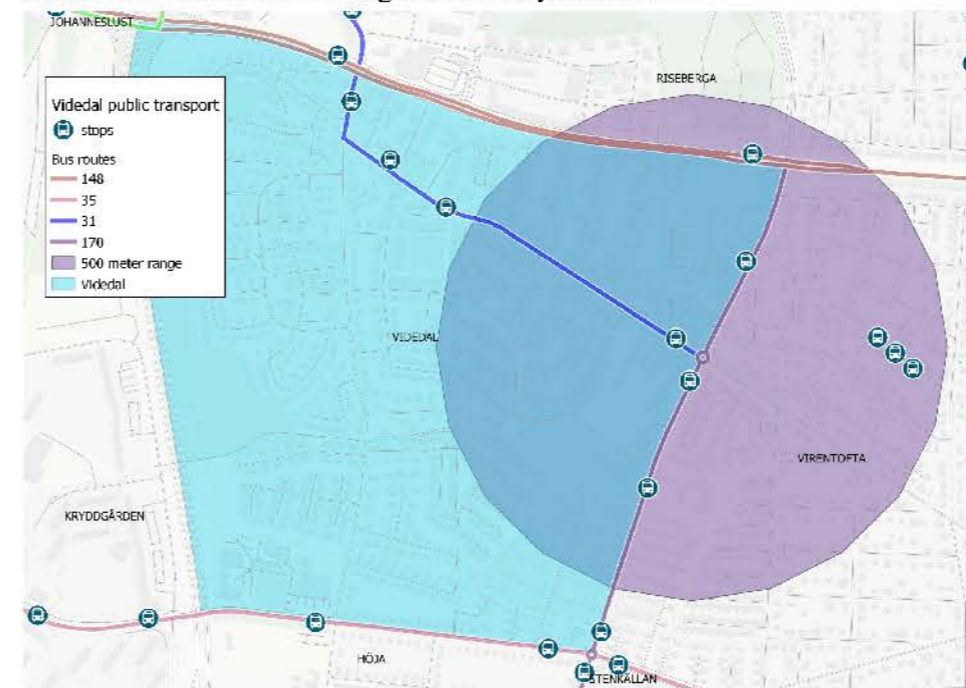
Videdal on the other hand almost exclusively got private parking spaces. It is a residential area with villas and townhouses which therefore means that parking is mostly limited to private property. Although the villa streets are pretty wide and there is space to park and there are no fees, parking here is still not viable since it is not really that close to anything. Some streets also make it very clear with signs that parking only is prohibited for those who live there. Videdal also has a school and it has some parking spots although these are not meant for long term parking and are mostly for staff or when the parents leave and pick up the children at the school.



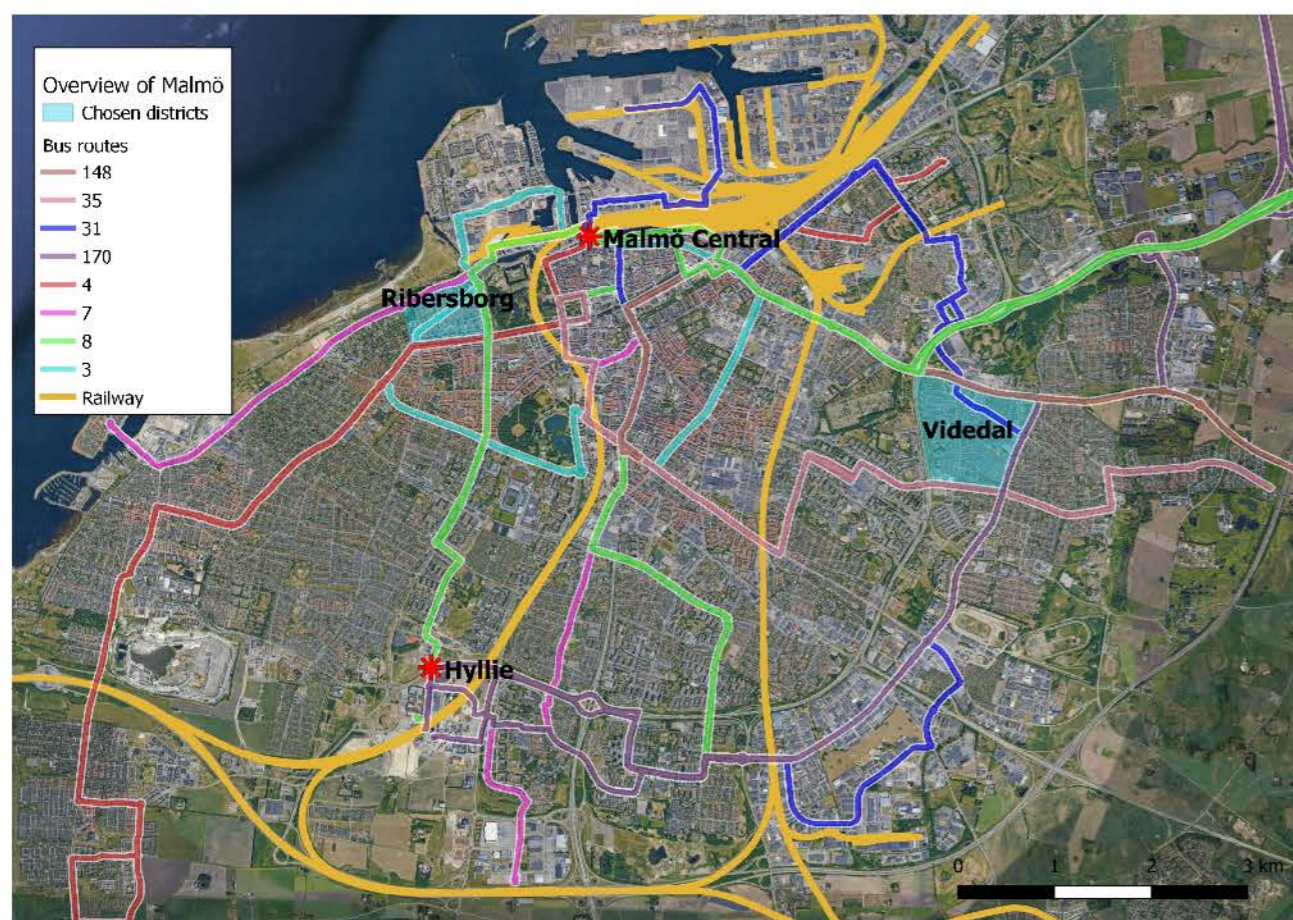
3. Public transportation



On the two individual maps of each area, we see which bus routes connect it to other parts of the city. Routes 4, 7, 8 and 3 pass by or through Ribersborg, meanwhile routes 148, 35, 31 and 170 pass by or through Videdal. Additionally we can also see how many bus stations are within a 500 meter range, for deeper understanding of mobility and accessibility. Neither area has connections to railways but both areas have bus routes leading to a railway station.



Hickman et al. (2019) discusses how planning of public transport is done on the basis that travel is “wasteful” in the sense that each minute spent could be spent better elsewhere. Transport is time consuming and time saving in travel aspects is treated as beneficial to both society and the individual traveler. Furthermore, there needs to be a network with great accessibility. Together, accessibility and decreased travel time form the quality and comfortability in its most objective sense. At the same time planners battle the problems brought alongside these two defined goals.



From visiting both areas it can be concluded that both have connections to centralized areas of Malmö like Malmö Central and Hyllie. However, there were some differences in transportation between Videdal and Ribersborg. While the quality of transportation was greater to Videdal offering better quality of service, the comfortability in terms of how often buses departed was lackluster in comparison to Ribersborg. On the other hand Ribersborg lacked the quality of the transportation in comparison to Videdal while it maintained a more common departure schedule, leading to increased comfortability.

4. Pedestrian paths, sidewalks, pedestrian zones

The two areas are very different from the type of living which affects the way roads and sidewalks are placed and considered. *Ribersborg* is a very centrally placed area with smaller roads that are linked to the main roads leading to the center of the city, train station and highways. Ribersborg is also an area with only high buildings containing apartments. Due to the central location, many people walk from and to the area and even passing by. Therefore there are a lot of pedestrian paths and sidewalks that have a lot

of space. The pedestrian paths have so much space that the people walking there don't have to worry about colliding with a vehicle because the path is surrounded by hedges and high curbs, which at the same time reminds you of walking in a park. The area seems to be well planned for pedestrians regarding safety, attractiveness and mobility. The attractiveness and the nice environment attracts people to move to the area while the safety might attract families with children which we noticed during our analysis that there were many parents walking with strollers. Also the large space and room for mobility makes it not feel and look like a centrally placed area with high density at all.

In *Videdal*, which is a suburb with only houses, there are a lot of differences compared to Ribersborg. The sidewalks are very thin and only makes room for two persons next to each other at the main road of the suburb. When crossing the smaller roads where the houses are placed, the sidewalk gets much thinner on the width and makes up space for only one person at the time. Compared to Ribersborg, which had attractive placed sidewalks and paths, the sidewalks in the smaller streets of Videdal give you the impact of only having sidewalks to mark where the house areas end and to make driveways to the garages of the houses. This does not give a welcoming feeling to the people not living in the area that wants to pass by and makes it an area for residents only. The sidewalks are very dirty too with old lamp posts and do not seem to be maintained like the sidewalks and paths in Ribersborg.

Peter D' Norton (2008) discusses how the streets have developed from 1920 to present about who it belongs to and how much space every road user should take. From the beginning the streets were used by every interactor, both people walking and motorists. The difference between the 1920's and today is that today motorists are considered as the main purpose for streets, while in the early 1900's the motorists were considered a third hand user that should show consideration to streetwalkers and street railways. D' Norton asserts that the turn took place somewhere in the mid of the 1900's when planners began to adapt the traffic to motorists with the goal of having an ease flow for the car users. The streetwalkers were then forced to take count for the car traffic and they were directed to use the curbs that later became more of a sidewalk.

The division between different interactors of the streets (especially motorists and pedestrians) are very important regarding safety. With a well planned structure with space for each interactor, the accidents are most likely to minimize and the clash between motorists and pedestrians for street access can be slightly reduced with a good distribution where both interactors get their own space. Therefore pedestrian zones/paths should be considered as important as roads for cars. (D'Norton, 2008). According to Preston Schiller, if the overcompensation of motor vehicle storage becomes a minor priority, it will also be easier to promote walking and even bicycling. (Schiller, 2010)

5. Bike paths, bike lanes

Because of the centrality, the adaptation to cyclists is very good in Ribersborg. The cyclists have their very own paths in both directions with a large space. At the main road of Ribersborg, the bike paths are between the pedestrian paths and the roads and the only time the three of them are crossing each other are at the pedestrian crossings where both cyclists and pedestrians have advantage of passing before cars. But the bike paths are only along the main road, they do not continue at the sides. The cyclist that wants to turn right or left needs to cycle on the pedestrian path which gives a small risk of collision but the path is very wide and makes space for both cyclists and pedestrians.



Map showing the Ribersborg district covered in blue. The orange lines represent the bicycle paths.

Videdal is the exact opposite with no high buildings and only one-floored houses and the area is not central therefore the roads are only adapted to cars but cyclists can also, with caution, take on the roads. The area is a typical quiet suburb with very small traffic and low speed range, which makes the reasons for bikes having their own paths slightly unnecessary. But there are a few elementary schools in the area with pupils that transport to the schools with bicycles where they have to cycle on the road where cars do not often follow the speed limit. The roads for transporting to the schools have only been specially adapted to school buses and regular buses but not so much for the cyclists. In a holistic approach it seems that the area is being adapted mostly to car traffic.

Schiller writes in his book that “an urban layout that is convenient for private motorists is generally detrimental to transit and non-motorized mode users, making the land subsidy an additional burden. This is why many advocates of transportation reform justify requesting compensation, such as construction of *bike* and pedestrian paths and transit-operating support through property taxes.” (Schiller, 2010) This tells the importance of having adaptations for bicyclists to solve burdens in the society that are caused by having predominantly car traffic.

There is a street that is adapted to cycle at firsthand in the Videdal area. Cars and pedestrians can also take part of the road but they need to consider the bicycles and give them precedence, especially if they come from intersecting streets. The speed limit for cars is also 20 kilometers per hour. Trees in urns are placed along the road in a way that makes it harder for cars to break the speed limit and at the same time makes the road attractive. This is an initiative from Malmö Stad that wants to increase bicycle traffic and to create a safer traffic environment. Residents in the area have appealed how motorists speeding has caused insecurity in the area and this is the first bicycle street in Malmö. (Malmö stad, 2021) As Preston Schiller mentions, “in order to lessen the overconsumption of urban space by motor vehicle storage one of the criteria is to promote bicycling”, which this street is a great example for and could inspire other regions to prioritize the bicycle traffic. (Schiller, 2010)



Map showing the district of Videdal covered in blue. The orange lines represent the bicycle paths.

6. Bike parking, bike sharing facilities, ...

Ribersborg has a lot of parking spaces for bikes outside of the entrances of almost all the apartments as well as the stores. Even by the side of drive-ins to garages there exist parking spaces for people to put their bikes. The main streets in Ribersborg are wide and there is a lot of room for one to feel safe and have an easy bike ride along the landscaped bike lanes that are placed alongside the roads. When one gets to the more “private” areas of Ribersborg there's a lack of bike lanes and you will have to share transportation space with the cars.

Videdal is a typical residential area consisting of houses, The street is an ordinary narrow two-lane road with sidewalks on each side and no bike lanes. The people on bicycles got to share lanes with the cars. In this neighborhood there exists very little traffic which mostly only consists of the people living in the area. Bicycle paths are non-existing which makes this a bad choice of area for people who want to go on a bikeride. The only bike parkings you come across here is outside on your own property or in the garage. If you are visiting an acquaintance you shall park your bike outside of their house, on their land.



7. Other transportation modes (emergency vehicles, freight cars, car sharing, scooter, ...)

Ribersborg offers a good possibility for all types of emergency vehicles as well as freight cars, scooters and so forth. The main road that stretches far across all of Ribersborg has wide lanes and good spaces for parking as well, this creates an easy access for emergency vehicles that need to arrive at the location. The streets between the appartements on the other hand are more narrow, but this is common in an ordinary Swedish neighborhood with apartments.

In Videdal there is a typical transportation mode for a housing neighborhood with narrow two-lanes and sidewalks on each side. This could be a problem for emergency vehicles and freight cars but the streets are created like this because this is a neighborhood with very low traffic that almost only contains of the people that actually live in the area. This makes it easy for the emergency vehicles to access their location without any disturbances.

8. Physical aspect (street pattern, morphology)

Streets and patterns are often the result of generic design guidance according to Marshal, S (2005). Streets and patterns. The challenge is then to find a way of creating diversity in patterns within the system responsible for creating these streets and patterns. Additionally he names the Tartan grid as a grid that combines features within the pattern, it offers hierarchy with different types of route. This can be seen in Ribersborg where different routes and modes of transport are in full effect creating a variation and hierarchy in street patterns. This often means that one or a couple streets in a district are responsible for connections to another district which encourages centralized mode of public transport.

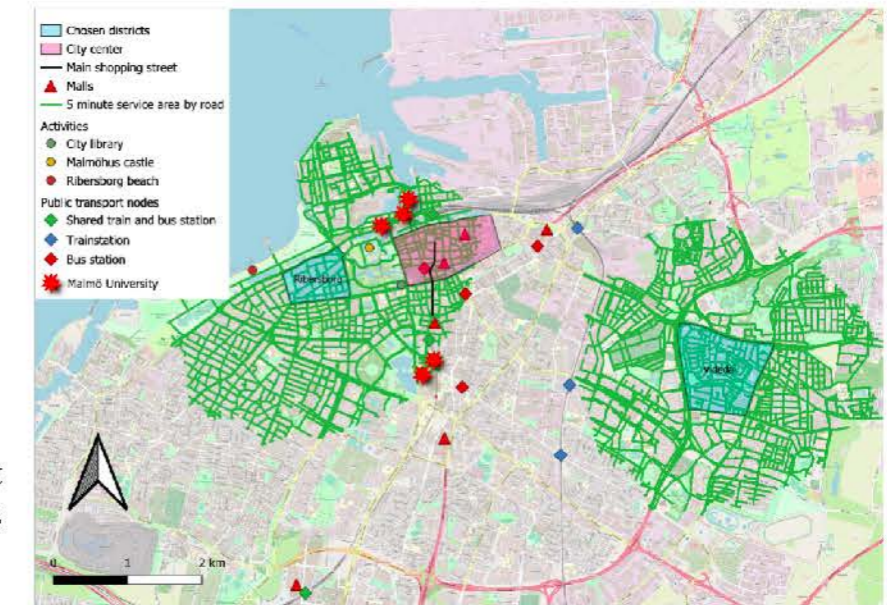


The grid is rather flexible and can be equated with directional or differential grid types yet differentiated in block size terms. Videdal however would be differentiated as it lacks a clear hierarchy in transport/route network on top of block usage and frontage usage. While the region does hint at grid-like compositions it does not uphold this quality throughout the region, only in sections. Instead of large blocks with large residential houses, Videdal is more of a traditional residential area with houses consisting of 1-2 floors. If you were to look at the street map you'd see that the area has 2 main regional roads going through it which ties all housing together with other regions of Malmö and offers modes of transport, mainly bus and car between regions.

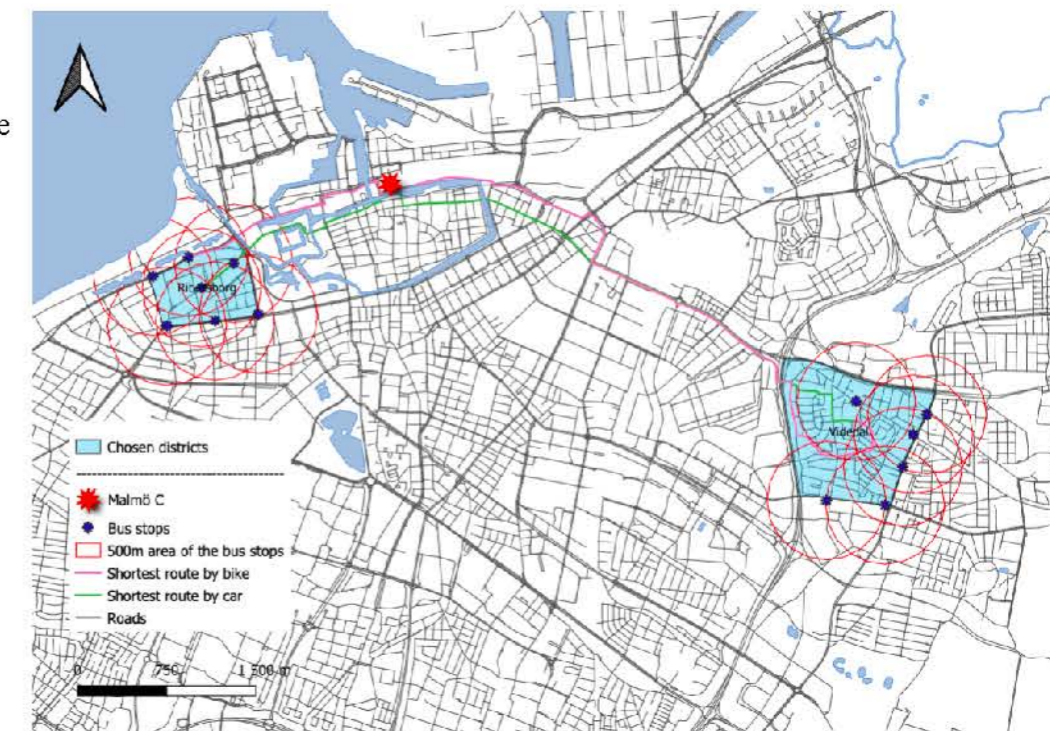
b) Frequent and Common Travel Patterns (travel Behavior and Demand)

1. Land use inventory

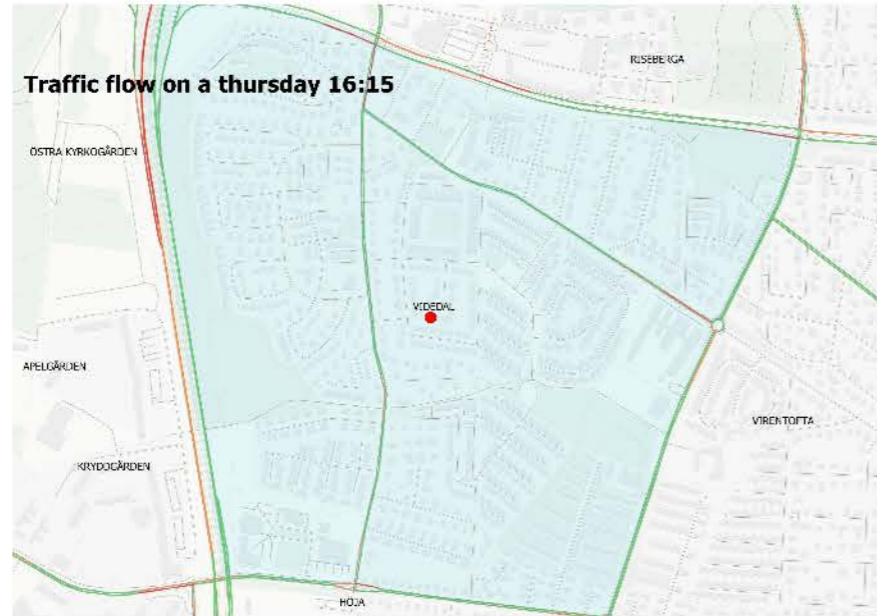
This first map shows a collection of some vital nodes in Malmö and its proximity to Videdal and Ribersborg. From the areas we can see the green lines which indicate where you can go in 5 minutes by car from the center of each district. As shown Ribersborg is closer to most nodes which we have chosen and are thereby very accessible. Videdal on the other hand takes a bit longer in order to get to the nodes as a result of its position in Malmö.



In the second map we have chosen Malmö C as the destination and three means of transport to get there. First comes bicycles and bicycle roads shown in pink. Both districts got good connection via cycling although the time varies, it takes around 29 minutes from Videdal to Malmö C and from Ribersborg it only takes around 10 minutes. The second mode of transport is by car or via the roads shown in the green lines from Ribersborg it only takes 4 minutes to Malmö C and in Videdal it takes 10 minutes. Not as big of a difference as Videdal has access to large arterial roads of Malmö. Note that time for finding a parking spot is not included in the time frame and it can therefore take longer, this problem is not as big with the bikes since there are a lot of bike parking opportunities by the station. Lastly we have chosen to depict the proximity to the bus stops in the different districts. Shown by the 500 meter cirkels on the map we can see that mostly all of the districts are within a close walking or bicycling distance to the bus stops. The buslines goes as shown in previous analysis from the districts and to Malmö C, the times can vary as result of delays et cetera but once again Ribersborg will be a bit quicker. Although Videdal goes via Värnhem which is a major public transportation node in Malmö, so there are more opportunities for connecting buses which can transport you all over the city.



2. Traffic volume and flow



Traffic flow in both areas is relatively quick no matter day or time. From visual analysis we can see that the map consists of green and orange markings whereas green is a measurement of speed where flow is at its fastest measurable flow. On the other end it's dark red which means traffic is moving slow. In order to produce the map above and below, the tools in 'web' of QGIS were used in order to get an overview of traffic through the 'google traffic' option.

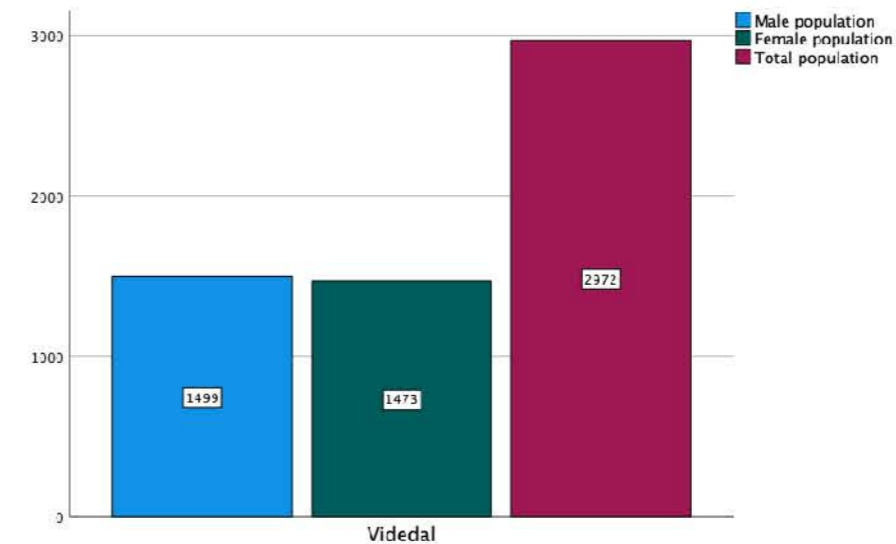
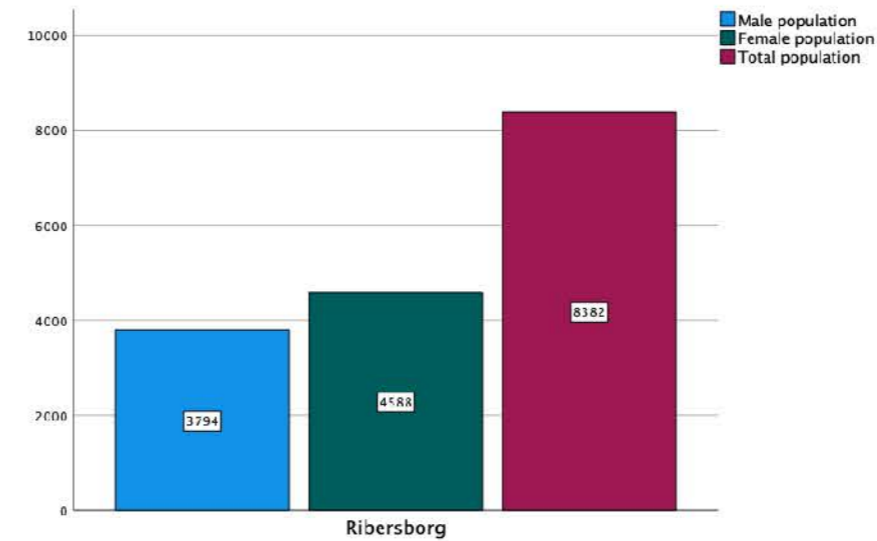


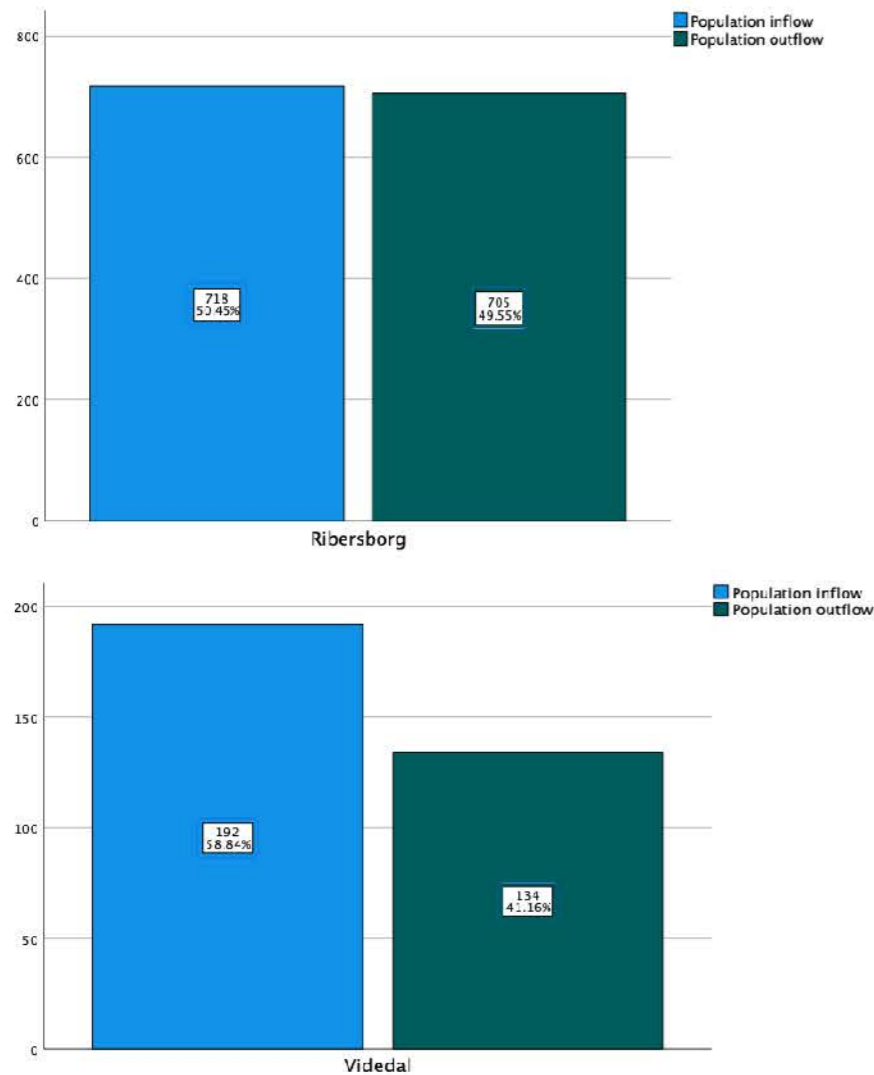
Between these two points we have orange, near green and bright red, near the dark red. In conclusion, there's four measurement levels. Both areas, on average, were either orange or green, suggesting fast moving traffic. We noticed occasional clusters at roundabouts in Ribersborg alongside more traffic on the highway by Videdal for Fridays at 12:00. However this is minimal, our conclusion is therefore that

demand for automobiles in these two areas is not sufficient, further encouraging more efficient transportation.

3. Social and cultural characteristics of the residents and travelers

The diagrams show the population density and how many people that come in and out of the areas. The statistics are from 2016, produced by the use of SPSS statistics.





people should improve with easier ways to buy tickets and benches at every bus stop that has long waiting times.

To summarize, all of the different age groups want improvement of public transport. Also the “traditional behavior and mindset” need to be changed and the people that have it should be considered and need to be tempted. Elder people should also be considered and some parts of the public transportation should be adapted to them, like easier ways to buy tickets for example. All of them also complained about the travel time and waiting time which should also be considered because it is important for the transportation system to help them reach reasonable travel time (RTT) (Banister et al. (2019).

c) Plans and Strategies influencing the travel patterns

There are not really any plans in the direct districts which will affect the traffic situations in terms of roads. Planned for the districts are mainly housing expansions that are planned so they do not affect the road network, although parking on the streets may be increased and in that way will have its effects. There is a plan in Videdal, dp 5786 although it is in a very early stage as it has only been requested as a planning assignment (Malmö stad 2021, Dp 5786, Brandnåvan 1 m.fl. i Videdal). Therefore the effects on the district is very hard to tell but from looking on the map we can see that the area is pretty big and it would probably affect the traffic situation.

Ribersborg will probably be affected trafficwise from the neighboring district of Västra hamnen since it is going through a major reorganization of both roads and buildings. Looking on ongoing plans for Västra hamnen we can see one major plan that borders Ribersborg, dp 5565 (Malmö stad 2021, Dp 5565, fastigheten Makrillen). It will most likely have a great influence on Ribersborg however we think that it is for the better. Dp 5565 does among other things widen the streets and add additional pedestrian and bicycle paths which will increase the connectivity of Ribersborg as well.

4. Travel patterns/ Interviews

From the interviews we got a lot of different answers. The people that got interviewed were in different age groups, different occupations, different genders, had different education levels and some lived in the center of Malmö and some outside. The questions that the interviewees got asked were about their way of transporting themselves to their jobs/schools, whether it was with bus, train, car, bicycle or walking, how long time it took and how the accessibility of public transport were where they lived. The interviewees also had the opportunity to give their own input about what should be improved in the public transport for them to consider going by bus or train instead of a personal car.

A recurring behavior that we could see from the answers, was that the age group 16-22 were all going by bus to their different occupations, unlike the age group 26-43 that only traveled by car. The answers show us that the older age groups have a certain “traditional” behavior and mindset that cars should be used when you get older and have a job and kids and also that it is more comfortable not to travel in public regarding cleanliness and space. They had it hard to consider going by bus/train instead of taking their car. The younger group age were more positive with going by bus but with some negative thoughts of timekeeping. The oldest person that was 67 was also only going by car when traveling to further distances. He could consider going by bus but suggested that the accessibility of opportunities for older

Part 2 - Comparison and Proposal for Change

d) Discussion and comparison in quality

In conclusion of our inventory and analysis we see how both Ribersborg and Videdal offer relatively good public transportation accessibility. Since Ribersborg is the smaller district of the two, it offers more dense public transportation opportunities with bus stops at closer intervals. Meanwhile, from the transportation analysis of Videdal's public transportation, there's only one road within Videdal that offers Bus transit. However, there are two additional roads to the east and south of Videdal but these are not considered to offer good transit accessibility as they are located outside of the sub-area. Good transit accessibility is one of the main criterias for sustainable transportation meaning that Videdal in difference to Ribersborg lacks fundamentals for sustainable transport.

Sidewalks are very thin in Videdal and only make room for two persons next to each other at the main road of the suburb. They are also very dirty with old lamp posts and moss all over the ground. The area does not seem to be maintained like the sidewalks and paths in Ribersborg. An improvement of the area's cleanliness and expanding the sidewalks a little bit more would lead to a more welcoming feeling to the people not living in the area that wants to pass by and also a more enjoyable place for people that live there which would attract families to settle there. When it comes to the bike paths, there are really not any paths for bikes only. The roads are mainly adapted to cars but cyclists can also, with caution, take on the roads.

In further conclusion of the analyzed areas, we conclude how the structure of both areas differ entirely in the way they correlate to transport demands. For example, Ribersborg consists of mostly larger buildings such as apartments with a recently reorganized and renovated street network that offers good accessibility. The physical design and other elements of urban fabrics have an undeniable role in the fostering of more sustainable transportation. Among these designs and urban fabrics that we see in Ribersborg, is the widening of sidewalks, an increase in residential development, transit and pedestrian priority streets and other greening of streets. All while local businesses directly increase the flow of pedestrians and other public life (Shiller and Kenworthy, 2017).

Meanwhile, Videdal is quite the opposite of Ribersborg as it's located in the outskirts of Malmö and is considered a suburban area with more demand for automobile transport as there's a lack of good accessibility and mobility with the previously discussed public transportation options and how the road network consists of two major collector streets with some connected blind alleys. In comparison to Ribersborg we also see a clear lack of opportunity in pedestrian and cycling activity based on the described road network. However, one still has relatively good access to bus stations. Therefore, the conclusion of Videdal making use of business as usual (BAU) rather than sustainable transport (ST), can be made. (Shiller and Kenworthy, 2017).

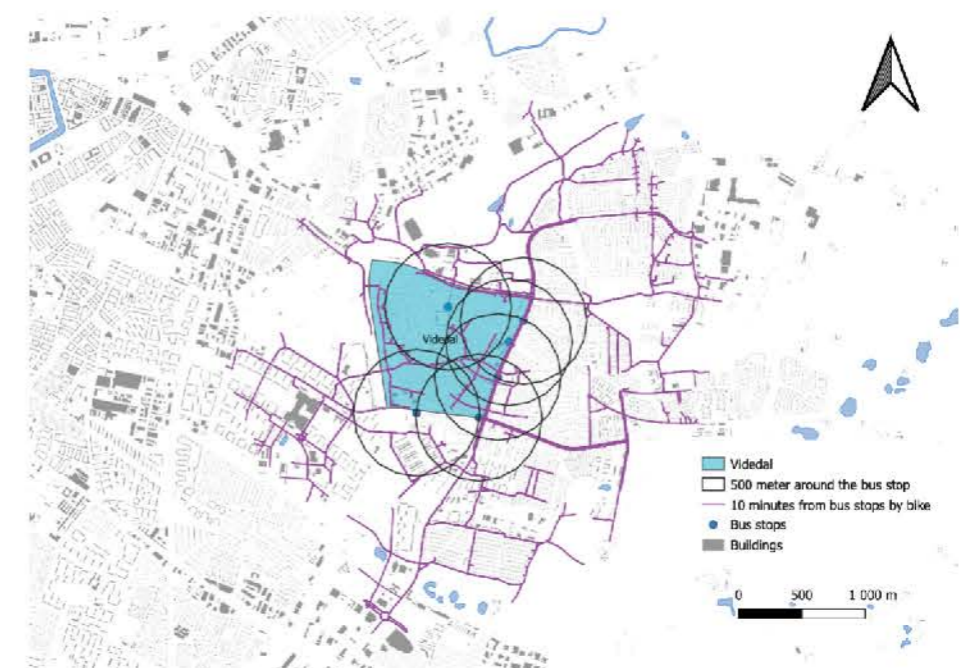
e, f & g.) Detailed proposal, strategies for improvement & evaluations

Among the three main approaches to sustainable transportation, we consider TDM or Transportation Demand Management to be relevant as it concerns strategies that affect travel demand or other ways to better distribute demand both from a spatial and temporal standpoint. By strategies within TDM, focus is

placed on the understatement in the decisions to travel and helping people make use of transport infrastructure such as walking, biking and ridesharing.

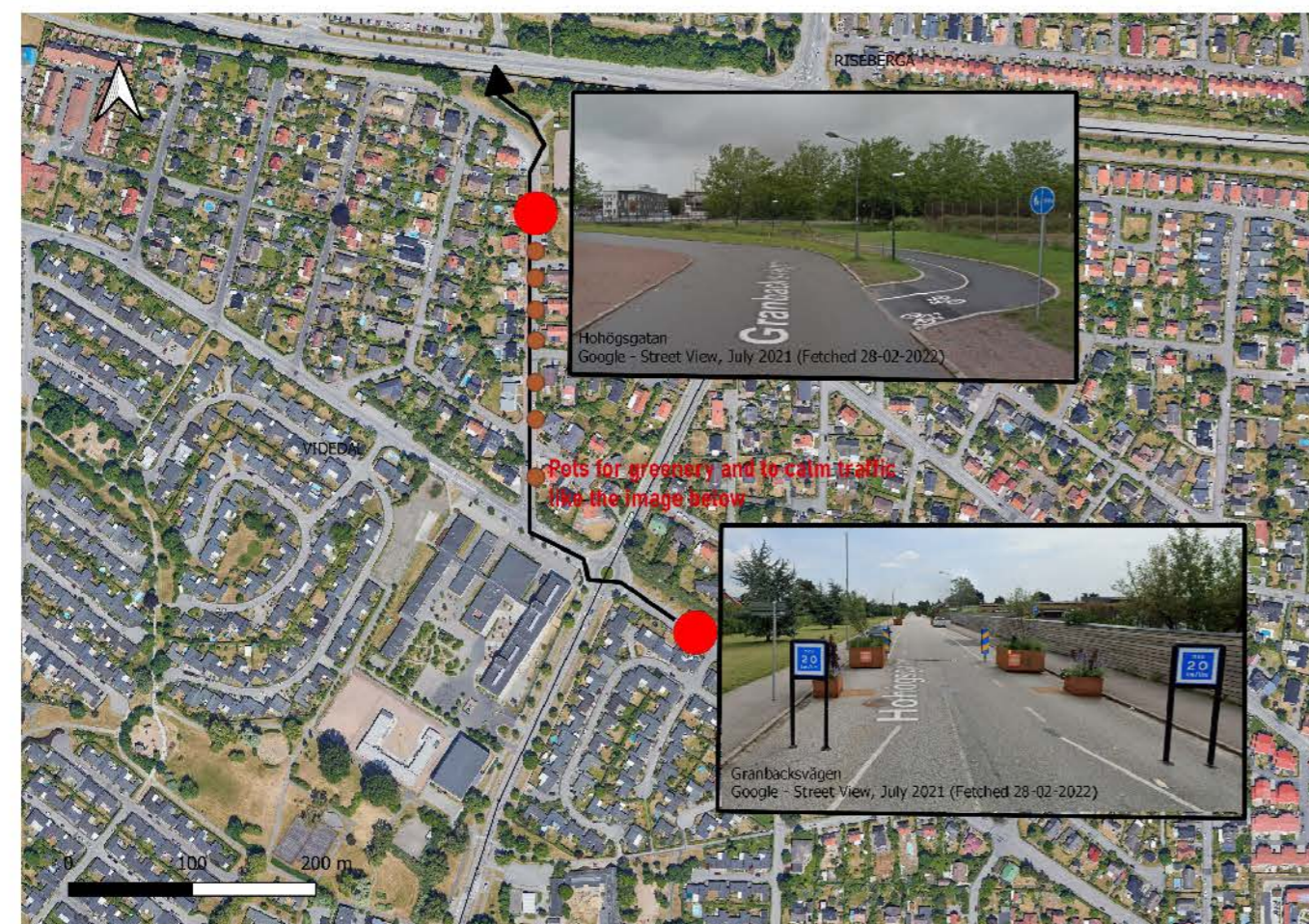
The people expect the transportation system to contain a couple of main characteristics, firstly there should be safety of usage of the transportation alternative. Secondly the transport alternative should carry people and other items at a minimum cost in time and economy. Finally, transportation should also offer the greatest level of comfort (Hickman et al. 2019). As the conclusion states, our inventory and analysis found that Videdal is a relatively large sub-area with a lot of blind alleys connected to two collector streets resulting in longer journeys as residents can't bike in a straight line to the bus stations. In other words, residents may need to travel nearly twice the distance within a 500 meter diameter, from the very edge to the middle. This means that instead of the pre-assumed 250 meters from the edge to the origo you can see near 300-400 meter journeys for those who travel by streets that are ninety degrees. not to name the need to yield way to other users of the urban street.

We therefore suggest an increase in bicycle parking near bus stations in Videdal to further encourage the use of more sustainable transport and to place emphasis on the importance of public transport. Because transport also provides the means of overcoming distance for one to partake in activities at other locations we feel it is necessary to maintain clear connections between sub-areas while expanding on sustainable transportation accessibility. Because travel time is a disutility, it is important for the transportation system to help reach reasonable travel time (RTT) (Bainster et al. 2019). Besides, if public and sustainable transportation can help reduce disutility then there is more time and availability for economically productive activities. A long-term goal alongside our suggestion would be to see greater bike paths connected to Videdal so that the suburban area becomes even less dependent on the automobile. With greater access we expect public transport to be less of a disutility (Hickman et al. 2019).



Secondly, in regards to the strategy of traffic calming we suggest to reinstate movement and social space from automobiles by redesigning the street of Hohögsgatan with inspiration of Granbacksvägen where the road has been transformed for bicycle usage. We suggest expanding on this concept as it reclaims social space and movement for more sustainable modes of transport, such as biking and walking. By reducing speeds from 50km/h to 30km/h we expect less accidents. Not to mention, we also expect a more peaceful and clean environment as noise and air pollution is reduced alongside fuel consumption because of the calming of traffic. The expanding of Granbacksvägen bicycle road to Hohögsgatan will also improve the urban street environment as more street furniture is added alongside plants and other greenery.

Because Hohögsgatan is wide enough already we don't expect widening of streets to be needed as there's room for multiple users such as walking, bicycles and driving users. This is ultimately expected to further improve connections between sub-areas as it firstly connects Granbacksvägen and Hohögsgatan and secondly connects to Riseberga, north of Videdal, shown by the path and arrow on the map below. This project should be considered at roads near the schools and would minimize the risk for cars to hit cyclists, not least the schoolchildren. Also the street includes trees in urns that are placed along the road in a way that makes it harder for cars to break the speed limit and at the same time makes the road attractive which would be one of the solutions to make the Videdal area more attractive.



Lastly, by redesigning the street we can expect less of a barrier effect from motorized traffic as pedestrian and cycling movement is introduced; further enhancing economic activity (Shiller and Kenworthy, (2017)). As the inventory and analysis found, Videdal consists of mostly residential housing but also some elementaries and schools. This further strengthens the relevancy of the suggestion as safety, accessibility and mobility are all crucial to the existence of the foundations. Traffic calming is then, in conclusion, considered to further improve Videdal by expanding on sustainability in modes of transport alongside beneficial suggestions such as lower speeds which improve safety. Moreover, the suggestion will be directly connecting Hohögsgatan and Granbacksvägen to both collector streets of the sub-area, identified in the inventory and analysis.

Individual Reflections

Student 1 - Hugo Jakobsson

I found the assignment enriching as we got to look at and compare two areas in Malmö in order to build an inventory of the functional and the less functional offerings of each district. As I looked at public transport in the first part I was surprised at the possibilities of QGIS that we've previously worked with. This course further developed one's skills in QGIS and helped with ways to look at or ways to analyze different infrastructure.

For the first part we would split responsibilities between group members in order to tackle different aspects of the assignment. This felt like a good approach as it let each individual deep dive into one subject and come with more detailed knowledge of each subject. We then collectively put our work together and took a step back collectively in order to analyze where we could see room for improvement. Throughout the process we would set deadlines in order to follow up on what we've concluded so far and what we've found in our inventory. We split work evenly between group members as we felt it was the most fair way to do things. Overall I feel as if things went well, each individual kept up with their subjects in order for us to collectively build a group project and to develop proposals together based on our findings in the inventory and analysis.

For data we made use of QGIS mostly, with the different tools found in the 'WEB' section and with data from data packages of previous courses along with this course. We made use of different methods to analyze service areas of a geographical location such as the 500 meter diameters surrounding bus stops in Videdal. For social and cultural characteristics we felt it was of relevance to make use of SPSS statistics over population and how many travel in and out of both areas.

Student 2 - Russ Teneryd

This assignment was both very exciting and refreshing. We chose to study two places that's not familiar to me, Ribersborg and Videdal. In this report we look at the transport communications, the sustainable

mobility and the chosen positive aspects of the districts as well as the negative, which we would later come up with suggestions for improvements.

The group working experience was rather dynamic and very much efficient. I had the pleasure to work with Samuel, Hugo and Lukas. Even if we didn't get to see so much of each other, we would steer up zoom-meetings to compensate. In the meetings we would reflect our thinking on how we should move forward with the different aspects of the project. Lukas had a role as good writer with important reflections to the literature, Hugo had a good eye for the strategies of improvements to implement into the project, Samuel was great with the making of the maps and I had a role with statistics, I think we all got along very well and completed each others certain skill sets.

We started early on with a meet up in person to get to our selected districts Ribersborg and Videdal for further analyzing and get a perception of the area, even more so for me, Hugo and Samuel that's not as acquainted with Malmö as Lukas who's been growing up in the city. After we had a stroll and took the photos and gathered the information we needed we reflected on it in part 1 of the assignment. When we started with part 2 we had a good idea of what could be improved about the area. Things that we recognized the potential in when we did the stroll earlier on, and by looking over the map.

We had a wide spread of different methods and data to make valid points in our analysis. The data we gathered came from SPSS statistics, a program for strategic analysis that we used to show the population density, inflow and outflow of the people in the selected areas. QGIS, a geographic information system, was another program that came in handy for the assignment. This program allowed us to pinpoint the important things that we wanted to showcase on the map in order to visualize our thinking on the matter. The method of interviewing to get insight from the common people on the street, the people that actually live in the areas and have a better understanding of it than we do, was something that appealed to us. We had the interviews done with people of different ages, female as well as male from different backgrounds. Relevant references from the course were included as well to strengthen the analysis.

Student 3 - Samuel Andersson

I think that the assignment in general was very interesting. This was the first time that we really got to focus on districts of the city and not just defined areas which I thought was really interesting. Our group has chosen two districts with different prerequisites which I think made the analysis part of the project more interesting since you really saw the differences between the districts.

We mostly split up the work, so that each student had some parts to focus on. I think this was a good solution since we did not meet physically and therefore it is harder to work on everything together. We did of course talk to each other about the project and what we thought of it so that we in that way had a "red thread" throughout the work. We also read each other's parts to understand the entirety of the project but also to improve it with constructive criticism et cetera. We did part 2 of the project more together since it required a united idea and development. In the development of our proposal we sat down and reflected on the analysis part and tried to figure out what the areas lacked in terms of transport infrastructure. We agreed that Ribersborg is a very well planned area that in addition has received improvement in recent years and we therefore focused solely on Videdal. In Videdal we saw

opportunities to improve bicycle accessibility, traffic safety and to encourage commuters to use the public transport.

We mostly used the course literature for our references in text but also Malmö stads data about the districts. For developing maps we used QGIS and the information came from the dataset package, plugins as well as from our own vectors. For the statistics we used SPSS and the information came from a data pack which we got from the prior course. We also did site observations and interviews which were used in the analysis. Moreover maps such as Google maps and Malmö stadsatlas were used both for analysis but also for data in some instances.

Student 4 - Lukas Zorica

The assignments have been very interesting and I have learnt more about the transport system in the city that I live in and also developed more skills to use the QGIS program. Our group has since day one worked hard and made things done early. The first part of the assignment took us only a few days to be done after we walked around together in both areas (Videdal & Ribersborg) to inspect and investigate the main focus of part one like roads, bicycle paths, parking facilities, public transportation, pedestrian paths and other transportation modes. Our group had good communication throughout the whole process, we talked on zoom and we met a few times to check things and evaluate. We began with dividing the assignments of part one (two assignments each). I choose the bicycle paths and pedestrian paths. We used programs such as SPSS for statistics and QGIS to create our maps. All of us in the group had good knowledge of what everyone wrote, even if we divided most parts of the assignment.

I wrote from my point of view about what I experienced when walking through the two areas. I used photos that I took and also read my notes that I wrote while investigating the areas. Then I read the literatures (*What are streets for & An introduction to sustainable transportation policy*) to see what the authors said about bicycle paths and sidewalks to get some more expertise and so I wrote texts for both of the investigations. After I had my text done, I started to create maps on both GIS and Malmo Stadsatlas to make it clear to see where the paths of bicycles go. I also did the interviews and wrote about the travel patterns, where I interviewed seven different people of different age groups. I used the suggested questions with a little modification and also added some of my own so it would fit in the context. I wrote a short summary for the detailed proposals in Videdal about the sidewalks room for space and the bicycle adaption which I wrote a proposal for, to add a so-called "bicycle street" near the schools to adapt the speed after school children that go by bicycle to minimize the collision risk with car traffic and also making the street more attractive by the urns that goes with the bicycle street and also a cleanliness of the area to make it a more attractive place for people that live there and people passing by there.

For part two, we reflected together on the analysis part and noted what the areas lacked in terms of transport infrastructure. We all agreed that Ribersborg is well planned and that it has improved in recent years and we therefore had the main focus on improving Videdal. Our improvement ideas were to increase bicycle accessibility, make the traffic more safe and to encourage commuters to use public transport.

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