



Workshop urban node Gothenburg

Summary report on outcomes and conclusions

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Authors: Steven Meijlof and Kevin van der Linden

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1 Introduction Vital Nodes project and approach

The workshop in the urban node Gothenburg was organized on the 12th of April in 2018. It is part of the Vital Nodes project – a Coordination and Support Action (CSA) executed under the European Commission's Horizon2020 programme. Vital Nodes aims at enabling efficient, sustainable freight delivery across the TEN-T urban nodes (metropolitan areas), by bringing together existing European, national and regional networks of experts and professionals. Vital Nodes will deliver evidence-based recommendations for effective and sustainable integration of the nodes into the TEN-T network corridors, addressing specifically the multi- and intermodal connection between long-distance and last-mile freight logistics. Addressing funding needs (for infrastructure and spatial developments), updating and redefining guidelines for infrastructure investments and funding instruments on European infrastructure. Focussing on integrating long-distance freight and last-mile delivery improving the performance of the urban nodes throughout the entire TEN-T network. It will also support the deployment of innovations in the urban nodes, while establishing a long-lasting European expert network.

To get a clear understanding on the status of an urban node a so-called 'fingerprint' is developed, including characteristics of the node based on facts and figures (secondary data and stakeholder input) and resulting in key challenges of the urban node Gothenburg. This fingerprint is used as a starting point of the workshop discussion (see the appendix, attachment 1).

Goal of this workshop was to:

- Come to a common agreement on fingerprint Gothenburg (typology, position of the urban node Gothenburg / facts and figures of the node);
- Come to common agreement on key challenges;
- Deepen the understanding of the challenges;
- Explore solutions for the challenges;
- Change the mind-set: thinking on different scales (cross-border/TEN-T corridor, regional/functional area level, local/city level) and dimension, adaptively: balancing choices between short term actions and long term objectives;
- Suggest on good practices from Gothenburg.

During the Gothenburg workshop specific challenges, drivers, (implementation) barriers and possible solutions/good practices have been discussed. This discussion has been linked to the role of the urban node Gothenburg on the TEN-T corridor and future needs according to this. The identified challenges, solutions and good practices are collected within the Vital Nodes project. They will be input for other urban node workshops and all together form input for recommendation to the European commission.

For this it is very important all participants of the workshop add good practices and provide input on their impact.

2 Typology and identified challenges of Gothenburg

2.1 Context

The city of Gothenburg is the second largest city in Sweden and the fifth largest in the Nordic countries. Gothenburg has a population of 560 thousand citizens now. This number is expected to increase to 700 thousand citizens in 2035, while the population of the region (NUTS-3 region Västra Götaland) is expected to increase from 1.7 million to 2.0 million persons in 2035. The growth will be mostly facilitated by urban densification, of which the RiverCity Gothenburg is an example. RiverCity Gothenburg envisages an inner city expansion by transforming adjacent former port, industrial and logistics areas located along the river Göta älv. Moreover, the growing suburbs are expected to accommodate part of population growth.

The urban node Gothenburg is located on the TEN-T corridor Scandinavian-Mediterranean, on the axis Copenhagen-Oslo. The corridor covers four different modes of transport for both freight and passenger. Trade and shipping, manufacturing (e.g. Volvo) and industry are important sectors for Gothenburg. The port of Gothenburg is of economic importance for the city of Gothenburg and its broader region. The port is seen as the gateway of Scandinavia since it is the largest port of the Nordic countries. The port of Gothenburg is mostly a port of destination, which means that goods arrive in Gothenburg in order to be distributed throughout Scandinavia. Ships arriving in Europe from Asia mostly visit the ports of Rotterdam, Antwerp and/or Hamburg first and end in Gothenburg. On the other hand, Gothenburg is the origin of goods transported to Europe and Asia for – for example – the manufacturing industry of Volvo. Freight is transported by trucks on highways crossing the city parallel to the Göta älv river, by rail competing with commuter flows and by boats to lake Vänern. Transports meet in a concentrated area around the E6, the central railway station and the Göta älv river in the centre of Gothenburg and competes with the interests of city development and the desire to create an attractive and liveable city.

Beside the port there are six intermodal freight terminals (Terminal Masthugget, Logent Ports & Terminals, APM Container Terminal, Centralharpan, Alvsborgs RoRo and Arken Multimodal Terminal) connecting sea-rail-inland waterways. There is also one rail terminal (Göteborg Gullbergsvass kombiterminal). The node is connected to the west (to Hamburg and globally) by sea. To the east the port serves as an inland shipping node (via lake Vänern) and is also connected by rail (Västra Strambanen). Freight and passenger transport uses the same rail track. To the north, east and south the city of Gothenburg is connected by road via the national ways E45, E20, E6 and highway 40. All the connections are crossing each other in the centre and they are crossing the centre of the node Gothenburg as well, causing a possible bottleneck of the network. Besides, Gothenburg has one freight and passenger airport 20 km away from the city centre (Göteborg Landvetter). This airport is also connected via the national ways riksväg 27/40. There is no railway connected to the airport.

The fingerprint of Gothenburg and the additional maps can be found in the appendix – attachment 1, 2, 3 and 4.

2.2 Challenges

Based on the preparatory analysis the following challenges were seen:

- There is a conflicting interest between growth and coexistence (growing population and lack of housing and office areas vs. under-used areas along the river);
- (Lack of) coordination and cooperation among different areas of responsibility (e.g. municipal, regional, national level as well as between the different municipalities situated in the region and within the municipalities, e.g. between traffic, spatial planning, business development, harbour etc.);
 - o Lack of common and anchored goals;
 - o Lack of platform and platform coordination to realise early infrastructure and spatial planning between national and local level towards common measures and scenarios for the future;
 - o There is disagreement on which data to use (for policy development);
- The many barriers in the urban area (river, infrastructure, etc.) create the feeling of an unconnected city.

During the workshop the following challenges were added:

- Transport flows (roads and rail) are competing; they form a bottleneck in the network and compete with liveability goals of Gothenburg by crossing the city centre.
- Accessibility issues for the Landvetter Airport since you can only travel by car or airport bus.
- (Lack of) understanding on what a vital urban node, especially the urban node Gothenburg, is and how to define the functional area for freight transport.

2.2.1 What is a vital urban node?

During the workshop the participants discussed the importance of the node Gothenburg. This node is located on the TEN-T corridor Scandinavian-Mediterranean, on the axis Copenhagen-Oslo. Although Gothenburg has an important role on corridor level, mostly for freight towards Oslo, the other transport routes are underexposed. The participants of the workshop observed that the direct link between Gothenburg and Stockholm via Borås and/or the E20 is not integrated in the TEN-T network, as defined by the European Commission, although many (international) freight and passenger flows are on this link using the same tracks.

To answer what the importance of Gothenburg is, the participants discussed the impact and influence of the city (e.g. what is the functional area of Gothenburg?). Data for the node are mainly based on Eurostat statistics, due to comparability reasons with other nodes. Eurostat has set up the NUTS classification as a single, coherent system for dividing up the European Union's territory in order to produce regional statistics for the European Community. The region of Gothenburg has been defined as the NUTS 3 region 'Västra Götland'. When discussing the functional area of Gothenburg the participants agreed that the functional urban area of Gothenburg differs for passenger and freight. The current definition of regions (NUTS 3) is too small to define the functional urban area of Gothenburg. From passenger perspective the daily urban system (DUS) is growing by commuter flows. From freight perspective the functional urban area (FUA) is much larger and covers the Mega Region of West Scandinavia since the port of Gothenburg is very important for all Nordic countries. This shows the

differences between the world of spatial planning and logistics, not necessarily covering the same regional areas.

This fed the discussion on what could be seen as a vital node. Is the city of Gothenburg a vital freight node since the port of Gothenburg is the gateway of Scandinavia? Or should Gothenburg be a vital city? The general conclusion was that the urban node Gothenburg needs a wider city perspective, focussing on the one hand on freight since the port is important for the city and on the other hand on the liveability in the city. According to the participants this means that on the local level as well as on the regional or national level a harmonized view should be created for the city of Gothenburg. Stakeholders should meet each other and create future plans.

2.2.2 Competing transport flows

While discussing the different transport flows crossing the urban node Gothenburg, it turned out that the vitality of Gothenburg is highly influenced by the accessibility of the urban node Gothenburg. Long distance freight and traffic and local and commuting flows to and from the city of Gothenburg use the same routes (road/rail) crossing the inner city since Gothenburg has no ring road. Participants argued the existing quarter part of a ring in the north-west of Gothenburg is not used frequently because the other routes (crossing the city) are shorter. As can be quoted: 'the existing part of the ring road does end at a point where is nothing'. This means all traffic to the north, east and south use the national ways E45, E20, E6 and riksväg 40 and the rail links to the north and east. They also mentioned there are no incentives to use the quarter part of the ring road or to do not use the roads crossing the city centre. The transport flows meet at the same point in the city since there are limited amount of bridges to cross the river Göta älv because ships should use the Göta älv river to lake Vänern. For traffic the Älvsborgsbron bridge far to the west near the port and the Göta älv bridge in the city centre form the two possibilities to cross the river. Also trams use the Göta älv bridge. Besides, the E6 crosses the river via a tunnel (Tingstadstunneln) on the east. For rail a new bridge is opened far to the east, the South Marieholm rail bridge. Nevertheless this is not seen as a measure that highly decreases the competing transport flows in the inner city. All modalities and roads are crossing the inner city of Gothenburg at both northern and southern riverbanks of the Göta älv specifically between the Göta älv bridge and the Tingstadstunneln. This has direct influence on the robustness and vulnerability of the network of the Scandinavian-Mediterranean TEN-T corridor.

Long distance freight/traffic and local/regional commuting flows compete here. It is argued during the workshop that local and regional commuting happens mostly by tram, bus or car, since less suburbs are connected to rail. These commuters use the same roads as the long distance traffic will do, which influences not only the available road capacity, but also the vitality of the city of Gothenburg. Brought in by the participants was to enclose the ring road and to stimulate at least transport flows to/from the port to use the ring.

Besides the inner city crossing some other locations were identified where conflicts of transport flows occur. As is brought forward during the discussions, the rail capacity will also be a challenge for the city of Gothenburg. Some commuters use rail connections since their suburbs are connected by rail. This

consists of a single track from the port of Gothenburg to the city and the hinterland of Sweden. On this track (to Stockholm) freight and passenger transport commuting to, for example Borås, compete as the rail capacity is low since it is one track and since there is only one bridge crossing the Göta älv river. In order to tackle this, different projects are set up to increase the rail capacity and to reduce the congestion on roads crossing the city. The new South Marieholm rail bridge has increased the capacity of the current rail bridge crossing the Göta älv and projects for the next few years upgrading the rail throughout the region to improve the passenger accessibility (also improvement commuting traffic) and to create space on the current tracks for freight, are the West Link (part of the West Sweden Agreement), the Gothenburg-Borås high speed line and the Gothenburg-Stockholm high speed line. The West Link (Västlänken) connects the south and west of Gothenburg with the central station and other commuter lines via an 8 km long track. This track will be tunnelled for 6 km and create new options for commuters as they can switch from car use to public transport. The Gothenburg-Borås high speed line consists of high-speed trains and express regional trains between Gothenburg, Landvetter Airport and Borås. The project will add a better commuter connection between these cities, it will increase the capacity for freight on the old rail line and it forms the first part of the high speed line Gothenburg-Stockholm. The latter will be built in the next years up to 2030 if the national government allocates funding to this project.

What is also mentioned during the discussions, is the cable car project. This project is another example of improving the public transport system in Gothenburg. Building the cable car (Gondola project) in the city of Gothenburg will enclose the public transport system at the western part and will give new travel options. This cable car connects Järntorget on the southern river bank of the Göta älv with Lindholmen, Västra Ramberget and Wieseigrensplatsen on the northern part and is European funded by CEF. It will be part of the public transport system.

For the upcoming years another challenge consisting of competing transport flows is the future densification of the urban node Gothenburg was addressed. The project 'RiverCity' was brought in many times as one of the most important densification projects in the upcoming years. Projects as RiverCity, cause a major increase in construction related transports. As all these transports use the same roads, this will have a direct influence on the robustness and vulnerability of the network of the Scandinavian-Mediterranean TEN-T corridor and is therefore identified as a major challenge for the upcoming years in order to ensure the possibilities long distance freight and last mile logistics in the urban node Gothenburg.

2.2.3 Barriers in the urban area

On a more local level a major challenge for the city of Gothenburg is mentioned and discussed; the existence of physical barriers in the city. The participants argued the Göta älv river forms a barrier since it divides the city in a northern and southern part. Other barriers they mentioned are the different national ways and the rail links to the north and east. These cross the city centre at the same point. Two of these roads (E45/Oscarsleden and E6/Lundbyleden) are parallel to this river and strengthening the barrier between the northern and southern city parts. Due to the river is used for shipping, there is a limited amount of bridges crossing the river, to this extend the river can be experienced as a barrier for local traffic as well.

The city of Gothenburg mentioned they are already working on reducing the physical barriers. Different big infrastructure projects in Gothenburg such as the West Sweden Agreement (Hisingsbron bridge, West Link rail, Marieholm tunnel, etc.) and the RiverCity aim to reduce physical barriers and to reunite the city. The inner city housing project RiverCity (densification) aims to revitalise the node Gothenburg. As is also mentioned different times the current densification projects are to bring the city closer to the river Göta älv and to reunite the city. Besides, the city of Gothenburg mentioned their present to all citizens for the 400th anniversary. This present, the Hisingbron bridge, will renew the current main bridge crossing the Göta älv (Göta älv bridge). This bridge will be lower than the current one and should, according to the city, reduce the barrier.

Besides the cable car (Gondola project) will be built over the river to expand the public transport network. This cable car connects Järntorget on the southern river bank with Lindholmen, Västra Ramberget and Wieseigrensplatsen on the northern part and is European funded by CEF. All these projects aim to reduce the barriers in the city of Gothenburg and to bring the city closer to the river. They are also in line with the Mobility Strategy 2035 in which the city of Gothenburg explains their goals for 2035 dealing with freight, passenger flows (mobility) and urban space in the centre of the urban node Gothenburg as well. Their focus is on an easily accessible regional centre, on a more attractive city environment and on consolidating the Gothenburg's position as the logistics centre of Scandinavia. In order to ensure continuation of the current role of Gothenburg as logistics centre, turning down the addressed barriers is seen by the participating stakeholders in the workshop as an important focus. Especially the multimodality of freight handling in the urban node requires as less barriers as possible.

2.2.4 Conflicting interest between growth and coexistence

By bringing forward the different perspectives of the stakeholders in the workshop there seems to be some trends influencing and competing with the capacity on the corridor level.

First of all the port of Gothenburg brought in the port is growing and will grow further in the future, although the port capacity is currently constraint by the depth of the channel. The port authority argued the depth is limiting the size of the ships, megaships cannot enter Gothenburg, while the port will and wants to grow as the important port of Scandinavia. In their opinion the channel should be deepened. The region agreed upon this, although they argued the importance of the port should be mentioned.

Other trends for the city of Gothenburg is the growing e-commerce. Meaning more last mile deliveries and the growing population for whom houses should be built (densification of city, for example the RiverCity project) meaning more building and construction works and construction related traffic and more inner city transport in the future. These trends may have a negative impact on the current local transport and passenger flows through the city centre and causing new bottlenecks in the city centre. The growing city might also mean an increase of commuter flows to and from the city on the regional level. More traffic crossing the city does also influence the long distance flows. The current plans as West Link (Västlinken) and the high speed rail connection to the east (Gothenburg – Borås – Stockholm) and the regional line Gothenburg – Borås) are generally seen as good developments that might have a positive effect on the commuter flows, not having to use the same rail lines (network) and giving space for freight.

The participants concluded the port of Gothenburg is important for the city and should grow. On the other hand, the city will also grow. Keeping the combination of a vital node and a vital freight node in mind is important according to them. However, the future growth of both the port (by deepening the channel) as well as densifying the city centre will increase the pressure on the current infrastructure in the city centre, since freight transport increase due to increasing port related traffic and due to construction works for the densification (and afterwards due to the new houses/offices). The participants identified an attached risk in densifying the city, which makes the accessibility and therewith the use of the port difficult. Another questions remains what steps should be taken to promote the integration of the vital (freight) node Gothenburg and ensure the city becomes liveable while the port can grow.

2.2.5 Accessibility of Gothenburg Landvetter Airport

Another challenge is the accessibility of the airport of Gothenburg, Göteborg Landvetter. The airport is 20 km from the city centre of Gothenburg and deals with both freight and passenger transportation. The airport is only connected to the city by road, using cars or an airport shuttle. This road (riksväg 40) is connected to the other roads in the city centre and it is used by long distance as well as commuting flows. Swedavia, the owner and operator of the Swedish airports, expects a growing amount of passengers for Landvetter Airport in the (near) future. To deal with these passengers and in the meanwhile remain an important airport – also in respect freight transportation, Swedavia is looking into a strategy for 2080 and want to plan ahead. To do this, Swedavia mentioned it is important for them to know about plans of other (governmental) bodies (municipality, region, national, Trafikverket, etc.). they need clear collaboration. This is an example in which the collaboration between different organisation is really important in order to plan for the future. The development of a public transport connection between Gothenburg city centre, Landvetter and Borås as well as the high speed line between Gothenburg and Stockholm and Malmö are examples of developments that are in this example important for the airport to know. Swedavia said the business model of Landvetter Airport is partly based on car parking spaces surrounding the airport at the moment. This makes it difficult to make a complete modal shift. This means in relation to the development of the connection with the airport, there are constrains mentioned in the willingness to have more people use public transport instead of the car and the development of mentioned rail links. An option could be to introduce an intensified bus system from and towards the airport. Certain measures could help in limiting the use of the road(s) and therewith increase the amount of space (capacity of the road) available for freight.

2.2.6 Coordination & cooperation among areas of responsibility

The last challenge which is mentioned many times during the workshop is the lack of coordination and cooperation among different areas of responsibility, e.g. municipal, regional and national level as well as between municipalities and within municipalities. The Swedish Transport Administration is, for example, responsible for the main roads (around Gothenburg these are the E45, E20, E6 and RV40) and has an overall responsibility under terms of its government directive. This Administration drawn up the national transport plan also. The region Västra Götaland is the public transport authority and responsible for all public transport in the region. It also draws up a regional transport plan. Besides, the Gothenburg Region Association of Local Authorities (GR) draws up a regional plan. On a lower geographical level the municipality is dominant, being responsible for the Gothenburg city plan.

During the workshop the participants agreed that important barriers are 'a lack of coordinated planning at the regional level' and 'a lack of common and anchored goals'. Strategies are developed within organisational boundaries, having neighbouring organisations involved in the development, but resulting in loose outcomes that are not integrated. There is no clear governance mechanism to coordinate land-use and infrastructure decisions with other urban centres in the region. According to the participants there is a lack of platform and platform coordination to realise early infrastructure and spatial planning between the national, regional and local level towards common measures or future scenarios.

Discussed is the way the different government levels collaborate and plan. On the regional level there is a lack of integrated planning and collaboration, information is shared less between the city and the region, traffic planning argues decision makers see no urgency in the spatial dimensions and there are no talks about visions for the city/region. Within the municipalities there is a lack of common vision on integrating spatial planning and infrastructure planning. Besides, also in the municipality decision makers see no or less urgency in the spatial dimension. As is concluded based on this during the workshop, it results in discussions on which data should be used for future policy developments for infrastructure and spatial planning. Horizontal integration on the institutional level, meaning a more coordinated planning between the municipalities and the region, is necessary to speak with one voice on the vertical level to the national government in Stockholm. According to the participants it is hard to get in contact with the national government in Stockholm or to put something on the national agenda. Besides, the way to Brussels (EC) for European ideas or funding is seen as something that can only happen via the national government in Stockholm and not solely by the region or municipality in the Western part of Sweden. Putting certain issues on the agenda is seen by the participants as something that holds back. Speaking with one voice can help, even to get for example a national view on the importance of the port of Gothenburg for the city, the region and Scandinavia.

3 Good practices and opportunities identified

With regard to the challenges in Gothenburg we discussed some good practices in other urban nodes in order to feed the discussion during the workshop. Besides some good practices from the urban node Gothenburg were discussed while discussion solutions for the identified key challenges.

Rotterdam (NL) – City terminal Waal-Eemhaven

(presented by the Vital Nodes consortium, based on the experiences and information collected during an earlier workshop in the urban node Rotterdam)

The municipality of Rotterdam together with the Port of Rotterdam (port authority) wish to develop the Waal-Eemhaven in Rotterdam from a deep sea terminal to a short-sea container terminal with a higher amount of freight transport via road. This development has impact on the freight flows to and from the Rotterdam port area, but also could have mayor impact on the connection with Rotterdam South. Traditionally Rotterdam South has many low educated inhabitants in the neighbourhoods Maashaven and Tarwewijk (directly surrounding the Waal-Eemhaven area). Further development of the port can open up new job opportunities for these inhabitants and a new future via this port area, that is located on short distance from the city centre.

The development of the Waal-Eemhaven area to a housing area means that lots of people that are currently working in Waalhaven East and South would need to travel much further to get to their work in the future, which would increase traffic flows. Mixing the functions of the Waal-Eemhaven area is therefore seen as an option in order to stimulate using bike and public transport to travel over shorter distances to work. On the other hand, the development of housing would mean turning down the environmental contour that is labelled to the area. Preserving this environmental contour for possible future developments and need for industrial areas is preserved. For example petrochemical industry and the conservation of this in order to have the port area remain interesting and relevant for the future and of added value for the Netherlands. As there are not so much big industrial areas left with a big environmental contour.

The development of the Waal-Eemhaven, although it is still in process, could be seen as an example in which investments in the city take into account liveability, accessibility and safety issues as well as infrastructure, logistic and spatial planning aspects.

Rotterdam (NL) – Living Lab approach – since 2014

(presented by the Vital Nodes consortium, based on the experiences and information collected during an earlier workshop in the urban node Rotterdam)

Since 2014 Rotterdam uses a 'Living Lab' approach in city logistics in which the city works together with partners on technical, logistic, behavioural, law, policy and communication aspects. In the previous years the city has acknowledged Ecostars as a system for transport companies, introduced a environmental protection zone in the city centre, and on national level, made appointments between stakeholders about a green deal zero emission city logistics. In order to achieve the goals of the Living Lab approach, knowledge exchange and communication are key elements. The focus within the approach is on

transporters and shippers, but more and more attention is given to the buyers as well, due to their impact on the zero emission goals.

Within logistics, companies are supported through the Beter Benutten programme, decoupling and bundling points and smart procurement. The pilots that are being carried out provide opportunities to experiment with future solutions, which is necessary because achieving the goals of the zero emission policy involves a lot of aspects which transport companies do not want to take care of themselves. Together with partners, it is nevertheless possible to achieve certain goals by asking the question what one can do to strengthen the total. For example the port is not only a gateway to Europe, but also creates value. One concrete example of an outcome is the company of Breytner as the first complete electric transport company for urban delivery of goods and services.

Paris (F) – Monoprix

(presented during the workshop by the university of Gothenburg, school of Economics)

The French company Monoprix decided to relocate their distribution centre to a location near the train station in a suburb 30 km away from the city centre of Paris. With this decision they contributed to the reduction of congestions in the city and the environmental impact on the city; suppliers previously had to drive to the suburban distribution centre. To supply their stores in the city centre of Paris, Monoprix used cargo trains from the suburban distribution centre (Combs-la-ville terminal) to a central place in Paris at the Paris-Bercy terminal. From this local terminal the onward road distribution of goods towards stores took place by using vans powered by natural gas. Although the transport costs increased compared with the road-only solution meaning many trucks distributing goods on road from distribution centres outside the city centre to the shops, the environmental and social benefits were substantial. Unfortunately the suburban distribution and cargo trains abandoned after 10 years in 2017. Due to changed circumstances. Nevertheless, it is a good example because information about this development is widely shared. The case of Monoprix shows how relocating a distribution terminal and using multimodal transport can help cities to reduce congestions and to obtain a better living environment in cities.

Paris (F) – Chapelle International

(presented during the workshop by the university of Gothenburg, school of Economics)

The second French good practice is Chapelle International. It is a logistics hotels, meaning urban, multi storey and multi uses developed by SOGARIS as logistic real estate developer. This example of good practice and city lab shows the multiple usage of ground in Paris, behind Gare du Nord. It combines transport (urban freight rail terminal, urban distribution terminal) with city development (offices, data centre, tennis courts and an urban farm) in the same area. A long process has been preceded before the construction could start and the investment is risky since the expected return on investment is within 20-25 years. Despite this example shows very well how transport and urban development can be combined. It shows the multiple usage of ground for different purposes. Besides, it realises possibilities to use the transport links (e.g. rail / urban distribution) for the other urban purposes on this location.

Examples of good practices from Gothenburg

Cable car

(discussed during the workshop)

An example of a successful project framing of this relation linking city, region, national and EU level is the planned Gondola Project covering the construction of a cable car in the city of Gothenburg crossing the Göta älv river. The current public transport system is very radial, like spokes in a wheel passing one narrow hub in the centre near the central station. To connect the northern and southern part of the city, separated by the crossing Göta älv river, all public transport (trams, buses) cross the river at the Göta Älv bridge. To get a better and faster connection, without creating new barriers between the northern and southern part as higher bridges for shipping do, the cable car is developed. This cable car connects Järntorget on the southern river bank with Lindholmen, Västra Ramberget and Wieseigrensplatsen on the northern part. The new cable car will be fully integrated in Gothenburg's public transport system and thereby unburden the hub. It will connect the northern and southern part of the city, overcome the river barrier, and giving more and faster options to travel by public transport. Public transport may become more attractive for commuters compared by using roads, having also impact on the road use. So this project will achieve several local, regional, national and EU targets and applied for funding from the CEF Blending Call.

ElectriCity

(discussed during the workshop)

The Volvo Group takes part of the ElectriCity partnership. This partnership consists of partners from the industry, academia and society. It is about developing and testing solutions that will open new opportunities for public transport and urban development in the future. ElectriCity uses electric buses to develop solutions for attractive public transport and urban development. One of the projects is route 55 in Gothenburg. On this route the vehicles used are electric hybrid buses supplied by Volvo. On this route the buses are more comfortable for travellers. Besides, five bus stops are modified. On this stops more comfort is created by using innovative technology, for example screens with live information and a sheltered stop is built against the weather conditions using new noise insulation technology to test. Also the final stop is an indoor stop in an annex to an existing building including a café and a parcel collection point. The indoor stop combined with a café and a parcel collection point shows how transport and urban development can come together. It indicates solutions for the last-mile transport of parcels since commuters can pick up the parcels on a central point along their route, reducing the amount of trips for parcel delivery in the city. For charging the bus heat is recovered from a transformer in the basement of the building. This indoor charging experiences can be used in future urban development plans as it combines transport and urban development. Most important technology making the indoor stop possible is the zone management system. This system control the buses' operation and speed. Based on this system the bus drives in some areas slowly (e.g. recognition of pedestrian areas) or changed the engine system used at that specific point by driving fully electric or hybrid. In zero-emission areas the vehicles operate quietly on electricity.

Port of Gothenburg – relocation of rail terminals



(presented during the workshop by the Gothenburg port authority)

Another example of a good practice is from the Port of Gothenburg. The rail terminals for the port were situated in the city centre of Gothenburg, near the central station. Heavy traffic crossed the city from the port to the terminals. To reduce the heavy traffic in the city centre and to enable the construction of Västlänken and future city development on the short and long term, shifting the rail terminals was a necessity. Initially the stakeholders were all focussing on maximizing their gains resulting in much dwell-time. To reduce the environmental impact of the heavy traffic to the terminals and to create possibilities to develop the city on the short term a sense of urgency arose. The challenge the port at that moment had was to find and realize a solution within a short time frame which was feasible and which formed a win-win for the different stakeholders. The pre-conditions to realize this exercise within a short time frame trust and openness between the stakeholders was important. Also sharing long term plans on a local, regional and national level at an early stage and having an infrastructure planning transcending a political cycle of four years were necessary. Aligning plans on different scales, collaboration and the combination of transport and urban development makes the relocation of rail terminals a good practice.

Port of Gothenburg – Rail shuttles / intermodal transport

(presented during the workshop by the Gothenburg port authority)

Using freight rail shuttles to/from the Port of Gothenburg to/from the hinterland is another good practice from the port. Although the conventional wisdom of rail shuttles is they should operate on distances larger than 500 km, they are of poor quality and have high lead times, the Railport Scandinavia proves the opposite. Railport operates on distances smaller than 150 km, is of high quality, punctual and prevents congestion to occur. Investments on the rail track in time to secure the capacity will help to improve the transport of freight by rail. The critical success factors for Railport Scandinavia are the collaboration on different scales (aligning long-term plans/strategies on local, regional, national and European level) based on market knowledge and long-term political goals, predictability and intermodality (shipping, rail and trucks). Besides, using rail shuttles reduce the environmental impact in the city of Gothenburg. Collaboration and alignment on different institutional scales is important.

Opportunities identified

Beside the good practices, several opportunities have been identified.

The ElectriCity project shows the combination of public transport and additional urban function such as a café and a parcel collection point. This combination can be expanded to more places in the city of Gothenburg. It contributes to ideas for the last-mile delivery of parcels, since couriers can deliver their freight at a central collection point instead of driving through the whole city. On top of that, citizens can collect their items on their route.

Another opportunity for the urban node Gothenburg is the possible opening of new shipping routes. Due to climate change global temperatures rise, causing melting ice and opening up new shipping routes through the north. This can potentially enlarge the potential of Gothenburg's port. In this way the port of Gothenburg can become more important for Scandinavia and Europe.

At the moment the Port of Gothenburg is important for Sweden and the rest of Scandinavia. For the future of this port it is important to understand the importance of the freight hub position of Gothenburg and the port of Gothenburg specifically. To enlarge this importance it could be an opportunity to deepen the entrance channel to the port to allow bigger ships (or even megaships) to visit the port of Gothenburg. The port becomes more important for Sweden and Scandinavia if it could import and export a larger amount of freight. Nevertheless the national understanding of this role and the importance for Sweden and Scandinavia is key in this development. Also the way to European funding can be seen as an opportunity if looking at the different transport scales and integrating infrastructure and spatial project. In this case the direct lines with the national government in Stockholm are important since they can mention their projects in Brussels (EC) for funding possibilities.

Another initiative that might improve the transport system of Gothenburg is the high speed rail link between Gothenburg and Stockholm. If this project will be constructed the public transport between Stockholm and Gothenburg will become better and faster. By combining this rail link with the construction of a better regional rail track as planned, Gothenburg, the airport Landvetter and its suburbs will be better connected. At the moment most of the suburbs are only connected by bus whose capacity has been reached already. Improvement of this public transport system can also give opportunities to a modal shift from car to train and therewith reduce the congestion on roads and decrease the impact on the environment.

The West Sweden Agreement is of major importance and has enormous impact on the City of Gothenburg. It consists of different public transport plans and the construction of a new bridge (Hisingsbron) in the city centre, reducing the feeling there is a barrier between two parts of the city. It might be useful to collaborate more between the different institutional levels, linking future plans and visions. According to this it might be really useful to enlarge plans like the West Sweden Agreement, combining future investments in infrastructure and spatial development.

During the workshop the participants talked extensively about the completion of a ring road. At the moment there is a half ring road around the city of Gothenburg on the west. Transport flows to the east cross the city and mostly do not use the ring road because using this road results in driving a larger distance while crossing the city centre to the east is still necessary on the east to the E20. Completing

the ring road would have a positive effect on the city centre, leaving much more space for local traffic by guiding long distance freight flows around the city centre via the ring road. Pro-actively increasing the collaboration between the different stakeholders (e.g. Port of Gothenburg, municipality of Gothenburg, Trafikverket, etc.) could help to put this connection on the agenda.

With the RiverCity project the city of Gothenburg will redevelop the former inner city ports and densify the inner city. The roads are already congested while the building projects will cause lots of building and construction work related traffic. However, using the river to transport most of the building machines, waste and materials seems a possibility. Using the river could help to avoid and increase congestion on the roads in the city.

Various barriers are identified along the river, but also the river itself can be considered as a barrier. An example of an opportunity to reduce this barrier is the lowering of the renewed Hisingsbron bridge. Another opportunity is to redesign the river front for public use in order to increase the quality of life and the interaction with the river/water. This could help in turning down the barrier.

4 Lessons learned

During the Gothenburg workshop several challenges and solutions have been discussed that were related to the European transport network (investments), regional development policy, frameworks and research. Based on the Gothenburg experiences, some building blocks (lessons learned) have been assembled. This chapter can be seen as a first glimpse or preview on the final recommendations.

- *The important interrelation between infrastructure/mobility management and spatial planning.* It has been mentioned during the workshop by the participants that there is a lack of urgency to interrelate infrastructure and spatial planning. Each organisation is focussing on its own responsibilities. There are city development plans near the river Göta älv which are not fully connected with infrastructure planning. There are small examples of interrelated infrastructure planning and spatial planning though, such as the shift of the rail terminals to the port reducing the amount of heavy trucks in the city centre and creating space for city development.
- *Awareness of the urban node function.* There is little awareness of the role of Gothenburg in the TEN-T network. Within the transport planning department of Gothenburg the focus is making local aspects function well. On local, regional and national scales, the focus is more on the connections between Gothenburg and the rest of Sweden and between Gothenburg and the rest of Scandinavia. Focus is less on the rest of the Scandinavian-Mediterranean corridor.
- *Awareness of the importance of the Port of Gothenburg, densification of the city and the relationship between the port and city.* The Port of Gothenburg is important for the city of Gothenburg. Moreover, this port is considered to be the gateway to Scandinavia and thus not only important for Sweden. Freight from all Nordic countries are transported to/from the port. Based on the discussions during the workshop we can conclude it can be really useful to recognise the importance of this port at all institutional levels. Having a long term vision for the port as well as having good connections over water, rail and road in the (near) future is considered useful in order to keep the port vital and maintain its function as the gateway of Scandinavia. Besides, an integrated plan for the city (port, houses and liveability) is important.
- *Interconnection between infrastructure networks.* In and around urban nodes the same infrastructure (e.g. railway line) might be used for both local, regional and transnational transport and by both passenger and freight transport. If all these different networks need more capacity, as it might be the case with the growing amount of freight from the port and commuters from suburbs, bottlenecks can appear more quickly than anticipated.
- *Solving bottlenecks in the city centre.* In the urban node Gothenburg local, regional and (inter)national transport flows are interconnected in the city centre. This means a bottleneck in the city network results in a bottleneck on the TEN-T network and this will also have a direct influence on the robustness and vulnerability of the network of the Scandinavian-Mediterranean TEN-T corridor. Completing the ring road of Gothenburg can increase the robustness of the network since long-distance transport flows can be led around the city instead of crossing the city centre, meaning more capacity for local and regional flows on the current roads.
- *Need for cooperation on the institutional level.* On the institutional level there is a lack of cooperation. Within the city of Gothenburg it would be useful for the transport planning and the spatial planning departments to work closely together, to have a common vision and common plans for the future of

this urban node. Also on the regional scale the region can create a shared vision on transport, economy and liveability in the region. Based on the workshop discussions it seems helpful to share information and create a common vision for the area around Gothenburg. The participants of the workshop mentioned there is a scattered landscape to Stockholm, meaning the local level and regional level are not speaking with one voice. The workshop participants pointed out that it is sometimes hard to get an important issue for Western Sweden or Gothenburg on the national agenda. Developing a clear vision and closer local-regional cooperation can help to speak with one voice to the national government.

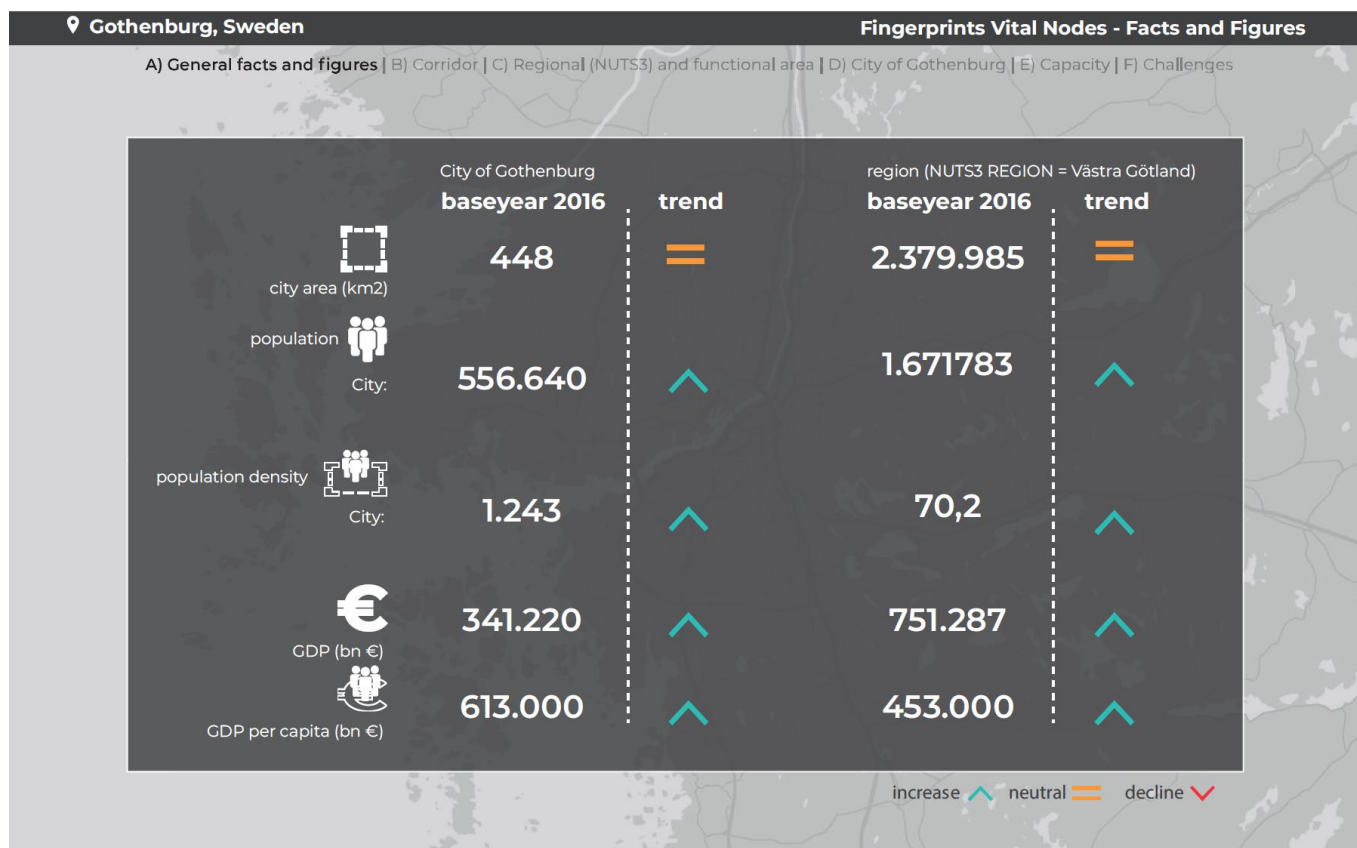
- *Opportunity of logistics.* Logistics in the Gothenburg region is often not considered as something that can add value to the quality of the city and region. Although there are some really good initiatives such as shifting the rail terminals to the port reducing the amount of heavy transports through the city centre and the ElectriCity project on route 55 combining comfortable transport with spatial aspects, many commuters travel by car.
- *Urban node and corridor perspective on the TEN-T network.* Aim of the Vital Nodes project is to deliver funding and/or research recommendations on the TEN-T corridors. Since Gothenburg is one of the urban nodes it might be possible to address the necessary projects/funding and research needs from a perspective of Gothenburg/Western Sweden as these needs and/or perspectives might be different to the perspective from Stockholm on the national level. To this it might be useful to put the Gothenburg/Western Sweden perspective and needs forward to the national government as Stockholm can bring it to the European level.
- *Eye opener, sit more together.* Cooperate and plan together and integrated for the future.

Attachments

1. Fingerprint urban node Gothenburg (info graphic)
2. Good practices Gothenburg with validation of scores
3. Map corridor level
4. Map regional / urban node level
5. Map city level
6. List of participants Gothenburg workshop
7. Programme of the Gothenburg workshop



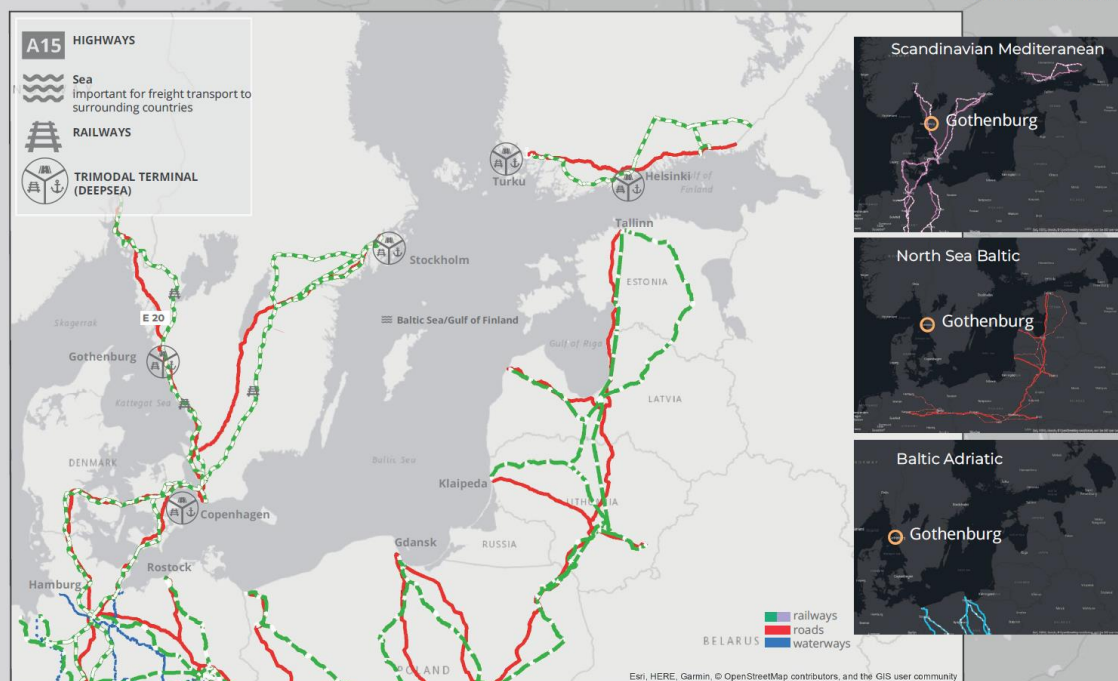
1. Fingerprint urban node Gothenburg (info graphic)



📍 **Gothenburg, Sweden**

Fingerprints Vital Nodes - Facts and Figures

A) General facts and figures | **B) Corridor** | C) Regional (NUTS3) and functional area | D) City of Gothenburg | E) Capacity | F) Challenges



Gothenburg, Sweden

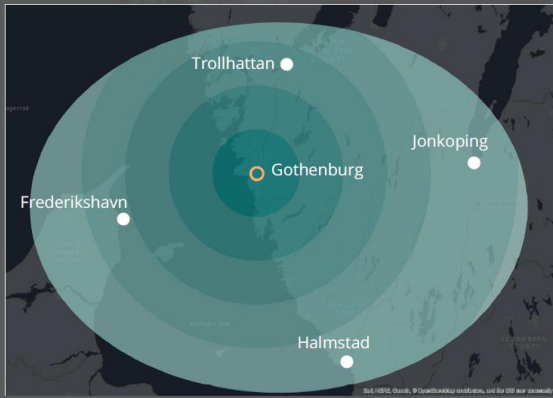
Fingerprints Vital Nodes - Facts and Figures

A) General facts and figures | B) Corridor | C) **Regional (NUTS3) and functional area** | D) City of Gothenburg | E) Capacity | F) Challenges

IMPORTANT CHARACTERISTICS:

The Västra Götaland region has a diversified business environment: Automotive manufacturing and trade are important sectors. Employees in NUTS-3 region Västra Götaland work in areas such as health-care and medical care, trade and industry, culture and the environment. The largest private employer is Volvo Personvagnar AB, which has manufacturing facilities at many locations in the county.

INDICATIVE FUA



FREIGHT INFRASTRUCTURE baseyear 2016

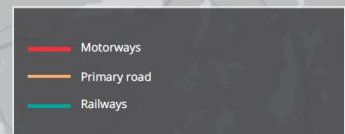
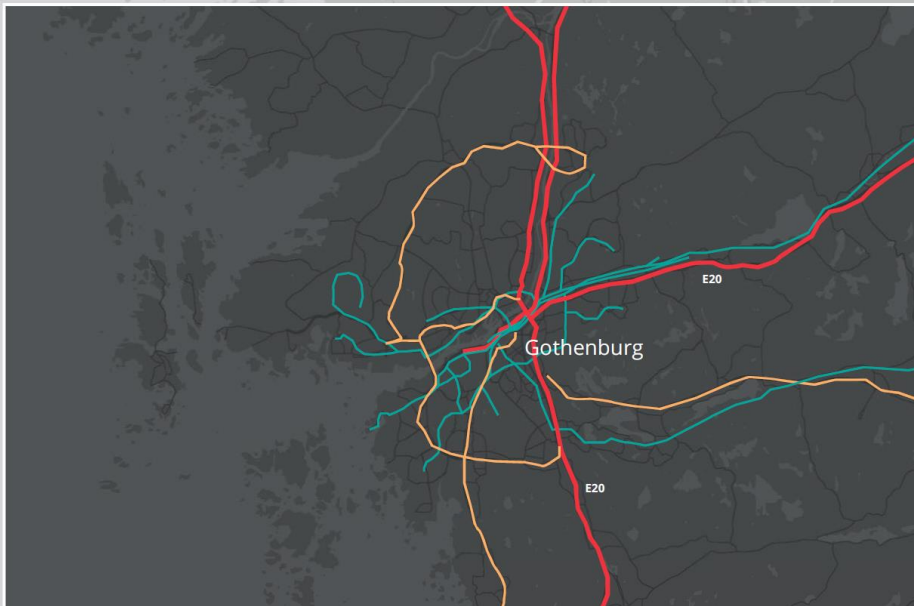
	Number	ha	mton	TEU
Road-Rail terminal	1 =	6 ^	na	na
Air terminal	1 =	na	0,06 ^	na
Trimodal terminal (deepsea)	6 =	na	na	na

incline ^ neutral = decline v

📍 Gothenburg, Sweden

Fingerprints Vital Nodes - Facts and Figures

A) General facts and figures | B) Corridor | C) Regional (NUTS3) and functional area | D) City of Gothenburg | E) Capacity | F) Challenges



📍 **Gothenburg, Sweden**

Fingerprints Vital Nodes - Facts and Figures

A) General facts and figures | B) Corridor | C) Regional (NUTS3) and functional area | D) City of Gothenburg | **E) Capacity** | F) Challenges



CAPACITY RAIL

Rail infrastructure for goods is insufficient even for the current volume. The rail link to the port leaves no room for expansion. Increase rail connectivity in the region for better access to airport and better integration with Borås



CAPACITY WATER

The capacity of the Port of Gothenburg is constraint by the depth of the channel outside the port; it does not enable megaships to access



CAPACITY AVIATION

- The airport is currently having stand capacity challenges
- The airport is facing challenges on landside in regards to facilitating optimal conditions for cargo related activities
- the airport will see rapid future passenger growth



CAPACITY ROAD

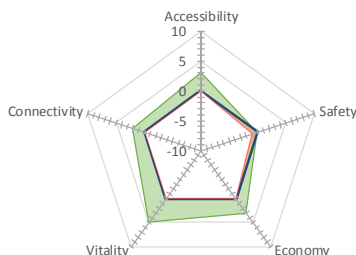
Average intensity road on evening peak:



CHALLENGES

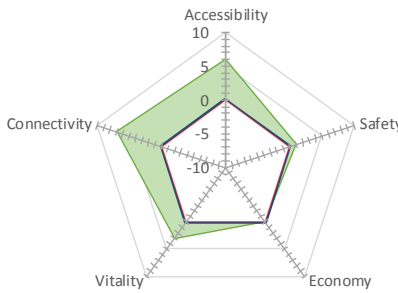
- There is a conflicting interest between growth and coexistence
- (Lack of) coordination and cooperation among different areas of responsibility
- The many barriers in the urban area create the feeling of an unconnected city
- Transport flows (roads and rail) are competing
- Accessibility issues for the Landvetter Airport
- (Lack of) understanding on what a vital urban node is and how to define the functional area for freight transport

2. Good practices Gothenburg with validation of scores

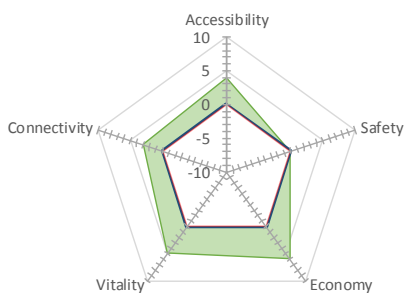
Solutions name	Micro hub last mile deliveries
Type of solution	Optimizing a terminal
Node	Gothenborg
Link or contact	n.a.
Investment costs	n.a.
Description	A good practice of a parcel collection point is the ElectriCity project in Gothenburg. At the end/starting stop of the bus route 55 in the port area of Gothenburg a parcel collection point is realised. This is a solution for the last-mile transport of parcels since commuters (for example port employees) can pick up their parcels on a central point along their route and take the bus, reducing the amount of trips for parcel delivery in the city. The Volvo Group takes part of the ElectriCity partnership. This partnership consists of partners from the industry, academia and society. It is about developing and testing solutions that will open new opportunities for public transport and urban development in the future. ElectriCity uses electric buses to develop solutions for attractive public transport and urban development. One of the projects is route 55 in Gothenburg. On this route the vehicles used are electric hybrid buses supplied by Volvo. On this route the buses are more comfortable for travellers. Besides, five bus stops are modified. On this stops more comfort is created by using innovative technology, for example screens with live information and a sheltered stop is built against the weather conditions using new noise insulation technology to test. Also the final stop is an indoor stop in an annex to an existing building including a café and a parcel collection point.
Impact overview	

Impact criteria	Questions	Answer
A Accessibility	The solution impacts the chosen modality of the flows	1
	The solution impacts the route of the flows	0
	The solution impacts the volume of the flows	1
	The solution impacts the timing of the flows	0
	The solution impacts the available infrastructure capacity	1
B Safety	The solution impacts the number of pedestrian casualties	0
	The solution impacts the number of cyclist casualties	0
	The solution impacts the number of motorised vehicle casualties	-1
	The solution impacts the external safety of dangerous goods transport	0
	The solution impacts the external safety of warehousing operations	0
C Economy	The solution impacts the attractiveness of the local scale (city) of the Node for investments (value captur	1
	The solution impacts the attractiveness of the FUA from logistics perspective of the Node for investmen	1
	The solution impacts the price of living in urban areas (socio economic)	0
	The solution impacts synergies with other sectors	1
	The solution impacts the GDP	0
D Vitality	The solution impacts the air quality	1
	The solution impacts the noise levels	1
	The solution impacts health of citizens	0
	The solution impacts the ease of moving in the city for citizens	1
	The solution impacts the quality of living	2
E Connectivity	The solution impacts the connection between the city and the functional urban area from a mobility p	1
	The solution impacts the connection between the city and the functional area from a logistics perspec	1
	The solution impacts the connection with other Nodes on the Corridor	0
	The solution impacts the connection with other TEN-T Corridors	0
	The solution impacts the connection with the comprehensive network	0

2 strong positive impact 1 Positive impact 0 No substantial impact -1 Negative impact -2 strong negative impact

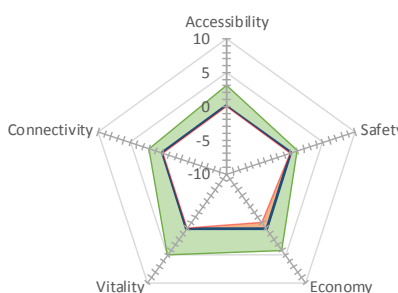
Solutions name	Railport Scandinavia: Short distance intermodal shuttles	
Type of solution	Adding a mode	
Node	Gothenborg	
Link or contact	https://www.portofgothenburg.com/transport/railway/	
Investment costs	n.a	
Description	Using freight rail shuttles to/from the Port of Gothenburg to/from the hinterland is another good practice from the port. Although the conventional wisdom of rail shuttles is they should operate on distances larger than 500 km, they are of poor quality and have high lead times, the Railport Scandinavia proves the opposite. Railport operates on distances smaller than 150 km, is of high quality, punctual and prevents congestion to occur. Investments on the rail track in time to secure the capacity will help to improve the transport of freight by rail. The critical success factors for Railport Scandinavia are the collaboration on different scales (aligning long-term plans/strategies on local, regional, national and European level) based on market knowledge and long-term political goals, predictability and intermodality (shipping, rail and trucks). Besides, using rail shuttles reduce the environmental impact in the city of Gothenburg. Collaboration and alignment on different institutional scales is important.	
Impact overview		
Impact criteria	Questions	Answer
A Accessibility	The solution impacts the chosen modality of the flows	2
	The solution impacts the route of the flows	1
	The solution impacts the volume of the flows	1
	The solution impacts the timing of the flows	2
	The solution impacts the available infrastructure capacity	0
B Safety	The solution impacts the number of pedestrian casualties	0
	The solution impacts the number of cyclist casualties	0
	The solution impacts the number of motorised vehicle casualties	1
	The solution impacts the external safety of dangerous goods transport	0
	The solution impacts the external safety of warehousing operations	0
C Economy	The solution impacts the attractiveness of the local scale (city) of the Node for investments (value captur	0
	The solution impacts the attractiveness of the FUA from logistics perspective of the Node for investmen	0
	The solution impacts the price of living in urban areas (socio economic)	0
	The solution impacts synergies with other sectors	0
	The solution impacts the GDP	0
D Vitality	The solution impacts the air quality	1
	The solution impacts the noise levels	0
	The solution impacts health of citizens	0
	The solution impacts the ease of moving in the city for citizens	1
	The solution impacts the quality of living	1
E Connectivity	The solution impacts the connection between the city and the functional urban area from a mobility p	0
	The solution impacts the connection between the city and the functional area from a logistics perspec	2
	The solution impacts the connection with other Nodes on the Corridor	2
	The solution impacts the connection with other TEN-T Corridors	1
	The solution impacts the connection with the comprehensive network	2

2 strong positive impact 1 Positive impact 0 No substantial impact -1 Negative impact -2 strong negative impact

Solutions name	Cable car
Type of solution	Adding a mode
Node	Gothenborg
Description	An example of a successful project framing of this relation linking city, region, national and EU level is the planned Gondola Project covering the construction of a cable car in the city of Gothenburg crossing the Göta älv river. The current public transport system is very radial, like spokes in a wheel passing one narrow hub in the centre near the central station. To connect the northern and southern part of the city, separated by the crossing Göta älv river, all public transport (trams, buses) cross the river at the Göta Älv bridge. To get a better and faster connection, without creating new barriers between the northern and southern part as higher bridges for shipping do, the cable car is developed. This cable car connects Järntorget on the southern river bank with Lindholmen, Västra Ramberget and Wieseigrensplatsen on the northern part. The new cable car will be fully integrated in Gothenburg's public transport system and thereby unburden the hub. It will connect the northern and southern part of the city, overcome the river barrier, and giving more and faster options to travel by public transport. Public transport may become more attractive for commuters compared by using roads, having also impact on the road use. So this project will achieve several local, regional, national and EU targets and applied for funding from the CEF Blending Call.
Impact overview	

Impact criteria	Questions	Answer
A Accessibility	The solution impacts the chosen modality of the flows	1
	The solution impacts the route of the flows	1
	The solution impacts the volume of the flows	1
	The solution impacts the timing of the flows	0
	The solution impacts the available infrastructure capacity	1
B Safety	The solution impacts the number of pedestrian casualties	0
	The solution impacts the number of cyclist casualties	0
	The solution impacts the number of motorised vehicle casualties	0
	The solution impacts the external safety of dangerous goods transport	0
	The solution impacts the external safety of warehousing operations	0
C Economy	The solution impacts the attractiveness of the local scale (city) of the Node for investments (value captur	2
	The solution impacts the attractiveness of the FUA from logistics perspective of the Node for investmen	1
	The solution impacts the price of living in urban areas (socio economic)	1
	The solution impacts synergies with other sectors	1
	The solution impacts the GDP	1
D Vitality	The solution impacts the air quality	2
	The solution impacts the noise levels	0
	The solution impacts health of citizens	1
	The solution impacts the ease of moving in the city for citizens	2
	The solution impacts the quality of living	1
E Connectivity	The solution impacts the connection between the city and the functional urban area from a mobility p	2
	The solution impacts the connection between the city and the functional area from a logistics perspec	0
	The solution impacts the connection with other Nodes on the Corridor	0
	The solution impacts the connection with other TEN-T Corridors	0
	The solution impacts the connection with the comprehensive network	0

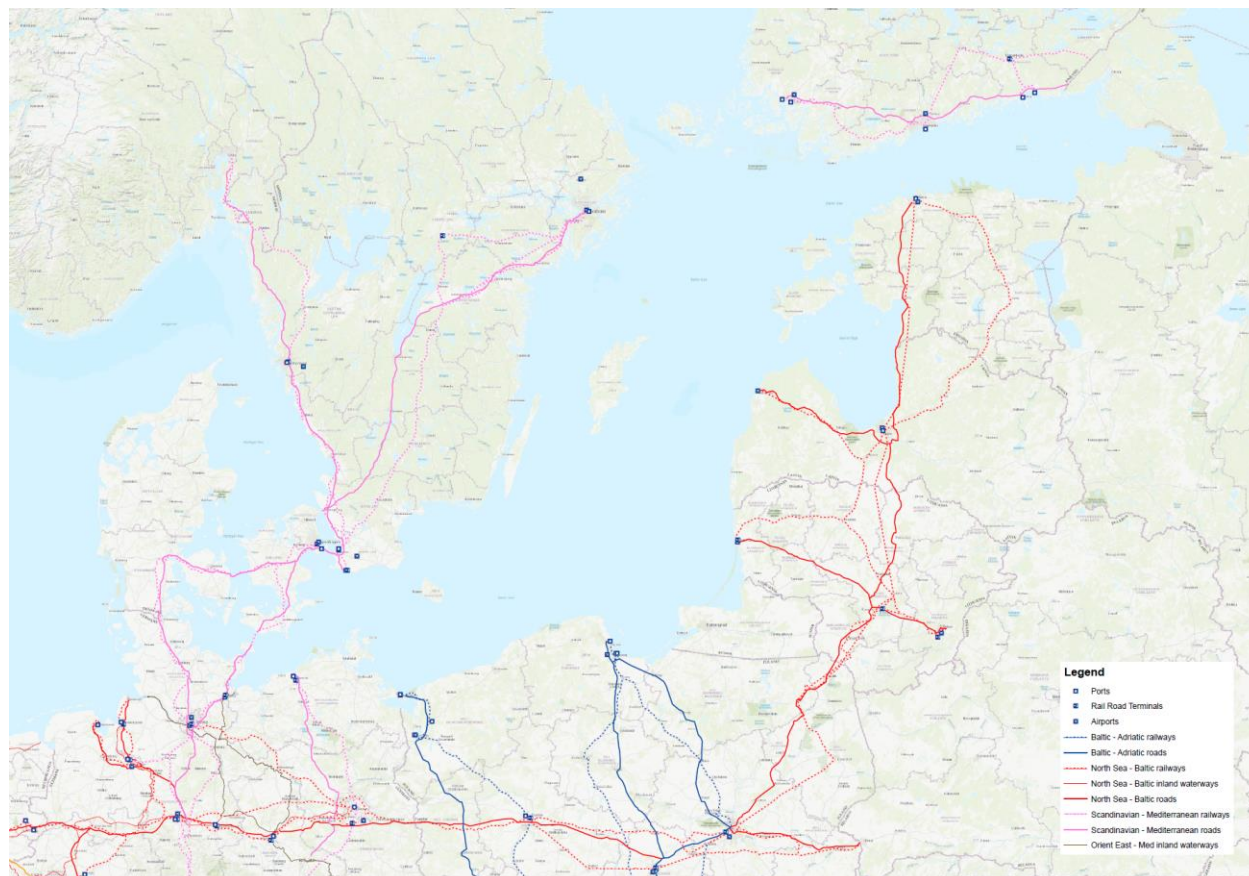
2 strong positive impact 1 Positive impact 0 No substantial impact -1 Negative impact -2 strong negative impact

Solutions name	West Sweden Agreement
Type of solution	Governance
Node	Gothenborg
Link or contact	http://www.vastsvenskapaketet.se/english/
Investment costs	SEK 20 billion
Description	The West Sweden Agreement is of major importance and has enormous impact on the City of Gothenburg. It consists of different public transport plans and the construction of a new bridge (Hisingsbron) in the city centre, reducing the feeling there is a barrier between two parts of the city. It might be useful to collaborate more between the different institutional levels, linking future plans and visions. According to this it might be really useful to enlarge plans like the West Sweden Agreement, combining future investments in infrastructure and spatial development.
Impact overview	

Impact criteria	Questions	Answer
A Accessibility	The solution impacts the chosen modality of the flows	1
	The solution impacts the route of the flows	1
	The solution impacts the volume of the flows	0
	The solution impacts the timing of the flows	0
	The solution impacts the available infrastructure capacity	1
B Safety	The solution impacts the number of pedestrian casualties	0
	The solution impacts the number of cyclist casualties	1
	The solution impacts the number of motorised vehicle casualties	0
	The solution impacts the external safety of dangerous goods transport	0
	The solution impacts the external safety of warehousing operations	0
C Economy	The solution impacts the attractiveness of the local scale (city) of the Node for investments (value captur	2
	The solution impacts the attractiveness of the FUA from logistics perspective of the Node for investmen	1
	The solution impacts the price of living in urban areas (socio economic)	-1
	The solution impacts synergies with other sectors	0
	The solution impacts the GDP	1
D Vitality	The solution impacts the air quality	1
	The solution impacts the visual quality of the environment	0
	The solution impacts the level of noise pollution	1
	The solution impacts the ease of moving in the city for citizens	2
	The solution impacts the quality of living	1
E Connectivity	The solution impacts the connection between the city and the functional urban area from a mobility p	1
	The solution impacts the connection between the city and the functional area from a logistics perspec	0
	The solution impacts the connection with other Nodes on the Corridor	0
	The solution impacts the connection with other TEN-T Corridors	0
	The solution impacts the connection with the comprehensive network	1

2 strong positive impact 1 Positive impact 0 No substantial impact -1 Negative impact -2 strong negative impact

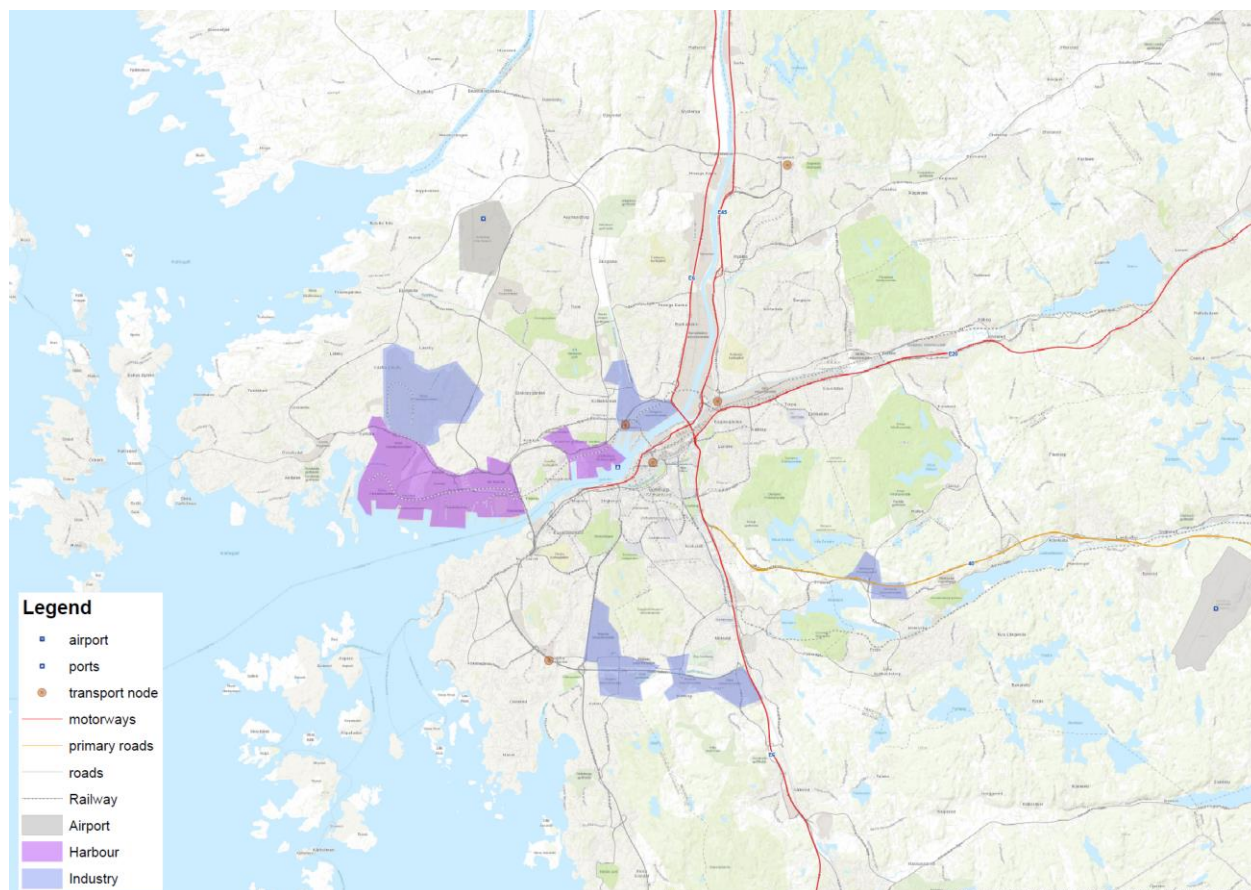
3. Map corridor level



4. Map regional / urban node level



5. Map city level



6. List of participants Gothenburg workshop

Representative/Person		
Last name	First name	Stakeholder/organisation
Benrick	Patrik	Trafikverket, regional
Björklind	Karin	Region Sjuhärad/Boråsregionen
Blidberg	Nicklas	CLOSER
Browne	Michael	University of Gothenburg, School of Economics
Dahlstrand	Alice	Trafikverket, national
Einarsson	Jörgen	City of Gothenburg - traffic planning
Ek-Pettersson	Johanna	City of Gothenburg - traffic planning
Ekström	Stefan	City of Gothenburg - real estate (Fastighetskontor)
Falk	Max	Region Västra Götaland, Department of public transportation & infrastructure
Guthed	Arvid	Gothenburg port authority
Karlgrén	Joachim	City of Gothenburg - traffic planning
Nilsson	John	Swedavia, Landvetter Airport
Ottemark	Markus	Chamber of Commerce
Sandberg	Staffan	City of Gothenburg - traffic planning
Suneson	Torbjörn	RM Landskap (Moderator)
Wildt-Persson	Anna	Trafikverket (Moderator)
Wingqvist	Per	City of Gothenburg - traffic planning
Yngve	Henrik	City of Hälaryda
Zetterquist	Henrik	Trafikverket, national
Vital Nodes Consortium		
Doornekamp	Britt	Ecorys
Linden, van der	Kevin	Rijkswaterstaat
Meijlof	Steven	Rijkswaterstaat
Poppeliers	Ricardo	Ecorys

7. Programme of the Gothenburg workshop

09.00 – 09.30	Welcome
09.30 – 10.00	Start, welcome and introduction round - Short introduction to the Vital Nodes project, including goal of the Vital Nodes project and goal of this workshop - Program workshop
10.00 – 11.00	Presentation “Fingerprint Gothenburg” - Facts and Figures - Challenges / barriers The Rotterdam experience
11.00 – 11.20	Break
11.20 – 12.30	Working on Gothenburg’s Challenges Interactive discussion via maps (“spatial dimension”) on the challenges of the urban node Gothenburg In two groups
	Sharing outcomes of the group discussions by the two groups – in plenum
	Two pitches on good practices - Arvid Guthed, 2 examples - Mike Brown on Urban Freight/last mile challenges (when meeting long distance freight flows)
12.30 – 13.30	Lunch
13.30 – 15.00	Working on Gothenburg’s Challenges - Continue interactive discussion on challenges to decide on ‘key’ challenges (to be discussed afterwards in more detail) - Suggestions on issue that are of interest to discuss deeper in the following part of the session
	Sharing of outcomes of the two groups – in plenum
	Working on Gothenburg’s Challenges - Solutions, drivers & barriers and possible impacts in two groups - Towards (directions of) solutions
15.00 – 15.30	Break
15.30 – 17.00	Plenary discussion on outcomes of the discussions in smaller groups - Discussing the (key) challenges and thoughts on solutions
	What is the added value for Europe, what do we need and what can we recommend? - Interactive discussion on “Integrating urban node Gothenburg in the TEN-T network” – in plenum - Sharing / summary of outcomes of the discussions
	Wrap up and follow-up
17.00 – 18.00	Informal networking