European Commission

Connecting Europe Facility 2014-2020

TRANSPORT CALLS FOR PROPOSALS 2019

APPLICATION FORM

PART D

Technical and financial information

Title of the proposed Action	Gävle Port – new electrified railway connection
TENtec number	**28518408**

Innovation and Networks Executive Agency

1. GENERAL DESCRIPTION OF THE GLOBAL PROJECT INCLUDING NEEDS, OBJECTIVES AND FINANCIAL INFORMATION

1.1. General description of the global project, including needs and objectives

The Global Project: **Development of the Port of Gävle**
A sustainable solution for freight transports in a densely populated region in middle of Sweden
Time Frame: 2007-2021
Budget: € 108 million
Bottleneck: Non-electrified railway between The East Coast Line and the Port of Gävle
Stakeholder: The Swedish Transport Administration, the municipalities of Stockholm, Uppsala, Sigtuna, and Gävle, Swedavia, operating company of the Stockholm Logistic centre in Rosersberg

The Global project in this application is development of the Comprehensive Port of Gävle as defined in TEN-T Guideline (EU) No 1315/2013, Annex II chap 2 “Airports, maritime ports, inlands port and rail-road terminals of the core and comprehensive network”. The Port of Gävle is a modern intermodal logistics centre where road, rail and maritime transportation meet. Strategically located just north of Stockholm and right next to the industrial Central Sweden region, Port of Gävle is a natural east coast hub for import and export. The port has long been desig-nated as a national interest and strategic importance for the economy of the whole of Sweden. It is the largest container terminal on the east coast and the third largest in Sweden. Large ships can dock efficiently in the port for quick loading and unloading at our container terminal, bulk terminal, kombi terminal and energy terminal. Every year, Swedish companies export and import more than 700 million tons of goods for export trough ports in Sweden. 15 million tons of these are produced within 150 km of Gävle. The port of Gävle handle 6 million tons each year. Container Express shuttle train goes daily from the port the Stockholm Nord intermodal terminal. The port of Gävle today handles about 900 vessel calls. The goods volumes are expected to be doubled by 2030 compared to 2014. From here, wood and steel are shipped out to the world and raw materials for industry comes in. There is also large storage space for a variety of oil products, including fuel oil, veget-able oils and jet fuel for Stockholm Arlanda's internal national airport. Every day 10 or so trains (with a total of about 36 800 railway cars/year) and about 300 Lorries pass through the gates of Port of Gävle. A large part of the goods is delivered in containers to/from the port of Gävle. The port of Gävle is the largest container port on the East Coast and the capacity will increase even more in the coming years.

Figure 1: Location of the Global Project and the Action

Figure 2: The transport network to/from the Port of Gävle

The freight railway corridor between the Port of Gävle and Stockholm is an essential part of the part of the TEN-T network in the northern part of Sweden and located on the pre-identified railway section Stockholm-Gävle- Sundsvall according to CEF Regulation No 1316/2013, chapter 3 Other Sections on the Core Network pre-defined comprehensive railway section”. The Action includes construction work by building a 1.6 km long new electric railway in the hinterland to the Port of Gävle. The strategic location of the Stockholm North Logistics Centre next to the E4 and the East Coast Line, close to Arlanda airport and between the ports of Gävle and Stockholm is the very important hub in the middle part of Sweden for reloading goods for further distribution to customers around Sweden. The new logistic centre at Rosersberg has been partly co-financed via TEN-T, Decision 012-SE-91084-P Rosersberg intermodal terminal.

The port of Gävle handles all aviation fuel to the aircraft flying to and from the Core Airport Stockholm Arlanda and the Comprehensive airport Bromma located close to the centre of Stockholm. All aviation fuel is delivered by tankers, automatically transferred to the railway carriages which daily transports the fuel to the airport in special build trains.

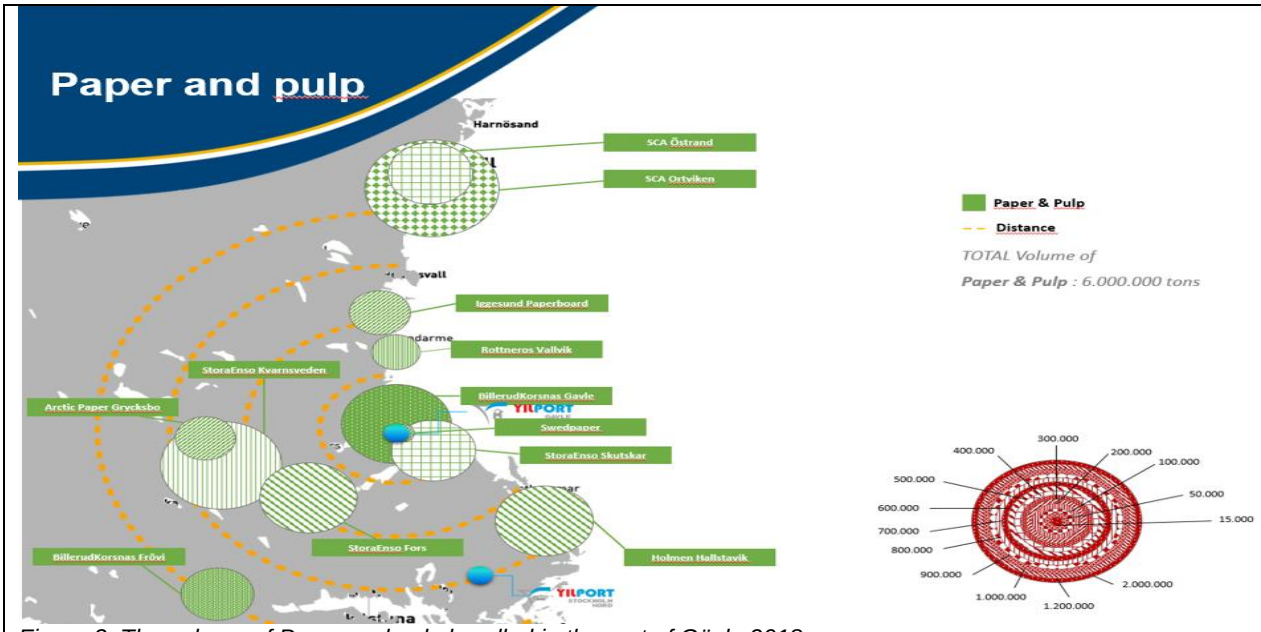


Figure 3. The volume of Paper and pulp handled in the port of Gävle 2018

Previously, for more than 20 years, the aviation fuel was driven by road transports between the oil port in central Stockholm and Arlanda airport. In November 2006, the transport of air-fuel by truck, passing through Stockholm's inner city, was moved to trains from Port of Gävle. This means about 50 trucks fewer on Stockholm's streets every day, in total about 136 000 fewer truck transport since 2006. There is a great environ-mental benefit to remove such large amounts of dange-rous goods from Stockholm's inner city. In addition, the number of boat transports with dangerous goods through the Stockholm archipelago has also significantly reduced. Today, parts of the aviation fuel that is consumed at Bromma Airport are delivered from the Port of Gävle. Earlier, these volumes have been delivered from Berg's oil port in Nacka southwest of Stockholm city.

Figure 4 The special built train for aviation fuel

The new solution, to shipping the aviation fuel to the port of Gävle and further with rail and pipelines to the airport, not only increased traffic safety by reducing the number of trucks with dangerous goods, it is also estimated to have reduced carbon dioxide emissions by 2,500 tonnes per year. Below the transport chain for the aviation fuel(Jet-A1) is described:

About 14 trains a week operate the route from the port of Gävle to Arlanda. 14 trains, each with 17 wagons, rolls weekly from the Port of Gävle to Brista near Arlanda. The total volume of aviation fuel transported with rail to Arlanda Airport was in 2018, 738 000 tons.

An another example of the importance is that half of Sweden’s coffee imports goes through the Port of Gävle and to the Stockholm North Logistics Centre and further to costumers all around Sweden. The Port of Gävle also had following goods turnover in Terminal Energy in 2018: petrol / ethanol about 150,000 tons, Jet A1 about 880,000 tons, diesel / fuel oils about 420,000 tons, thick oil about 85,000 tons, transit oil. Today, there is a non-electrified connection between the Port of Gävle (the Global project) and the Comprehensive Freight Railway line, The East Coast line. To improve the standard and increase the capacity, the Swedish Transport Administration is building a new electrified railway the section, described above. In the port many project is ongoing or planned to start. The port of Gävle, owned by the Municipality of Gävle, has a mission to provide efficient infrastructure to terminal operators forwarding agents, freight owners and others. There is a need of increased the capacity the next 15 years. The number of ships and the amount of goods handled in Gävle port increases every year. In order to meet the expected increased volumes of goods, the container port will be expanded in order to be able to receive more and larger vessels. The purpose of expanding the port is to stimulate increased volumes of maritime transport, a more sustainable mode of transport than transport goods

by trucks. Therefore, a new automatic terminal is planned for paper and pulp containers including new cranes for quick unloading and loading and a rail connection to the terminal. The capacity of the facility will be 500,000 tonnes annually. Gävle will probably be the first port in the world with an automated high-bay storage warehouse for paper rolls. The plant will be housed in a 25 meter high, 12,000 square meter building, which, in the most efficient way, will load paper into containers for further maritime transport. The quays are expanded and the fairway entrances are expanded and dredged.

This is another investment that strengthens the port's competitiveness and is of great importance for the region's paper industry. Paper products will arrive to the new high-bay storage warehouse by train and are then handled by automated gantry cranes, ensuring high-density storage with minimal risk of damage. The system also consists of a network of horizontal conveyors that move the paper rolls autonomously to respective containers. The facility will be built directly adjacent to the container port for the shortest possible transport to the quay and loading onto vessels.

The Government's maritime strategy states*, "a transfer of goods from land to sea transport contributes to reducing both the overall environmental impact of the transport sector and the congestion problems on land."* "*The development in Gävle is inspiring for other ports, and the doubling of the capacity is important for all of Sweden*," says Sweden's Minister of Infrastructure, Tomas Eneroth, in connection with the official construction start. "*I particularly appreciate the joint initiative of Yilport and the Port of Gävle, which establishes new conditions for more efficient and more environmentally friendly transport*". The company running the port is Gävle Hamn AB, owned by the municipality of Gävle. "*This is an investment that strengthens the port's competitiveness and is of great importance for the region's paper industry*," says Fredrik Svanbom, CEO of the Port of Gävle. The Minister of Infrastructure emphasized the importance of ports and shipping to reach the government's goal of developing Sweden into the world's first fossil-free welfare state. "The Swedish Maritime Administration is pushing for more digital solutions to simplify communication between—and to integrate—the various modes of transportation. One example is Efficient flow, which aims to create a joint platform for all port actors where they can share information such as time stamps for arrivals, departures and operations, resulting in better planning horizons and better understanding of joint port calls. Today Port of Gävle is among the ports that are at the forefront of the ongoing developments in digitalization, such as Efficient flow.

The Action

The Actions in this application consists of two railway construction works;

1. New railway electrified connection between the Comprehensive freight network, the East Coast Line and the Port of Gävle, 1.6 km long.
2. New railway in the Port of Gävle, an extension from the existing railway track to the new paper warehouse, 450m long. The railway in the port is not electrified.

The low standard of the railway connection between the East Coast Line and the Port of Gävle is the remaining bottleneck in the rail network in the area.
To speed up the transfer of freight from road to railway and sea, the Swedish government has given green light for a sustainable bonus system for shipping. The focus is on upgrading of railway solutions from port to transhipment terminal and further by truck last part to customer.

Objectives

The objective for the Global Project is a long-term sustain, accessible port with high capacity to meet the great demand of goods, both export and import in the business-dense Stockholm region but also the proximity to the large paper mills on northeastern coast of Sweden. The objective includes:

1. Removal of a bottleneck.
2. Increase the railway share (low carbon and energy efficient).
3. Reduce road transports, the number of trucks on the E4 highway are today more than 1500 carbon dioxide emitting trucks every day!

The objective for the Action is to create a coherent railway connection to the East Coast line with extension of the railway in the port to the new automatic container terminal.

Problem addressed to the Global project

The existing non-electrified railway from the Port of Gävle to the East Coast Line has become a bottleneck affecting not only the capacity in the port but also the entire national freight transport system. The situation today with limiting cargo weights and the low speed creating frequent delays. The necessity to change locomotives within the freight yard from electric to diesel locomotive contribute to long transport times. In addition, the lack of railway connection to the new container terminal entails a need for transhipment, which contributes to long handling times of the goods in the port.

The scope

A new railway connection to the Port of Gävle will increase the capacity both in the port and on the freight railway. In addition, the transport times will be shortened. The ambition is to create conditions for freight

transport in the port that leads to increased transfer from road to rail and thereby contribute to more green energy efficient logistics chains in the Stockholm region, where rail transport becomes the dominant mode of transport. Crucial are safe, environmentally friendly and fast deliveries of both aviation fuel to the airports Arlanda and Bromma and of containers with paper and pulp. Of interest is that several European airports have contact Arlanda airport, shown interest in the transport chain from the port to the airport. An adequate infrastructure and efficient logistics solutions are of interest not only for the region but also for the EU. Through great involvement in innovative development projects, such as electric roads, creates great conditions for a sustainable freight transport system in the region.

Environment
The state-owned company Swedavia owns and operates ten airports in Sweden, including Bromma and Arlanda, compensates for their business travel by purchasing renewable fuel. It is about 15 000 trips and 450 tons of fuel. The aviation fuel is made of used deep frying oil and it is produced on a large scale in a single place in the world, outside of Los Angeles. Apart from Arlanda, only the Norwegian Gardemoen and an airport in Los Angeles use biofuel on a larger scale. The airport Arlanda is the first airport in the world received the highest accreditation (3+) in ACI's (Airports Council International) program for climate work. Thanks to the large environmental savings and reduced congestion and noise levels, Arlanda was awarded the Aviation Fuel Management epithet of the Year's Lift in Sweden 2012.The company Green Cargos is responsible for the transports of the aviation fuel to the airport Arlanda and Bromma. Green Cargo's transports are labelled with the Swedish Society for Nature Conservation (SSNC) ecolabel "Good Environmental Choice". The benefits for the climate was also highlighted by the LFV that awarded Green Cargo and Port of Gävle 2009 with the ECOLogistic award. LFV is a state-owned enterprise with the assignment to provide safe, efficient and environmental friendly air traffic services. The Port's own vehicles are operated fossil free. All terminal operations with loading and unloading of containers are today with electricity or HVO (synthetic fossil-free diesel). The goal is all cargo handling in the port area should be completely fossil-free.

Current state of play
Railway plans for the Action has been established. The planning is coordinated with Gävle municipality's overall planning and also the region of Gävleborg and the County Administration board.

Total costs
The total cost for the Global Project is estimated to around € 108 million euro.

Timetable
The Global Project is estimated to be finished 2021.

1.2. Financial information about the global project

SOURCES OF FUNDING/FINANCING	Financial contribution (in euros)
1. CEF Transport financing	7 760 000
2. Applicant's own resources	27 500 000
3. EIB loan	
4. Other loans	
5. State budget(s)	72 740 000
6. Regional/local budget(s)	
7. Income generated by the global project	
8. Other EU grants (e.g. TEN-T, Marco Polo II, ESIF, FP7, H2020, etc.)	
9. Other sources	
Total	***108 000 000 (Exchange rate March 2019)***

2. DESCRIPTION OF THE PROPOSED ACTION

2.1. General description of the proposed Action, including needs and objectives(consistent with the application form part A1)

The Action: New electrical railway connection
Start point: *2019-05-01* ***End point:*** *2022-06-30*
Budget: *€ 38.8 Million (Exchange rate 100 SEK = € 10.5443 March 2019)*
Activities: *New railway to the port of Gävle*

Technical specification: *A new electrical railway to the port of Gävle including a railway bridge passing the water source for Gävle*
Problem addressed: *Removing a major bottleneck in the freight corridor between Gävle and Stockholm*
Stakeholder**:** *The Swedish Transport administration, The Port of Gävle*

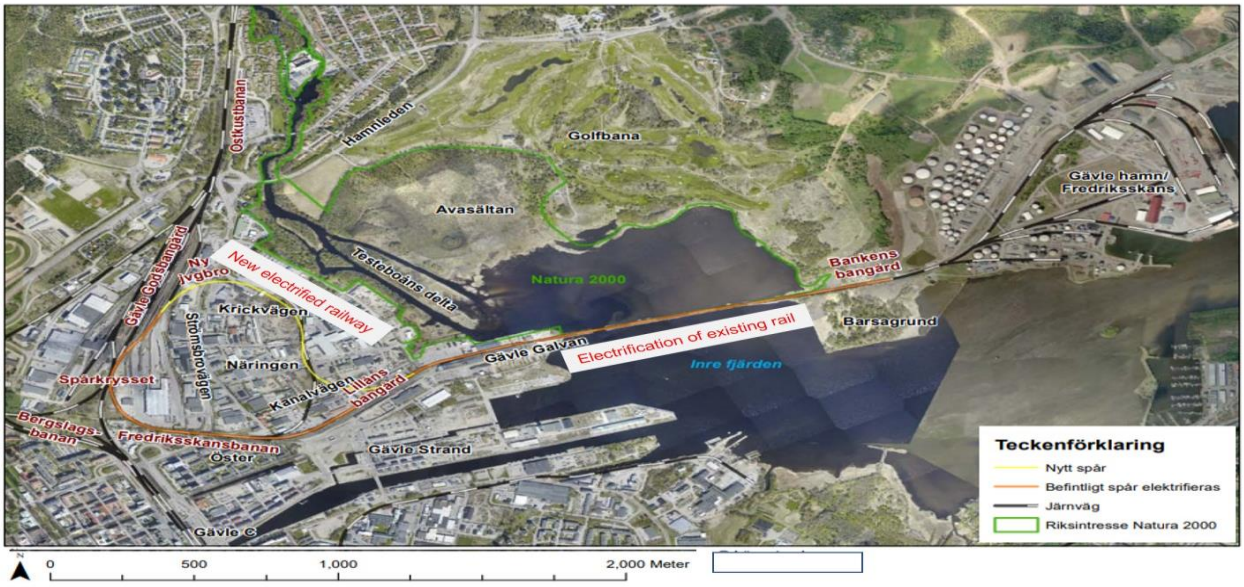


Figure 5: Map over the area where the Action is located

The Action described in this application consists of construction work regarding a new electrified railway connection to the Port of Gävle as well as electrifying of the old existing railway connection. The Action also includes a new non-electrified railway section in the port to create a coherent railway connection to/from the Comprehensive Freight Railway Network on the east coast of Sweden. The Action is an important part of the completion of the global project to achieve expected capacity enhancement.

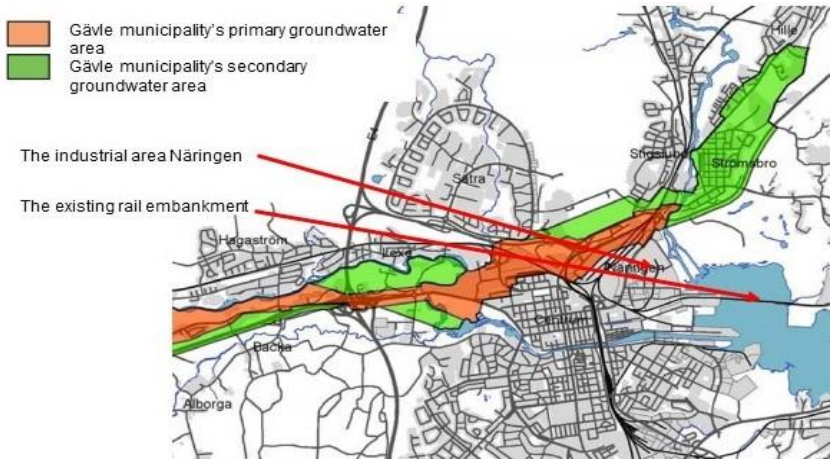


Figure 6 The ground water supply in Gävle

The Action includes a new non-electrified railway section in the port to create a coherent railway connection to/from the Comprehensive Freight Railway Network on the east coast of Sweden. The Port of Gävle is a strategic port for the Stockholm area, located approximately 150 km north of Stockholm and close to the large concentration of economic activities near the Core Airport Arlanda. The Swedish government carried out a port strategy investigation, which was presented in October 2007. In that study, the Port of Gävle was qualified as one of the ten ports in Sweden that are strategically important and is proposed to be prioritized. Therefore, during 2006-2009, the road to and from the port was upgraded to cope with higher load. The project cost was about € 7.5 million.
The new railway will go from the industrial area Näringen to the Port of Gävle. The area borders in the northeast and along the existing railway bank to the Natura 2000 area, the Testeboåns delta. The residential areas Öster and Gävle Strand are located directly south of Fredrikskansbanan. See map in figure no 4. Gävle municipality's water supply is located next to the industrial area Näringen, see map I figure no 6.

Problem addressed to the Action

At present, there is capacity problem at the southern end of the Gävle freight yard, a critical point in the track system. For trains from south and west the large missing link is the lack of direct connection to the Port of Gävle. Today the trains must turn in the rail yard, which increases the driving time by 25-30 min. An extended new railway connection (the Action) between the East Coast line and the Port of Gävle means that the trains run straight out to the port without having to come in and turn in railyard. A new track will eliminate today's unnecessary turn in the yard.

Another bottleneck is the non-electrified rail to the port, which means that the trains must enter the freight yard to switch to a diesel locomotive, which also creates time wastage. This moment will disappear with a new track. In addition, the railway in the port goes only in the inner part of the port.
A risk to take into account is electrifying of the railway in the port area which is classed ATEX.

The Scope
The scope is a coherent railway section from the rail freight corridor on the Comprehensive Rail Network, the East Coast Line, to the Port of Gävle. To reduce the bottleneck, congestions on the East Coast line in Gävle, a new more efficient and environmentally friendly electrified railway between the central part of Gävle and the port of Gävle are being built. The Action consists of three measures, a new railway section, electrifying of existing railway and a new railway track in the port area.
1. A two kilometre long ne electrified railway section across the industrial area called Näringen to the port of Gävle for trains arriving from south and west.
2. Electrification of the existing track (Fredrikskansbanan) for trains arriving from the north. The existing track goes from Gävle freight yard to the new railway yard in the Port of Gävle.

The new coherent direct transport facility to and from the port is about an hour faster. The effect will be lower costs for the port's customers. Faster and more efficient freight transport to and from the port of Gävle is of great importance both for national and international customers. It is an important step in the development of Gävle, both the accessibility on the main railway through Gävle and to develop the Port of Gävle. 1 000 ships dock the port every year. A capacity search from 12 trains per day to 48 sets per day is forecasted, the higher end is based on the Port of Gävle´s own forecast of volume build up over the years to come.

Link between the proposed Action and Global Project
The Action and The Global Project have the same scope, making it possible for modal shift from road to rail and increased freight transport by ship. The carbon footprint will decrease, which will help to reduce negative environmental impact.

At the same time as the electrification of the railway and the construction of a new track, the expansion of the container port continues together with the new track in the port. In addition, a laboratory will be built for the National Food Administration's analyses of imported foods.

The objective of the proposed Action
The objectives for the Action are almost the same as for the Global Action:
-Increase the railway share (low carbon and energy efficient)
-Safe and secure transport of airplane fuel
-Improved safety by decrease of barrier effect.

Measures
Below in chapter 2.3, the Action will be detailed described. The measures there will be done are:
1 A railway bridge over the road called “Strömsbrovägen:
2 A railway bridge over the road called ”Strömsbrovägen”, one of the busiest streets in Gävle.
3 A pumping station
4 Protective measures for the municipality's water supply
5 Field work for environmental technical soil surveys
6 Geotechnical investigations
7 Demolition of properties and existing tracks and gears
8 New overhead lines on railway yard
9 Measures for the railway's signalling system
10 New pedestrian and cycle path along Strömsbrovägen
11 New road connection to Kanalsvägen
12 New railway track in the port to the new paper warehouse

The work is done in three phases:

Phase 1: Demolition of buildings and location of overload where the railway will pass Strömsbrovägen. In November 2016, the work in Phase 1 started, an overload, where the new track will be laid, which should rest for 18 months before the construction of a new railway bridge over Strömsbrovägen starts in 2019.
Phase 2: Demolition of buildings, railways and electrification of existing railways. The existing railway, Fredrikskansbanan, is a not electrified single track with a limited standard. Phase 2 started in autumn 2017 with procurement of design documents. The construction works will be finished i Dec 2021.

Phase 3: Demolition of a building, new track to the new paper warehouse in the port. Responsible for this phase is the Port of Gävle and will be done in parallel with Phase 2.
A construction document produced by the contracted entrepreneur including building of the railway including the electricity, signalling, demolition of existing non-electrified railway and the railway bridge over the traffic route is decided.

Environment
The area borders in the northeast to the Natura 2000 area, "Testeboåns delta" and the nearby nature reserve. The residential areas are located directly south of the existing non-electrified railway, Fredrikskansbanan. About 14 000 – 18 000 vehicles/day handled transports to and from the industrial are. Along the railway embankment on the north, side there is a pedestrian and cycling path. The new railway will pass close to the drinking water supply of Gävle at Valboåsen and a large conduit string for electricity, water, sewerage and heating near the Strömsvägenbron. In the EIA, a noise study has been carried out. The construction document has to follow the noise measures in the investigation. To increase the traffic safety along the railway and the new railway bridge a special security fence called "suicide fence will be installed.

An important environmental measure is the transport route for the aviation fuel. Well described in chapter it is difficult to imagine, but since 2006, when rail transports from Gävle started, about 250,000 trucks have disappeared from the streets of Stockholm. The company that manages the aviation fuel, Arlanda Aviation Fuel Management, has been awarded the Freight Transport Council's 2012 prize for changed modes of transport.

The prize is awarded to companies that carry out intelligent transport solutions for freight traffic.
A large part of the terminal operations runs with electricity or fossil-free diesel (HVO).

Deliverables and outputs
The Action will result in the following deliverables and outputs:
-New electrified railway from the East Line to the port of Gävle
-Smooth, fast and environmentally friendly transport of aviation fuel to Arlanda and Bromma
-New railway bridge over the road E4
-The new electrified railway with one track for trains to the north and one track for trains to the south will result in a 30-45 min saving time per train set, which in turn reduce the problems in the bottleneck on the East Coast line in Gävle.
-The new railway has been built without any negative impact on the water supply.
-Parts of the existing bicycle path to the port and the Natura 2000 area will remain open during construction. --
-New cycle path will be constructed on the other side of Stromsholm road.
-New railway tracks in the port**.**

Cost
Table 3: Costs per activity and year (Million Euros) Exchange rate May 2017

Action costs	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Total**
Gävle Port –electrical new railway connection		11.05	14.6	13.1	0.05	0	38.8

Timetable

Year	**Gävle**
2018-2019	Phase 1 - constructions work at Strömsbrovägen -ready Phase 3 – demolition of a property in the port where the new rail will be drawn
2020	Phase 1 - construction work at the new railway bridge Phase 3 – construction work new rail in the port
2021-2022	Phase 2 - demolition of houses and construction of the railway and railway electrification
2022	The railway opens for traffic

Activities

Table 4: Activities in the Action

Activity 1	Construction work, demolition of railway truck in the area Näringen	19-05-01 – 19-12-10
Activity 2	Construction work, demolition, property Gävle Galvan	19-05-31 – 20-06-26
Activity 3	Construction work, BEST	19-11-02 -- 21-12-29
Activity 4	Construction work, new railway connection to the new automatic Container terminal in the Port of Gävle	19-06-01 – 20-06-30
Activity 5	Management coordination and communication	19-05-01 – 22-06-30

Milestones

Table 5: All Milestones in the Action

Milestone No	Description	Date	Means of verification
1	Activity 1 - Contract signing demolition	2019-05-01	Contract
2	Activity 2 - Contract signed Entrepreneur	2019-05-31	Contract
3	Activity 4 - Start demolition and ground work	2019-06-12	Protocol
4	Activity 2 - Demolition documents ready	2019-08-09	Demolition documents
5	Activity 5 - Completion of Strategic Action Plan (SAP)	2019-10-01	Strategic Action Plan (SAP) completed
6	Activity 3 - Best-start meeting with entrepreneur	2019-11-02	Protocol
7	Activity 5 - Presentation material	2019-12-01	Presentation material produced
8	Activity 1 - Demolition work completed	2019-12-10	Demolition documents
9	Activity 5 - Action Status report (ASR) 2019	2020-03-15	Action Status Report (ASR) 2019, accepted
10	Activity 4 - Start Rail work	2020-05-04	Start meeting protocol
11	Activity 2 - Demolition work completed	2020-06-26	Demolition documents
12	Activity 4 - Final inspection rail work	2020-06-29	Final inspection protocol
13	Activity 3 - Building meeting, control point	2020-08-11	Protocol
14	Activity 5 - Action Status report (ASR) 2020	2021-03-15	Action Status Report (ASR) 2019, accepted
15	Activity 3 - Final inspection	2021-12-16	Final inspection protocol
16	Activity 5 - Final report	2022-06-30	Final report and Final Payment Claim (FPC), accepted

Current stay of play

A procurement for contractor agreements to develop the building documents for step 2 is ongoing. The procurement is expected to be completed March 14, 2019. The contract also include start of the design document for procurement of demolition contracts, which is expected to be completed in December 2019. The start of the contract is estimated to the September 2019.

Works that has been done:

- Building document ready
- Soil surveys ready (autumn 2018). The result is the basis for how the new railway will be built. For the surfaces where pollution is encountered, the masses are sent to landfill. Otherwise, they will be reused to build a new railway embankment.

The existing railway to the port is today operated by 14 diesel-powered trains per day. In the future, there is a need for 16 to 48 trains per day (forecast year 2040). All freight trains will in the future go directly to and from the port without changing from diesel to electric locomotives on the freight yard.

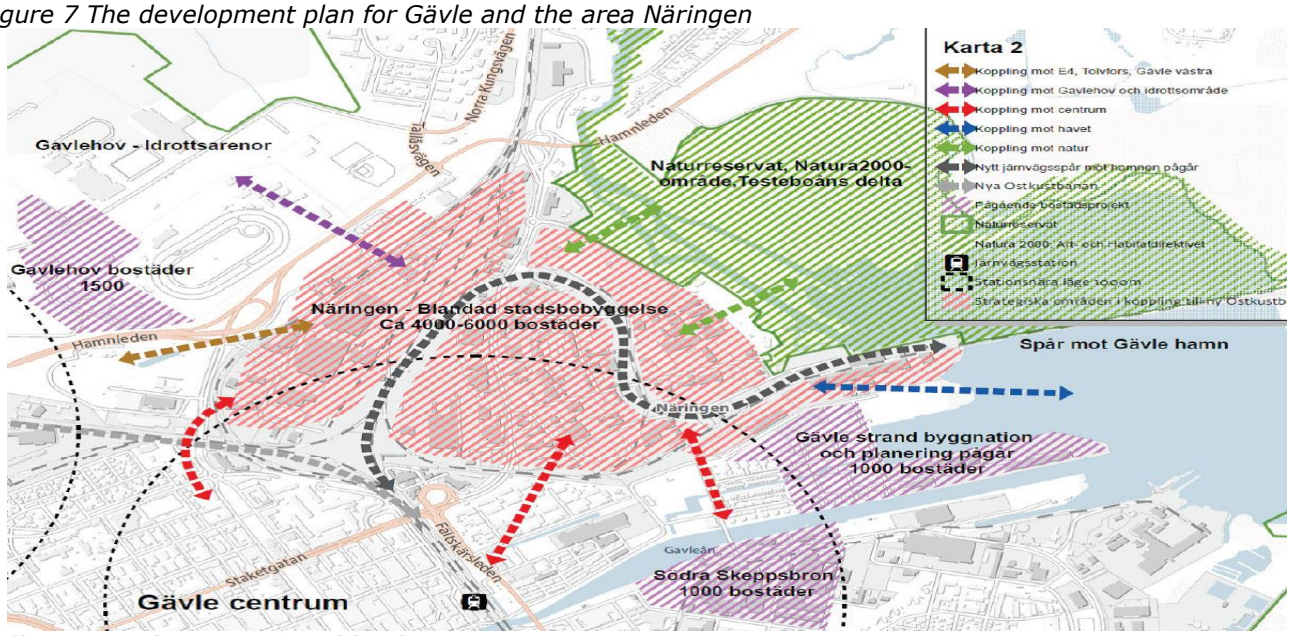
Continued development of the port has taken place. In 2014, a new entrance fairway for the ships to the port was completed. The municipality of Gävle plans to develop the Industrial Area into a neighbourhood with 6,000 new homes, workplaces and service facilities. See the map inf figure 7.

Planned works*:*

- Construction document ready - *March 2019*
- Demolition of properties and old railway trucks -spring *2019*
- Recruitment entrepreneur - *April/May 2019*
- The work on Strömsbrovägen starts - M*ay 2019*

In 2010, a series of important developments and infrastructure investments were initiated in the port. Gävle Port will grow by about 326,000 square meters, i.e. twice as large. The fairway entrance has been expanded from 60 to 126 meters wide and the depth is now 13.5 meters, which increases the port capacity from 70,000 containers to 170,000 containers. A total of SEK 860 million has been invested in the port. The new fairway entrance was inaugurated in 2014. A well-functioning railway connection is what remains for a complete transport system to and from Gävle port.

Figure 7 The development plan for Gävle and the area Näringen



Indicators and source of verification

The following indicators and means of verification will be used to assess the extent to which the main objectives of the Action are being achieved:

Table 6 Objectives, indicators and means of verification

Objectives	***Indicators***	***Means of verification***
Removal of a bottleneck. Introduction of new services	Increase of freight train capacity More predictable time schedule, Greater reliability Shorter transport time by railway	Modelling and calculation of traffic capacity Official statistical information
Increase the railway share (low carbon and energy efficient).	Reduced road traffic Reduces emission of CO2. Increase of transport capacity and actual transport amount	Measurement of emissions, statistics by the operator. Official statistical information
Decrease noise.	Reduced noise level when switching between electric locomotive and diesel locomotive on the freight yard is no longer needed	Measurements – Official statistics
Optimizing security. Improved safety	Reduced transport of dangerous goods on the roads by transporting aviation fuel to rail and especially building pipelines.	Measurements – Official statistics
Positive environmental impact, more fluid traffic and change of transport mode from road to rail	Reduced emissions of CO2.Reduced noise level. Reduced transport of dangerous goods on the roads by changing to rail transporting of aviation fuel and specially built pipelines.	Measurements –regional statistics
Positive regional development	Increased access to work force, productivity and employees. Larger volumes of goods passing through the port increase the number of jobs, which contributes to an attractive region	Official statistics
Positive urban development	Development of an old industrial area to a new residential area for 6,000 residents	Official statistics
Efficient land use	Decreased demand for land by transports and increased opportunities for more efficient use of available land. Efficient land use by converting old industrial to residential.	Official statistics

All indicators are SMART (Specific, Measurable, Achievable, Relevant and Time bound).

Management structure

Responsible for the construction works is the Swedish Transport administration. The project is being carried out in collaboration with Gävle Municipality and the Gävleborg region

2.2. Contribution of the proposed Action to the global project and expected results

The Action will help to eliminate a bottleneck in the important rail traffic between the port of Gävle and the Stockholm area and within the port. It is of great importance for customers' freight transport to and from the Port of Gävle, but also for customers in other parts of Europe. Especially for transport of aviation fuel from the Port of Gävle to Core Airport Arlanda and Comprehensive Airport Bromma Stockholm.

A complete global project, including new railway line (the Action) from the comprehensive freight railway network the East Coast line to the terminals and warehouses in the port strongly contributes to eliminating a problematic bottleneck for freight transport, both nationally and internationally, within the rail and sea transport system to and from the Stockholm area. It will also contribute to the goal of increasing the railway part of freight transport and reducing the volume of goods by truck. The Action is the last major bottleneck in the corridor. Previous measures t increase the railway's capacity in the freight corridor between Gävle and Stockholm are expansion to double tracks on this part of the east coast, separate pipelines to reduce the transport of dangerous goods on the roads and also a new logistics centre in Rosersberg (near Core Airport Arlanda.

The Action also contribute to the goal of the Global project, that the Port of Gävle will remain the largest container terminal on the east coast of Sweden and a multimodal gateway to the larger Stockholm area.

2.3. Description of the activities of the proposed Action, including their interdependencies

Activity 1: Construction work, demolition of buildings in the industrial area Näringen

Start 2019-05-01	Ends 2019-12-10	Costs: € 1,0 Million
Milestone 1: Contract Signing with the demolition contractor		2019-05-01
Milestone 8: Demolition work completed		2019-12-10
Stakeholder: The Swedish Transport Administration		

The measures in this activity is preparatory work for construction of a new the railway in order to perform BEST (rail, electricity, signal, telecom) work and construction of a new railway track in the industrial area called “Näringen”. This Activity includes demolition of sex buildings in connection with the new rail embankment. The work will be done within the framework of the contract. Demolition permit, according to the Plan and Construction Act, is applied for the facilities to be demolished. In addition, agreements with Gävle municipality and the power company for the redevelopment and demolition of electricity and water pipes are signed.

The objectives for the Activity
The main objective for this Activity is to ensure that no impact will occur on Gävle municipality's water supply in connection with the construction of railways and demolition of properties. This environmental objective is of overall importance for the railway to be built.

Tasks to be performed
Demolition of six buildings, which today is connected to a new railway embankment. According to requirements, buildings must not be closer than five meters from the track.

In the industrial area, Näringen the soil and groundwater are contaminated because the area previously partly consisted of a landfill, which was closed down in the 1960s. A mass management plan is established prior to the construction phase. Land surveys are completed and the result is the basis for how the new railway will be built. The demolition material will be sorted carefully. Excavated soil must be tested in consultation with the supervisory authority, to determine appropriate handling, use and storage. Contaminated masses will be transported to an approved facility, a new landfill for contaminated land. Unloading and removal of contaminated soil and demolition material will take place with loaders, trucks and haulers. Procurement for the demolition will start April 5 2019. The contract is planned to be signed with the contractor for demolition in mid-May and the demolition work to start June 1 2019.

Environment
The filling masses for the railway embankment are deployed and shall rest for 18 months before the railway constructions can begin. The amount of surplus, not contaminated according to set requirements and is of good quality, has been reused for the4 meter high railway embankment. The new track will mainly be built on a high embankment to avoid excavation in the contaminated landfill site.
A decisive prerequisite for the demolition work is the special relationship between the water source, just beside the industrial area, and the groundwater level in the industrial area

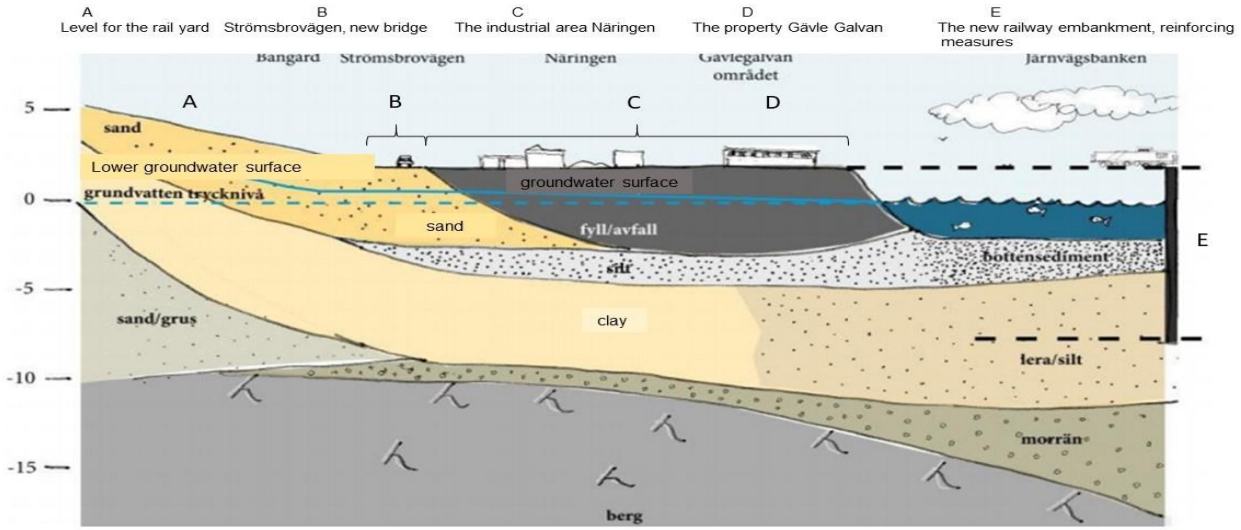


Figure 8 Cross section of the ground in the project area

An investigation about the groundwater conditions at the industrial area Näringen was conducted 2012-07-06.There are two hydraulic low points in the area; the Baltic sea and groundwater extraction area in Gävleåsen. Most of the water in the area is drained to these two hydraulic low points. It also looks like the sea and the ridge have a hydraulic contact where they co-vary. How the water flows within this complex hydraulic system covariate is not completely clear. The sea level usually varies within about one meter and even the groundwater level in the Gävleåsen varies. The clay layer is considered a hydraulic barrier between the upper and lower groundwater reservoirs, which prevents the upper groundwater in the industrial area from entering the water supply. See the description in figure 8.

Groundwater pipes were installed in connection with the site for a new bridge at Strömsbrovägen in autumn 2010. Level measurements in the groundwater pipes have been made since September 2010 and are documented for the project. The Activity includes establish of wastewater treatment facilities at the part of Strömsbrovägen under the railway.
No work for the railway will be carried out in the water area and in the Natura 2000 area.

The new track will affect properties within the industrial area Näringen and indirectly through the changes planned for the street structure because of the new track.

Deliveries and output
The Action will result in the following deliverables and outputs:
1.The preparatory work on the construction of railway embankment and demolished of properties for the buildings of railway tracks has been built without any negative impact on the water supply. The work with demolition of sex buildings will be done as described above.

Interdependencies between de activities
Activity 1 and 2 has to be finished before Activity 3 starts. The Municipality of Gävle is responsible for the timetable for the work in Activity 2. There are no dependence to Activity 4, but a complete Action has a large effect for the freight transport to the port.

Activity 2: Construction work, demolition, property Gävle Galvan		
Start: 2019-05-31:	Ends: 2020-06-26	Cost : € 0.5 Million
Milestone 2: Contract signed Entrepreneur	2019-05-31	
Milestone 4: Demolition documents ready	2019-08-09	
Milestone 11: Demolition work completed	2020-06-26	
Stakeholder: The municipality of Gävle is responsible for the demolition project, where the Swedish Transport Administration is partial financier, the Activity 2 in this application		
“Gävle Galvan” is in this application the property earlier owned by the company Gävle Galvan. The name Gävle Galvan is today associated with the building. The Company Gävle Galvan was a Swedish engineering industry company founded in the late 1920s in Gävle. Since the mid-1930s, the company was located on the headland in Gävle's inner port where the building remains. In October 2016, the owner X-Schakt Entreprenad AB sold the property on the south side of the railway, "Näringen 18:7", to Gävle Municipality. The area of this part of the property is about 350x30 meter.		

Figure 9 The property Gävle Galvan, situated on the industrial area Näringen, close to the port of Gävle

The objectives for the Activity
The main objective is to demolish the property Gävle Galvan to give room for the new railway to the port.

Tasks to be performed
Tasks to be performed are:
- Demolition of the building Gävle Galvan
- Demolition of a substation
- Demolition of a gantry crane
- Transporting all demolition materials from the building to landfill.

Other remediation measures needed to restore the land for the construction of a new railway.

Deliveries and output
The decision to build a new electrified railway track to Gävle Port meant that certain properties or part of properties would be demolished due to a regulatory framework that regulates how far from the track a property may stand. If the property Gävle Galvan were not demolished, the track would have had to be converted at the property Gävle Galvan. The cost for change of line drawing is estimated to € 0.5 Million. The Swedish Transport Administration and Gävle Municipality instead made an agreement of demolish the main part of the building Gävle Galvan and that the Swedish Transport Administration would contribute € 0.5 Million to the demolition. Most of the demolition materials will be put on landfill. The municipality has budgeted € 1.5 Million in 2019 to demolish a large part of the property Gävle Galvan.

Environment
When demolishing, precautions are required in relation to the water supply. Ongoing remediation efforts at Gävle Galvan will be supplemented with further measures if the area is to be built.

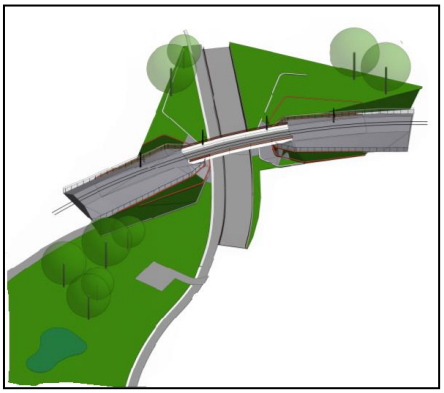
Interdependencies between the Activities
The Activity has to be finished before Activity 3 starts. I will partly be done in parallel with Activity 1 and 4.

Activity 3: Construction work, BEST (rail, electricity, signal, telecom)

Start 2019-11-02	Ends 2021-12-31	Costs: € 36.5 Million
Milestone 6: Start Best-start meeting with entrepreneur	2019-11-02	
Milestone 13: Building meeting, control point	2020-08-11	
Milestone 15: Final inspection	2021-12-16	
Stakeholder: The Swedish Transport Administration		

Figure 10 The existing non-electrified railway to the port of Gävle and the new bridge over Strömsbrovägen with the new pedestrian- and cycle path

The Activity includes construction of an approximately 2-kilometre new electrified single railway track. In the west, the track connects to Gävle freight yard and in the east to Fredrikskansbanan. The new track passing through the industrial area Näringen. Except that new rail, a new railway bridge is being built for the passage of Strömsbrovägen. In addition to the new construction, the existing railway, Fredrikskansbanan, to the port will be electrified. Today, Fredrikskansbanan is a non-electrified single track with limited standard. The new track will go from the Gävle freight yard to the railyard at Gävle Port. By retaining existing tracks, traffic directed northwards could still pass directly through the freight yard, without reducing capacity. For existing railway, the catenary foundations is carried out, both drilled and dug.
The electrification means that the necessity to change locomotives within the freight yard disappears and that capacity is thereby released. By extension, faster passages in the freight yard means that capacity can increase on the East Coast Line, Bergslagsbanan and in the Gävle Central Station.



The objectives for the Activity
The objectives for the Activity are:
- To keep the schedule for the Activity
- To ensure low environmental impact during work, especially with the water supply in focus
- Perform the work with as low noise impact as possible
- Create low noise levels during operation by using seamless tracks

Tasks to be performed

- Build a new electrified railway with seamless tracks on a new high railway platform.
- Create safe crossings over the new railway to reduce the barrier effect
- Building a new railway bridge over the road Strömsbrovägen.
- Building new separate cycle path as a replacement for today's bike path

Deliveries and output

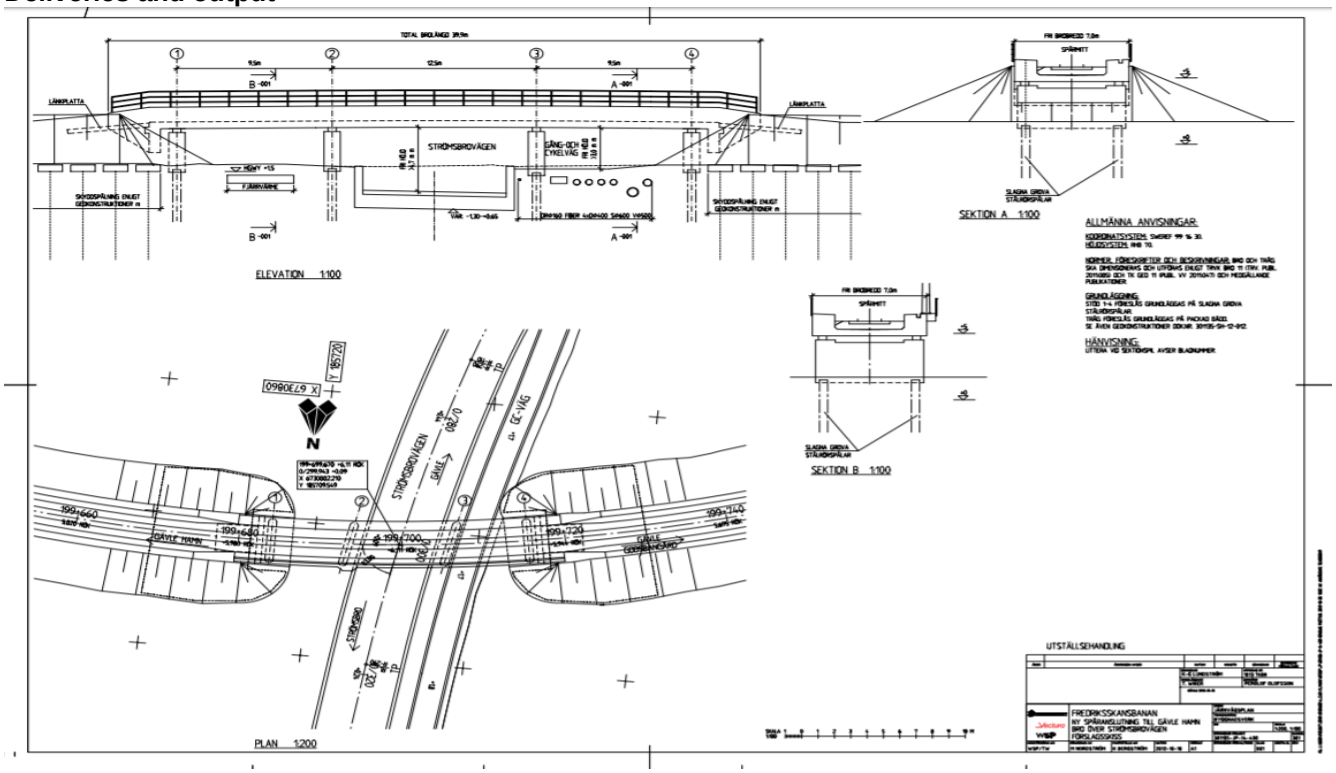


Figure 11: Sketch of Bridge and Trough, Strömsbrovägen

The new railway to the port will have buoyancy (STAX25) and STH 40km/h. The new railway will have a minimum radius of curvature of 200 meters and a maximum slope of about 10 per thousand. The maximum speed for the traffic is 30 kilometres per hour. The maximum allowed axle load of the track is 25 tonnes and the maximum allowed weight per meter is 8 tonnes. The track is built seamlessly (with 60E1 rail) Two new gears are added, one where the new track connects to Gävle freight yard and the other where the new track connects to existing tracks at Lillån's yard. From the east, the new railway runs from Lillån's yard at ground level up to Strömsbrovägen where the embankment is about 4 meters high at the most. Where necessary to secure safety,

fences are built as protection against unauthorized tracing, so called suicide fencing. A level crossing with bars for pedestrian and bicycle traffic is planned at Kanalvägen. From the railway bridge, the profile is lowered to ground level when it connects to Gävle freight yard in the west.

The construction document contains mainly of technical descriptions with requirements relating to the railways function. It is based on the established railway plan with the goal to reduce the problem with the bottleneck on the railway to the port of Gävle
A major challenge in the construction is that the bridge crosses Gävle's water source. Conventional construction of bridges cannot be used. Careful work has been ongoing since 2017 in order to find the best solution with minimum impact on the water supply. The chosen solution is to not use traditional concrete piles because they have not been deemed sufficiently secure. Therefore, the bridge will be built on four piled steel piles that had better prevent groundwater from being affected during the construction and future operation.
In order to perform BEST (rail, electricity, signal, telecom) work, the project will have to redeem properties. Special details will be described in the demolition documents. Preparatory works has been done within the framework of the contract. There is an overload of groundmasses for a long time compressed to a solid surface. The train traffic is scheduled to start in 2021.

Environment
The railway bridge over Strömsbrovägen and the adjacent new railway embankment will become a new barrier of the landscape image. This, together with a significant restructuring of the business area, the change will be major. The experience of the "new" nutrition can be made positive through aesthetic processing and the construction of new green areas.

The high railway embankment close to the road Strömsbrovägen, will be built to protect avoid unnecessary impact on groundwater / contaminated soil. The high embankment can interfere with visibility and change the open character of the area. However, the visual experience of the embankment can be mitigated by in project proposed safeguards.

Interdependencies between the Activities
This Activity, no 2 has to be completed before start of Activity no 3.

Activity 4: Construction work, new railway connection to the new CFS warehouse in the Port of Gävle

Start 2019-06-12	Ends 2020-06-30	Costs: € 0.5 Million
Milestone 3: Start demolition and ground work	2019-06-12	
Milestone 10: Start Rail work	2020-05-04	
Milestone 12: Final inspection rail work	2020-06-29	
Stakeholder: The Port of Gävle		

Figure 12: The Port of Gävle

The Activity contains of a railway connection in the Port of Gävle from the existing railway into the port to a new automatic container terminal.

Gävle Container Terminal has long been the East Coast largest— and Sweden's third largest—container port. Growth has been very strong over the last years and volumes are now approaching 300,000 TEU* annually. In The capacity of the largest container terminal on the east coast is about to be doubled autumn of 2020 the new terminal will have a capacity of 600 000 TEU (1 TEU corresponds to a 20-foot container). The more common 40-foot container is thus 2 TEU).

The objectives for the Activity
The goal is a coherent railway track from the new container terminal in the port to the comprehensive network The East Coast Line to increase the possibilities to transport goods by rail instead of by truck.

Tasks to be performed

In order to cope with the large amount of goods expected to arrive at the terminal, adds a new railway track to the new container terminal, linking to the existing track in the port. The existing railway connects to the railway, which the Swedish Transport Agency builds from the Comprehensive Rail network to the port of Gävle. The Activity is divided into three phases:

Phase 1 - At the same time as the work on a new container terminal is started, the foundation work is done for the part of the railway that goes through the terminal building. The work will start mid-June 2019 and end 1 September 2019.

Phase 2 - Demolition of a warehouse that is exactly where new track should go. Agreement with today's tenant expires on December 31, 2019. The agreement includes that the tenant participates in the demolition of the property. They are responsible for planning and carrying out the demolition.
The work starts in October 2019 and ends 31 December 2019.

Phase 3 - Railway tracks are laid on the 450 m long stretch. A used railway switch is installed between the new track section and the existing railway track in the port. The construction work starts 1 March 2020 and end 1 June 2020.

Deliveries and output

The existing container terminal can handle ships with a length of 190 m and a loading capacity of 1500 containers. The container terminal will be extended with a 360 m new berth, adapted to receive ships up to 366 meters in length, with a capacity of 14,000 containers. 1300 piles will be used with a total length of 26 km. About 11,000 m^3 of concrete will be used which corresponds to 1,500 trucks. The container terminal is not a part of the Activity but a prerequisite for the expansion of the railway. The railway is a prerequisite for further transport of the large amounts of goods that will dock at the port.

Paper products when they are going to be export to other countries, will arrive the new high-bay storage warehouse by train and handled by automated overhead cranes, which ensure high-density storage with minimal risk of damage. The facility will be built directly adjacent to the container port for the shortest possible transport to the quay and loading onto vessels. The new railway connection in the port will be used for transports of goods arriving at Gävle port in containers.
The Port of Gävle has signed a turnkey contract with company NCC to build the railway and the new high-bay storage.

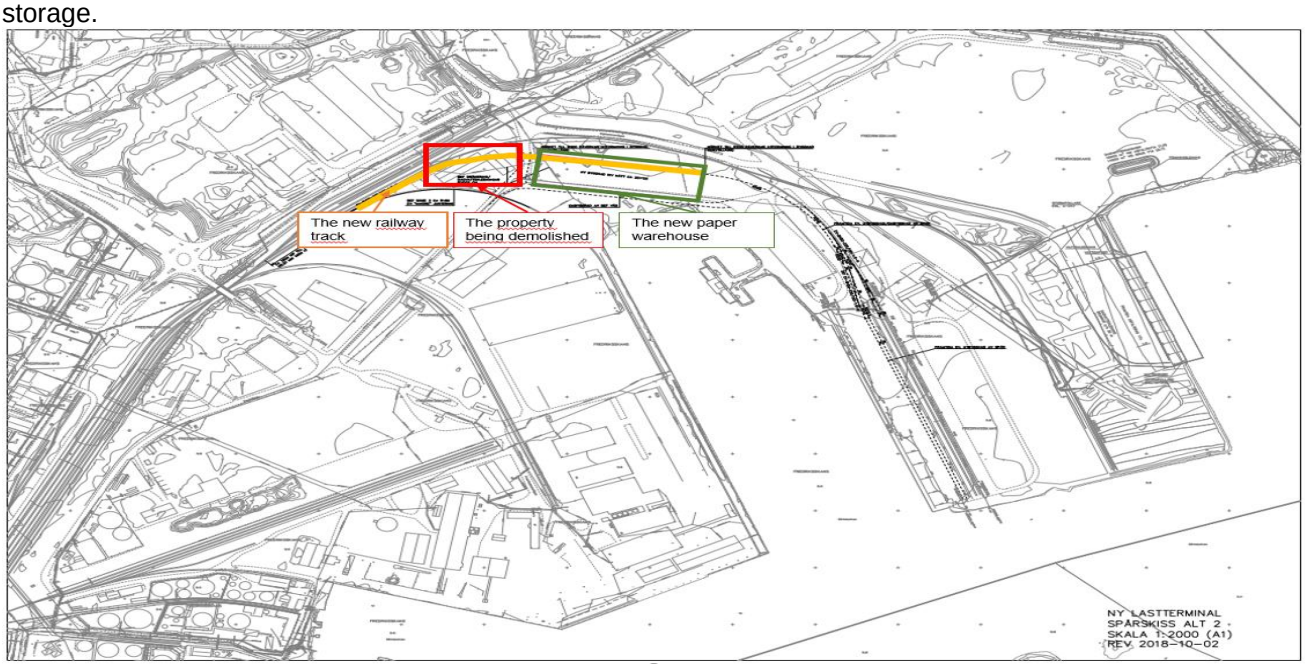


Figure 13 The Construction work in the Port of Gävle, Activity 4

Interdependencies between the Activities

The official start took place on the 12th of December 2018; the grand opening will take place in the summer of 2020.There are no independence to any of the other three Activates in the Action.

Stakeholders

Port of Gävle and YILPORT are co-investing to meet the increasing demand for container transport. The investment is made by municipality owned Gävle Hamn AB, which will lease the facility to port operator Yilport

for a duration of 30 years. The agreement between the parties was signed on August 23rd 2018. The combination of Port of Gävle and Yilport is very powerful. Port of Gävle provides the infrastructure whilst Yilport manages operations, a stable and long-term cooperation that is much appreciated by the customers of the port.

Environment
The piling work is the part of the project that can affect the environment due to noise. To gather information about the possible impact on the surroundings, Port of Gävle has conducted an investigation to ensure that the noise does not exceed the Swedish Environmental Protection Agency's limits. The investigation shows that the noise created due to the expansion of the container terminal, does not exceed the limits.

Activity 5: Management coordination and communication		
Start 2019-05-01	Ends 2022-06-30	Costs: € 0.3 Million
Milestone 3: Completion of Strategic Action Plan (SAP)	2019-10-01	
Milestone 7: Presentation material	2019-12-01	
Milestone 9: Action Status report (ASR) 2019	2020-03-15	
Milestone 14: Action Status report (ASR) 2020	2021-03-15	
Milestone 16: Final report	2022-06-30	
Stakeholder: The Swedish Transport Administration		

To guarantee a successful project implementation, the following organisation will be set up:

Project coordinator will be the Swedish Transport Administration (the Regional EU manager for CEF projects East Sweden). The Swedish Transport Administration is the Governmental agency that is responsible for long-term planning of the transport system for all types of traffic, as well as for building, operating and maintaining public roads and railways. The coordinator will be responsible for the project management and coordination, financial management, monitoring, internal quality control, reporting, and coordination of the project management team meetings. The coordinator will be the contact point between the partners and the European Commission INEA (Innovation and Networks Executive Agency). A Project Management Team will be formed by one representative from each partner. The Project Management Team handles issues related to the implementation and progress of actions and is a forum for exchange of experiences and results.
The Project coordinator plays a strategic role in terms of both coordinating the Activities, as well as making sure that the project is running according the project plan. The coordinator is responsible for the following:
Administrative and financial management including coordination of the Strategic Action Plan, Action Status Reports and Final report.

Of crucial importance are also the communication and dissemination of information about project activities, which is why Activity 5 also will secure the successful spreading of the information about the project.

The Swedish Transport Administration is responsible for these Activities. The Communication and Dissemination of Information including:

- Development of communications material tailored to different audiences including the research community, policy makers, industry and civil society organisations Public seminars in cooperation with the Port of Gävle
- A flyer of the project including a description of the project at a glance
- Presentations in Almedalen in cooperation with the Port of Gävle; The objective is to market the Gävleborg Region as developing with future options. The target group is mainly Swedish organizations.
- Publications of short reports and policy briefs in accordance with the guidelines produced by the Commission

2.4. Description of the location of the proposed Action

Please see map in the Ten-tec module. The construction work in Gävle is located in the central part and through an industrial area to the Port of Gävle.

2.5. Planning overview of the Action

Activities	2019	2019	2020	2021	2022
Activity 1: Construction work, demolition of track on the industrial area Näringen	Start	End			
Activity 2: Construction work, demolition of the property Gävle Galvan	Start		End		
Activity 3 Construction work, BEST (rail, electricity, signal, telecom)	Start			End	
Activity 4: Construction work, new railway connection to the new CSF warehouse in the Port of Gävle	Start		End		
Activity 5: Management coordination and communication	Start				End

A Gantt chart showing the activities of the Action including milestones and the critical path is found in Annex 1.

3. RELEVANCE: CONTRIBUTION OF THE PROPOSED ACTION TO THE TEN-T POLICY OBJECTIVES AND EU DIMENSION

3.1. Contribution of the proposed Action to TEN-T network (Core and/or Comprehensive) or classification as a project of common interest

The Global Project and the Action reduces bottlenecks, enables smooth, safe and sustainable mobility of goods, ensuring accessibility and connectivity for all regions of the Union, contributing to increased economic growth and competitiveness in a global perspective. The socio-economic impacts are positive for transport quality, capacity, safety, accessibility, climate and the environment.

The link is of great importance for freight transport from the Port of Gävle and southwards. The Global Project and the Action makes a positive contribution to social sustainability by enabling a transfer of freight from road to rail, which, among other things, leads to increased traffic safety. This results in reduced transportation costs and improved transportation facilities for the business sector, which is positive for economic sustainability. The Action will have a network effect as it contributes to safer, more reliable and environmental connections for the immense freight flows between continental Europe and Sweden.

The Action contribute to TEN-T goals and create connection to neighbouring countries with easier and faster transport of goods from the large container port in Gävle. The Action is a Project of Common Interest according to Article 7 of the TEN-T Guideline and the Comprehensive Network by contributing to the development of the trans-European transport network through creation of new transport infrastructure by building av new electric railway in the Port of Gävle, The Action also include upgrading of the existing railway infrastructure in the area close to the Port of Gävle which promote the resource-efficient use of the network..

The Global Project and the Action is a project of common interest:

- The action addresses the four objectives for TEN-T categories set out in Article 4 (Se 3.2) in TEN-T Regulation **(EU) No 1315/2013**
- The Action addresses measures to reach Article 7.2 a and c, Regulation (EU) No 1316/2013.
- The Action is economically viable based on a socio-economic cost-benefit analysis.
- The Action is eligible for Union financial assistance under the instruments available for the trans-European transport network,

- The Action has been following the planning process from feasibility study, EIA (with regard to the Union legal acts on the environment, climate protection, safety, security, competition, state aid, public procurement, public health and accessibility), to public consultation and by the government established Railway Plan in 22/06/2017.
- The Action increases mobility and sets high safety standards as well as contributing to increased freight transports by rail instead of trucks.(Chapter III Article in TEN-T Regulation)

The Action results in increased safety, improved opportunities for commuting and improvements for industrial goods transport. Construction is expected to start 2019.

3.2. Contribution of the proposed Action to TEN-T and CEF priorities

The Action addressed the TEN-T and CEF priorities by eliminating a large bottleneck and increase the Intermodality as described in Article 4 of the TEN-T Guideline (see table below). The upgraded railway connection in and from the Port of Gävle to the comprehensive railway in Gävle removes a large bottleneck on the freight corridor between the port of Gävle and the national and regional railway network. It is needed for modal shift of existing sea transports to continuing regional transport with rail instead of road transports. Due to the above-mentioned growing rail transport, the population and work opportunities in the area are expected to increase in the near future.

Article 4 in TEN-T-Guidelines. The Action address:

4a) Cohesion through	
(iii)	*for primarily freight traffic, interconnection between transport infrastructure sea to rail on long-distance traffic as well as regional and local traffic*
4b) Efficiency through	
(i)	*The removal of bottlenecks and the bridging of missing links, both within the transport infrastructures and at connecting points between these, within Member States' territories and between them;*
(ii)	*The interconnection and interoperability of national transport networks*
(iii)	*Optimal integration and interconnection of all transport modes*
(iv)	*The promotion of economically efficient, high-quality transport contributing to further economic growth and competitiveness*
(v)	*Efficient use of new and existing infrastructure*
(i)	*The East Coast line is defined as another section of the core network due to the bottleneck and the missing link between coastal cities*
4c) Sustainability through	
(i)	*Development of all transport modes in a manner consistent with ensuring transport that is sustainable and economically efficient in the long term;*
(ii)	*Support energy parks and waste treatment facilities*
(iii)	*The action will support reduced CO2 emissions*
4d) Increasing the benefits for its users through	
(ii)	*The standard will at least meet the standards of previously TEN-T supported railway lines in the regions (e.g. Bothnia Line)*
(iv)	*The establishment of infrastructure requirements, in particular in the field of interoperability, safety and security, which will ensure quality, efficiency and sustainability of transport services;*

The action addresses the priority development of maritime ports of the TEN-T Comprehensive network", of the ANNUAL WORK PROGRAMME 2019, Projects on the Comprehensive Network. The proposed action will facilitate implementation of the EU TEN-T objectives in this part of the Comprehensive Freight Network in the current programming period 2014-2020.

3.3. Contribution of the proposed Action to the objectives of the priority/sub-priority under which it is submitted

The Global Project and the Action are crucial projects that meet the goals in the Annual Work Programme 2019, Projects on the Comprehensive Network, and CALL FOR PROPOSALS CONCERNING PROJECTS OF COMMON INTEREST under the CONNECTING EUROPE FACILITY in the field of trans-European transport network. The Action meet the goal ”connections to and development of maritime ports of the TEN-T Comprehensive network" defined in Call for proposals concerning projects of common interest under the Connecting Europe Facility, ANNUAL WORK PROGRAMME 2019, paragraph 2. It is organised according to the following funding priorities in line with the CEF Regulation as supplemented by the Delegated Act of 8 July 2016 concerning the CEF transport funding priorities:

- The objective of bridging missing links, removing bottlenecks, enhancing rail interoperability, and, in particular, improving cross-border sections

In accordance with the general objective concering:

- Connections to and the development of maritime ports of the TEN-T Comprehensive network of Regulation (EU) No 1315/2013.

Under the specific objective:

- hinterland connections to the TEN-T Comprehensive Network (rail, inland waterway, or road if other hinterland connections are not an option), with adequate capacity and efficiency, including digital solutions to improve connectivity, and the infrastructure necessary for transport operations within the port area;

The Action meet the definition in Article 2(5) CEF regulation:

- "works" means the purchase, supply and deployment of components, systems and services including software, the carrying-out of development and construction and installation activities relating to a project, the acceptance of installations and the launching of a project;

The Action contributes to the general priorities set up in Article 4 (see 3.2) and Article10 (b-e) and specifically 10 (c and d) by removing a bottleneck, which will have a big positive impact freight traffic on the whole. The Action will also contribute to optimizing the existing infrastructure as it can be used more effective.

3.4. Contribution of the proposed Action to the internal market, the cohesion policy and promoting growth and jobs creation in line with the Europe 2020 strategy

The EU2020 strategy for growth and competitiveness, the economic growth and the creation of jobs also depends on international competitiveness, which needs to be supported by good transport connections. The strategy promotes smart and sustainable growth as a way to address the structural weaknesses in the European economy, improve competiveness and productivity and support sustainable social market economy. The Action, leading to an elimination of a bottleneck in the Port of Gävle, will contribute positively to both economic growth and regional development and attract investors and residents. It is likely to, through the provision of an efficient and intermodal transport system, lead to spin-off effects and attract other investments (apart from the infrastructure investments in this proposal), which will have significant positive effects on regional and economic development.

The Global Project is needed for facilitating of i.e. the aviation fuel transports. This need is addressed in the Europe 2020 strategy in the flagship initiative *"Resource efficient Europe",* which aims “to help decouple economic growth from the use of resources, support the shift towards a low carbon economy, increase the use of renewable energy sources, modernise our transport sector and promote energy efficiency.” The Global Project and Action also contribute to the goal in Europe 2020 strategy concerning energy sustainability, employment and innovation.
The Action is needed for facilitating the function of the internal market concerning the provision of goods to and from other EU member states. The damage to the Swedish economy as well as the EU economy would be significant.

3.5. Cross-border section

3.5.1 Is the proposed Action located on a section which ensures the continuity of a project of common interest between the nearest urban nodes, as specified in Article 3(m) and 3(p) of the TEN-T Guidelines, on each side of the border of two Member States or between a Member State and a neighbouring country, or does the proposed Action ensure, via a neighbouring / third country, continuity of a Core Network Corridor between two Member States?

☐ Yes
☒ No

If yes, provide justification for classifying the proposed Action (or part of the proposed Action) as cross-border, indicate which Member States and, if applicable, neighbouring / third country(ies) are directly concerned and which activities each of them will be carrying out in the framework of the proposed Action. Please indicate which Core Network Corridors are addressed, if applicable.

N/A

3.5.2 Have the Member States and, if applicable, neighbouring / third country(ies), concerned concluded a written agreement at appropriate level relating to the completion of the cross border section, in accordance with Article 7 (2) of the CEF Regulation?

☐ Yes
☒ No
☐ N/A

If yes, describe the main elements of this agreement and attach a copy of it in annex.

N/A

3.5.3. Have the Member States and, if applicable, neighbouring / third contry(ies), made other joint commitments regarding the proposed Action?

☐ Yes
☒ No
☐ N/A

If yes, clarify and detail, as appropriate, and attach copies of the related documents, if applicable, in particular legally binding agreement(s).

N/A

3.6. Bottleneck

Does the proposed Action addresses improving a bottleneck in the sense of Article 3 (q) of the TEN-T Regulation?

☒ Yes
☐ No

If yes, indicate which bottleneck will be improved and which activities of the proposed Action will facilitate this.

According to Article 3(q) of the TEN-T regulation a 'bottleneck' means a physical, technical or functional barrier which leads to a system break affecting the continuity of long-distance or cross-border flows and which can be surmounted by creating new infrastructure or substantially upgrading existing infrastructure that could bring significant improvements which will solve the bottleneck constraints.

The action will increase the capacity in the freight corridor between the Port of Gävle and Arlanda/Stockholm and further to customers in Sweden.

This Action addresses a bottleneck in the comprehensive railway network in Sweden that affects freight flows both in Sweden and cross-border as defined in Annex I, part I, point 3 (Other sections of the core network Stockholm-Gävle-Sundsvall) of the CEF Regulation.

4. MATURITY OF THE PROPOSED ACTION

4.1. Approval of the proposed Action to commence the planned activities (at government, regional local level, including environmental approvals)

The overall and general decision required for the measure is the Government's decision on the national plan from April 8, 2014.

Level	Level or type of approval	Status	Deciding authority	Comments
Regional	Environmental Approval	Approved 2012/09/14	The County Administration board	No appeals or unresolved issues from previous planning steps.
Regional	Public consultation	Several are done ex. 2011-11-11 2012-11-14	The County Administration board	No unresolved issues, stakeholders awaiting next step and more detailed planning.
Regional and National	The railway plan for the Action	Approved 2014-10-28	The County Administration board The Swedish Transport Administration	
National	National Transport Plan for 2014-2025	Approved 2014-09-12	The Swedish Government	The rail connection in the Port of Gävle is included in the National Transport Plan for 2014-2025
National	Construction work - start decision	Approved 2017-04-05	The Swedish Government	
Local	Investment Decision	Decision 2019-03-19	The Municipality of Gävle	Decision based on data from Gävle Hamn AB

On regional level decision about, building permits, decision about EIA and public consultation are taken. On local level all detailed plan necessary for the Action are approved.
Below there are a list with the most important decisions for completion of the Action.

4.2. Political commitments to the proposed Action (and global project)

There are strong political commitments for the freight corridor from the port of Gävle to the Core Airport Arlanda and the Stockholm area, following the clear identification of bottlenecks that has impact on industrial investments in the region leading to increased volume of goods and a wider labour market. Safe and secure transport of aviation fuel is very important for the government as well as the region and of course al inhabitant in the region. Expansion of the Port of Gävle is a designated port project to meet the increasing demand of freight transports to and from Sweden by vessels.

The political commitments to the proposed Action is listed in chapter 4.1.

The Swedish Transport Administration has performed several Railway studies including measures in the Port of Gävle.
The port of Gävle is a limited liability company (Gävle Hamn AB) that is 100% owned by Gävle Municipality. Decision about investments in the Port is initiated by the Gävle Hamn AB and the Municipality then give political agreement to the investments. In this case, the Municipal Board of Gävle has 19 March 2018 decided to approve Gävle Hamns proposal for an expanded budget following the construction of a new paper warehouse with an attached railway. The signing of the contract for doubling the east coast's largest container terminal took place on 3 September 2018 between Gävle Port and CYES Maritime works. CYES Maritime works have a solid experience of this type of contract. The company is specialists in port work and is currently performing more such assignments in Sweden, including in Trelleborg's Port.

Projects in connection with the freight corridor which has previously received CEF financing are:
2011-SE-93045-P Bothnian Corridor - East Coast Line -increased capacity meeting stations
TEN-T, Decision 2012-SE-91084-P Rosersberg intermodal terminal

4.3. Public consultation(s)

Public consultations are important during the entire planning process. The parties in the Action are contacted, both separately and jointly. Discussions with authorities, municipalities, organizations and the public to receive opinions and gain knowledge.

The general consultation plan for all railway and road projects in Sweden
The consultations are conducted in open meetings, special meetings with landowners, open houses, seminars, information and dialogue through publications and on the internet. The opinions from the consultations are published in a consultation description including a description of what the project has done to meet the different suggestions and opinions received.

At the start of a project, the work that will be carried out is described; at what times, in what form and with whom the partners plan to have consultations. The description is updated regularly during the project.

The dialogue between the Swedish Transport Administration and municipalities, county administrative boards and affected citizens is very important.

The consultation addresses the location, the design and the environmental impact of the planned infrastructure. During the consultations, suggested solutions, environmental impact and impact on single properties (for example the need for noise protection) are discussed.

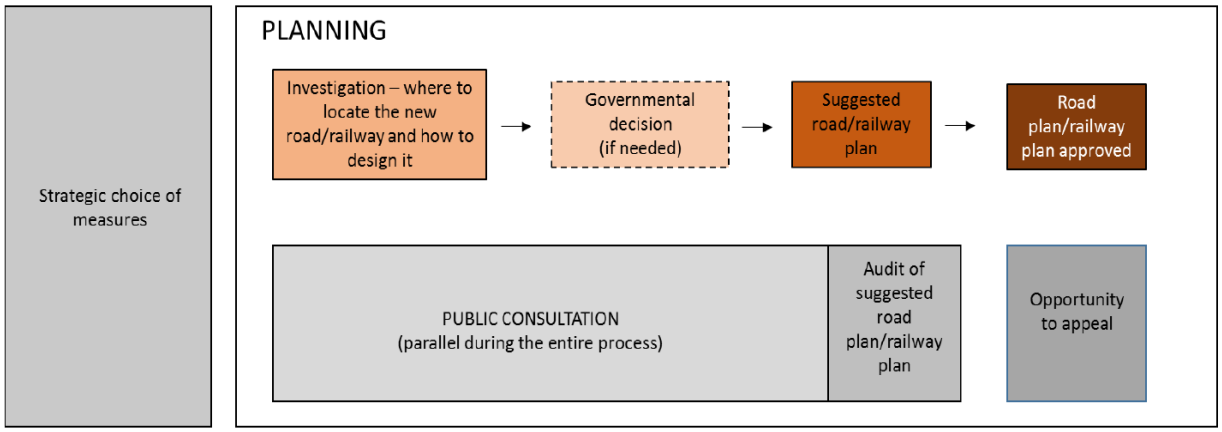


Figure 14 The planning and consultation process:

Finalising a road or railway plan
The suggested plan includes a description of which consultations have taken place before the plan is made public (including which opinions have been considered and how they have influenced the Project as well as motivation for why some opinions have been disregarded). After the public review, the plan is submitted to the county administrative board for their opinion.

If the county administrative board approves the plan and if there is financing for the construction, the plan is submitted for approval at which point the project's impact on environment, health, intrusion and inconveniences are considered all together.
The plan is approved by the Swedish Transport Administration if it finds that the advantages for the public exceed the inconveniences for single interests. The decision can be appealed at the government level.

The public consultations in the Action
The project is divided into two projects and each of these have design consultants working with railway plans in different stages.

Consultation meetings with the public have been held on two occasions during the development of a railway plan, both at the restaurant Landbergs Lunch & Catering AB. Invitation to the meeting has been published in newspapers in Gävle. Entrepreneurs and public were invited by letter. The first meeting was held on 23 September 2010. 26 people including two women were present. The Swedish Transport Administration presented the project and those present were given the opportunity to ask questions. The second meeting was held on November 15, 2011 and then 26 people including 2 women were presented. The Swedish Transport Administration, together with representatives from Gävle municipality, presented the project and answered questions. Consultation exhibition was held in Oct 2012. An information brochure to the public was produced in January 2017.
The Swedish Transport Administration also held consultative meetings with the corporate association, property owners, major companies, municipalities (several informal meetings) County Administrative Board (September 15, 2010 and June 9, 2011), Gästrike Vatten (four consultation meetings, 2011-10-31, 2012-01-11, 2012. Information meeting with the business association in Gävle, November 2014.

The Port of Gävle
The project has installed a web camera over the work site, which can be seen on their website.
Here you can follow the expansion of the container terminal. The camera takes a new picture every hour 07-16, Monday-Sunday.

4.4. Readiness / technical maturity of the proposed Action

Planning and preparatory studies for all activities of the Action are completed. The construction works is about to start in the near future. Please also see section 1.7.
Works that has been done:

- All land issues are solved regarding the construction of a new railway track.
- Noise investigation is completed soon, well before the planned start of construction.
- Building document ready
- Soil surveys ready (autumn 2018).
- All building and demolition permits except are approved at the time for the proposal.

The current status for Activities are:

Activity 1: Demolition work on the industrial area Näringen to prepare for new railway track. The Construction document work is ongoing and will be finished for decision in March 2019. Our Action starts first of May 2019. The demolition work will start I spring 2019. Procurement for contractor is ongoing and constrict will be signed 2019-05-01.The result is the basis for how the new railway will be built. For the surfaces where pollution is encountered, the masses are sent to landfill. Rest of the excavated material will be reused to build a new railway bank.

Activity 2: Demolition work, the property Gävle Galvan. The Municipality of Gävle is responsible for the demolition work. The demolition document will be ready 2019-05-20 and contract with Entrepreneur will be signed 2019-05-31. Demolition permit is expected 2019-05-31. The demolition work is planned to be finished 2020-06-26

Activity 3: The construction work with building a 2 km new electrified railway section for train coming southwards between the comprehensive freight corridor on the East Coast line and the Port of Gävle. The work also include electrifying the existing railway for the train coming from north. Start meeting for the construction work BES, is planned 2019-09-02. The work can start at the earliest when the works in Activity 1-2 are completed. The construction work I planes to start in September 2019 and the work is planned to be finished 2021-12-16.

Activity 4: The contractor draws up a demolition document that will be approved by the project manager. Before the construction of the railway in the port, the procured contractor establish a design document. The timetable for the activities is kept according to plan. The activity has no dependencies on other activities.

Activity 5: The preparatory phase has started and the coordinator is working on coordinating the activities.

4.5. Building permits

Subject of building permit procedure	Date of award of building permit	If relevant, foreseen date of award of building permit	Foreseen start date of works
Building permits will be awarded for to electrical substation.		Spring 2019	

4.6. Procurement

4.6.1 Procurement in general

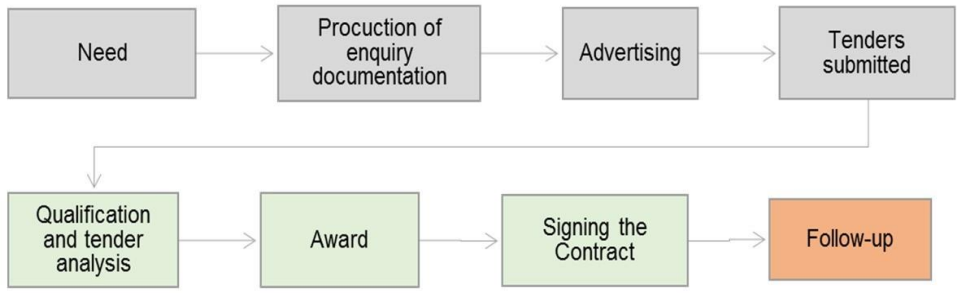


Figure 15 Procurement process

The acts are based on EU Procurement Directives and thus a number of fundamental EU principles have to be observed for public. Procurement in the EU. It means that all suppliers must be treated in a similar and non-discriminatory way and procurement must be carried out in an open process.

Need

A need for a product, service or contract arises within one of the partners. The need is defined in the tender documentation.

Preparation of tender documentation

The tender documentation is the collective documentation that describes what is to be procured, what requirements are placed on the tenderer and the subject of the procurement, as well as how the tenders will be evaluated.

The tender documentation consists of several documents, e.g. procurement regulations, administrative regulations, technical specifications of requirements, a contract proposal, appendices that may have to be filled in, and standard conditions.

Advertising
Procurement opportunities are advertised in a publicly accessible database. Procurements of low value (so called known as direct procurements) do not have to be advertised. A prequalification system is used for procurements over the threshold values and for procurements in accordance with LUF. These types of procurements also do not have to be advertised.

Tenders submitted
The supplier sends in their tender. It is important for the tender to arrive at the right time to be valid.

Qualification and tender evaluation
Tenders are evaluated in accordance with the evaluation criteria set out in the tender documentation.

Contract award
Notification is sent to all tenders setting out which supplier(s) has (have) been awarded the contract. The contract can be signed ten days after the award notification has been sent.

Signing the contract
The contract is signed with the winning supplier(s).

Follow-up
The contract is followed up continuously during the duration of the contract. The same procurement method has been and will be used for all parts of the proposed Action.

The Swedish Transport Administration and the Port of Gävle will follow up on the environmental measures carried out and ensure that standards are followed. This is done through environmental protection in the Project, as well as the preparation of action plans, control programs and risk analyses during construction time as well as follow-up in the operating phase.

4.6.2 Contracts already awarded and procedure(s) applied

The company NNC for all construction work in Activity 1 and 3.
The contract for the construction of the New railway section is a turnkey contract, the procurement procured through the Public Procurement Act.

The signing of the contract for doubling the east coast's largest container terminal including the railway (Activity 4) in the port took place on 3 September 2018 between Gävle Port and CYES Maritime works. CYES Maritime works have a solid experience of this type of contract. The company is specialists in port work and is currently performing more such assignments in Sweden, including in Trelleborg's Port.

Procurement for the demolition will start April 5 2019. Contract I planned to be sign with demolition contractor in middle of May and the demolition work will start June 1 2019.

4.6.3 Procurements planned during implementation

The implementation will mostly rely on framework contracts or public tenders. The Swedish Transport Administration and the Port of Gävle already has the necessary experience and policies in place to address the specific issues related to the procurement process, the advertising, communication, assessment of tenders and finally to develop legal contracts.

Construction contracts are packaged in several parts to accommodate the regional market. The procurement is collected to allow tenderers to appreciate all parts and the possibility of winning a large contract, which may attract foreign suppliers.
All procurement are procured by the Public Procurement Act.
Two contractors for the demolition works (Activity 1 and 2) will be procured.

Activity 4: Entrepreneur is procured by the Public Procurement Act.

4.7. Pending legal/administrative/technical issues

N/A

4.8. Financial maturity

4.8.1 Envisaged financing model

Generally all infrastructure in Sweden is financed by the Government; state, region or municipality. Revenues to the project are composed of increased revenue from fuel taxes, plus the maintenance and replacement subsidies for the increased costs of operations. A small part of the project is financed through rent collected by the Port of Gävle.

4.8.2 Evidence on the status of securing the financial commitments for all funding and financing sources of the proposed Action

The costs for the project are secured by the applicant's (The Swedish Transport Administration) own resources through public funding, which is the common way of financing the national infrastructure in Sweden. The Action is approved and included in the Swedish National Plan for the Infrastructure 2014-2025. The part of the project related to the Port of Gävle's investment is covered by their own resources and future rent.

5. IMPACT

IMPACT OF THE PROPOSED ACTION

5.1. Impact of the studies as a decision-making tool and/or in terms of policy-making and developing best practices

N/A

5.2. Demand analysis

The Action includes an approximately 1.5 km new connection track to the Port of Gävle and electrification of the existing port track from Gävle railway yard. A direct connection to the Port of Gävle means that local traffic does not have to be carried out at the Gävle freight yard.

Current state
Currently the Port of Gävle is served by 5 pairs of full train per day, a total average of 10 trains per weekday in both directions. The traffic consists of many different relationships and include, among other things, wood loads, steel, paper, chemical products, containers etc.

Basic forecast 2040
The estimated number of trains in 2040 in the base forecast for the train schedules that operate on the port of Gävle is 7.8 container trains and 3.2 aviation fuel trains per day.

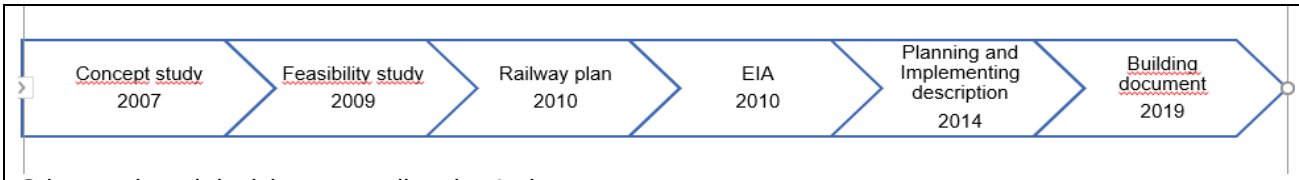
The base forecast therefore means that about 11 trains per day are assumed to go to and from the port in 2040, i.e. an increase of 1 train per day to 2040 compared to the current 10 trains per day.

Sensitivity analysis for traffic in 2040
A sensitivity analysis has been carried out regarding traffic volumes for 2040. The sensitivity analysis is based on the Port of Gävle own forecasted traffic increase for 2030. However, in this sensitivity analysis, the estimated traffic volume for 2030 is assumed to apply for 2040. The sensitivity analysis is calculated on the basis that 12 train pairs per day, i.e. 24 trains counted in both directions, will operate on the port of Gävle in 2040.
No financial support from EU has been awarded for this evaluation.

5.3. Alternative options considered to achieve the Action's objectives and feasibility

May 2009, the Swedish Government approved the proposals for a new target structure in the Transport Policy Bill Objectives for Future Travel and Transport (Prop. 2008/09: 93). The overall objective of the transport policy "is to ensure a socio-economically efficient and sustainable transport supply for the citizens and the business community throughout the country". The planning for the new railway line follows the process that is regulated in accordance with the Swedish Railway Act (SFS1995: 1649).
The work of developing the comprehensive port of Gävle has been going on for a long time. The planning work and implementation have for Activity 1,2 and 3 followed Sweden's statutory process for building infrastructure.

Following studies has been done within the framework of the Action:



Other work and decisions regarding the Action:

- The County Administrative Board of Gävleborg has decided on 16 November 2009 that the project can be assumed to have a significant environmental impact.
- Public Consultation in 2011 (meeting with e.g. company association)
  Exhibition of the plan in 2012
- The County Administrative Board approved the plan in 2013
- The railway plan won legal force in December 2014
- The Government's approval was approved in 2017

Activity 4 is being built in a secluded area and operates by special vehicles, which never leaves the area. This type of construction requires no established planning process. However, since the municipality is the owner of the port, an investment decision by the municipality is required. This decision was taken in March 2018.

The concept study
In 2007, a concept study was conducted (Dnr: F07-1942 / SA20). In the study, several alternative solutions were studied to achieve the goal of relieving the effective rail line for the extension of the entrance to Gävle rail yard, increasing capacity and creating a direct rail link to the Port of Gävle.

The Feasibility study
Within the framework of the feasibility study (Dnr: F09-11185 / SA20), the alternatives from the pilot study were further studied. All alternatives from the pilot study, except for Alternative 1, were dismissed in the feasibility study because they did not meet set goals. One alternative that was dismissed was to build a new track east of the freight yard, to further relieve the railway tracks in Gävle. It was technically difficult to find a solution that fulfilled the purpose of the alternative and, at the same time, the necessary environmental measures were judged more expensive and more difficult than in Alternative 1. Remaining where only Alternative 1 why there was no need for establishing a railway investigation. The Alternative 1 includes;

- New construction of approximately 2 km of new track, including electrification and necessary switches and a road gate for the passage of Strömsbrovägen.
- Electrification of approximately 8 km of existing track on Fredrikskansbanan.

The railway study
The next step in the planning process will be to establish a railway plan within the corridor for Alternative 1 including electrification of existing track. "The government is required by law to test the permissibility of new railways intended for long-distance traffic that is longer than 5 km. The Governments decision is made in accordance with Chapter 17 of the Environmental Code. The new line stretch to Gävle Port is shorter than 5 km, and will only be operated by freight traffic. In parallel with the development of the railway plan, a system document for the building of the railway is produced. The system document provides a technical description of the proposed railway stretch and becomes a basis for the preparation of construction documents and construction work. The final technical design of the project is produced in a construction document A sensitivity analysis has been performed based on assessed traffic development in Gävle port, which demonstrated socio-economic profitability for the measure.

The socio-economic analysis
The socio-economic analysis made for The Action shows that the expansion has great positive value for the business sector's transport. The quality of business transports is improving and strengthening international competitiveness.
The Action has a positive effect on rail transport reliability and availability: A reduced load on the current railway means a reduced risk of the gears being damaged and thus a reduced risk of delays and traffic disruptions. It also has a positive effect on the quality of the transports: The trains does not have to turn in the rail yard, which means shorter transport times. The measure also means increased capacity at Gävle freight yard.

The action has large positive effect on the climate goal- as large quantities of aviation fuel are moved from road to train and that large amounts of dangerous goods disappear from the roads. It also contributes to better air and less CO2 emissions.

A risk with the Action has mentioned - the building takes place on contaminated land, but after major environmental investigations and with planned measures for the water supply, the investigations have shown that an expansion can be carried out without major environmental impact.

"Planning and Implementing description"
The Municipality of Gävle performed a "Planning and Implementing description" for the development of new freight railway to the Port of Gävle in 2012.

No financial support from EU has been awarded for this evaluation.

5.4. Economic and social effects of the proposed Action (congestion, modal split, interoperability, traffic management, safety and security, accessibility, service quality, health, environment and CO2 emissions)

The Swedish *Collected assessment of effects*, or SEB, is a document providing information to decision makers, composed by presentations of results from different kinds of analyses of effects of investments in the transport system. One kind of analysis is economic cost-benefit analysis (CBA), and the others are an analysis of distributional effects and an analysis of the contributions to attaining the national transport policy goals. The CBAs made in the transport sector, and presented in the SEB, follow the recommendations by ASEK-report[1] (the Swedish CBA guidelines for transport investments) regarding prices/shadow prices and principles of analysis.

Results from the CBA presented in the SEB
The results of the CBA performed in the SEB are summarized below (all costs and benefits in SEK). The CBA presented in the SEB uses a time horizon of 60 years, beginning year 2020. The residual value is set at zero because the economic lifetime of the asset is the same length as the time horizon. The social discount rate used in this analysis is 3.5 percent. The investment cost of the action is 424.3 million SEK (40.4 million EUR).

Economic analysis, results – summary

Net present value of investment, in million SEK	+	Environmental effects that have not been monetary valued	+	Other effects that have not been monetary valued	=>	Assessment of economic results
175		*Negligible*		Positive		Profitable

Effects included in the economic analysis – summary

Effects that were monetarily valued		
	Examples of effects in 2040	**Present value (million SEK)**
Freight transport	*Transport time (freight): -178,7 thousand freight ton hours /year*	*254*
Freight transport	*Operating costs (freight): -9,5 million SEK/year*	*242*
Climate & Health	*CO2 emissions and reduced air pollution: -0,61 thousand tons of CO2/year NOX: -26,7 tons/year VOC: -0,82 tons/year SO2: -0,411 tons/year PM: -0,563 tons/year*	*268*
Miscellaneous	*O&M costs: 1,04 million SEK/year*	*-41*
Investment cost	*Annuity costs: 22 million SEK/year*	*-548*
Net present value of investment		*185*

Ratio based on priced effects					
***NNK-i=**	*0,3*	**Information value of NNK =**	*Medium*	***NNK-i** (sensitivity analysis, traffic growth according to prognosis from the Port of Gävle) =	*1,16*

Summary of effects that were not monetary valued				
Interested in/affected by effect		**Assessment**	**Overall assessment**	**Short summary of effects**
Environment	**Climate**	*Negligible*	*Negligible*	*Effects included in the*
	Health	*Negligible*		*Reductions in noise pollution*
	Landscape	*Negligible*		*None or negligible changes to culturally significant landscapes*
Others	**Travelers**	*Negligible*	*Positive*	*None or negligible effects for travellers*
	Freight transports	*Positive*		*Frees up capacity at Gävle freight train yard, which reduces vulnerability to delays.*
	Passenger transport company	*Negligible*		*None or negligible effects for transport companies*
	Traffic safety	*Negligible*		*Increased safety for pedestrians and cyclists.*
Overall assessment of the combination of all effects not monetary valued			*Positive*	

[1] See https://www.trafikverket.se/contentassets/4b1c1005597d47bda386d81dd3444b24/asek-6.1/20_english_summary_a61_181214.pdf for a summary of the ASEK-guidelines in English.

Assumptions and calculations
In the following subchapter, the assumptions and calculations used in the CBAs presented above are discussed. For further details about the Swedish CBA method used in the SEB, please consult Annex 3.

Time savings and valuation of freight time
Due to the current infrastructure at the Port of Gävle lacking a direct connection for incoming trains from the south and/or east, trains approaching the port are required to detach their locomotives and attach to the opposite side of the train, which increases transport time for each train by approximately one hour for each train moving to or from the Port of Gävle from these directions. Furthermore, the track to and from the Port of Gävle is not electrified, which requires incoming electric trains to stop at Gävle railway yard to switch from electric to diesel powered locomotives.
Freight benefits included in the CBA presented in the SEB consist of two components: the first is reduced costs for being able to transport capital goods faster (in other words, the goods spend less time in transit); and the second is reductions in operating costs because of reduced travel time.
On average, 10.98 trains will move to and from the port every day (2040)[2]. The valuation of freight time is based on the average value of transported goods on each train affected. These values are based on the ASEK-recommendations, using values for the following goods categories (based on the types of goods moved to and from the Port of Gävle); Petroleum products, Industrial products and the Average value of all categories. The operating costs are based on averages for different train types included in the ASEK-recommendations.

Traffic and traffic growth
Forecasts of traffic are made using freight and passenger transport models based on today's transport- and travel patterns. Data on current and future infrastructure, traffic and costs are included as input data to the models, as well as information on environmental conditions, population, and economic development and fuel costs. The Swedish Transport Administration obtain data from official and well-established sources such as Statistics Sweden and the Swedish Ministry of Finance.
The CBA presented in the SEBs use the following annual growth rates for freight, traffic based on estimates by the Swedish Transport Administration:

Years	Freight traffic
2020-2040	1,4 %
2040-2060	1,19 %
2060-2080	0 %

Operational and maintenance costs
The total cost for maintenance and operation increases as the size of the railway increases.

External effects
External effects included in the calculations are climate and health effects. These are the results of a switch from diesel to electric locomotives, since the project allows the latter to approach the Port of Gävle directly. Reduced use of diesel locomotives reduces emissions of CO2 as well as pollutants that are detrimental to health, such as nitrogen oxides (NO_X), volatile organic compounds (VOC), Sulphur dioxide (SO_2) and particulate matter (PM). The valuations of these reductions are based on the ASEK-recommendations.

Rent, Port of Gävle
The projected rent revenues from the Port of Gävle are included in the financial analysis. The calculation is based on the Port of Gävle's total investment in the project (developer and construction costs). Rent costs are calculated on an estimated 4.5 percent return on investment cost annually. The amount of rent is fixed for the first 10 years of the project, and then amended every ten years. For this calculation however, it is assumed 4.5 percent over the entire lifetime of the project.

Socio-economic investment
The socio-economic cost of the investment in the CBA presented in the SEBs includes the marginal cost of public funds, i.e. the economic inefficiency caused by the collection of taxes. In accordance with ASEK-recommendations, the CBA presented in the SEB uses a factor (*the tax factor*, or *skattefaktor*) of 1.3 for this.

Results of the SEB using DG REGIO recommendations
The results from the CBA presented in the SEB have been recalculated using the standards recommended by the European Commission and DG REGIO.
Since the CBA presented in the SEB uses a 60-year time horizon, the present values for the action presented above have been recalculated to annual effects for the time horizon of 60 years using the estimations of

[2] In the sensitivity analysis referred to on page 3, traffic growth estimates from the Port of Gävle have been used instead of the ones from the Swedish Transport Administration. In this scenario 10,98 trains move to and from the port each day, increasing the benefits for freight and environmental effects.

economic development and traffic growth used in the CBA presented in the SEB. Using these multipliers, the values for the relevant effects have been recalculated annually for a 40-year time horizon in accordance with the European Commission and DG REGIO's recommendations. The residual value of the investment for its remaining 20 years of economic life has been calculated according to the recommendations of the European Commission and DG REGIO, by computing the net present value of remaining economic costs and benefits for the life years beyond the 40-year time horizon. The tax factor, used to take into account the marginal cost of public funds, has been removed from the calculation, in accordance with the approach recommended by the European Commission and DG REGIO. All values are converted to EUR.[3]
The recalculated result (costs and benefits) of the two objects have been combined into a single CBA, the results of which are presented in the following subchapters. All costs are in EUR. The analysis uses a period of 40 years, starting with year 2020. The social discount rate used in this analysis is 3.5 percent. The financial discount rate for the financial analysis is 4 percent.

5.5. Other considerations (e.g. competition, regional and local development, land use and climate resilience)

Regional impact
The Action will support this modal shift further by ensuring the capacity on the railway by upgrading from a single track to a double track. The expansion of the railway is an important step to meet future demands for increased capacity. It contributes to transferring freight transports from road to rail, which will improve and contribute to the sustainable and safe transportation of goods. The positive effects will, according to established economic models, result in increased passenger and freight volumes, some of which will be shifted from road to rail.
In Gävle, all freight trains, when the Action is completed, could continue to the port without switching from electric to diesel locomotives in the freight yard. The effect on this is reduced costs and the transport times will be about an hour shorter. In addition, according to the established railway plan the connection could handle more trains per day, 16 trains from the south and four trains from north.
In addition, all aviation fuel to the airplanes at the Core Airport of Arlanda arrives to the Pot of Gävle for further transports by rai to Arlanda. The new railway in the Port of Gävle are of great importance for smooth and safe transport to the airport, in terms of reliability, punctuality and economics.

National impact
This Action will eliminate one of the last hinterland bottlenecks in the goods transportation system to and from southern parts of Sweden and from neighbouring countries, thus ensuring the competitiveness of Swedish and Nordic industry on the international market.

Land value
The Global Project and Action will enhance the effectiveness of the land use. It will facilitate the construction of environmental friendly high capacity transport opportunities. This will have a positive impact on the local development in the region between the cities of Stockholm and Gävle and of the Port of Gävle.

Climate impact
The Environmental Impact Assessment has proposed protective measures and precautions to prevent health and environmental disturbances and inconvenience. The protective measures that will be determined and thus constitute a commitment for the Swedish Transport Administration to implement are presented below.

Landscape and design
Next to the new railway bridge across Strömsbrovägen, shrubs or low-growing trees will be planted, which frames the bridge and tones down the scale of the railway bank. Bushes and low-growing trees near the railway must not be so high that, if they fall, there is a risk that they reach the railway.

Risk and safety
The track area has fencing to prevent access and jumping on the track. Protection nets are placed along the railway bridge across Strömsbrovägen to prevent macadam or objects falling from trains down to the road. Level crossings are equipped with sound and light signal controlled bars. Warning signs for overhead cables are posted along the railway bank over Lake Inre Fjärden. By using signage with clear information, the risk of fishing rods making contact with these power lines can be greatly reduced.

Health and safety
Lighting is installed and track distances adapted at the Bank's switchyard, to ensure a safe working environment. Due to the dispensation by the National Electrical Safety Board for the electrification between existing buildings

[3] Values expressed in EUR, EUR-SEK conversion rate used = EUR-SEK 10,5 (February 2019)

at the industrial area Gävle Galvan, several safeguards must be taken to ensure a safe working environment - see chapter on Electrical Installation.

Storm water
Drainage is added only above the highest average water surface (c. +0.91 meters, according to the Swedish Height System, RH 2000).
The management and possible treatment of storm water from the industrial zone and bilge water will be done in consultation with the supervisory authority.
While the piling for the railway bridge is taking place, the upper groundwater storage basin will be lowered by continuous pumping and drainage of groundwater. This is done to avoid spreading contaminated groundwater from the upper groundwater storage basin to the lower one. Follow-up of possible clogging and/or contamination during piling, digging and earthmoving works under the groundwater area is carried out continuously, as per an inspection programme. This is so that work can be halted quickly to the protect drinking water. A contingency plan is drawn up that takes into account the occurrence of turbidity and/or contamination.
Inspection programmes are drawn up regarding groundwater, soil and bilge water. When working along the railway bank over the lake Inre Fjärden and at Barsagrund, no driving, excavation, filling or other impacts are permitted in coastal and reedy areas. Existing features of value such as trees and buildings that must be preserved are marked and blocked off so that they are protected from collisions.

IMPACT OF THE CEF GRANT

5.6. Revenues and revenue potential

The economic analysis includes the investment cost of the project, replacement costs and operations and maintenance costs combined with the economic benefits, which time gains and reduced costs for freight reduced CO_2 and other emissions. As discussed previously, overall socio-economic profitability is positive for this action.
Total economic costs of the project are calculated to 28 771 203 EUR, while the total economic benefits are calculated to 57 827 229 EUR. The economic rate of return is 6.4 %, and the benefits to costs ratio is 1.99.
Detailed calculations and clarifications can be found in Annexes 2-5
The sensitivity analysis consists of the following scenarios:

Summary of sensitivity tests		ENPV	ERR
Project investment cost	+25%	18 667 174 €	5,1%
Operation cost	+25%	28 455 453 €	6,3%
Delay in implementation	6 months	27 324 844 €	6,2%
	12 months	25 878 485 €	6,0%
	24 months	23 101 227 €	5,7%

	NPV @ 0.4%
Project investment cost	- 40 416 114 €
Replacement cost	- 2 189 200 €
Project O&M costs	- 1 263 000 €
Residual value of investment	14 812 288 €
Total economic costs	**- 29 056 026 €**

	NPV @ 0.4%
Time gains (freight transport)	19 719 291 €
Vehicle costs (other) (freight)	18 733 327 €
Pollution (CO2)	1 945 422 €
Pollution (NOx, HC, SO2 and particles)	17 429 188 €
	57 827 229 €

ENPV / Net benefits	**28 771 203 €**
ERR	**6,4%**
B/C RATIO	**1,99**

5.7. Financial viability before CEF and other financial obstacles

The financial analysis includes investment cost of the project, replacement costs and operations and maintenance costs. Revenues to the project are composed of track fees, plus the maintenance and replacement subsidies for the increased costs of operations. In the second chart, the effect of the CEF contribution (corresponding to 20 % of the eligible 40.4 million EUR investment cost) is shown.

Financial net present value is calculated to – 28 603 624 EUR, while the financial rate of return is -1.1 %. With the CEF contribution, financial net present value is calculated to – 20 520 402 EUR, while the financial rate of return is -0.3 %. Detailed calculations and clarifications can be found in Annexes 2-5

Financial analysis

Return on investment before CEF	NPV @ 0.4%
Project investment cost	- 40 416 114 €
Replacement cost	- 2 038 844 €
Project O&M costs	- 1 176 256 €
Total revenues	12 495 763 €
Residual value of investment	2 531 827 €
FNPV(C)	**- 28 603 624 €**
FRR(C)	**-1,1%**

Return on investment after CEF	NPV @ 0.4%
Project investment cost	- 40 416 114 €
CEF contribution	8 083 223 €
Replacement cost	- 2 038 844 €
Project O&M costs	- 1 176 256 €
Total revenues	12 495 763 €
Residual value of investment	2 531 827 €
FNPV(C after CEF)	**- 20 520 402 €**
FRR(C after CEF)	**-0,3%**

5.8. Funding gap rate

The funding gap (i.e. the difference between discounted revenues, costs and residual value and the investment cost of the project) is calculated to 70.8%. Detailed calculations and clarifications can be found in Annexes 2-5

70,8%	Funding Gap Rate
20,0%	Max Co-funding Rate
20,0%	Modulated Co-funding Rate

Funding gap

Return on investment	NPV @ 4%
Discounted revenues	12 495 763 €
Discounted costs	3 215 100 €
Discounted residual value	2 531 827 €
Discounted net revenues	11 812 489 €
Discounted investment cos	40 416 114 €
Funding Gap	28 603 624 €
Funding Gap Rate	70,8%

5.9. Effect of the EU financial support on the financial viability

The FNPV (C) goes from – 28 603 624 to – 20 520 402 after CEF contribution and the FRR (C) goes from -1.1% to -0.3%. No profitability per se is foreseen of the investment itself, although the investment is pivotal for the investments made in the Port, see 5.10 below.
The EU funding makes it possible to accelerate the completion of the Global project including the investments in the port itself. Detailed calculations and clarifications can be found in Annexes 2-5

5.10. Stimulating effect of the EU financial support on public and private investment and financial leverage

The grant and the investment in the railway connection to the Port, together with the investments already made for dredging and longer quays allowing for larger ships is a prerequisite for the investments that is now made in the port. For example, the new fully automated CFS building is an investment of around €12.5 Million and the new expansion container terminal operated by Yilport is another €30 Million. Both these investments depends on the completion of the Action, and the Action is in need of the EU grant.

5.11. Impact of CEF funding on the commitment of the different stakeholders

The goal with the Action together with The Global Project is to increase the capacity for the transport of goods by rail between northern and southern Sweden and further into Europe. In addition, to stimulate the freight moved by trucks on the road to rail - an important prerequisite for regional growth and a sustainable urban and regional development. Ungraded railway link from single track on the main line to a new railway with to double track will contribute to achieving the national and international goal to improve the efficiency in the core network Scan-Med Corridor and the Bothnian Corridor.
The Global project, the East Coast Line is included in the National Transport Plan for the years 2010-2020, adopted by the Government in spring 2010. The National Plan regulates the funding of various projects assigned to the Swedish Transport Administration. There are many projects fighting to get a share of the

available resources. The economic framework for development does not cover the costs for all designated projects. The project's progression determines whether the projects are awarded funding or if it is moved to the next planning period.

The Action is an expensive project. The granting of Community financial assistance under the CEF budget would reduce risks, contribute to realizing the Action as planned, and contribute towards the further high quality and timely implementation. The granting of EU support would bring high visibility to the Action integration of Sweden into Europe and raise the profile of the Scan-Med Corridor in Sweden. Support for the Action will contribute towards an integrated and coherent TEN-T network, which will spread benefits across the whole of Europe and improve conditions for Sweden and the core network Scandinavian-Mediterranean corridor as well as provide a positive impact on interoperability between modes.

The Swedish Transport Administration has adopted the construction plan related to these documents. Support from the administrations, politicians and other parties and stakeholders who were affected have been secured gradually as the work progressed. This was achieved through dialogue, workshops and presentations. Political support for the Strategy has been built up incrementally.

The port of Gävle and Yilport, the port and container terminal operator, has agreed on a lease agreement for the new paper warehouse for a long period. This is to ensure a return on the port's investment in a new paper warehouse, including a new railway connection. However, since the municipality is the owner of the port, an investment decision by the municipality is required. This decision was taken in March 2018.

6. QUALITY OF THE PROPOSED ACTION

6.1. Breakdown of eligible costs per cost category

Activities	Estimated total eligible costs	[Exernal consultants]	[Staff]
Activity 1	[1 000 000]	[1 000 000]	[0]
Applicant 1	[1 000 000]	[1 000 000]	[0]
Activity 2	[500 000]	[500 000]	[0]
Applicant 1	[500 000]	[500 000]	[0]
Activity 3	[36 500 000]	[36 500 000]	[0]
Applicant 1	[36 500 000]	[36 500 000]	[0]
Activity 4	[500 000]	[500 000]	[0]
Applicant 2	[500 000]	[500 000]	[0]
Activity 5	[300 000]	[200 000]	[100 000]
Applicant 1	[300 000]	[200 000]	[100 000]
Total	[38 800 000]	[38 700 000]	[100 000]

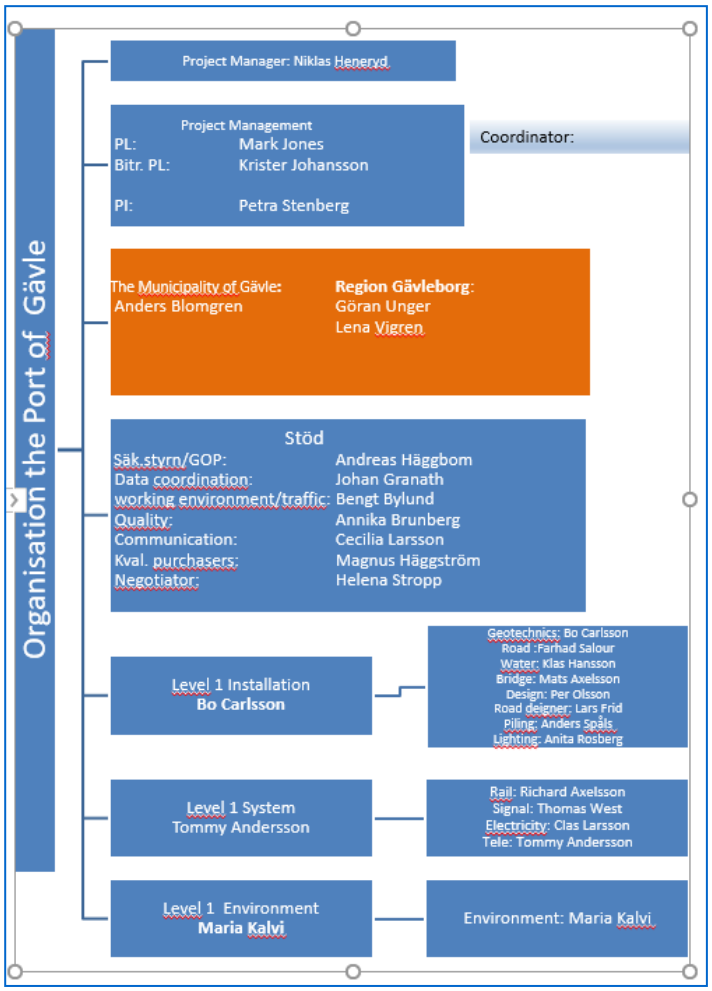
6.2. Description and justification of the level of resources needed for implementing the Action

Decision on implementation of the Global Project includes an assessment on the granting of funds for implementation. The costs for the Action were decided in the implementation decision and are based on feasibility studies, see 5.2. The level of resources needed for implementation is based on the actual scope and needs of the proposed Action, market-based cost estimation and existing knowledge and specific experience. The actual work is carried out by contractors.

The Swedish Transport Administration (the Applicant) and the Port of Gävle are not seeking funding for procuring and supervising contractors. The Administration’s operational process is extensively described in the sections further below. Resources needed to implement and conclude the Activities of the Action are decided by the contractors according to the agreements. The general resources can be mainly described as follows: Heavy machinery such as dumpers, excavators, boring equipment, track laying/earth works equipment, power, overhead lines and signalling hardware together with skilled staff and equipment for managing, mounting and installation works.

6.3. Organisational structure

The two partners in this application has two separate and different organisations structures. Swedish Transport Administration is the national authority responsible for national transport infrastructure planning and investment. The planning is always done with consultation of concerned municipalities, since the municipalities are responsible for the physical planning of land use in their territory (Plan och bygglagen). Municipalities are also responsible for local transport infrastructure in cities, connecting roads, travel centres and multimodal terminals. Figure 16 and 17 presents the full project organizations, for the Swedish Transport Administration (Activity 1, 2, 3 and 5) and The Port of Gävle (Activity 4), but includes the consultants procured. Most of the functions below technical co-ordination are taken by the consultants procured, who have expertise in the field and for the specific tasks for which they have been engaged.



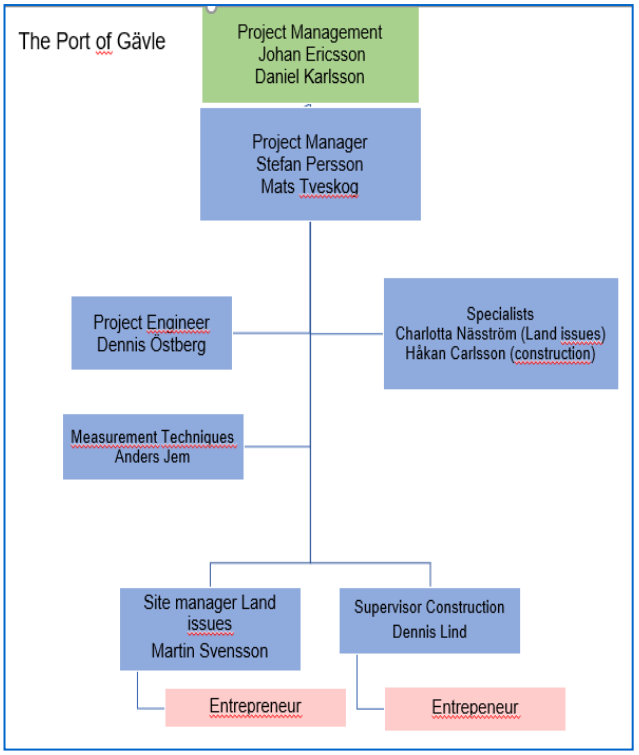


Figure 16: The organisational structure for the Swedish Transport Administration

Figure 17: The organisational structure for the Port of Gävle

The projects also run an expert advisory group, which contributes with experience from other large infrastructure projects. The advisory group identifies and manages issues relating to local environment, analyses and manages project crises, and acts as a dialogue partner when strategic decisions are being taken.

The role of the group is advisory and meetings take place three to four times per year. The organization has been used before in the implementation of the Bothnia Line and has proven to be useful and effective. It should be noted that the organization and the persons included in the organization scheme could be changed over time. The preparation of the grant agreement and the SAP as well as the reporting to INEA (ASR, interim payment claims and final reports etc.) together with the Organisation of INEA's control visits will be carried out by the Swedish Transport Administrations responsible International coordinator in close cooperation) with the Project and the Financial Coordinator of the Project.

The projects are coordinated by the project director, who is assisted by project managers and teams, working on common project issues. This means the organization of the project and the allocation of resources can easily be adapted to volume of work and necessary competencies, depending on the project phase.

Table 12: Organisation, roles and responsibility for both Swedish Transport Administration and the port of Gävle The Project is managed by the project director who has the overall responsibility for the action. Decisions are taken in accordance with delegation

Role	***Organisational placement***	***Responsibility***
Project director	Reports to the Director of Major projects at the Swedish Transport Administration	Responsible for: - implementation of the Action - for the employees - the project organisation
Project manager	Reports to the project director	Responsible for the Action in the Project.
Deputy project manager	Reports to the project manager	
Financial coordinator	Reports to the project director	Supports the project by: - continuously reporting - analysing the project finances - providing basic data for the projects funding, establish economic reports, routines etc.
Coordination of operations	The design work is coordinated by technical coordinators.	Competence in legal matters, quality, environment, working environment, technique, architecture, traffic and information. Specialist in respective area of knowledge, support the consultants and participate in controls.

The different actions are organized in accordance with the Swedish Transport Administration´s guidelines, through a flexible organization. The organizational structure for the Actions is similar and is presented in the figures no 16 below.

6.4. Control procedures and quality management during implementation

The planning of road and railway constructions follows a process in which both the infrastructure constructor and representatives for the community in general participate. The planning process is governed in the Road Law (väglagen 1971:954) and The railway construction Act (1995:1649) on construction of railways and it aims to connect the construction of transport infrastructure to other community planning and to environmental law. The process attaches the planning of roads and railways to the municipalities' planning and gives concerned parties good opportunities for insight and presenting opinions. During the process, the location and design of the road or the railway is analysed and described. Finally, the location and detailed design is established.

The Road Traffic Act and Railway Construction Act (1995:1649) contain explicit provisions on consultation and environmental impact assessments instead of referring to the Environmental Code. The period of validity for road and railway plans has been extended to two years.

The Government will decide which projects will be approved. This means that the Government must approve large and complex road and railways projects in accordance with Chapter 17 of the Environmental Code.

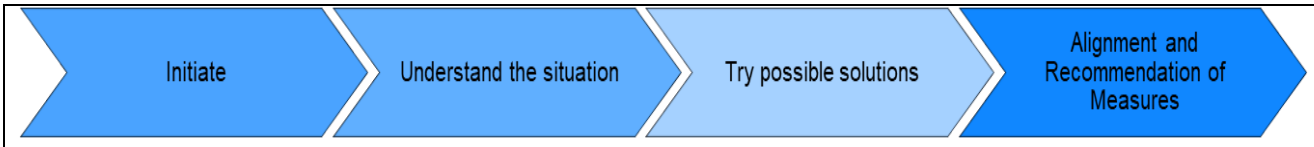
A new law (Förordning om byggande av järnväg, 2012:708) to make the physical planning process more coherent came into force 1st January 2013.The aim was to shorten the time needed for making plans for roads and railways. The purpose of the new legislation is to maintain the current level of quality and achieve:

- More efficient planning
- Shorter lead times
- Better collaboration

The new, coherent physical planning process also involves:

- One coherent plan instead of several stages
- The planning leading to a road plan or railway plan
- Fewer features of a formal character
- Increased opportunities for collaboration with municipal planning
- A preparatory study – that is, the choice of measures before the planning process begins.

In this context, it is important to note that the choice of measures is not a part of the planning process. The choice of measures can be made in several different investigations, for example "choice of measure" studies or in a municipal Comprehensive Plan.



The choice of measures is based on the results of analysis according to the four-step principle. Sweden's parliament and its government have access to a number of means for implementing overarching policies, inter alia in the transport sector.

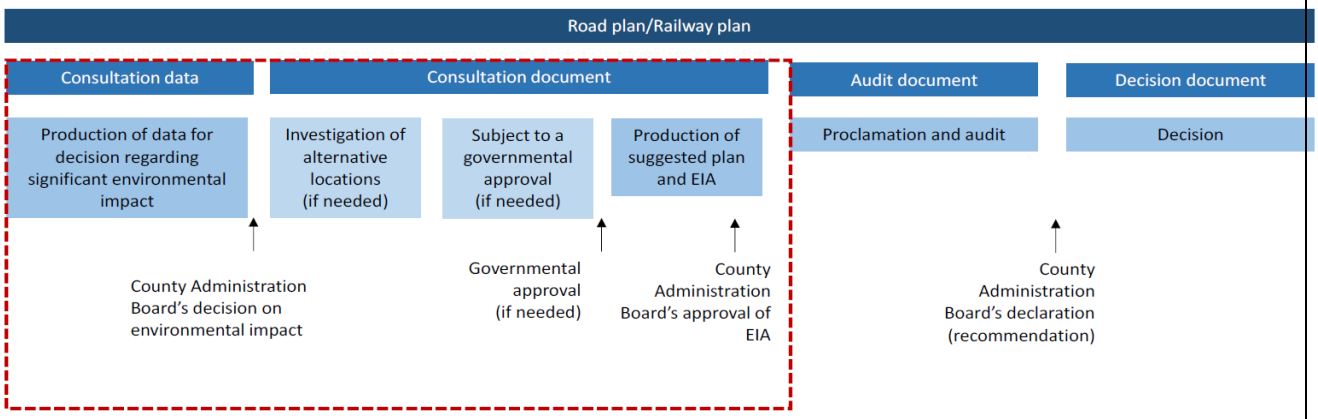


Figure 18 Planning process Railway plans

There is a broad consensus that the four-step principle should provide the basic logic for choice of appropriate means for implementation of a policy, which is supposed to achieve political objectives at lowest costs to society. The four steps are defined in the following way:

- Step 1: Means to affect transport demand and mode choice. Includes planning, pricing as well as regulation, the purpose being to transfer transport to safer and more sustainable modes.
- Step 2: Means to provide for more efficient use of existing infrastructure. Includes planning, pricing as well as regulation, the purpose being to use infrastructure in a more efficient, safer and more sustainable way.
- Step 3: Reconstruction. Includes improvements of existing assets.
- Step 4: Investment. Includes the construction of new infrastructure that makes use of new land.

Planning of selected projects

A road or railway project must be planned according to a particular process governed by laws, and which finally leads to a *road plan* or *railway plan*. The process is called the *planning process* and the work on producing a road or railway plan is called *planning*. The planning process studies *where* and *how* the road or railway is to be constructed. How long it takes to get an answer depends on the size of the project, how many studies are required, whether there are alternate routes, what the available budget is and what those affected think. The results of the planning process and the design of the road or railway are described and reported in a road or railway plan.

The planning work shall initially specify the prerequisites and obstacles that can affect the opportunities for constructing the road or railway. The different activities of the consultation must be ongoing throughout the entire planning process, which will gradually lead up to designing and adjusting the details regarding the road or railway structure. This will be done in the road plan or railway plan that concludes the process. This form of planning also makes it easier for a municipality that actively makes use of the oversight-planning instrument to bring about planning and development of roads and railways that are properly coordinated with the municipality's physical planning.

The project director will be appointed to manage the project with assistance from a project organization. On a monthly basis, financial and objective follow-ups are conducted. A more thorough follow up is completed three times a year. Deviation between the plan and actual costs are noted and must be explained thoroughly. Suggestions to reduce costs are investigated. The results of the follow-ups are collected and reported to the central function Finance and Control of the Swedish Transport Administration. In case of substantial cost increases, a report to the Swedish Government is also required.

The Action control procedures must follow these principles, to get the maximum benefit of the resources invested and considering relevant stakeholders input and requirements. Control guidelines. A railway study project must be planned and controlled according to a particular process governed by laws and guidelines, and which finally leads to an approved and legally valid railway plan.

Measurement studies and the planning of a measure (for rail or road) are carried out for large passages, such as the entire East Coast Line. In carrying out the railway investigation and railway plan, the route is divided

into smaller sections. An implementation plan is laid down, in which it is determined in what order the sections will be built. For each section, railway plans are developed in the order that the construction of the sections is planned. For each section, public consultations are conducted according to the model described in section 4.3. This process can be time consuming. For sections that cover longer distances, the risk of long-term consultation processes is higher. The construction of the railway will occur progressively as the railway plans are approved and established. This means that different sections of a passage of the railway can be at different stages in the planning process, and the relationship between them means that the construction of a certain sub-section must be completed before the construction of the next planned section can be started, if the sections are built directly adjacent to each other. If partial sections are built at different ends of a passage, this type of relationship does not exist and the sections are built independently.

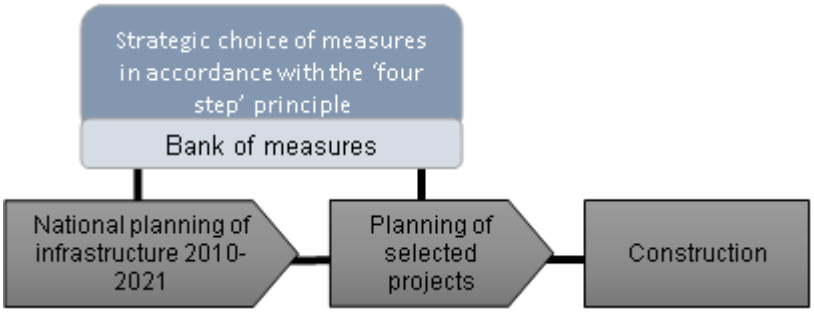


Figure 19: Planning process

Quality control procedures
The Contractor will follow the procedures and guidelines used by the Swedish Transport Administration, The Port of Gävle and other major infrastructure implementation organisations. There will be an experienced quality control manager appointed that will implement and develop procedures (and implement the procedures in calls for tenders and in contracts).

The following quality standards will be implemented during the Action:

Overall quality management	ISO 9001. Safeguards that the action meets the needs and demands from stakeholders. A quality director will be appointed. ISO 9001 involves Control of documents (4.2.3), Control of records (4.2.4) Internal audit (8.2.2), Control of non-conforming results (8.3), Corrective action (8.5.2), Preventive action (8.5.3)
Environmental management	ISO 14000. Improves environmental performance. There will be an environmental director appointed.
Risk management	ISO 31000. Risk assessment and management. A risk management manager will be appointed.
Information security	ISO 27001. Guidelines for information security. An information technology, communications and security officer will be appointed.

The Port of Gävle
The piling work is the part of the project that can affect the environment due to noise. To gather information about the possible impact on the surroundings, Port of Gävle has conducted an investigation to ensure that the noise does not exceed the Swedish Environmental Protection Agency's limits. The noise survey is carried out according to an international standard based on a terrain model with buildings, vegetation and topography. The model assumes meteorological conditions that correspond to weak winds in all directions. The investigation shows that the noise created due to the expansion of the container terminal, does not exceed the limits.

6.5. Risk management methods and procedures

The Swedish Transport Administration follows the framework of ISO 31000 and the Port of Gävle is certificated by ISO 90001 and ISO 14000.

The Swedish Transport Administration´s risk management aims to create a uniform way of working, a condition for how the Swedish Transport Administration will work with management as a support for business efficiency, proper management of the state resources and to meet the applicable requirements for risk management, internal control.

The overall objective of the Swedish Transport Administration's risk management as well as the risk management for project in the Port of Gävle is to identify and - in a relevant and cost-effective manner - treat the risks and vulnerabilities that may affect conditions for achieving the goals.

The fundamental principles for risk the management process;
a) Creates value
b) Is an integral part of Organisational processes
c) Part of decision-making
d) Clarify uncertainties
e) Are systematic, structured and adapted
f) Based on the best available information
g) Tailored to processes / units
h) Considers human and cultural factors
i) Is transparent and inclusive
j) Is dynamic and receptive to changes
k) Facilitates continuous improvement and helps the Organisation develop further

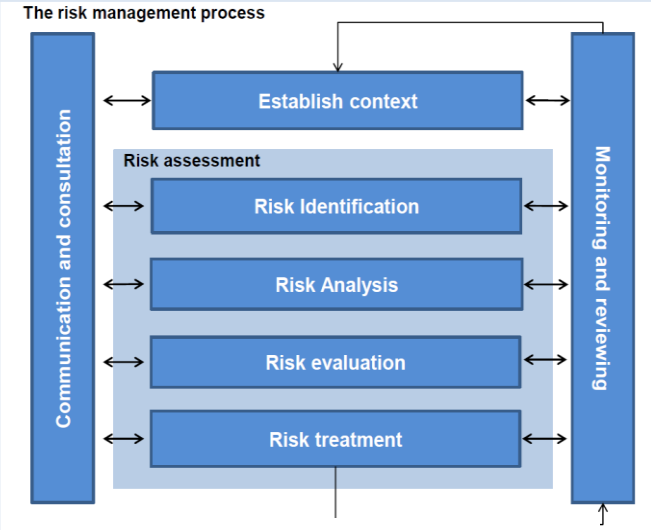


Figure 20 Risk management process

Effective and functional operations require that project managers on all levels have relevant and accurate information to make decisions. Management, guidance and decision-making must take place when conscious of the potential risks and opportunities in the project. Risk management is an integrated part of project work and comprises the identification, evaluation and management of risks, which may affect upon the achievement of project objectives. In the project, risks and opportunities will be assessed at all stages of the Project. Risks are divided into project management risks and contractor risks.
The Action, risks and opportunities are assessed to appeal against the purchasing and EIA. Risks are divided into project management risks and contractor risks.

Project management risks are those risks and opportunities that are related to the Project Organization's internal risks, such as organisational, financial and administrative risks and general risks relating to contractors. During the procurement process, the project management risks are handled according to The Swedish Transport Administration's recommendations and template for risk management. However, certain project adaptations may take place regarding to the project's Organisation and purpose. The identified risks classified in the figure below are described in chapter 6.9.

6.6. Ex-post monitoring and audit(s)

The part of the Action which the Swedish Transport Administration is responsible for is included in the National Transport Plan of the Swedish Transport Administration.

During and after the construction process both product audits and quality audits are conducted. At the completion of the Project, all costs and effects are followed up according to a specific program or method.
Internal audits are carried out according to plan each year by the Swedish Transport Administration's Internal Audit Group.
The role of the Swedish Transport Administration's Internal Audit Group is to inspect and propose improvements in the internal management and control. The efficiency, reporting and management of funds are assessed. In addition, the Swedish Transport Administration must comply with legislation and fulfil the obligations resulting from being a member of the EU.
In addition to the internal audits, the Swedish National Audit Bureau externally audits the Swedish Transport Administration every fifth year. The last audit was conducted in 2014, confirmed that the Swedish Transport Administration's Internal Audit is operating in accordance with international guidelines for professional internal audit, and passed all aspects.

The evaluation of all Activities in the Action is described in the quality system for the Action and assessed regularly, separate for Activity 1,2 3 and 5 by the Swedish Transport Administration and Activity 5 by the Port of Gävle. During and after the construction process both product audits and quality audits are conducted. At the completion of the Project, all costs and effects are followed up according to a specific program or method.

6.7. Communication and visibility given to the CEF Transport co-financing

The Swedish Transport Administration has established a routine for how to use the EU logotype. The routine also includes partners as the Port of Gävle. The routine specifies that the EU logotype must be included in:

- Information material (letters, advertisement, brochures, information boards, construction signs, movies or other material published and produced. This includes digital material)
- Information events (conferences, meetings, training, fairs, exhibitions, etc.)
- The project location

All information and activities released to the public must include the European Union badge and text explaining the fund. This information is important to show the public that the European Union takes responsibility for sustainable transports and infrastructure by financing different projects.

The logotype must be exposed on all types of prints and information material. A large, visible sign must be installed at construction sites. The sign must clearly state that the Project is partly financed by the European Union and in which area. If the total official support (national + EU) of infrastructure, construction or procurement of physical equipment exceeds € 500 000, a large, permanent plaque must be installed no later than six months after the completion of the project. All projects funded by CEF must implement the correct publicity to inform the public about the financial support from the EU.

The following information must be included in all information relevant for the specific type of distribution:

1) An explanation which states that the project/initiative has received CEF financing from the EU "The project X / Infrastructure X is co-financed by EU's TEN-T program".
   (Printed material only) A disclaimer clause in which the European Union renounce all responsibility concerning the content of the material. The following text below is placed on page 2 in reports or where feasible: *"The author is responsible for the content of this publication. The European Union takes no responsibility for how the content is used. "*
2) The EU flag

Samfinansierat av Europeiska Unionen
Fonden för ett sammanlänkat Europa

The placement of the EU logotype in different units of logotype / guidelines Type of communication	Placement of logotype / guidelines
Web pages	Same location on every page concerning the project
Brochures, newsletters, posters, information leaflets, etc.	At the back, above sender information Primarily on white background
Reports and internal publications	Cover page
Power Point-presentations	Bottom left corner
CD-ROM, DVD, Advertisements	On cd label or cover, Bottom left

WHEN	WHAT	HOW
Before / during works	Information and construction sign	Must include financing and EU flag
After project completion	Permanent plaque	Must include financing and EU flag

6.8. Other information

N.A.

6.9 Risk Assessment Grid by activities

	Risk	Impact	Likelihood	Control	Mitigating measure(s)
		(High/Low)	(High/Low)	(Under/Beyond)	
Activity 3	Noise due to sharp radius (r 200115 - Complicated construction work with a new signal electrical substation	L	H	U	Construction document
Activity 1	Unforeseen geotechnical problems during construction work of the railway embankment	L	L	U	Geotechnical investigations
Activity 3	Difficult and expensive production	H	L	U	Financial analysis
Activity 3	The timetable is not kept	L	L	U	Control by the project manager
Activity 2 and 3	The property Gävle Galvan will not be demolished due to tight the timetable	H	L	U	Control by the project manager
Activity 1 and 3	The water source becomes contaminated by the construction of the railway bridge.	H	L	U	Construction document Special investigations
Activity 4	The container terminal operator Yilport decides not to rent the new container terminal.	H	L	U	Contract
Activity 1,2 4	Contractor cannot complete the assignment	H	L	U	Contract
Activity 1-5	People with key competencies in the project quit	L	H	U	Distinct responsibilities, documented work methods and clearly defined work descriptions

7. ANNEXES

All relevant information for assessing the proposal must be provided in the application form. The purpose of annexes is to provide additional, supporting information. Annexes or their specific relevant sections should be referred to in the application's relevant pa

Annex 1: GANTT Port of Gävle
Annex 2: CBA_Summary_Gävle_Port__new_electrified_railway_connection_final
Annex 3: bvgv018_gavle_hamn_jarnvagsanslutning_seb_190325_g
Annex 4: Recalculation_input_values_EU_flowchart_Draft_Nr_28518408_Gävle_Port
Annex 5: CBA_template_cef_call_Draft_Nr_28518408_Gävle_Port