

EAST LINK
PROGRAMME

Business plan

Version 1.0



Swedish Transport Administration

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Contents

Business plan.....	1
1. Introduction	4
1.1 Purpose and validity.....	4
1.1.1 Purpose	4
1.1.2 Contents of the document	4
1.1.3 Validity	4
1.2 East Link Project.....	4
2. Outline of objectives	5
2.1 Overall objectives of the programme	5
2.1.1 Time frame	5
2.1.2 Cost	5
2.1.3 Contents	5
2.1.4 Reduced climate impact and efficient resource utilisation	6
2.1.5 Safety.....	6
2.2 Business plan objectives	6
2.2.1 Supplier market with capability and competence	6
2.2.2 Client market with capability and competence	6
2.2.3 Reduced climate impact and efficient natural resource utilisation.....	6
2.2.4 Savings in cost and time	6
2.2.5 Attractive contracts.....	6
2.2.6 Well-planned and implemented procurements	7
3. Conditions for stakeholders today and tomorrow	7
3.1 Client side in general.....	7

3.2	Swedish Transport Administration	7
3.3	Supplier market ³	7
4.	GAP analysis	9
4.1	Supplier market with capability and competence	9
4.2	Client market with capability and competence	11
4.3	Reduced climate impact and efficient natural resource utilisation.....	12
4.4	Savings in cost and time through industrialised production	12
4.5	Attractive contracts	13
4.6	Well-planned and implemented procurements	14
5.	Strategies	15
5.1	Business forms and bundling of assignments/contracts	15
5.1.1	Business forms	15
5.1.2	Bundling	16
5.1.3	Risk allocation	17
5.2	Market development	18
5.3	Procurement	19
5.3.1	Procurement planning	19
5.3.2	Prequalification	20
5.3.3	Time for tender counting	20
5.3.4	Tender evaluation	20
5.4	Client organisation	20
6.	Time frames	21
6.1	Overall.....	21
6.2	Procurement timetable.....	21
7.	Contract categories	21
8.	Governing documents.....	27

1. Introduction

1.1 Purpose and validity

1.1.1 Purpose

The purpose of the East Link Project's business plan is to outline how the programme's objectives can be achieved through the business undertaking.

The business undertaking is important as it creates the conditions and driving forces for suppliers to collaborate with the client to deliver according to the Swedish Transport Administration's objectives, thereby contributing to turning the Swedish Transport Administration into an attractive customer. In addition, the business undertaking is important for driving market development. Implementation of the business plan will allow the East Link programme and its suppliers to achieve, among other things, the following effects:

- That, through the business undertaking, the Swedish Transport Administration realises its strategic objectives for sustainability, productivity and efficiency, as well as the installation's life cycle perspective.
- That the Swedish Transport Administration achieves the best possible societal benefit for the money by designing the business undertaking on the basis of its assignment, the supplier market's conditions and driving forces, as well as the opportunities and risks identified.
- That the Swedish Transport Administration's business undertakings contribute to sustainable societal development in terms of climate and social considerations, including gender parity and equality. In addition, labour criminality and unhealthy competition are counteracted.
- That the Swedish Transport Administration acts consistently and recognisably to provide a basis for learning.
- That the suppliers are able to recognise the same type of business undertaking and have the opportunity for long-term sustainable profitability.

1.1.2 Contents of the document

The business plan includes a description of the activity's objectives, the characteristics of the market, and what conditions need to be in place in order for the market to be able to deliver what Swedish Transport Administration needs. This may include measures for efficiency, productivity, innovation, sustainability and market development.

The document also includes a contract categorisation, which describes the contracts in terms of content and business form.

A crosscheck has been made between the documents listed under Section 9 and relevant category strategies.

1.1.3 Validity

The East Link Project's business plan is a governing document together with the approval of the Swedish Transport Administration's Board of Directors.

1.2 East Link Project

The East Link Project is part of the overall project for the expansion of new main lines in Sweden, and is part of the New Main Lines (Nya stambanor – NS) programme in the Swedish Transport Administration.

The plans for the East Link Project consist of a double-track main line designed for a speed of 250 km/h, with a high level of ambition for the technical requirements of the system.

The railway will run through three counties and five municipalities, including five new travel centres in Linköping, Norrköping, Nyköping, Vagnhärad and at Skavsta Airport. The plan includes approximately twenty kilometres of railway on bridges and twenty kilometres in tunnels, the longest of which is eight kilometres under Kolmården. The East Link Project is flanked by protectable culture and natural environment that will be affected.

Construction of the East Link Project is planned to take place in three stages (see also figure under Section 7):

- Stage A) Gerstabergr-Nyköping/Skavsta
- Stage B) Nyköping/Skavsta –Norrköping/Loddbyr Stage
- Stage C) Norrköping/Loddbyr-Linköping/Sjögestad

Challenges

- The East Link Project is a so-called mega-project, with a large geographical spread and very high volume. This places great demands on effective project management that can hold the programme together.
- The large geographical spread means that the programme will need to deal with a large number of stakeholders.
- The programme will carry out extensive construction activities in urban agglomerations such as Linköping and Norrköping for several years, affecting the daily lives of many people. These include property encroachment, noise, and re-routing of cables and pipes.
The programme will not be built as an isolated system but will affect existing railways and roads in several locations to a varying extent. The aim is to be able to manage existing traffic with as little disruption as possible during the construction period.
- During the construction phase, handling excavated materials will be a challenge due to the large quantities involved; approximately 20 million m³ will be excavated, much of which is estimated to need to be processed through crushing.

2. Outline of objectives

2.1 Overall objectives of the programme

The following objectives from the East Link Project's programme plan, and agreement with the New Main Lines, are considered to be governing and relevant for the business plan.

2.1.1 Time frame

The section, consisting of Stages A and B between Gerstabergr and Norrköping/Loddbyr, is expected to be completed and operational by 2035. A date for the Norrköping/Loddbyr-Linköping/Sjögestad section cannot be given until the investigation of track location and conditions is complete.

2.1.2 Cost

The East Link Project's cost framework must be observed and is set out in the current national plan.

2.1.3 Contents

The technical content is based on the requirements below:

- Functional system requirements of the New Main Lines (NS FSK)
- Technical system requirements of the New Main Lines (NS TSK and TDOK/TRV Infra)

The version of the functional and technical system requirements with the associated TDOK/TRV Infra is shown in the respective description of measures.

2.1.4 Reduced climate impact and efficient resource utilisation

- Greenhouse gas emissions from the construction of new main lines must clearly fall over time so that sections completed in 2045 or later are climate neutral.
- The new main lines must promote long-term efficient utilisation of land, water, tangible assets and finite resources.

2.1.5 Safety

- The construction of the East Link Project must be carried out in such a way as to prevent serious accidents at work and deaths, as well as serious injury to third parties.
- The construction of the East Link Project must be carried out in such a way as to prevent serious damage to public services, infrastructure, property and the natural environment.
-

2.2 Business plan objectives

2.2.1 Supplier market with capability and competence

- Attractiveness to Swedish and foreign suppliers, especially for large assignments/contracts.
- Suppliers with the competence to manage, control and follow up large assignments/contracts.
- Suppliers with competence in technology and climate as well as the ability to drive proactive development in these areas.

2.2.2 Client market with capability and competence

- Clients with the competence to manage, control and follow up large assignments/contracts.
- Clients with an understanding of the driving forces behind suppliers.
- Clients with the ability to create prerequisites and to use the know-how of suppliers.

2.2.3 Reduced climate impact and efficient natural resource utilisation

- There must be at least an 80% reduction in greenhouse gas emissions during the construction of the parts of the installation completed after 2035.
- There must be at least an 30% reduction in greenhouse gas emissions during the construction of the parts of the installation completed 2025-2029.
- The construction of the East Link Project must contribute to the sustainable and efficient use of valuable substances and materials.
- The way in which the East Link Project is constructed must prevent waste, while making maximum use of the resources contained in the waste that is generated.

2.2.4. Savings in cost and time

- Reduce costs and shorten production times through industrialised production such as prefabrication and standardisation, through technological innovations, and through smart production planning and logistics.

2.2.5 Attractive contracts

Attractive contracts with regard to:

- Business form, remuneration model and incentives.
- Bundling of assignments/contracts so that suppliers can compete on the basis of know-how and experience.
- Bundling of assignments/contracts in order to provide incentives for collaboration between client and supplier to increase productivity through high efficiency, innovation and

industrialisation.

- Balanced and clear allocation of risk.

2.2.6 Well-planned and implemented procurements

- Procurements are planned and coordinated to minimise competition with other procurements within the Swedish Transport Administration.
- Tendering periods that allow preparation of competitive tenders.
- Timetables that ensure sufficient time for suppliers to establish themselves at the start of the assignment/contract.

3. Conditions for stakeholders today and tomorrow

3.1 Client side in general

In global terms, the underlying infrastructure investment needs are assessed as being very large. It is estimated that of the infrastructure needed globally by 2050, only 25% is currently in place today. It is estimated that annual global infrastructure investment ¹ in 2040 will be 67% greater than it was in 2015. ²

In Europe, investments in transport infrastructure (road, rail, maritime) are expected to amount to SEK 5,000 billion during the period 2016-2040. This is based on investment patterns to date. It is estimated that the needs are 800 billion Euro higher.²

Norway, the UK, Sweden, Turkey, the Czech Republic and Poland will be the main infrastructure investors in relative terms, although it should be borne in mind that countries such as France and Spain also have large infrastructure investment budgets.

In Sweden, there are also many projects under implementation and planning, both inside and outside the Swedish Transport Administration, and projects both within infrastructure and other construction.

3.2 Swedish Transport Administration

The Swedish Transport Administration is a large authority, enjoying a high level of confidence from its client, the State, and with a wealth of expertise and experience in its field of activity.

The Swedish Transport Administration has extensive experience in managing infrastructure projects. During in the last decade in particular, very large projects such as the West Link, the Stockholm Bypass and the East Link Project are being and have been carried out.

Exactly as on the supplier side, the Swedish Transport Administration faces a challenge to recruit people with the right skills and in sufficient numbers, such as on the signalling side of the railway segment, geotechnics, water and sewerage, and project management.

The New Main Line programme offers great opportunity to exploit economies of scale.

3.3 Supplier market ³

Staff shortages

¹ Report "GPoC 2019, Global Powers of Construction", Deloitte July 2020

² "Global Infrastructure Outlook", Global Infrastructure Hub, Oxford Economics 2017

¹ Report "GPoC 2019, Global Powers of Construction", Deloitte July 2020

The Swedish construction market faces staff shortages, which will make it necessary to use foreign suppliers to build new main lines.

Internationalisation

There is a clear trend for construction companies to internationalise and diversify their activities. However, it should be noted that the largest European companies derive considerably more of their turnover abroad than Asian companies. Spain's ACS and Skanska are the two most internationalised of the 100 largest groups, with a foreign share of turnover of 86% and 78% respectively.¹

The top ten list of the largest engineering consultancies in the world includes five North American groups and four European groups. AECOM, SNC-Lavalin, Jacobs and WSP (ranked 1, 3, 4 and 5 in the world) are all from North America, but are strongly established in the European market. Looking at the European market, the Nordic giants are doing well. Included among the largest European engineering consultancies, in terms of employee numbers, are Sweco in eighth place, followed by AFRY (12), Ramboll (14), COWI (25) and Tyréns (50).³

Many large consultancies and construction companies are looking at the Nordic region and the market it offers. They see great opportunities to establish themselves in a market with stable conditions in terms of regulations, financing, etc.

Experience from market development

The East Link Project has had extensive contact with suppliers since the start of the programme in 2013, and has held individual meetings with more than 300 companies, some companies more than once.

Summary conclusions:

- It is important that, as the client, we are proactive and provide frequent and early information about future assignments/contracts. This makes the process much easier for suppliers.
- Suppliers want quality parameters to be included in the tender evaluation. Very few want lowest price to be the sole basis for evaluation.
- Most consultants want coherent assignments that contain many different types of technology. It will be difficult for those with large assignments with only one type of technology that takes up many/all of their specialists in that particular area. It would then be difficult to take on other assignments.
- It takes very large contracts (at least SEK 1-2 billion) for most foreign contractors to be interested in Sweden, in order to reduce the number of interfaces and to facilitate efficient production and logistics. The contractors also want high degrees of freedom within the contracts to allow them to use their know-how in terms of production technology, logistics and prefabrication. Suppliers dislike it when the client prescribes work methods or provides materials/products as this reduces their degrees of freedom.
- To be attractive, contracts need to include technical challenges, such as large bridges, tunnels or complicated foundation reinforcement. Foreign contractors are not particularly interested in pure earth-moving contracts.
- When it comes to large contracts (> SEK 1 billion), contractors will mostly collaborate through consortia bids, partly to reduce financial risk and partly to engage the best technical expertise.

³ The text is based on the document Analysis of Supplier Market and Market Capacity, New Main Lines (Sundin, Tuvhag) 8 December 2020

- Considerable experience and extensive know-how in tunnel construction is available. However, foreign companies generally prefer to tunnel using tunnel boring machines (TBMs) as they consider it to be more efficient and modern than drill and blast, as well as easier in cases when tunnels are to be lined. Some contractors have declared that they will not submit a tender for tunnelling works if they are directed to drill and blast as production method.

Protective security

Under the Protective Security Act, for certain protection-classified works in Sweden, suppliers must sign protective security agreements with the client. A precondition for this is that the supplier's home country has signed a protective security agreement with Sweden. This may therefore make it impossible for suppliers from countries without an agreement to submit a tender while, at the same time, more and more contracts are subject to the requirement for a protective security agreement.

Conclusion

On the whole, the companies that have shown interest in the East Link Project have very high financial capacity and technical capability, as well as extensive experience in major rail projects, often high-speed (HSR). Several of the world's largest construction groups have shown an interest in the project for new main lines. Since most of the bids will be submitted by consortia (see above), the Swedish Transport Administration should therefore feel reasonably confident of engaging suitable suppliers, provided that the experience gained from the market development is taken into account.

4. GAP analysis

This section contains an analysis of the gap between the outline of objectives described in Section 2 and the assumptions described in Section 3.

4.1 Supplier market with capability and competence

Objectives

- Attractiveness to Swedish and foreign suppliers especially for large assignments/contracts.
- Suppliers with the competence to manage, control and follow up large assignments/contracts.
- Suppliers with competence in technology, climate and the ability to drive proactive development surrounding these areas.

Risks and weaknesses

- Political instability may lead to changes in planning prerequisites, leading to delays and cost overruns.
- Delays in earlier phases; planning and permit process, access to land and archaeological surveys, cause deadlock and/or delays in the production phase.
- High price volatility or shortage of supply in strategic markets, mainly steel, concrete, rock excavation and capacity to receive excavated materials.
- Lack of available skills in the labour market.
- Major infrastructure projects in Sweden and around the world mean that the East Link Project is competing for suppliers with many other projects.

- Competition may be reduced if increased protective security requirements preclude some foreign companies from participating in procurements.
- The provision of technically approved material (TGM) may limit contractors' degrees of freedom, and may hamper the possibilities for new technical solutions, which may reduce the attractiveness of the requests for proposals.
- One observation is that a lot of companies, mainly contractors, count on the availability of Swedish labour on a large scale, which would pose a problem due to the staff shortages in Sweden.

Opportunities and strengths

- Economies of scale, in the client organisation itself as well as with suppliers may, in large business undertakings, facilitate more effective internal management, lower prices and more in-depth supplier dialogue on increased efficiency.
- The "New Main Lines" product can, with the right marketing, attract excellence and high-quality suppliers.
- Suppliers are increasingly marketing themselves in terms of environment and climate. This means that there are good prospects for achieving the overall objectives above.
- Evaluating quality parameters and not just price in procurements, will ensure that suppliers with the right capabilities and competences are awarded contracts.
- The New Main Lines programme is a very large programme, which means great business opportunities for suppliers, especially foreign companies that want to establish themselves in Sweden. This can be exploited in the marketing of the programme.
- A large programme means great opportunities for industrialised production and standardisation, and large volumes over a long period of time make the New Main Lines attractive to suppliers.
- Participating in the construction of new main lines brings a lot of goodwill for suppliers.

Analysis

Foreign suppliers have shown great interest in the extensive infrastructure plans in the Nordic region and Sweden, while a lot of foreign companies have established themselves in Sweden and also carry out work for the Swedish Transport Administration, for example on the West Link and the Stockholm Bypass. The companies that have so far shown interest in the East Link Project have, in overall terms, enormous financial strength and technical know-how.

The East Link Project is therefore in an advantageous position. The investment in new main lines has long been marketed to the domestic and foreign supplier markets, first by the East Link programme and now also by the Gothenburg-Borås and Hässleholm-Lund programmes. This work needs to continue and focus on the New Main Lines as a whole.

An important factor for foreign companies in order to successfully establish themselves in the Swedish construction market is to find Swedish partners. This is more important for participants earlier in the construction process, i.e. even more important for designers than for contractors. However, a large proportion of foreign companies report difficulties in finding Swedish partners. It is therefore necessary for the cooperation with Business Sweden, Invest Stockholm and local chambers of commerce to be continued and developed.

Another prerequisite for the larger assignments/contracts is that the East Link Project prequalifies a small number of companies for each procurement that are then invited to submit a tender, because to submit a tender is a costly process and suppliers want to have a reasonable chance of being awarded the contracts.

Early market dialogue is essential in order to receive feedback from suppliers and to give them time to prepare. When it comes to large assignments/contracts, suppliers need to form partnerships/consortia, and foreign suppliers need time to prepare for entry into the Swedish market.

4.2 Client market with capability and competence

Objectives

- Clients with the competence to manage, coordinate and follow up large assignments/contracts.
- Clients with an understanding of the driving forces behind suppliers.
- Clients with the ability to create prerequisites and to utilise the know-how of suppliers.

Risks and weaknesses

- A lack of skills and experience in running mega-projects can both hamper progress and have a negative impact on cost control.
- A lack of skills and experience in running mega-projects may lead to the sub-optimal design of assignments and contracts.
- Systems support and internal processes not suitable for mega-projects may hamper progress and efficiency.
- The large number of projects both within the Swedish Transport Administration and in Sweden leads to competition for people with the right experience and skills.
- Too much focus on the regulatory framework in force may make it difficult to use the experience and skills of suppliers and reduce the scope for implementing industrialisation and standardisation.
- The size of the East Link programme may lead to difficulties in coordination and uniformity of working methods, which may lead to deficiencies in management and control.
- The language issue is very important for many foreign companies. Not being permitted to use English, at least as the working language, would make it difficult or impossible to participate in our projects.

Opportunities and strengths

- A high level of foreign supplier participation in the programme may make it easier to recruit younger employees as many find it attractive to work in an international environment.
- The size of the East Link Project size provides the opportunity for people who are at early stage of their career, or who lack industry experience, to grow into more skilled roles.
- The East Link Project can benefit from the Swedish Transport Administration's extensive experience, knowledge and proven models for small, medium and large business undertakings.
- The Swedish Transport Administration has a fundamentally good reputation and good relationships with the large suppliers.

Analysis

The East Link programme has great opportunities to implement the expansion in an efficient way by leveraging economies of scale and repeatability. However, this requires that the right skills can be recruited, that systems support and processes are adapted for mega-projects, and that there is operational experience feedback in the programme.

4.3 Reduced climate impact and efficient natural resource utilisation

Objectives

- There must be at least an 80% reduction in greenhouse gas emissions during the construction of the parts of the installation completed after 2035.
- There must be at least an 30% reduction in greenhouse gas emissions during the construction of the parts of the installation completed 2025-2029.
- The construction of the East Link Project must contribute to the sustainable and efficient use of valuable substances and materials.
- The way in which the East Link Project is constructed must prevent waste, while making maximum use of the resources contained in the waste that is generated.

Risks and weaknesses

- Some suppliers find it difficult to make the required equipment investment and cannot compete.
- The client's employees do not have the skills or interest to follow up on the requirements.

Opportunities and strengths

- Many suppliers find it attractive to be able to compete using their environmental performance.
- The East Link Project and New Main Lines can contribute to reduced climate impact.
- The requirements create goodwill with the surrounding world for both the East Link Project and for the suppliers.

Analysis

The items with greatest climate impact are concrete structures, foundation reinforcement, tunnels and track superstructure. These construction components and material groups will be important areas for development in the continued work on tender documents and contracts.

Transport, in particular of excavated materials, also has a strong environmental impact and must be optimised. It is important that the East Link Project/Swedish Transport Administration is/are clear and consistent in setting requirements and follow-up.

4.4 Savings in cost and time through industrialised production

Objectives

- Reduce costs and shorten production times through industrialised production, prefabrication and standardisation.

Risks and weaknesses

In comparison with many other countries, experience in Sweden with prefabrication is considered to be low. This may create problems in meeting an optimal requirements specification that stimulates system repeatability and industrialisation.

One risk is that the ambition to standardise may set requirements that are too detailed and impede the suppliers.

The New Main Lines programme will continue for a long term one. Rapid technological development may mean that requirements need to be updated and thereby reduce the potential for repetitiveness.

Opportunities and strengths

The high volumes involved with the New Main Lines programme offer great opportunities to create the conditions for industrialised production, prefabrication and standardisation by setting uniform requirements across the programme.

Industrialisation can contribute to the environmental goals, such as through the re-use of moulding materials in prefabrication or through reduced transport.

Analysis

Creating good conditions for industrialised production will increase the attractiveness of the programme to suppliers, especially if the conditions offer high degrees of freedom regarding technical solutions.

4.5 Attractive contracts

Objectives

Create attractive contracts with regard to:

- Business form, remuneration model and incentives.
- Bundling of assignments/contracts so that suppliers can compete on the basis of know-how and experience.
- Bundling of assignments/contracts in order to provide incentives for collaboration between client and supplier, productivity, efficiency, innovation and industrialisation.
- Balanced and clear allocation of risk.

Risks and weaknesses

- Major infrastructure projects in Sweden and around the world mean that the East Link Project is competing for suppliers with many other projects.
- The Swedish Language Act and the Swedish Transport Administration's lawyers are clear that Swedish is the language that must be used in the Swedish Transport Administration's activities, which may be a barrier or cause complications for foreign suppliers.

Opportunities and strengths

- The East Link Project offers great business opportunities for suppliers, not least foreign companies that want to establish themselves in Sweden. This can be exploited in the marketing of the programme.
- Participation in the construction of the East Link Project will bring goodwill for suppliers.
- A business strategy creates the conditions for total cost efficiency in assignments/contracts and offers the potential for financial savings for suppliers if the programme proceeds uniformly and consistently. A business strategy also provides the opportunity to implement deliberate deviations and make them visible.

Analysis

Assignment size

The East Link Project will necessitate extensive work with very large assignments/contracts within the project. Partly because large contracts (> SEK 1 billion) are required for foreign contractors to be generally interested; partly because it will be administratively unfeasible for the client to manage many small contracts; and partly because there is a need to reduce the number of interfaces, as these often pose problems. There is limited experience with such large assignments/contracts, both within the Swedish Transport Administration and also in Sweden.

Driving forces for suppliers

The client does not always analyse the driving forces for suppliers when bundling a procurement. For example, one important aspect for suppliers is that they want to be able to use their know-how and excellence to compete. Assignments/contracts with too simple a technical content or pure performance contracts may therefore be unattractive.

Through appropriate bundling, driving forces for suppliers can become an important factor when it comes to meeting the overall objectives as outlined above.

Risk allocation

Balanced risk allocation is important in order for the assignments/contracts to be attractive. Here, there is a danger that risks are routinely transferred to the supplier without analysis. If too much risk is transferred to the supplier, in combination with large business undertakings, then either a high risk premium will be added to the tender budget, or no tender will be submitted at all. The risk should be borne by the party with the best capability to address the risk.

Thus, for example, it is most appropriate for the client to take responsibility for the rock conditions in tunnel construction contracts.

Project language

It must be permitted for English to be used as the working language, even if the contract language is Swedish and formal communication takes place in Swedish, in order for the programme to be attractive to foreign suppliers.

4.6 Well-planned and implemented procurements

Objectives:

- Procurements are planned and coordinated to minimise competition with other procurements within the Swedish Transport Administration.
- Tendering periods that allow preparation of attractive tenders.
- Timetables that ensure sufficient time for suppliers to establish themselves at the start of the assignment/contract.

Risks and weaknesses

- The volume of procurements in the New Main Lines and in other projects may make it impossible to coordinate and align procurements.
- Delays or changes in deliveries in earlier programme phases or external circumstances, such as the absence of permits, may create changes in the programme timetable and thus upset the coordination of procurements.

Opportunities and strengths

- The volume and large number of procurements provides an opportunity to create uniform tender documents and good conditions for experience feedback.
- Great potential for experience feedback as many procurements are due to be carried out over a long period of time.

Analysis

This objective presents a major challenge, partly because of the large scale of the New Main Lines, and partly because of the large scale of other projects within and outside Sweden. However, the joint organisation of the New Main Lines should facilitate the coordination of procurement timetables, at least within the programme.

This places great demands on the contracting organisation, not least for high value assignments; how to establish added value, how to evaluate, and how to justify the added value to tenderers.

5. Strategies

The East Link Project's business undertakings need to consider both the system perspective and maintenance perspective in all options and include contracting and consultancy assignments through all phases of the programme, including railway plan, system documents, environmental impact assessment (EIA), tender documents, construction documents, and contracts.

5.1 Business forms and bundling of assignments/contracts

The size of assignments and contracts will be addressed in terms of market impact, number of potential suppliers and conditions for industrialisation.

Driving forces such as development and profitability/cost-effectiveness must be taken into account.

5.1.1 Business forms

5.1.1.1 Business forms for technical consultants

Strategy: Properly customised remuneration that creates the right driving forces.

For the procurement of consultants in the site investigation and railway plan phase, variable fees are applied and remuneration is based on an hourly rate list, which is evaluated in the tender phase. The reason for this is that it is difficult to describe the scope of the assignments at this stage and that fixed fees may stifle creativity.

For the procurement of consultants in the construction documents phase, it is easier to describe the scope, which is why a fixed fee may be appropriate for at least parts of the assignment. In some cases, given the distribution of risks, a variable fee is preferable.

5.1.1.2 Business forms of contracts

Strategy: Business form that gives the contractor as much freedom as possible to use its know-how.

For construction contracts, there is scope for a high degree of freedom for the contractors. Therefore, in many cases, design and construction contracting is appropriate.

Providing high degrees of freedom, such as with regard to civil engineering structures, combined with large contracts, opens up opportunities for contractors to use their know-how with regard to technical solutions, industrial construction, smart logistics solutions, etc.

5.1.1.3 Bonus

Strategy: Bonus models that ensure the continuity of the supplier and reward innovation.

For consultancy assignments, bonuses in addition to those specified in the procurement templates must be applied in order to retain key resources. The reason for this is to achieve continuity during the assignment period.

For procurement from construction documents onwards, bonuses for innovation must be provided. Innovation is defined as a measure that results in lower construction costs, lower operating and maintenance costs, or both.

Bonus for early completion of all or part of time-critical assignments/contracts can be beneficial to the project as this would create freedom of action and/or reserves of time. Earlier completion will also have positive socio-economic effects if it means earlier engagement/start of traffic.

5.1.1.4 Penalty payments

Strategy: Penalty payment models recognised by suppliers.

Penalties other than those specified in the Swedish Transport Administration's procurement templates should be avoided. Where appropriate, additional penalty payments shall be dealt with in separate decisions.

The maximum penalty shall always be calculated prior to procurement and its impact assessed based on the supplier's risk level.

5.1.2 Bundling

5.1.2.1 Bundling technical consultants

Strategy: Bundling of assignments in order that they suit the phase in question and current conditions.

Design of construction documents

Consultants for the design of construction documents are procured depending on the type of contract, and either directly by the East Link Project or as subcontractors to the East Link Project's contractors.

Construction Site Supervision (CSS)

Technical and financial follow-up during the contract period, so-called Construction Site Supervision (CSS), is procured in the East Link programme as separate assignments.

Construction Site Supervisor assignments include the following:

- Ensure that the handed-over delivery meets the set requirements in the contract between client and contractor.
- Follow up that the installations are built in accordance with the construction contract.
- Follow up that the time, cost and scope are as specified in the contract.

5.1.2.2 Bundling contracts

Strategy: A few, large main contractors to reduce the number of interfaces.

Very large contracts will be required for the implementation of the East Link programme, partly to allow the client to manage them and partly to attract foreign contractors. Large business undertakings create an attractiveness that provides the conditions for large foreign companies to recognise value in establishing activities in Sweden, thus creating greater capacity in the country. This will also bring with it a larger knowledge base in the country that can contribute to new innovative solutions. Larger undertakings create the scope to identify cost-effective solutions and greater leverage in the impacts resulting from innovations.

A geographical breakdown is used within the East Link Project in the procurement of the main contractors. Construction works and Track, Electrical, Signal and Telecom works (BEST) are procured in a single contract for each geographical area. The intention is to reduce the number of interfaces between contracts and to allow the contractor high degrees of freedom to set up production without interference from side contractors. Exceptions may be made, such as for technical modular buildings and installations in tunnels.

The size of contracts must be analysed well in advance based on the organisation's ability to manage and lead, and based on the skills, experience and availability of resources in each respective programme.

Strategy: Preparatory works are bundled in the most appropriate form.

Re-routing of cables and pipes, demolition of buildings, construction roads, sites for establishment, forest clearance, temporary works, etc., can be carried out either in special contracts or in the main contracts.

The reasoning behind the former case is to make it easier for contractors, especially foreign contractors, for the major contracts to focus on the main assignment and to save the project time by carrying out these works in advance. This results in fewer contracts suitable for local companies. The Swedish Transport Administration has framework agreements that can be used for many of these works.

For main contracts with early contractor involvement where the contractor enters at an early stage and can influence the planning and design to a greater extent, it is natural for these works to be included in the contract.

5.1.2.3 Industrialisation and streamlining

Strategy: Create degrees of freedom for suppliers to use their know-how in production, logistics, industrialisation and technical solutions.

Giving suppliers the opportunity to compete on the basis of their know-how, and not just on price, will increase the attractiveness of the assignments/contracts for the New Main Lines. Suppliers are given these opportunities by setting functional requirements and, as far as possible, avoiding prescribing technical solutions, such as for civil engineering structures.

In the case of design and construction contracting, a business form known as early contractor involvement (ECI) is chosen in order to increase the attractiveness of the East Link Project's contracts by, among other things, allowing the contractor to use its production know-how to influence the planning and design at an early stage. The business form of early contractor involvement in the East Link Project is a development of the Swedish Transport Administration's early contractor involvement business model.

Early contractor involvement in the East Link Project is a structured way of working that aims to bring about the efficient construction of the installations through cross-border cooperation based on trust and confidence. At an early stage, the client and the contractor will jointly design the way of working required in order to first and foremost jointly meet the project's objectives, thereby also satisfying the contractor's own interests.

5.1.2.4 Project language

Strategy: Facilitate participation of foreign suppliers through the right choice of project language. Activities

- Permit English as the working language even if the contract language is Swedish and the formal communication takes place in Swedish.
- Parts of the tender documents are in English in parallel with the Swedish documents. Appropriate documents for this are the contractual terms and conditions, administrative regulations and an "Executive Summary", which contains a summary description of the assignment/contract and is a support for the decision of suppliers as to whether they should expect a request for proposals. Other documents may also be considered relevant in the individual case.

The documents available in English are purely information documents, and the documents in Swedish are the legally valid version.

5.1.3 Risk allocation

Strategy: Balanced risk allocation.

The client/supplier risk balance is an important factor when suppliers decide whether or not to submit a tender.

Risks to the supplier that are difficult to assess result in risk premiums that may be high but still represent a large uncertainty for the supplier. The client also risks paying for a risk that does not materialise.

A balanced allocation of risks is therefore important. This is achieved by following industry-wide standard contracts and by allocating risk according to the principle that the party best able to manage the risk should also be responsible for it. This means, for example, that if any work cannot be described in sufficient detail for pricing purposes, the work must be remunerated according to a model that avoids the need for tenderers to add a risk premium.

Activities

- The Swedish Transport Administration will take out client-controlled construction all-risk insurance. This means that the client will take out insurance for the entire project throughout the duration of the project period until commercial operation.
All parties, i.e. client, contractors, subcontractors and suppliers will be insured throughout the entire project and the same terms and conditions of insurance will apply to all parties. Suppliers therefore do not need to take out their own insurance. This will reduce the overall cost of insurance and the risk for suppliers, as well as simplify the processing of insurance claims.
- An analysis of risk allocation will be carried out before each procurement.

5.1.3.1 Handling excavated materials

Handling of excavated materials may be a barrier to entry for some suppliers, depending on the design of requirements and the allocation of risks. Foreign suppliers in particular may be at a competitive disadvantage because they do not have access to contacts, landfills and dumps.

Activities

- Competitive neutrality must be sought with regard to the handling of excavated materials. Advantages for individual suppliers through access to dumps, among other things, must be monitored. In order to achieve competitive neutrality and to increase the attractiveness to suppliers, the programme will be responsible for an overall plan for handling excavated materials and permits, as well as dealing with public authorities.
- Contracts shall include the transport of any surplus excavated materials (Case B excavated materials) to a designated site. The remaining handling will be dealt with by the project and procured separately. The work on permits, water sources, etc., is time-consuming work that needs to start several years before the contracts are awarded, which is why it is advantageous for the project to be responsible for this. Another important aspect is sustainability, as the environmental impact can be minimised by the project taking responsibility for the coordination, planning of transport, and re-use/disposal of the surplus excavated materials.

5.2 Market development

Strategy: Continuous dialogue with the supply market with both general and detailed information.

The East Link programme has long and good experience in market development. As the large volumes involved become even more apparent, it is a great advantage that this can now take place in a more consolidated manner within the framework for the New Main Lines.

Market development needs to be carried out internationally, nationally and locally. As mentioned earlier, the lack of resources in the Swedish construction market means that the East Link Project will need to engage foreign suppliers. Small, local companies will play an important role, even though they will usually not deal directly with the East Link Project.

Early and ongoing market dialogue is essential. For large assignments/contracts, suppliers need to form partnerships, and foreign suppliers need time to prepare in order to establish themselves in Sweden. Subcontractors also need time, such as to invest in new machinery, for example.

Market development needs to be carried out both universally and in more detail as each programme progresses.

Market development is carried out via the following channels:

- The Swedish Transport Administration's supplier days, both general and targeted at different groups of suppliers.
- Participation in trade fairs.
- Individual meetings with companies.
- The programme's websites, LinkedIn.
- The Swedish Transport Administration's newsletter.

Collaborative partners:

- Purchasing and Logistics, STA
- Business Sweden, Invest Stockholm
- Trade departments or equivalent at embassies.
- Local Chambers of Commerce.

For market development of the international supplier market, see also the appendix "Overall activity plan 2021-22 for the marketing of New Main Lines (including ongoing programmes) to foreign suppliers", date 12 July 2021.

Activities

- Continued active work on marketing to the foreign supplier market.
- Early market dialogue prior to major procurements in order to create opportunities for collaborations/consortia. Foreign suppliers also need time to prepare for entry into the Swedish market.
- Early market dialogue prior to major procurements in order to get feedback from suppliers on bundling, risk allocation, etc.
- Early local market dialogue with receiving facilities, haulage companies, etc., linked to the handling of excavated materials and logistics.

5.3 Procurement

5.3.1 Procurement planning

Strategy: Good conditions for suppliers will increase their opportunities to submit a bid.

Activities

- Early information on future procurements.
- Ample time for suppliers to establish themselves before the start date for the assignment/contract.
- Simultaneous ongoing procurements of a similar nature within the Swedish Transport Administration must be identified as a part of the decisions on tendering periods.

5.3.2 Prequalification

Strategy: Prequalification of a small number of suppliers who are invited to tender for the larger assignments/contracts.

Many of the assignments/contracts within the East Link Project will be very large, which will make submitting a tender very costly for suppliers. It is important for suppliers to feel that they have a reasonable chance of being awarded a contract in order for them to be prepared to make the investment. A small number of suppliers should therefore be prequalified and then invited to submit a tender in the case of assignments/contracts that are large and/or technically complex.

Activities

– Develop a uniform model for prequalification, preferably common across the whole New Main Lines programme.

5.3.3 Time for tender counting

Strategy: Suppliers shall be given time to submit thoroughly prepared tenders. Activities

- Since many contracts are very large, the ambition is to allow long times for tender counting. Procurement (with an initial prequalification) of each main contract is expected to start 9-12 months prior to the time of contract signature.
- Simultaneous ongoing procurements of a similar nature within the Swedish Transport Administration must be identified as a part of the decisions on tendering periods.

5.3.4 Tender evaluation

Strategy: For qualified assignments/contracts, the evaluation of quality parameters (added value) must be applied in order to ensure that the best supplier is selected.

For the evaluation of added value, it is important to have a model that is uniform and consistent, as well as consistent with the Swedish Transport Administration's model.

Follow-up of added value must be carried out during the contract period.

Activities

- Use a consistent model for the evaluation of added value within the East Link Project, including the proportion of added value in relation to tender price.

5.4 Client organisation

Strategy: Implement a clear and effective management of assignments/contracts

Activities

- Clear and coherent work breakdown structure (WBS), master timetable, resource plans, costing, document management, ordering and financial control.
- Procedures for effective change management in relation to suppliers.
- Systems support that is adapted to the size of the East Link Project.
- Follow-up during the contract period (construction site supervision) procured from external suppliers.

Strategy: Good resource planning and a learning organisation.

Activities

- Find the right level and balance between client and supplier organisation.
- Whenever possible, carry out several recruitments in parallel in order to balance experience and skills at team level.
- Re-use knowledge between similar parts of the programme.
- Use our more experienced employees so that it helps our organisation and junior employees to grow.

Strategy: Strengthen the image of the East Link Project and New Main Lines as attractive places to work. Activities

- Promote the East Link Project and New Main Lines at job fairs for universities and colleges of technology, as well as at similar events throughout Sweden.

6. Time frames

6.1 Overall

Work on drawing up railway plans and system documents is ongoing in parallel with planning the next construction phase.

Construction can start as soon as the project has received the necessary permits, such as an environmental judgment and a legally binding railway plan for the route in question, and the completion of land consolidations and final archaeological surveys.

6.2 Procurement timetable

The planned project assignments and contract works will be published in the Swedish Transport Administration's procurement timetable, which can be found on the authority's website.

<https://www.trafikverket.se/for-dig-i-branschen/upphandling/Planerade-upphandlingar/>

7. Contract categories

The descriptions below are not exhaustive and volumes are approximate. The full extent will be indicated in the tender documents for each procurement.

The contracts include, among other things, performance contracts with a remuneration form of fixed price with quantity regulation or design and construct contracts.

For design and construct contracts, a business form called early contractor involvement (ECI) is chosen in order to obtain high productivity.

Works in progress

Construction works

- Foundation reinforcement
- Earthworks
- Rock excavation
- Bank filling
- Rock tunnel
- Civil engineering structures (bridges, cuttings, concrete tunnels)
- Reconstruction of public roads, e.g. E4
- Reconstruction of urban streets
- Re-routing of cables and pipes
- Sewerage
- Noise protection

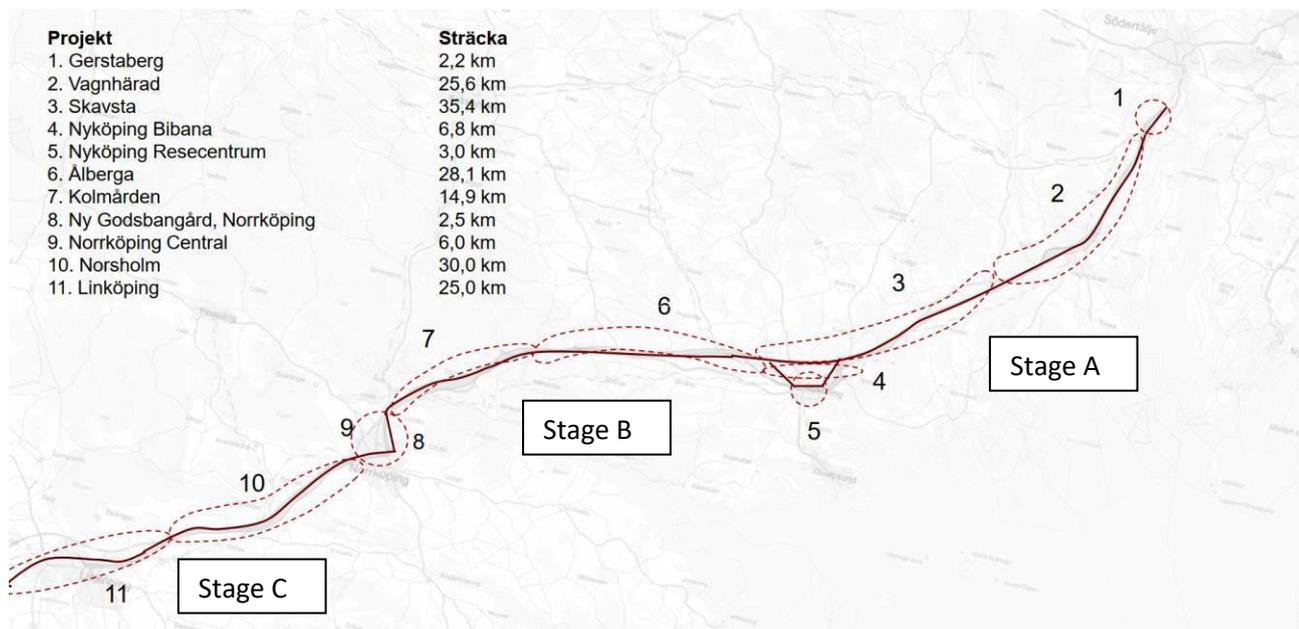
Track, electrical, signal and telecom works (BEST)

- Track: ballast, sleepers, rails, fortifications, points
- Electricity: installation of overhead power lines and associated measures, 22 kV distribution networks, 50 Hz substations, 400 V power, lighting and points heating, and all linear power supply
- Signalling: installation of all technical areas, cabling, positioning systems, signals, boards
- Tele: telecommunications and IT equipment, detectors, telephony, etc.

Installations in tunnels (refers to installations other than BEST):

- Command and control equipment
- Firefighting water
- System for evacuating people
- Fan system for evacuation of hot gases (smoke)
- Mobile phone coverage
- Lighting
- Fire alarms
- Surveillance cameras

Overview of contracts



Gerstaberget

Scope

Construction works and track, electrical, signal and telecom works (BEST) for 2.2 km of double track.

2 bridges; including one flyover (length: 250 m) over existing railway and one bridge over a road.

Replacement road and bridge to Gerstaberget farm. Protective gantries with associated reconstruction of mainly overhead power lines.

Reconstruction and new construction of railway, 6 permanent points and creation of the Gerstaberget service area.

New 15 kV switchyard for power supply of the East Link Project and completion of compartments and installation of AT transformers, Järna converter station.

Type of contract

Performance contract where the contractor is responsible for designing bridges.

Vagnhärad

Scope

Construction works and track, electrical, signal and telecom works (BEST), and tunnel installation works for 25.7 km of double track.

There are several rock tunnels along the route, such as the Tullgarn Tunnel (4,200 m), the Hillesta Tunnel (700 m) and the Gerstaberget Tunnel (1,600 m).

The contract includes several bridges, such as the bridge over the Trosa River valley (1,700 m) and the bridge over the E4 at the Vagnhärad interchange (900 m).

It also includes a station at Vagnhärad with four tracks.

The route skirts the Tullgarn Natura 2000 area and some parts run close to the European Highway E4.

Type of contract

Design and construct contract with early contractor involvement.

Skavsta

Scope

Construction works and track, electrical, signal and telecom works (BEST) for 35.4 km of double track. The contract also includes a railway station at Skavsta Airport and a flyover for connection to the branch line to Nyköping.

Type of contract

Design and construct contract with early contractor involvement.

Nyköping branch line

Scope

Construction works and track, electrical, signal and telecom works (BEST) for 6.8 km of double track to connect the East Link Project with the Nyköping Travel Centre.

Type of contract

Performance contract

Nyköping Travel Centre

Scope

Construction works and track, electrical, signal and telecom works (BEST) including new signal box for 3 km of railway on the Nyköping line, the old TGOJ line, and the future branch line, of which about 1 km is a completely new route for the railway. A new central platform and a side platform will be built at the station, two passages under the railway with associated lift packages to the central platform, two entrance buildings and two new, wider and longer, bridges over Brunnsgatan Street. The contract also includes the construction for the municipality of a new two-lane car and pedestrian bridge over the railway, as well as a bus terminal to be located adjacent to the side platform.

Type of contract

Performance contract

Ålberga

Scope

Construction works and track, electrical, signal and telecom works (BEST) for 28.1 km of double track. This route needs a lot of bridges.

Only small communities will be affected and the route will not affect the existing railway other than the junction with the TGOJ line. The railway will run closely along the European Highway E4 in several sections.

Type of contract

Design and construct contract with early contractor involvement

Kolmården

Scope

Construction works and track, electrical, signal and telecom works (BEST), and tunnel installation works for 14.9 km of double track.

The contract includes a 7.9 km double-track tunnel (Kolmård Tunnel), with parallel service tunnel and connecting tunnels. It also includes 10 bridges, including a landscaped bridge of 670 m.

The contract involves a number of protected areas/areas of national interest, etc.

Type of contract.

Performance contract where the contractor is responsible for designing bridges.

Norrköping Central

Scope

Construction works and track, electrical, signal and telecom works (BEST) for the East Link Project's passage through central Norrköping; 6.8 km of double track including the Swedish Transport Administration's part of a new central station in Norrköping (platforms, platform roofs, platform connections including escalators and lifts).

The East Link Project and the Southern Main Line will be co-located along parts of this route. Since the East Link Project will be built partly where the tracks for the main line currently run, new tracks must first be built for the Southern Main Line. Then the existing railway can be demolished and construction of the East Link Project can begin.

The new station will be built in a new, elevated position, immediately adjacent to the existing station and will cross the existing railway goods yard to the north, which will therefore be relocated. The station will be built for traffic on both the East Link Project and the existing railway. The connection to the existing railway requires careful and early detailed planning of the implementation. To the southwest, the development is adjacent to a large tunnel construction site.

Type of contract

Design and construct contract with early contractor involvement

Norsholm

Scope

Construction works and track, electrical, signal and telecom works (BEST), and tunnel installation works for approximately 30 km of double track from central Norrköping to Linghem.

The contract includes an approximately 6 km long tunnel under the urban area from immediately southwest of the station in Norrköping and onward to Klinga.

A high bridge over the Göta Canal with a sail-free height of 18 m is also included. The construction period will have to be adapted to take account of boat traffic in summer.

Type of contract

Design and construct contract with early contractor involvement.

Linköping

Scope

The planning includes a possible connection point to the Southern Main Line at Sjögestad, i.e. 15 km west of Linköping C. Track line selection is planned to be carried out in 2024.

Construction works and track, electrical, signal and telecom works (BEST) for the East Link Project from Linghem through Linköping to a connection point on the Southern Main Line at Sjögestad, 25-28 km double track including the Swedish Transport Administration's part of a new central station (platforms, platform roof, platform connections including escalators and lifts).

The East Link Project and the Southern Main Line (SSB) will be co-located along parts of this route. In the central parts, a new central station will be built, where new tracks for the East Link Project and Southern Main Line will be built first, then the Southern Main Line can be connected and tracks, etcetera, demolished.

Type of contract

Design and construct contract with early contractor involvement.

Other contracts

In addition to the above contracts, a number of smaller contracts may be added in order to adapt existing installations, provisional works, etc. These contracts will then be specified and bundled later.

8. Governing documents

- The East Link Project's programme plan, Ver. 8.0
- The Swedish Transport Administration's purchasing policy, T TDOK 2010:119, Ver. 4.0
- The Swedish Transport Administration's business strategy for contractors and technical consultants, TDOK 2016:0199, Ver. 4.0
- Procurement in accordance with the Swedish Public Procurement Act in the Swedish Transport Administration, TDOK 2017:0022, Ver. 2.0
- Procurement in accordance with the Law on Public and Utilities Procurement in the Swedish Transport Administration, TDOK 2017:0354, Ver. 1.0
- Contract model: High-level collaboration, TDOK 2016:0233, Ver 3.0
- Qualification, evaluation, and form of remuneration, bonuses and penalty payments for contractors and technical consultants, TDOK. 2019:0177, Ver. 3.0
- Choice of business form, TDOK 2018:0007, Ver. 4.0
- Business Plan: New Main Lines, TRV 2022/122243, date 2 November 2022

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