

Construction of the Tampere Tunnel (Rantatunneli) The Alliance Project – Finnish Transport Agency (FTA)

About this Best Practice Case

For the construction of the Rantaväylä tunnel in Tampere, the Finnish Transport Agency (FTA) used a complete new procurement approach: the alliance model, this is a Competitive Procedure with negotiation. Due to the complexity of the project, negotiations with potential suppliers during the tendering phase were needed. But FTA also aimed with this approach to investigate the possibilities of a procurer / supplier cooperation in which risks and opportunities are shared. This led to significant savings in time and money.

Title: Construction of the Tampere Tunnel using the Alliance Model
Cluster Topic: Other
Procedure: Competitive Procedure with Negotiation
Directive: 2004/18/EC
Country: Finland
Procuring Authority: Finnish Transport Agency, Design and project division
TED: 2012/S 133-220212

Finnish Road Authority: Construction of the Tampere Tunnel using the Alliance Model

Key Points

- The Rantaväylä tunnel project has been carried out through an alliance of private and public stakeholders. The alliance is a new and innovative implementation model in Finland: The Finnish Alliance Model. It did lead to major savings of resources.
- The goal was to move the existing highway 12 into a tunnel for a length of 2.3 km on the Santalahti–Naistenlahti stretch in Tampere.
- There was a four-phase procurement procedure December 2011 - June 2012.
- At development workshops the procurer gained valuable information relevant for the contents of the call for tender.
- Market collaboration continued intensively during the phased negotiation procedure and the information and experience gained during the whole process affected the definitions in the final tender.

The Procurement Objectives

Brief description

Tampere is Finland's second largest city and an important industrial centre. "The headquarters of crushing equipment firm Metso situated within the city while there are extensive production facilities for construction and mining equipment firm Sandvik located on the outskirts of Tampere"²³. Therefore, like many Cities Tampere is also dealing with increasing traffic, congestions and bottle necks. A new tunnel should improve the connections in the city increase traffic safety and flow.

Reasons for this project

The aim of the City of Tampere to rerouting the tunnel was clear. The construction of the Rantaväylä tunnel in Tampere should remove a bottleneck and therefore improve the flow and safety of traffic and contributes to the development of Tampere city centre. The additional benefits are, that the construction of this tunnel frees up plots by the lake Näsijärvi, a green zone that will be used to construct a new residential area for approximately 3,600

²³ Worldhighways 2012, A new road tunnel will improve connections in Finnish city Tampere, URL: <http://www.worldhighways.com/sections/general/news/a-new-road-tunnel-will-improve-connections-in-finnish-city-tampere/>

residents.

Aim of the Project:

The objective was to select the best tendering consortium as the owner's partner in implementing the Rantatunneli project. The implementation of the project includes moving highway 12 into a tunnel for a length of 2.3 km on the Santalahti–Naistenlahti stretch in Tampere. The required road and street arrangements, moving of lines and equipment, and interchange arrangements in Naistenlahti and Santalahti are also included in the project. As a whole, the changes will apply to a 4.2 km stretch of highway (Vt 12 Tampereen Rantaväylä).

Innovative Aspects

The procurement process itself is innovative:

With the Alliance Model Finland invented a totally new procedure to procure. The main aspect was the ability to negotiate during the complex project. The Alliance was based on a common organisation with shared targets, as well as on sharing the risks.

By using such an innovative model the Finnish Transport Authority (FTA) wanted to learn how to reach the following strategic targets through the ability to negotiate and cooperate:

- To improve productivity of the entire industry
- To change the culture into a more open and trusting way of working
- To improve the customer satisfaction for end products – faster, better quality and cheaper
- To develop innovativeness and knowledge

The Procurement Process

Finland tried a complete new approach: the alliance model. This is a Competitive Procedure with negotiation. The main reason for this approach was that it offered much more possibilities to negotiate with candidates than other options. The complexity and novelty of the project required these possibilities.

The cornerstones of an alliance are a common organisation and shared targets, as well as the division of risks and opportunities between the parties. The alliance model makes use of cooperation between the parties, promotes innovation and reduces needless waste and unnecessary work. The alliance model seeks to realise the project in a manner that, compared to more traditional forms of procurement, delivers more benefits and value to society for the money invested in the project. Another target of this specific alliance model is the improvement of construction productivity.

The clear positive side of this procedure is that it is possible to re-frame and negotiate with economic operators the scope of the procurement within the procedure.

The objective of the current undertaking was to implement a solution, as it was specified in the 2011 road plan, in an innovative manner. It was also crucial to create the best conditions possible for cooperation between the various parties and stakeholders in the undertaking, in order to achieve the targets in the most efficient manner.

The project owners made a joint decision to use the alliance model. The Finnish Transport Agency opted for the alliance model for the Rantatunneli project after discussing the matter with international alliance experts at the 2010 Lean in Public Sector seminar. After that seminar, the Agency contacted the City of Tampere's to ask their opinion about this approach. On 19 January 2012, the City of Tampere announced that it will participate in the project's preparation according to the alliance model.

Procurement Procedure

Key Reasons for implementing the Alliance model

The FTA wanted to try a new approach to cooperate between buyer and supplier. An explicit goal was to stimulate innovation and to learn in this very complex project. Therefore all standard procurement projects for infrastructure construction work were excluded. The contract entailed more than only build a simple tunnel. It also aimed to increase the productivity of the entire industry; to change the culture in a more open and trustful way of working and to stimulate innovation and create new knowledge. The goal was to achieve this via a customer / provider cooperation.

In a traditional project model, risks are also shared. However with the alliance model this is lifted to a new level as the customer and provider are part of the same project organisation, project planning and project management. The savings generated via the process benefit all parties and therefor lead to high enthusiasm and identification with the project goal at both sides.

Finland investigated several partnership projects and found that they have become of popular in Australia. FTA looked at these models and adopted it to European and Finnish procurement law. The project alliance in Finland was based on the idea that "the parties form a joint, integrated project organisation in which risks and liabilities as well as opportunities are shared by the parties". The Tampere City Tunnel was financed via such a model.

The Alliance model in short

The principle of the alliance is changing the procurement world. Normally the supplier and the public procurer as customer are in a kind of opposition, which now is removed.

They work hand in hand to implement and plan the project. "In the end, either all parties win, or all loose".²⁴

The supplier still provides the service and the public procurer is still paying for the process and the result. What is new is that the parties do not agree on an exact price from the beginning. The parties agree on a cost budget, which they also plan together. All actually incurred costs that are generated during the process (plus a small percentage as premium) are paid to the supplier. This element (the percentage) constitutes the “price” element in the supplier’s bid.

The idea behind the alliance model is that it assumes that both, supplier and public procurer have the same interest. This is achieved via a so called incentive system that is “granting bonuses for savings in cost or overachievement in terms of the work result”. Maluses or negative points may also occur, if cost are higher, or delays occur.

Innovative to the approach is also that all parties are expected to contribute substantial resources to the common project management. The decisions are made unanimously. The common decision-making organs are deciding quickly on the questions. This way to organise the project management did lead to an “almost complete exclusion of any legal remedy for either side”.²

What the alliance model means for bidders is that they have to invest more resources in the process earlier in the project phases. They need their own vision about the project and have to convince the public authority that they are able to cooperate so closely.

Not all the parties that contribute to the tunnel have to be part in the alliance. There are some sub-contractors, which are linked via standard work contracts to one or more of the suppliers. This leads to smaller and efficient “alliance” team.

Also the risks with respect to the subcontractors are shared. It does not matter which supplier is awarding the subcontracts, as they are chosen by the whole alliance with unanimity and their costs are considered as project-cost.

The contract award criterion of the final tender was “the price-quality ratio (BPQR)” based on the following sub-criteria:

| Sub-Criteria | Weighting |
|---------------------------------------------------------|-----------|
| A. Ability | 75% |
| A1. Project implementation plan and organisation | 10% |
| A2. Proof of profitable operations | 10% |
| A2.1 Proof of profitable operations in the KRAs | |
| A2.2 Learning from mistakes | |

²⁴ Jaspers 2017, Bidding for Project Alliances in Finland, URL: http://www.bergmann.fi/e/article/alliance_bidding

| | |
|-------------------------------------------------------------------------------------------------------------------|-----|
| A3. Value for money | 30% |
| A3.1 Setting of the project TOC | |
| A3.2 Examination of the owner's cost estimate | |
| A4. Alliance capability and management | 25% |
| A4.1 The leadership ability of the alliance leaders and the project team, and alliance capability of the tenderer | |
| B. Price (fee offer) | 25% |

Phases of the Procurement

Alliance contracts are divided into three main phases:

- The selection phase during which the owners select their alliance partners.
- The project development phase, during which the alliance develops and implements solutions in cooperation under a common organisation, while simultaneously steering the TOC towards an appropriate level acceptable to all parties. At the end of the project development phase, the TOC, other contract targets and implementation plans are approved.
- The project implementation phase, including construction and the warranty period.

Procurement Process Overview

Market dialogues held in the form of seminars fall 2011.

A four-phase procurement procedure December 2011-June 2012.

| |
|-----------------------------------------------------------------------------------------------------------------------------------|
| 1. tendering period (Contract notice, Inspection of participation applications, Decision on the selection of candidate tenderers) |
| 2. Selection of the two best tenderers over several stages (including phases 2a and 2b) |
| - 2a) |
| o Preliminary invitation to tender |
| o Beginning of tendering period |
| o Opening and inspection of tenders |
| o Beginning of the evaluation of tenders |
| - 2b) |
| o Dialogue with tenderers |
| o Supplementation of tenders |
| o Decision during the procurement process |
| - => 2 best tenderers selected |
| 3. Selection of best tenderer |
| - Development workshops and their evaluation |
| - Financial negotiations |
| - Final invitation to tender |
| - Completion of qualitative tender evaluation |
| - Fee offer |
| - Selection of best tenderer |
| - Contract award decision |
| - Agreement review |
| 4. Signing of the development phase alliance agreement |
| - Signing of the development phase alliance agreement |

- Alliance formation
- Beginning of project development phase

At the end of the procurement phase, feedback on the procurement was requested from the tenderers.

Key Results

Achievements: Based on the tendering competition, the contract was awarded to the tendering consortium with the best tender in terms of overall economy and the best prerequisites (resources, expertise and experience), as defined in the contract award criteria, to implement the undertaking in cooperation with the City of Tampere and the Finnish Transport Agency.

The contract was awarded to a consortium of, consisting of Lemminkäinen Infra Oy, A-Insinöörit Suunnittelu Oy and Saanio & Riekkola Oy.

Value: At the procurement phase the budget was 185M€. As a result of the Development phase, the Alliance set the target outturn cost at 180,3 M€.

Due to the use of the alliance model, there was a significant success in timeline and total cost.

"By working as a team comprised of the customer, designer and constructor, we were able to achieve substantial cost savings through the development of innovative design solutions and work plans. We see alliance-based co-operation models as an excellent opportunity to improve productivity in the construction industry. This project will also have a significant employment effect in the region," says Harri Kailasalo, Executive Vice President for Infrastructure Construction at Lemminkäinen.²⁵

Key Lessons Learnt

Major Barriers

1. Setting the evaluation criteria: there were no projects alike before in Finland - challenges in setting and fulfilling the experience criteria.
2. Evaluating the tenders: these were challenging and work-intense phases with strict time-schedules and risk of failure.

²⁵ Lemminkäinen 2013, Lemminkäinen signs agreement for alliance contract for the Rantayäylä tunnel in Tampere, URL: <https://cns.omxgroup.com/cdsPublic/viewDisclosure.action?disclosureId=575503&messageId=711243>

3. Decisions on the commercial model: which expenses were to be accepted as project costs and which expenses should be include in the fee offer (the tender price).

Lessons Learnt

1. The alliance contract model is new. However, the term is used in the US and also in Northern Europe, but for a different contract. International discussions about this model can easily lead to misunderstandings

2. Close cooperation is needed, especially with respect to safety issues. Everyone worked together with jointly agreed goals and common rules. The common project management, paid and organised by both sides (suppliers, public authorities), led to an almost complete exclusion of any legal remedy from either side.

3. The collaboration in work coordination and in innovative problem solving led to an efficient way of working.

4. Training and guiding play a key role when using a new approach. Everybody needs the same level of understanding of the process.

5. A new way of collaboration requires constant learning during the project.

6. Negotiation and cooperation is key, but requires time. Planning these resources in advance is important, then the right things can be planned and prepared in the right time. However, the time table needs to be flexible due to the changes needed. For example, the alliance finalised the whole project faster than expected.

7. "It is obvious that the model is capable of creating a cooperation environment in which all resources are focused on the success of the project (rather than securing one's own rights). It is equally obvious that the desired effect will depend on many factors. Procurement agencies underline that the choice of the right alliance partners is key in this process."¹

8. Through jointly created innovations, they were able to reduce the disruption caused by the construction site, to create cost savings and to accelerate the progress of the project. One of the innovations of the alliance was to change the planned location of the access of the tunnel.

9. The Alliance Model is ideal for the implementation of larger and complex projects.

References and Further Information:

1. Lemminkäinen 2013, Lemminkäinen signs agreement for alliance contract for the Rantayäylä tunnel in Tampere

<https://cns.omxgroup.com/cdsPublic/viewDisclosure.action?disclosureId=575503&messageId=711243>

2. More information on the project:

http://www2.liikennevirasto.fi/rantatunneli/print/rantatunneli_print_en.pdf

http://www.liikennevirasto.fi/documents/20473/23134/Arvoa_rahalle_en.pdf/f633ee61-dbf6-45b9-a0f5-b283d0c0ee

3. Background information on the FTA alliance model and the targets:

http://www.nvfnorden.org/library/Files/Utskott-och-tema/Organisation-och-marknad/Seminarium/Vasa_Upphandling_20140603/4_NVF_Project%20Alliance_Nygarde_Vasa%20030614.pdf

4. Short description of the key facts about the alliance model:

http://www.bergmann.fi/e/article/alliance_bidding