



Summary:

Experiences of the PPP solution for the Arlanda rail link

The Swedish National Audit Office has audited experiences of the functioning of the PPP solution for the Arlanda rail link over the twenty years that have passed since the Arlanda rail link contracts were signed.

Audit background

The Arlanda rail link, which came into operation in 1999, is the first and as yet only major national infrastructure project carried out as a public-private partnership (PPP). The Arlanda rail link was built by the private company A-Train AB, which also financed large parts of the investment. The Arlanda rail link is owned by the state-owned enterprise Arlandabanan Infrastructure AB (AIAB), while A-Train has the right of use of the tracks and stations and operates the Arlanda Express airport link. The Arlanda rail link contracts regulate the rights and obligations of AIAB and A-Train. The contracts run for 45 years (1995–2040) with a 10-year extension option.

Audit reasons, purpose and delimitations

There is limited experience of how PPP solutions impact the ability of central government to monitor and influence the services produced. The formulation of terms and conditions in PPP contracts may be significant for central government influence, for example as regards design of the services, the rights and obligations of the parties as well as renegotiation opportunities. It could also have an impact on central government's ability to achieve political objectives. Several major infrastructure projects are currently being analysed and alternative forms of financing, including PPP, are being discussed for them.

The purpose of the audit is to highlight experiences of PPP solutions for the Arlanda rail link, ahead of future decisions on forms of implementation of infrastructure projects. The audit did not include comparisons between the Arlanda rail link PPP solution and other

PPP projects in Sweden or comparisons with other forms of implementation of infrastructure projects.

Audit findings

The audit shows that the PPP solution for the Arlanda rail link has essentially worked well, but there are both advantages and disadvantages and these are experiences that should be taken into account if PPP is to be used in future infrastructure projects.

Cost benefit analysis is necessary for following up the benefits even for PPP

By carrying out cost benefit analysis (CBA) in advance, that is before procurement of infrastructure projects, it is possible to evaluate at a later date whether the projects have contributed to social benefits as intended. This applies even when PPP is the chosen form of implementation. In the case of the Arlanda rail link no CBA was ever carried out for the project and the traffic solution that was ultimately implemented. The CBA used as a basis for decision-making referred to another traffic solution than the one eventually implemented. Hence there is no data quantifying the social benefits the Arlanda rail link was to contribute.

The quantitative data existing ahead of the decision to build the Arlanda rail link consisted of forecasts of passenger numbers. These forecasts have proved to be overestimated, which to some extent is explained by fewer air passengers than expected. The original forecasts estimated between 5 and 10 million rail passengers in 2005, while the actual figure was 3.4 million. The fact that there were fewer rail passengers to Arlanda than projected indicates that social benefits has not been achieved to the extent expected.

One objective of the Arlanda rail link was to provide benefits in the form of a better environment. More than 60 million passengers have travelled by train to Arlanda since the service started to operate. If these passengers had travelled by car or bus instead of by rail it would have entailed costs to society for carbon dioxide emissions and congestion. Thus the Arlanda rail link has brought environmental benefits in the operational phase. However, the total environmental cost of the actual construction of the Arlanda rail link is unclear. Consequently, the extent of the environmental benefits of the Arlanda rail link is uncertain.

Risk distribution and financing solution determine the design of PPP contract terms

The distribution of risks in PPP projects and the proportion of central government financing impact the formulation of the terms and conditions of partnership. This also has implications for the influence of central government over the use of the facility the partnership refers to: The greater the share of the risks and financing borne by central government, the greater the influence.

The distribution of risk determined for the Arlanda rail link means that central government is not liable for any of the risks associated with construction and operation. These risks are borne by the private partner, A-Train. A-Train also financed the major part of the construction of the link, which means that the central government budget was relieved of a considerable part of these costs. An estimation is that central government accounted for a third (about SEK 1.4 billion) of the construction costs. In the operational phase A-Train accounts for all the costs of services, operation and maintenance. Central government costs in the operational phase consist of interest on the conditional loan issued to A-Train. Central government interest expenses for the period 1995 to 2014 were SEK 874 million. Central government financial risk is limited to the risk of non-repayment of the conditional loan.

The risk distribution and financing of the Arlanda rail link required a long contract, 45 years with the option of a 10-year extension, with limited possibilities of renegotiation by central government. This was to guarantee that A-Train and its lenders would be compensated for their risk-taking and receive a return on their investment. Thus central government has limited possibilities of negotiating changes, even if changes in the surrounding world were to make this necessary.

Examples of changes are deregulation of the Swedish railway market and the introduction of new EU Directives. Central government has dealt with these changes by exempting the Arlanda rail link in legislation. For example, in the Railways Act, the Arlanda rail link is exempted from open access for train operators. Another example of change is the increased demand for train travel, requiring more capacity on the Arlanda rail link. The potential of central government to meet increased demand is limited if this were to require renegotiation of the terms and conditions of the contract.

As compensation for its risk-taking and remuneration for investment and operating costs, A-Train has the right to determine ticket prices on Arlanda Express and to collect all ticket revenues. The payment must also provide a reasonable return to A-Train and its investors. At the same time the terms of the Arlanda rail link contracts give A-Train some

protection against competition. Even if other train operators can apply to provide services on the Arlanda rail link, under the terms and conditions of the contract A-Train has the right of use of the track throughout the contract period. The company also has the right to operate a certain number of trains per hour and the company's trains have priority in the event of service disruption. The price of a journey on the Arlanda Express is currently higher than for alternative modes of transport. A relatively high price may mean that fewer people decide to take the train, which has a negative impact on social benefits. But it is not possible to say what the price would have been if the Arlanda rail link had been built and operated in another implementation form.

Cost follow-up enables comparison with other forms of implementation

Lower total cost is often the main argument for implementing a project as a PPP. One argument for choosing a PPP solution for the Arlanda rail link was also to test a new form of financing for infrastructure projects. However, the Government has not carried out any follow up to find out if the PPP solution gave a lower overall cost than if the project had been carried out with other implementation and financing forms. The existing follow-up of costs was done by the Swedish NAO in 2004. Nor are there any analyses showing how the cost outcome could have been with a more traditional implementation form. There is nothing to indicate that the construction of the Arlanda rail link through PPP cost more than if another implementation form had been chosen. But neither is it possible to assess if the total costs were lower.

PPP can contribute to completion of construction projects in time and their operation with fewer disruptions

PPP can give the private partner incentives to complete construction within the time set and also to build and operate the facility to a quality that keeps down the costs of operation and maintenance. The Arlanda rail link was essentially completed on time. The compensation model, in which A-Train receives compensation for its investment costs through collection of all ticket revenues, gave the company the incentive to start services as quickly as possible. Being able to open the line without major delays also meant that societal gains in the form of environmental and time benefits could be realised at an early stage.

Since services started the Arlanda rail link has functioned without major disruptions or stoppages and with good punctuality. The compensation model gives A-Train incentives

to ensure that train services are operated without disruption. The obligations and rights of A-Train under the contracts also promote punctuality. For example, A-Train is obliged to run at least four trains per hour in each direction but also the right to run six trains per hour. The company's trains also have precedence in the event of disruption.

The design of PPP contracts impacts use

The Riksdag's intention was for the Arlanda rail link to be economically motivated, lead to a better environment and be well integrated with the rest of the railway network. To achieve these objectives, the conditions for optimum use of the link must be in place.

Even though to date the number of rail passengers has not been as high as originally expected, numbers have been growing. Between 2005 and 2015 the number of rail passengers increased from 3.4 million to 5.4 million per year. The Arlanda rail link is well integrated with the rest of the railway network in that regional and long-distance trains use the track. Since 2012 SL, the Greater Stockholm public transport service, runs commuter trains on the track. In 2015 a third of rail passengers to and from Arlanda used other operators than A-Train.

With increased air travel and more places of work in the Arlanda area, there is a need to increase the capacity of the Arlanda rail link, so that even more people can use it. Some of the conditions of use in the Arlanda rail link contracts make it difficult to further increase the number of trains using the tracks, particularly during the busiest hour between 16.45 and 17.45. For example, the right and obligation of A-Train to run a certain number of trains per hour means it is more difficult to plan timetables and thus enable for example SL's slower commuter trains to run a more frequent service. Under the contracts A-Train does not need either to convert existing trains further or invest in new trains, unless it is profitable for the company.

The design of the platforms at Arlanda airport and at Stockholm central station may have consequences for how the Arlanda rail link can be used after the end of the contract period. To facilitate boarding, A-Train built platforms that are higher as well as shorter than the platforms at most other railway stations in Sweden. If, after the end of the contract period, train operators want to run other types of trains than those currently used by A-Train, it will require investments. If deviations from standard as regards the design of platforms for example, are to be accepted in future PPP contracts, the advantages and disadvantages of this should be analysed.