



Source: Oras

Arlanda Express Rail Link, Stockholm, Sweden

DESCRIPTION

Sector	Transport Infrastructure – Airport Rail Link
Location	Stockholm, Sweden
Procuring authority	Arlandabanan Infrastructure AB (AIAB) – a state owned company which supervises the state's rights and obligations with regard to Arlandabanan. AIAB's assignment is to own and manage the railway system from Rosersberg via Arlanda Airport to Odensala (Arlandabanan) as well as let the line and supervise rights that are needed to operate rail transport between Arlanda Airport and Stockholm Central Station to A-Train.
Concessionaire	Arlanda Link Consortium / A-Train AB
Background	<p>The Arlanda Express Rail Link (the Link) is a two-track railway from the Stockholm Central station to the Arlanda Airport (the Airport) which allowed an expansion of the airport and contributed to emissions reduction. The existence of the Link was a condition for the approval of the 3rd runway by the government.</p> <p>The Airport has 4 terminals connected to Stockholm by many transportation alternatives. The Airport has 3 train stations, of which Arlanda North Station and Arlanda South Station, are both operated exclusively by Arlanda Express.</p> <p>In 2014, the 22,5 million passengers used the Arlanda Airport. Between 2005-2015, the number of rail passengers increased from 3,4 to 5,4 mil. per year and trains had almost 30 % share in 2012-2014 (buses and taxis having around 19 % each and cars 29 %).</p> <p>The Link is well integrated with the rest of the railway network as regional and long-distance trains use the track. It was the first PPP project in Sweden.</p>

Description A-Train AB designed, built, financed and now operates and maintains the Link. A-Train also has the right of use of the tracks and stations and operate the Arlanda Express service between Stockholm and the Airport. For the purpose, A-Train leases rolling stock.

Scope

Construction

The project included works to Stockholm Central Station, connections to the existing rail network between Stockholm and Uppsala and 3 new stations at the Airport. The Line construction included of 3 sections:

- **Section A:** upgrading the line haul from Stockholm to Rosersberg from dual-track to four-track.
- **Section B:** building a new branch line from Rosersberg to the Airport and also 3 underground stations (one for existing regional rail services and two for the Arlanda Express).
- **Section C:** the North Bend, providing a connection from Arlanda back to the main line at Odensala.

The government financed the construction of the Sections A and C, while the private investment financed the Section B.

Operations

Train service is provided by A-Train, however, it is obliged to allow access also to other rail companies for a ‘non- discriminatory’ fee. Since 2012, the Greater Stockholm public transport service (SL), also runs commuter trains on the Line. In 2015 a 1/3 of rail passengers to and from the Airport used other operators than A-Train.

A-Train is obliged to run at least 4 trains per hour in each direction but also has the right to run 6 trains per hour. A-Train’s trains also have precedence in the event of disruption.

Trains

- A-Train operates 7 Arlanda Express trains manufactured by Alstom Transport, England, with a maximum speed of **200 km/h**.
- Each train consists of 2 engine cars and 2 passenger cars in between.
- Each train has about 200 seats each, they are air-conditioned with spacious luggage racks.
- The trains were redesigned in 2006 and in 2010-2011 all trains were rebuilt and redesigned again.
- Step-free boarding is available directly from the platforms allowing passengers to save their journey time.
- June 2022 costs: Adult ticket (26-64 years) one-way: 299 SEK (€ 28 | 690 CZK) and return trip: 579 SEK (€ 54 | 1 339 CZK).

PROJECT

Type	DBFMO
CAPEX	Sections A, B and C in total: SEK 5,95 billion (in 1999) (€ 661 million at a conversion rate of SEK/€ 9,0 as of Jan 1999). Section B: SEK 2,7 billion – privately financed. Rolling stock: SEK 850 million .
Current status	Fully operational for 23 years up-to-date since 1999.
Concession contract	The contract duration is 45 years (1995–2040) and has a 10 year extension option. The Arlanda rail link is owned by the state-owned enterprise AIAB, while A-Train has the right of use of the tracks and stations and operate the Arlanda Express airport link. The contract promotes punctuality of train service operations.

FINANCE

Payment mechanism It is the **real concession PPP**. A-Train has **the right to collect all ticket revenues and to determine ticket prices on Arlanda Express**. The payment must provide a reasonable return to A-Train and its investors, but at the same time, the terms of the Arlanda rail link contracts give A-Train some protection against competition.

Investors A-Train were acquired by Macquarie Group in 2004. In 2014, Macquarie sold its share to Portare Acquisition AB, a consortium of institutional investors involving the largest Australian pension funds, the State Super (37,5 %), Australian Retirement Trust (25 %) and Gingko Tree Investment (37,5 %).

Financing Section B was privately financed by **SEK 2,7 billion** provided by:

- **37 % Public loan: SEK 1 bln.** provided by the government.
- **63 % Private finance: SEK 1,7 bln.** structured as follows:
 - 35 % Equity: SEK 0,6 bln. provided by the shareholders.
 - 65 % Debt: SEK 1,1 bln. provided by commercial banks.

Rolling stock was leased on a SEK 700 mil. contract and was guaranteed by the state.

SCHEME Not available.

MILESTONES

- 1990: Project appraisal
- 1993: Tender launched
- 1994: Concession award
- 1995: Construction start (November 1995)
- 1999: Operations start (November 1999) – 13 months ahead of schedule

Audit results Quoting some of the outputs of the **Swedish National Audit Office** in April 2016:

Overall, PPP worked well: “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.”

Overestimated traffic forecasts: “Forecasts have proved to be overestimated, which to some extent is explained by fewer air passengers than expected. The original forecasts estimated 5-10 mil. rail passengers in 2005, while the actual figure was 3,4 mil.”

Environmental benefits: „One objective of the Arlanda rail link was to provide benefits in the form of a better environment. More than 60 mil. 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.“

Completed on time: „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 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.“

Good punctuality: „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.“

CONTACTS

Investor	Portare Acquisition AB
Concessionaire	A-Train AB
Public authority	Arlandabanan Infrastructure AB (AIAB)

LINKS

www.arlandaexpress.com/about-us/about-atrain

Sources

Notice: Based on publicly available information only. The description was not reviewed or confirmed by the Concessionaire or any of the project parties.

Swedish National Audit Office (RIR 2016:3): Experiences of the PPP solution for the Arlanda rail link, April 2016

Jan-Eric Nilsson, Lars Hultkrantz, Urban Kaplström: The Arlanda Airport Rail Link: Lessons Learned from a Swedish Construction Project, January 2008

Cristina Mestre Rodriguez: Development of the connectivity of Arlanda Airport, Sweden 2015

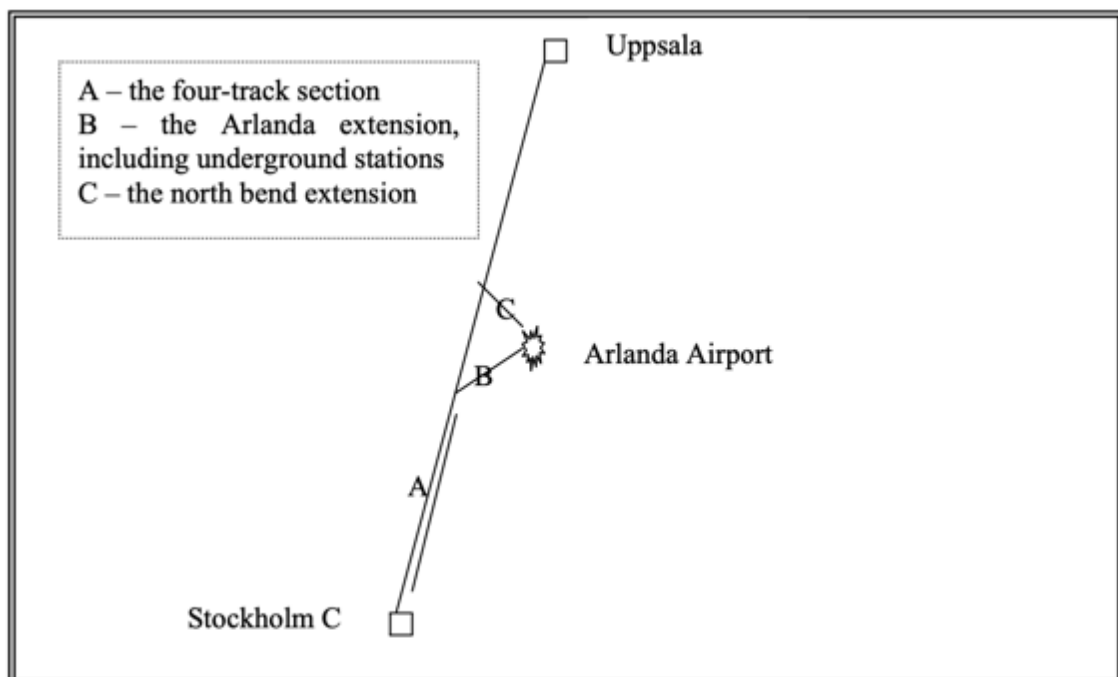


Figure 1: The prime components of the Arlanda airport rail link.

Source: The Arlanda Airport Rail Link: Lessons Learned from a Swedish Construction Project, January 2008