

The New Berlin Airport (BBI): To late, to expensive and to small! A case study on the politics of airport construction

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Overview

- Scope of the study:
- to focus on the delivery of the passenger terminal building
- the runway system and airport access are excluded in the current analysis

Overview/ Outline

- 1) History: Aviation policy in West-Berlin before and after the fall of the wall
- 2) attempted privatization with a BOT
- 3) Organization: to build the airport under the owners control
- 4) Organization: Strengthening supervision
- 5) Organization: Retendering in multiple lots
- 6) Issues related to the planning approval decision

Overview

- 7) Major changes to the original plan/technical alterations
- 8) Tenders undertaken with designs that were subsequently changed
- 9) Operational difficulties and switching from minimum bids to cost plus contracts
- 10) Operational difficulties related to breaking of contractual relations
- 11) Operational difficulties and further management changes

Overview

- 12) Cost of construction and delays
- 13) Insufficient Capacity
- 14) No credible forecast
- 15) Review: Major Mistakes:
 - Dysfunctional ownership structure
 - Dysfunctional management structure
 - No sharing of risk instead of including private financiers who put their own capital at risk.
 - underestimation of the coordination complexity with large no of contracts and frequent changes

History: Aviation policy in West-Berlin before and after the fall of the wall

- After unification and legal changes, Schoenefeld airport, now a private corporation (GmbH) became part of the state of Brandenburg,
 - At Tegel airport, the federal government had 56% of the equity of the airport
 - Both airports were put into a new Corporation, the FBB (Flughafen Berlin-Schönefeld GmbH) on 12.12.1991. with the states of Berlin and Brandenburg with a 37% stake each and the federal government holding a smaller remaining share.

History: Aviation policy in West-Berlin before and after the fall of the wall

- But in 1996 , this recommendation was overturned by a political decision for Schönefeld (SFX) even so it was ranked seven's in the evaluation
- The new airport was to be operational in 2007, and the other 2 Airports were to be closed
- It was also decided to privatize BBF/BBI, and have it developed, built, owned and operated by the private sector.
- 1999 Official planning application (Planfeststellungsantrag) filed, and initiated environmental impact studies

History: Aviation policy in West-Berlin before and after the fall of the wall

- Hochtief wins the privatization bid in 1999, but it is successfully challenged in court (Oberlandesgericht Brandenburg) by the other bidder IVG.
- A new tender has to be arranged in 2002. Both bidders now made a joint offer for 2 billion €
- The Hochtief/IVG offer was however rejected by the 3 owners so in 2003 the privatization attempt abandoned. Hochtief and IVG are compensated with 40 million €

Organization: To build the airport under the owners control

- In 2004 the mayor of Berlin Klaus Wowereit and the Prime minister of Brandenburg Platzeck then decided to build the airport under the owners control: “Wir bauen den Flughafen in eigener Regie/now we have to tackle it ourselves”
- Now FBB, was tasked with the new airport development. From 2004 on, this effort was led by Thomas Weyer, Geschäftsführer BBI/Technik, who worked before on the Hochtief privatization effort.

History: Organization: To build the airport under the owners control

- Still, a megaproject was ‘squeezed’ into an existing corporate governance framework designed for a going concern (Fiedler and Wendler, 2014, p. 5)
- Weyer aimed to have a single general contractor for design, construction planning and terminal construction work
- Planungsgemeinschaft Berlin-Brandenburg International (“**pg bbi**”) was formed and hired as general planner in January 2005, a JV of architects Gerkan, Marg und Partner and JSK Architekten, who had worked on the previous privatization efforts

Organization: Retendering in multiple lots

- In 9 October 2007 the tender for the BER passenger terminal, bridges and luggage system was annulled, perceived as uneconomical.
- Instead, the works was be tendered out in seven lots and FBB, by undertaking the detailed design themselves, would save Euro 350 million
- The already completed tender for the terminal was canceled and re-tendered in 37 multiple lots to allow for smaller regional companies to participate

Organization: Retendering in multiple lots

- The analysis by Drees & Sommer's of the new "seven lot" tenders showed significantly higher costs.
- Except for the baggage handling system costs were 55% to 175% higher than estimated, so that the construction costs of the passenger terminal would increase to approximately Euro 1.1 billion.⁸⁴ (Drees & Sommer, cited in Fiedler and Wendler, 2014, p. 24)
- FBB then decided to retender and to break up the terminal construction into around 35 lots

Organization: Retendering in multiple lots

- This was a result of political pressure to allow more regional companies to be involved
- But Hochtief argued that breaking the project up into so many lots would make it more complex, and result in a completion date much later than originally planned (Wendler, 2014, p. 23)
- Drees & Sommer apparently reported in November 2008 that the envisaged opening date and the estimated costs from the second tender were not realistic

Organization: Retendering in multiple lots

- Through the change in the award structure FBB turned from principal and client to ultimately something resembling a general contractor
- FBB was now in charge of the detailed design and the interface with around 35 contractors
- But FBB did not revise its structure and internal processes accordingly, nor did they allow sufficient time for detailed pre-planning as they were not willing to postpone the then intended completion date in 2011

Issues related to the planning approval decision

- At the time of planning in the mid-nineties, Berlin based traffic was about 11mill. Pax
- So the original planning was for 17 mill. Pax then expanded to 27mill Pax
- 2006 (or 2008) start of terminal construction (at a planned cost of 2 bill € and expected opening by 2011)

Major changes to the original plan/technical alterations

- construction on the BER passenger terminal started on 11 July 2008 following initial planning application from 2004 and its judicial approval from the 16.3 2006 (BVerwG)
- But the subsequent changes to the design were so substantial that new building permits were sought on 30 March 2009.
- Ongoing design changes were at the heart of the complex problems with the fire safety services that have not been solved to date.

Major changes to the original plan/technical alterations

- But this came at a high cost!! According to one source, FBB requested around 150 changes in the time from January 2008 and December 2012
- The Architect Gerkan from reported 286 change requests and 201 orders by FBB, i.e. a total of 487 changes requested
- The continuous change requests, both a symptom of governance breakdown and a root cause for the failure of the project (Fiedler and Wendler, 2014, p.44)

Operational difficulties and switching from minimum bids to cost plus contracts

- because of the expected further delay there is a mad rush to finish with switching of contract types from minimum bids to cost plus contracts, leading to much higher costs and reduced coordination before the planned opening in 2012
- FBB then ended up bypassing tendering rules – issuing not work, but service contracts, with very different incentive structures
- As it later turned out, the repair of the effects of this rush to completion would ultimately take year (Fiedler and Wendler, 2014, p39)

Operational difficulties related to breaking of contractual relations

- After the failed opening date in 2012, the Chairman of the Board of FBB Klaus Wowereit sacks Manfred Körtgen, tech. director and the general planner PG-BBI and takes the architects Gerkan and JSK to court.
- As a result the general planner/controller PG-BBI and the architects Gerkan and JSK depart (about 300 persons) with all the technical documents, and also the most important builders of FBB quit.

Operational difficulties related to breaking of contractual relations

- With these dismissals, the collected knowledge is lost in one swoop and there's virtual standstill at the construction site for a period of about two years, adding to the financing cost of BBI
- Critics argue that the remedying of the errors could have taken place within the scope of the work contracts with PG-BBI and the works contracts awarded to contractors, but it seems that Wowereit was looking for a scape goat.

Operational difficulties related to breaking of contractual relations

- - Klaus Wowereit resigned in January 2013 as Chairman of the Supervisory Board of the airport company.
- His successor is Matthias Platzeck, Prime Minister of Brandenburg, retired for health reasons in August 2013
- As a result of the further delay the board dismissed Rainer Schwarz, FBB CEO and Commercial Director since 2006 in Jan. 2013

Operational difficulties and further management changes

- In March 2013 Hartmut Mehdorn becomes the new airport boss, previously CEO at Airberlin, with the aim to ‘try to put humpty back together gain”
- In addition to trying to get the smoke extraction systems working, there was also a problem with the emergency doors, that could not be controlled electronically, and with water pipes that were too small for the number of the sprinklers.

Operational difficulties and further management changes

- Aman transfers the project management to CBP, an independent controller. Their findings prompt further shifts in the opening date in 2014, 2015, 2016 and 2017, but Aman has to leave his post in disagreement with Mehdorn already in Nov. 2013.
- He is replaced by a new BER-Technik-Chef Jörg Marks from Siemens, who's main priority is to solve the intricacies and deficiencies of the fire protection and smoke extraction devices installed in the terminal building

Operational difficulties and further management changes

- In December 2015, Mehdorn resigns, and is replaced by Karsten Mühlenfeld (2015 - 2017), who was nominated by the state of Brandenburg.
- In 2017 Mühlenfeld is fired while trying to replace BER-Technik-Chef Jörg Marks with a railroad construction manager who was to be only responsible for the new airport, without consulting the board of supervisors.

Operational difficulties and further management changes

- Mühlenfeld is followed by Engelbert Lütke Daldrup (2017), former secretary of state, Berlin and board member, as a “Berlin appointed” manager.
- Insufficient capacity: Under Mehdorn, the official opening of BER was planned to take place in the last quarter of 2017
- But 6 years after the initially planned opening it is evident that the capacity of the main terminal is too small for the expected traffic in 2017

Insufficient Capacity

As a first step, the airport management decided to keep the old SXF Terminals (8-10 Mill. Pax Capacity) but this is very far from the new terminal.

The next slide shows the remaining capacity shortage at BER, even after the terminal capacity will be slowly increased from 22 to 27 Mill pax.

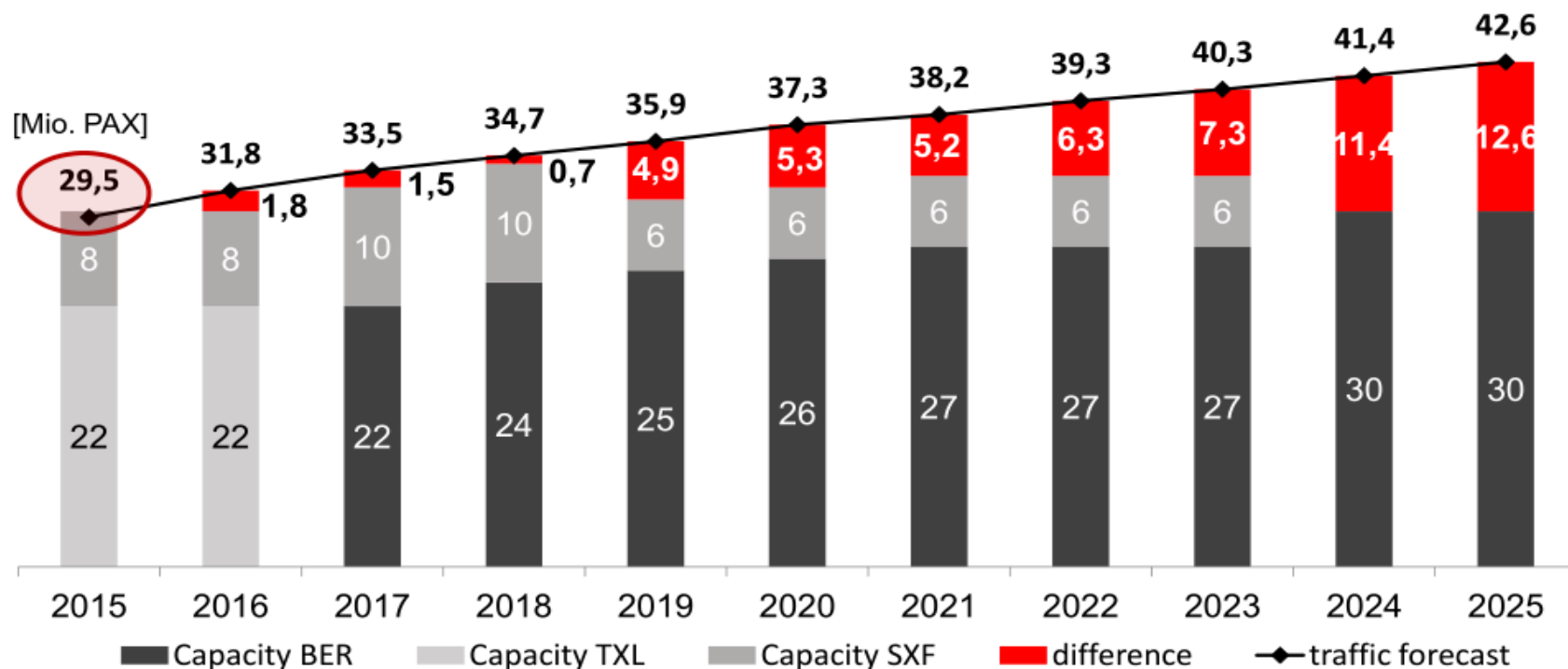
One option is therefore to keep TXL open longer, even so it is mandatory to close TXL six months after BER is opened

Midterm Capex 2016 - 2023

Traffic Forecast and Capacity Demand

The current Passenger volume exceeds the assumptions of the planning approval of 1999: „The opening capacity should be 20 Mio. PAX [2010] ... per year.“

The planned and realized infrastructure does not cope with the future capacity volume.



Insufficient Capacity

When the capacity deficits became public, a political initiative was formed in 2017 to keep TXL open. A poll on the Federal Election ballot in favour of TXL received a majority of 56,4%

Presently there is a political struggle whether it is legally possible to keep TXL open, as the administrative ruling related to the construction permit from 2012 stipulates to close TXL 6 months after the opening of BER.

Review: Major Mistakes

- 1996 Location decision was false, because of limited options for expansion [no third runway]'s high noise protection cost, the restricted night operations
- The so-called “ consensus agreement” was a political decision for Schönefeld (SFX), even so it was ranked seven's in the site evaluation!!

Review: Major Mistakes

- Disfunctional ownership structure with three owners: state of Berlin, state of Brandenburg (37% each) and the federal government of Germany (26%) with different political objectives, depending on elections and coalition
- With the federal government holding a 27% share of FBB and the limited authority at the federal level concerning aviation policy/most of it is decided at the state level/led probably to a insufficient attention to mobilize a quality of expertise which the two state governments were not able to contribute

Review: Major Mistakes

- Existence of differences in the political actors' self-interest a major problem (Flyvbjerg, 2009)
- 1. Existence of differences in the actors' self-interest (3 different owners)
- 2. Presence of asymmetric information (between AR/ board and Managements)
- 3. Actors have different risk preferences (3 different owners)
- Cost underestimation also seems to be an issue.

Review: Major Mistakes

- Dysfunctional management structure
- The project was not embedded in a comprehensive project governance framework
- The Project was without a general contractor who would take over the technical and financial risks of the execution process and of handling the subcontractors in an adequate way. All risks remained with FBB and its stakeholders, i.e. the public budget
- No sharing of risk instead of including private financiers who put their own capital at risk.

Major Mistakes Dysfunctional management structure

- Other airports control the business by experienced financial, aerospace, engineering and construction managers
- "the megaproject was 'squeezed' into an existing corporate governance framework designed for a going concern (Fiedler and Wendler, 2014 p.5)
- At FBB politicians, civil servants and trade unionists monitored the project. At times, secretaries of state sat in the shareholders' meeting, which were to control their prime ministers in the supervisory board.

Review: Major Mistakes

- Hundreds of more or less drastic plan changes to size and layout increased the complexity and are a major cause of the many problems of the project
- The move from a planned single major contractor with the BOT concept to owner managed construction resulted in 37 single lots were awarded were distributed to more than 50 companies. The resulting "interface problem" came into play, which accompanies the project until today.

Review: Major Mistakes

- It seems more the case of underestimation of the coordination complexity, especially once the interaction of the different delay to changes took place on the production process

Major Mistakes double role of pg bbi

- rule violations
- Until 2012, site management and construction control were put in one hand: The PG-BBI, controlled by architects Gerkan and JSK, was commissioned with both the general planning, as well as the construction supervision of the project.

Major Mistakes

- project controlling and project documentation were only subject to self-regulation.
- The mad rush before the planned opening in 2012 to finish with switching of contract types from minimum bids to cost plus contracts, leading to much higher costs and reduced coordination, with faulty planning documents,
- FBB could not anticipate strongly growing demands on the side of safety and functionality of technical building services.

Thank you for your attention

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