# Florence Light Rail

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In the stop-start world of Italian infrastructure projects, the Florence Light Rail Project stands out as a guiding light – the first public transport PPP to make it off the drawing board in the country

This scheme is unique as a pathfinder in that it incorporates an entirely new project financing structure, one that sees the local authority take on a vast majority of the scheme's risk, while laying down guarantees that the private sector finds hard to resist.

As a highly-leveraged project with keen pricing and a new style of financing, the greatest hurdle it had to overcome was to convince the private sector and banking community of its feasibility before bringing them to the table.

Once that was achieved – and it took a long time to win them over from the UK-style of PPP transaction – the figures spoke for themselves.

**Rationale**

Trams have not been used in and around Florence city centre since 1958, when the last of the light rail fleet – which had been running for decades – was scrapped in favour of buses.

However, almost half a century later, not only has the number of tourists flocking to the city increased but the population and traffic has spiralled turning suburbs into municipalities in their own right.

The light rail scheme coincides with the municipality's decision to shift the balance of the city's mobility system away from the fleets of polluting busses to quicker, cheaper, larger and more eco-friendly trams.

The system will provide a viable alternative to the chaotic Italian-style congestion.

**Background**

Towards the end of the1990s the Inter American Development Bank (IDB) funded a study by a group of European academics into funding infrastructure projects with unbundled mechanisms.

The study sought ways to minimise embedded conflicts of interests between parties delivering standard BOT schemes by reallocating the project risk away from concessionaires by encouraging the public sector to take on more responsibility in deals.

The unbundled structure tries to create a neutral concession – one which requires very little equity, so there's no risk on behalf of the concessionaire.

At the time of the study publication, one of the authors, Dr Remy Cohen of the Bocconi University Business School in Milan,  warned that the projects most prone to suffering from conflicted interests between contractors, operators and shareholders etc were those with uncertain demand flows such as the large-scale transport schemes.

Bundling the risk tends to increase investment costs which drives up user tariffs making it necessary to amortize investment costs or increase government subsidies.

Projects adopting variations on this method had cropped up in Chile, Spain and the US by the time that Parisian Metro operator RATP proposed to deliver Florence’s light rail project on a similar basis.

Having already awarded the contract for the €140m (US$174m) state-funded first line of Florence’s light rail system the municipality of Florence released a tender notice in October 2002 for the construction of Line 2 and 3 and the operation of the entire tram system as a PPP project.

Line 1 – which is currently under construction – will run 7.5km from Florence’s main station to Scandicci, one of the town’s suburbs. It is being built by a 16-strong team of local firms headed up by Consorzio Coopoerative Costruzioni (CCC).

In December last year, an RATP International group including ATAF – Florence’s public transport system operator – was selected as preferred bidder for the 35-year, €347m (US$432m) scheme.

RATP is already active in Tuscany where it is a shareholder in Ferroviaria Italiana (LFI) - which operates rail and bus services around the town of Arezzo.

Massimiliano Lombardo, a senior partner at Studio Legale Lombardo says: ‘One of the most crucial aspects of the deal was the fact that the consortium was led by two public sector transport operators.

‘The companies can use their experience to resolve technical issues to achieve an efficient system, thus obtaining the expected performances and the estimated cash flows.’

Gestione ed Esercizio del Sistema Tranvia – the scheme’s O&M company comprising RATP and ATAF – decided to use the experience of the group of Italian firms working on the construction of the first line by sub contracting them for work on Lines 2 & 3.

The consortium includes:

O&M – RATP with 51 per cent, ATAF (49 per cent)
EPC of trains and signaling equipment – AnsaldoBreda, Ansaldo Trasporti
D&B of traction power supply – Alstom Group
civil works – Consorzio Coopoerative Costruzioni (CCC), Baldassini e Tognozzi, Consorzio Etruria, Cooperativa Muratori e Braccianti di Carpi (CMB), Consorzio Toscano Costruzioni (CTC), Dicos and Coestra
signaling and date control – Sirti, Ciet
works supervisor – Architecna Engineering

**The project**

The project is divided into the construction of two light rail lines (2&3) and the operation of lines 1,2 & 3.

The 7.3km Line 2 will run east-to-west from the Florence airport (Firenze Peretola) to Piazza della Libertà which serves the university and city centre.

The line will feed the future station for the Milan-Rome high speed rail link and could be expanded to Bagno a Ripoli - the south eastern part of the city in 2007.

Line 3 will stretch 3.6km, linking the hospital at Careggi to Viale Strozzi. If the second phase of the track goes ahead, it will be extended a further 8.5km to Rovezzano.

The network will be standard gauge and run off 750V DC while up to 29 low floor Sirio LRV trams manufactured by

Ansaldo Breda will operate a 3 minute interval service at peak times in addition to the 19 commissioned for Line 1.

Bar a small number of junctions, the entire route will be on a reserved rights-of-way basis whereby trams will have priority at all intersections. Underpasses for cars at two major squares are being built to leave the surface free for the tram and pedestrians.

The construction time for the two lines is slated to take up to five years followed by an operating period of 30 years.

If the construction phase is delayed through no fault of the concessionaire, the 30-year operating period is assured by the municipality.

**The unbundled structure – transfer of risk**

Once the RATP consortium had submitted its proposal to undertake the PPP project using the 'unbundled' financial and legal structure, the difficult task of trying to persuade the municipality of Florence to understand and adopt the alternative method of project financing came down to its creators and financial advisors – Cohen & Co – directed by Dr Remy Cohen – and legal advisors Studio Legale Lombardo.

Cohen explains: 'We had to explain in detail to the city council exactly how the whole model worked. They had to understand that compared to the standard BOT concession agreement it had a greater control over investment costs.

'In fact the municipality was funding a great part of the project and was assuming the bulk of the demand risk. Thus they required a greater involvement and control on the overall project process, ' he added.

The largest part of the risk that the granting authority had to take was to guarantee the network's traffic revenues during the first 10 years of operation.

The expected level of demand for the network is scheduled to reach 40 million passengers in that time, a benchmark on which the council's results will be based.

Not only will any shortfall in revenue suffered during that period be covered by the council, but any profits made by the service will not line its pockets, instead it will automatically be put towards reducing the project's senior debt.

Another important risk which was taken out of the project and handed over to the public sector was the responsibility of the underground utilities network. The concessionaire will only start its contractual obligation once the municipality has undertaken the underground work.

Cohen said: 'One of the most critical elements of building an inner city transit system is redevelopping and relocating the underground services – a very risky task because you never know how much work is needed until you start digging.

'Because all the utilities networks are publicly owned and operated, the municipality is much more capable of handling the works than a third party private sector partner.'

The works will be funded by a public subsidy and are expected to cost €25.6m (US$32m).

The municipality also had to enter into a step-in guarantee, whereby it will guarantee the refinancing of the deal at the tenth year of operation.

Infrastrutture SPA – a government agency specifically set up to help fund large scale infrastructure projects – stepped in to provide extra security to the council by committing to the 10-year buy-out for a commitment fee paid by the concessionaire over 15 years – it includes the 5 year construction period.

According to Cohen, drafting in the AAA-rated, publicly-funded body provided a critical element of public party mitigation to the deal, reducing the senior debt pricing and making the deal more attractive for the municipality – which would find it easier to negotiate and deal with another public entity.

Legal adviser Massimiliano Lombardo says: 'The central role the municipality plays in the deal – rather than being a counterpart player – is key to the success of the project.

'Not only is it a shareholder and taking a huge amount of project risk, it is involving other local bodies in the scheme, helping it to find solutions for any hurdles faced and actively contributing to the development of the city's transport policy.'

**The deal**

With a central government grant of €113m (US$140m), it was arrangers that then had to be persuaded to participate in the €337m deal which had few of the trademarks of a traditional PPP deal.

Calyon and local bank Monte de Paschi di Siena assumed the role of the scheme's MLAs jointly with Infrastrutture SPA

Together these banks provide a three tranche senior debt facility of €229.5m (US$286m). Infrastrutture SPA also underwrote €50m (US$62.2m) of the debt as well as the refinancing at the end of year 15.

According to Cohen: 'The banks were highly professional and made a real effort in understanding the scheme, adapting it to the Italian legal framework and accommodating the needs of the municipality, contractors, operators and lenders for the success of the project.'

When the debt facility was syndicated, it was over-subscribed and five participant banks were selected. They included:

- Banca Intesa
- Banca Opi
- Dexia Crediop
- RBS
- West LB

Due to the highly-leveraged, low-risk nature of the deal – the sponsors provided just €7m (US$8.72m) of equity – the senior debt was priced at Euribor plus 125 basis points during the five-year construction phase and Euribor plus 115 basis points until the end of the first 10-years  of the operational period.

A standby equity facility of €4.5m (US$5.61m) was also secured after the deal closed to ensure that under any unforeseen circumstances – say a change in fiscal policy which will require the concessionaire to pay extra taxes – will be covered.

The consortium and municipality have until June 2006 to revise any part of the scheme and any significant amendments made will be funded by a standby loan facility of €11m (US$13.7m).

The municipality was advised by its own lawyers while Allen & Overy acted for the banks. Studi Strategici di Impresa of the University of Florence acted as financial adviser for the council.

As technical advisors to the sponsors, Steer Davies Gleave (SDG) reviewed all project documentation and contracts, identifying and assessing possible risks and finding best solutions to mitigate uncertainties.

SDG and local engineering firm Proger have just signed a five-year contract to support Banks during the implementation phase.

**Conclusion**

This innovative project saw the municipality of Florence join forces with the international banking community to dream up a fresh form of financing for an infrastructure project – the first public transport PPP in Italy.

With the local authority taking on the whole risk element out of the deal, all that was left was to acquaint the sponsor and the banking community with a new structure that is sure to be copied in other cities around Italy – and may even make it on to a more international footing.

This project sets the scene for many other major cities with an ageing urban public transport system and a historic city through which to run it. And if Florence can make it work, there's no reason why other cities cannot do the same.

**Project in more detail**

The project at a glance

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| Project Name | Florence Light Rail |
| Location | Florence, Tuscany (Italy) |
| Description | The tram project comprises the construction of two lines forming a 19km network crossing the historic city centre serving Florence airport, the main railway station and the hospital and university complex<br>The first line - which is already under construction under a seperate D&B project - is set to open early 2008 while the DBFO Lines 2 & 3 are slated for operation in 2010 |
| Sponsors | RATP<br>ATAF (local bus operator)<br>Alstom<br>AnsaldoBreda<br>a consortium of local contractors |
| Operator | RATP<br>ATAF |
| EPC Contractor | Alstom |
| EPC Sub Contract 1 | Ansaldo Trasporti Sistemi Ferroviari |
| EPC Sub Contract 2 | AnsaldoBreda |
| Total Project Value | €347m (US$432m) |
| Total equity | €7m (US$8.72m) |
| Equity Breakdown | €4.5m (US$5.61m) standby equity facility |
| Total senior debt | €229.5m (US$286m) |
| Senior debt breakdown | €11m (US$13.7m) standby facility |
| Senior debt pricing | Euribor plus 125 basis points during construction<br>Euribor plus110 basis points during operation |
| Debt:equity ratio | 96.5: 3.5 |
| Agency loans | State Government grant -€113m (US$140m) |
| Mandated lead arrangers | Calyon<br>Monte dei Paschi<br>Infrastrutture Spa |
| Participant banks | Banca Intesa<br>Banca Opi<br>Dexia Crediop<br>The Royal Bank of Scotland<br>West LB |
| Legal Adviser to sponsor | Studio Legale Lombardo |
| Financial Adviser to sponsor | Cohen & Co |
| Legal adviser to banks | Allen & Overy |
| Legal adviser to government | Internal legal department of Florence Municipality |
| Financial adviser to government | Studi Strategici di Impresa (University of Florence) |
| Technical and commercial adviser to government | Steer Davies Gleave |
| Date of financial close | 21/06/05 |