

Contracting for Ticketing Services

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Introduction

Modern methods of revenue collection have turned ticketing contracts into complicated information technology projects without necessarily bringing all the disciplines of such systems. On the other hand, standard IT practices are not always suitable for the sort of hostile environments that house revenue collection systems, principally buses where heat, shock and vibration would lay waste to most IT systems. Moreover, the high cost of updating or maintaining front line systems makes it very challenging to keep up with the rapid obsolescence cycles that the IT industry considers normal. It is challenging enough to build a system that offers some prospect of working. Wrapping these systems in long term, inflexible contracts with lenders and contractors opposed to making changes presents further challenges. London's experience with such a contract over the last decade offers some lessons for any transit system about to use a public private partnership (PPP) to build a ticketing system.

London entered into a 17-year public private partnership contract in 1998. Having achieved the basic aims of the contract but still frustrated with the cost and inflexibility the contract imposed on its services London terminated the contract early. The contract will come to an end in August 2010, completing its full life cycle.

The Origins of Prestige

In the early 1990s London Transport (LT) started assessing its needs for an upgrade to its ticketing system, which ultimately became the Prestige project. Until the 1970s LT had built its own ticketing systems and had a long track record of innovation in this area. Mechanical ticket dispensing machines were first deployed on the London system before the First World War with smarter electromechanical machines deployed in the 1930s. A magnetic stripe ticketing system was installed progressively on the system starting in 1963. When the Victoria Line opened in 1969 it was fully equipped with pneumatic padded gates and multi-fare ticket machines, i.e., those that could sell the full range of single, return and one-day tickets available on the system and return change. And, the entire system worked on new magnetic stripe tickets, a technology that LT played a large part in developing.

The first involvement of external contractors came in 1978 with Cubic Transportation Systems (Cubic) awarded a contract to build a few gates. In 1985 the Universal Ticketing Services (UTS) contract gave Cubic a more substantial role with London Underground. Under this contract Cubic replaced all the gates from the 1960s, first with pneumatic gates and from 1990 with electromechanical ones. New standardised ticket machines went up at every station – Multi-Fare Machines that sold the full range of tickets and many more of the cheaper Few-Fare Machines that sold only the most popular tickets. A new communications system was installed at all stations offering 9.6kbps bandwidth, state of the art for systems back then. To add to all of this, a central system was put in place that gave a degree of visibility of the entire ticketing system. When UTS investment ended in the early 1990s

nearly all zone 1 stations in central London had been gated but outside this area there was only a selection of busy stations that had been gated. By and large the system was still open.

Meanwhile, on the London Bus system Gibson ticket machines, invented by an LT engineer in the early 1950s were phased out in the early 1990s and replaced with a new generation of Clipper machines to be used by conductors. The Gibsons were really tired old machines and the Clippers were not really the answer to everything. The big change in buses that made the Clippers only partly useful was the fact that more and more buses were run without conductors with the drivers collecting fares.

So, when LT started assessing its ticketing needs in the early 1990s it had a desperate need to invest. The requirements very quickly boiled down to three needs. First, life-expired systems, particularly on buses, had to be replaced. Second, the gating of the Underground had to be completed. The Underground was losing far too much revenue due to fare evasion and gating was seen as necessary to get this under control. Finally, the emergence of smartcard technology was forcing LT staff to think more creatively about fare collection.

The case for smartcards

London Underground had seen demand increase sharply during the 1980s after three decades of decline. For a system without any additional capacity managing this demand was a challenge. The gated stations of central London posed an acute challenge – these were the busiest stations and the gates were becoming an impediment to customer movement in the stations. This was the first and most apparent need for smartcards as they held the promise of increased throughput.

The second major benefit from smartcards came from the improved logic it would allow. Magnetic stripe tickets were not capable of dealing with the complex fare set in London and clever members of the public had figured out ways around this. The loss of revenue from the magnetic stripe system was always hard to estimate, especially because the lack of complete gating meant that there was some loss of revenue anyway.

Finally, although not expressed very clearly it was understood that any means to reduce the number of tickets sold would be a good thing as ticket selling was expensive.

Prestige gets shaped

With all of these needs of the ticketing system it was clear that there was a need for major investment. A few years earlier this would have been a simple matter of doing UTS Mark II. But times had changed.

In 1992 the British Government had launched the Private Finance Initiative (PFI), a specific model of delivering PPP contracts. Britain, along with Australia, had led the way in the development of PPP contracts and the PFI was a major milestone in this process. Capital

intensive industries, such as transport became a focus of the PFI although in time the PFI model was to become more fundamental to the construction of new schools and hospitals.

At the same time LT was carrying out the Jubilee Line Extension, the first expansion of the London Underground system since the 1970s. A variety of factors led the government to conclude that LT did not have the capability to carry out major capital works and it was essential to bring in private sector expertise. This played firmly into the philosophy of the PFI – broadly articulated as a mechanism to inject private sector expertise and discipline.

Despite the supposed efficiency that PFI contractors were supposed to bring there was always a suspicion that one of the reasons for entering into PFI contracts was to keep the debt that paid for the upfront investment off the public sector balance sheet. The UK was never in danger of breaching the strict upper limits on debt mandated by the Maastricht criteria for government debt and was not bound by it anyway as it was not part of the Euro area. Nevertheless, there was a heightened sensitivity towards public sector debt making it attractive to have instruments that allowed debt to go off-balance sheet.

The government's response to a request for investment was to guide LT firmly down the path of PFI. Although the overall need was to demonstrate that a PFI contract for ticketing would be "value for money" it was quite clear that investment would be available only for a PFI contract.

LT, not surprisingly, lumped all the investment needs in ticketing into one procurement and issued a procurement notice in 1996. The notice asked for suppliers to provide gating for the Underground, ticket machines for buses, a smartcard system and much else although the theology of the PFI prevented LT from specifying any of these requirements in these terms. One of the requirements of the PFI was for the public sector to specify only the outputs it wanted without specifying the inputs. As a result the smartcard got a euphemism, the New Ticketing Medium, without any contractual specification mandating this to be a smartcard. The acronym, NTM, remained the name by which Oyster was known internally for a long time.

The end state of the procurement would be a contract where the assets were owned by the contractor until the end of the contract, the technology belonged to the contractor in perpetuity with LT being granted a licence, the performance regime would be specified at a very high level with bonuses and abatements for good or bad performance and the ability to dock deficiency points for poor performance below a low threshold. Contractual payments were targeted at outputs as well. As the contractors delivered the services in the contract the payments would step up to meet the outputs.

Crucially, all investment required to improve the service was to be made by the contractors. The investment, mainly in the form of debt, would be paid off over the life of the contract, which itself was set for 17 years.

Putting onerous requirements on the contract in an industry with very few players led to two immediate consequences. First, apart from some theoretical aspirations for widespread competition it became clear that there would not be too many bidders into this procurement. What started off as a two horse race very quickly turned into a one horse race as the size and complexity of the contract put pressures on the bidders. Second, even for the largest player in the automatic fare collection (AFC) supplier community, Cubic, this contract was too big to swallow. Prestige was, and remains, the largest contract that Cubic has ever had, with the overall value of the contract more than four times the size of the Metrocard in New York. There were some aspects of the services in which Cubic had a limited capability and it turned to International Computers Limited (ICL) for expertise in the design of the central system and also for the supply of retail terminals based on a standard ICL point of sale system. More importantly, there was an overwhelming need for a player with a strong balance sheet to guarantee the £190 million (\$300 million) debt that the contractor would need to take on. Cubic's parent company, Cubic Corporation, had a net worth that was smaller than this at that time and so it could not guarantee the debt.

All this led to a joint venture between Cubic, ICL, Electronic Data Services (EDS) and WS Atkins. The joint venture, named Transaction Systems Limited (TranSys) would, in time, have three subcontracts: one to an AssetCo, responsible for building all the systems required for Prestige; the second to an OpCo, responsible for supply of consumables, management of the retail network and some operational services; and the third a Management Contract for the operation of the joint venture. Within the joint venture EDS got the OpCo and the Management Contract. Cubic and ICL shared the AssetCo sub-contract.

The Prestige contract was signed on 16 August 1998 and would run to 2015.

Another PFI contract for power supply to the Underground was signed on the same day. And a third, Connect, for the provision of a fibre optic communications system was signed soon after. From having no experience of running long term contracts LT suddenly changed into a world where it had three. Behind the scenes work was also being carried out on the London Underground PPP, the mother of all PPP contracts. Where Prestige debt peaked at £190 million the Underground PPP would eventually raise nearly £4 billion in debt.

Service starts

Five major service milestones were set out in the contract with the first three around the completion of gating, upgrading of ticket machines on the Tube, and upgrading of bus ticketing equipment. These milestones were meant to be delivered in the first two years of the contract and were delivered successfully.

At the end of 2000 Transport for London (TfL) was formed to integrate all of London's public transport services and street management. The new agency, under direct control of the Mayor of London, became responsible immediately for London's bus service, formerly part

of LT, the Docklands Light Railway, previously an independent company, and many other services. Control of the Underground would be transferred only in the middle of 2003 after completion of the Underground PPP, which Ken Livingstone, the new Mayor of London, was opposing.

At about this time signs of trouble with the Prestige contract started to appear. This was the point at which ICL's new point of sale terminal for off-system retail was meant to go into service. Repeated failures in the device meant that TranSys was in danger of missing a contractual milestone and therefore the step up in payment. Other parts of the system under development by Cubic were also in trouble. The Station Accounting Facility, meant to properly account for cash collected at ticket offices and ticket machines, was also in trouble. This was a make or break moment for TranSys. Activities related to the launch of the smartcard, although not directly visible to LT, were also running late with ICL's back office system a much bigger worry.

The first restructuring of the contract got underway as a result of these failures. Cubic, with its direct exposure to ICL's failures in AssetCo took the lead and stepped into the work that ICL was meant to complete. Eventually, this resulted in ICL's departure from AssetCo though not from shareholding in TranSys. As difficult as this restructuring was alone, the possibility of a significant failure for TranSys to get the step-up in payments from completion of its milestones added additional pressure. A prominent failure so early in the contract would have tainted Prestige, putting it in the same box of low expectations that many other public sector IT projects fall into. Some recovery started to be made but it was clear that the New Service Live Date, the date on which all smartcard services were meant to go live would not be met.

The second restructuring resulted from the public agency integration and came soon after. From TfL's perspective, particularly under new management that could not afford a failure, a big bang approach to launching the smartcard was not wise. On the other hand, TfL was now responsible for services that were not previously meant to be a part of Prestige. The Docklands Light Railway and the Croydon Tramlink were two big services that fell into this category. Although they carried a small number of people, these two services together had nearly 100 stations compared to 275 on the Underground. The idea that these services, under TfL control, would remain outside Prestige was simply not plausible. Therefore, another restructuring was required.

Negotiations with TranSys led to a deal whereby the single milestone for the launch of the smartcard was spread into many such milestones. In return TfL got some £8 million worth of equipment to include the Docklands Light Railways and the Croydon Tramlink in the world of Prestige.

Service on the smartcard, now named Oyster, started in June 2002 as per the initial milestone set out in the Prestige contract. The last restructured milestone was delivered

only in November 2006. The initial launch consisted of a select group of TfL employees getting Staff Passes before this facility was extended to all staff starting in September 2002. The first customers to be invited into Oyster were those that held Annual Travelcards – tickets that provide unlimited rides on all modes. In successive stages this facility was first extended to monthly and weekly customers. After enough customers had switched to Oyster the paper versions of these tickets were withdrawn, mandating these tickets to Oyster only. The mandating of the last of the Travelcards, the weekly ones, came in September 2005 whereas weekly bus passes were only mandated in January 2007.

Phasing the launch of capability on Oyster allowed the system to be incrementally tested avoiding embarrassing failures. The early staff tests put the smartcard acceptance system – the gates, free standing validators and bus equipment – to use while not touching any of the retail equipment. In the early days the longer dated Travelcards tested procedures at the ticket offices while not putting the ticket machines under stress. At each stage TfL and TranSys had time to allow debugging and fine tuning of the system.

In 2004 TfL launched Oyster pay as you go, the electronic purse that has now become synonymous with Oyster. The initial launch was low key but was followed up by a prominent advertising campaign, aimed at raising the awareness of the Oyster brand as well as educating the public about the use of the card. Many different messages were deployed for publicising Oyster but the general message that Oyster was “Faster Cheaper Easier” became well known.

The marketing campaign brought about another restructuring of the contract. Marketing responsibility was assigned to TranSys within the contract. Within TranSys this was an OpCo responsibility. Yet, it was clear that EDS had no intention of doing anything more than a cursory marketing campaign, and no plans to provide properly for customer support. In another restructuring marketing responsibility was removed from TranSys, the only significant downward variation to the Prestige contract.

Faster and easier were quite obvious but in addition TfL used pricing to move customers to using Oyster pay as you go. Starting in 2005 Oyster pay as you go fares were made cheaper than fares for the same journey using a paper ticket. For example, a zone 1 journey cost £2 in 2003 before Oyster pay as you go was launched. With Oyster pay as you go the fare was £1.70 at launch in 2004, £1.60 in 2005, and £1.50 in 2006. Each time the Oyster fare was cut the cash fare was increased, ending up at £4 in 2007.

Daily capping was launched in February 2005 offering to cap the total fare deducted on Oyster pay as you go to less than the cost of the equivalent one day Travelcard. Between capping and the fare differentials TfL was able to offer the “Best Value Price Promise” for Oyster, i.e., the cheapest fares were always on Oyster and customers would never pay more than on a Travelcard.

The simplicity of the promise was matched in the complexity of the systems needed to support them. Prestige was being stretched in ways that no one had thought possible. Pay as you go went from being a marginal proposition in Prestige to becoming its centre point. Where projections in 1998 suggested that there might be 70,000 journeys each day using pay as you go by 2009 this had reached 2.6 million journeys, split almost equally between the Tube and buses. What had been a marginal proposition was now 38% of all journeys on the Tube.

Prestige reaches maturity as concerns grow

By the end of 2006 Oyster had reached maturity. The major deliverables from Prestige had been achieved. The method for delivering system upgrades had been fine tuned to the point that when the third strategic release of software to enable the last smartcard milestone was loaded in October 2006 there were no errors. The last milestone launched the entry and exit charge, a mechanism to protect revenue with TfL's distance based fare structure. With this change customers paid a "maximum fare" upon entering the system and were given a rebate at the end of the journey based on the fare paid. Customers were therefore required to touch in and touch out giving the Oyster system the ability to collect the right fares. If they failed to either touch in or touch out they would be left with the maximum fare on their Oyster card. This plugged a major hole in revenue collection.

On one view Prestige had been a success. Indeed, the National Audit Office recognised Prestige as an example of a successful IT enabled business change programme.¹ The business benefits from gating and new ticket machines on buses had been delivered a long time ago. Customers liked Oyster, making it a very strong, positive brand for TfL. The expected benefits of the smartcard had not just been delivered but exceeded.

Traffic on the Underground continued to grow in the years after the launch of Oyster. At some stations the morning peak traffic was twice as high as a magnetic stripe ticketing system could handle. Oyster allowed the gates to handle higher traffic and therefore remain closed protecting revenue. Revenue losses on the Underground had reduced from 4% to under 1.5% with misuse of concessionary tickets issued for the elderly or children being the last remaining major source of fraud. On buses the impact had been even more dramatic and unexpected. Tickets sold on buses accounted for 30% of all journeys in 1998 when Prestige was signed and had reduced to 2% of journeys by 2007. The reduction in bus stop dwell times as a result of this enabled buses to become faster.

Despite all these very visible successes there was trouble lurking underneath with a large amount of it coming from the structure of the contract itself.

¹ National Audit Office, "Delivering Successful IT-Enabled Business Change", Report by the Comptroller and Auditor General, HC 33-1 Session 2006-2007, 17 November 2006.
http://www.nao.org.uk/publications/0607/delivering_successful_it-enabl.aspx

There was no innovation coming from TranSys any more and the successes of Oyster had started getting a yesterday feel to them.

TfL had been thwarted in 2006 from making Oyster an open payments card in the mould of Octopus from Hong Kong. With no control of the technology or the brand TfL was entirely reliant on TranSys to make the small payments card work. TranSys, on the other hand, was looking at this not as a business opportunity, as the PFI structure was meant to encourage, but as a change order to the contract where its interest was in making money upfront. The negotiations on the E-Money project led TfL to formally abandon its interest in the small payments card. It was illustrative of the inflexibility of the PFI structure. Even if there were cheaper solutions available on the market TfL had no ability to instruct TranSys to deliver these.

In general, the lack of sufficient means to ensure cost control meant that there was suspicion in the response to any change orders. Arguments about rates specified in the contract had proved difficult to resolve with TranSys arguing that the rates were set in stone and TfL countering that they were meant to be maximums and that TranSys was meant to ensure cost discipline over and above the rates.

The performance regime embedded into Prestige was causing particular concern. The benchmark availability of some systems, such as ticket machines, was set at 94% with an asset weighted system-wide availability was set at 95.5%. In practice the availability figures had always been higher than this but Cubic, responsible for the frontline assets, had weak incentives to deliver higher availability. In any case it could ignore problem stations and carry on.

TfL was concerned at this stage that the contract was no longer delivering value and that it would have been cheaper to buy the services elsewhere. The cost of OpCo's services was a particular concern.

On the TranSys side there were frustrations too. EDS, responsible for the supply of Oyster cards, claimed that it had budgeted for the supply of 17 million cards while the 10 millionth card was issued in March 2007, less than four years into the life of the smartcard with another eight to go (by May 2010 34 million cards had been issued). The Prestige contract allowed TfL to issue cards free if they were issued with a weekly or longer ticket. TfL was willing to trade this off against other changes to the contract but while all this was happening cards were being issued free. Many customers were therefore used to getting a new Oyster card each week.

Cubic was worried particularly about TfL's intentions about the future of the contract. TfL had rights to terminate the contract at will by paying compensation that amounted at that stage to around £20 million. This compensation requirement was a barrier, not insurmountable but a barrier nonetheless, to TfL terminating the contract. However, there

was one point at which this compensation provision did not apply; TfL had a special right to terminate the contract bringing it to an end in August 2010 by giving two years notice. No compensation was payable in this case. Prestige represented 40% of Cubic's worldwide revenue and the loss of such a major contract would have been difficult for Cubic to swallow.

So, despite the success of Prestige this was a precarious time for the contract.

Crisis breaks out

TfL started investigating the termination option in earnest towards the end of 2006. This was not something easy or normal for a public sector agency. In fact, of the 550 or so PFI contracts since their inception in 1992 none had been terminated early for any reason other than contractor default. Getting better value from the contract was not seen as a good enough reason to exercise the nuclear option. The effort was sharply targeted towards finding a better contract but it was clear that without the threat of termination becoming real there was no real prospect of TranSys taking the negotiation seriously. Getting a better deal would take serious effort but TfL had good reasons at this stage to go after the opportunity.

The provisions of the contract towards the end of its life were particularly challenging. All intellectual property in the contract was with TranSys and its sub-contractors. In practice almost all of the intellectual property belonged to Cubic. TranSys, led by Cubic, had disputed TfL's right to have any access to this intellectual property until after the end of the contract and only after much argument had TranSys even deposited the intellectual property in escrow. This essentially meant that at in 2015 TfL would have no option but to enter into some contract with TranSys again before a proper competition could take place. As difficult as the early termination looked the situation would have been even more difficult towards the end of the contract.

The experience from the E-Money project made it clear that introducing new technology, such as the bankcard based open payments that TfL was investigating, would be near impossible. TranSys, for its part, had neither an interest nor an incentive to invest in new technology. Ironically, the main purpose behind the theology of PFI contracts being output based was that the private sector would make the right technology choice. As it turned out the incentives were hopelessly misaligned. The cost savings from bankcards would come to TfL and the costs to TranSys. For TfL the cost savings potential from new ticketing technology was simply too large to ignore until 2015.

And, all this while, TfL was concerned about the annual cost of running the Prestige system. Leaving the contract to spend more money than necessary was not something that TfL was prepared to do.

Two events in 2007 put the need to restructure the contract into stark relief. First, a major change order to expand the off-system retail network, jointly developed by TranSys and TfL fell apart after having been agreed to in principle and after TfL had already spent several hundreds of thousands of pounds. The trouble began when EDS decided that they wanted more money, thereby reneging on and stalling a deal that all parties had agreed to. Only after much delay and adding incentives for EDS was the deal finally settled. To TfL, this was a vivid example of the handcuffs the Prestige contract presented.

Later in the year relations with EDS became even more strained. TfL had been working on probably the biggest change to Prestige with the expansion of Oyster pay as you go on commuter rail services run by ten private companies. At £40 million the projected cost of this project would represent the biggest change order to Prestige. The lack of responsiveness from EDS, coupled with its view that it was entitled to all the scheduled rates in the Prestige contract made the discussions very tenuous. To TfL, this was another example of the need to reform the Prestige contract.

Expanding the project to commuter rail also belied a basic PFI assumption that dynamic private sector companies would lead the way in delivering public services. The Prestige contract had envisaged that TranSys would bring the commuter rail services into the fold of Oyster and, indeed, seek other opportunities to exploit the technology built for TfL. In practice the idea that TranSys could bring the commuter rail system and TfL together into one ticketing system was simply not credible and, as time went on, it became clear that this would happen only with some heavy lifting from TfL. While TfL was happy to do the heavy lifting it was not pleased at the idea of TranSys trying to exploit the situation.

Renegotiation and then termination

Starting in mid-2007 TfL attempted to renegotiate the terms of the Prestige contract with TranSys and also separately with Cubic and EDS. Key to the changes that TfL wanted were: access to Prestige intellectual property and a clarification of the licence conditions around it; ownership over any new intellectual property created for TfL; a better performance regime for all services; open book accounting for the future; a step reduction in the overall cost of Prestige. Cubic had a direct exposure to all these conditions whereas EDS had exposure to only the last two. With some effort an agreement was reached with Cubic on all of the outline terms but the negotiations with EDS stalled.

Cubic's responsiveness came in part from TfL making the threat of termination increasingly realistic. TfL built its own skills, including the technical skills it had lost when many of its technical staff was transferred out to TranSys at the inception of the Prestige contract. When TfL recruited two managers from TranSys, one each from Cubic and EDS, as part of an open recruitment process it made Cubic in particular even more worried.

Negotiations with EDS were brought to an end as TfL judged them to be futile. It was far more important for TfL to have a plan in place for the termination date and transition, and not leave Cubic in a position to exploit its intellectual property. As a result, TfL opened negotiations with Cubic in March 2008 in order to have an agreed contract before it had to terminate the Prestige contract.

Finally, in August 2008 TfL issued notice to terminate the Prestige contract. Three months later under a settlement agreement between TranSys, Cubic, EDS and TfL a new contract was issued to Cubic with EDS retaining some services under a sub-contract to Cubic. TfL achieved all the goals set out at the start of the negotiations, including a saving of £11 million per year in the cost of the contract. The new contract has a phase out starting in 2013, by which point a competitive tendering process for new services must be completed.

There is obviously a much longer and difficult story around such a major restructuring of a long term contract. That story is more about the negotiations and how to bring about change in an entrenched contract rather than about the contract itself, and is beyond the scope of this paper.

With time ticking on the focus moved on to making the service improvements and preparing to transition those services that EDS would no longer retain over to Cubic. All of these services are due to transition by August 2010. In early June many services had already transitioned and this looked like an achievable target.

Lessons learnt from Prestige

Having nearly completed the cycle from initiating a major procurement to bringing the services to an end what lessons has TfL learnt from the experience?

- PPP contracts require extensive and skilled project management. The PPP structure, even for an IT project such as Prestige, is not unambiguously good or bad from the public sector standpoint and the nuances in the PPP structure are many and drive their own lessons. However, the assumption that these services can be bid out with a light contract management team is not tenable. Where the Prestige contract envisaged a single contract manager TfL's overall service team has now grown to 60. Assuming that the client will magically supply an output specification for work which the contractor will then even more magically respond to without any monitoring is fanciful in the extreme. The partnership model of trust needs to be augmented to at least become a trust but verify model – and that does not come cheap.
- Basing contracts on outputs rather than inputs is attractive but has its limits. Focusing on outputs has placed a positive emphasis within TfL on performance-based delivery of ticketing services. The termination of Prestige and replacement with a new contract has been used as an opportunity to specify the outputs more tightly and make them more demanding. The basic structure remains, though it is

important to recognise the respective skills of the client and the contractor and leave each to deliver things to the best of their ability. This is easier said than done, particularly in a competitive setting where there is little understanding of the division of these skills anyway. It is a mistake to extend this logic to the extremes where the contract has to rely on euphemisms at the cost of clarity, which the Prestige contract did by calling a smartcard the New Ticketing Medium. The effect of euphemisms can be corrosive and affect the entire client and contractor relationship.

- Belief in an output based performance regime is good for the textbook but much harder in practice. The idea that the contractor will have the right incentive to maintain performance works only if the incentive and penalty regime around it is sufficient to encourage the right behaviour. The trouble is that it is not possible to calibrate the incentives without the detailed knowledge of the cost of the service that only the contractor can have. Output based regimes encourage a degree of complacency on the client side where understanding of costs is lost.
- Putting a few firm anchors in a major delivery programme is essential. The specification of the Prestige contract, particularly with respect to the smartcard, was backed by strong financial incentives but also by financial rigidity where making changes was not easy. The incentives are important to get the contractors to deliver – taking risks where necessary. Too often public sector contracting on both client and contractor side is burdened by unnecessary risk aversion that adds ballast to the delivery process. Likewise, financial rigidity ensures that there are limitations on the client changing its mind – too often the case with public sector IT projects. In theory the incentives and rigidity can be constructed in any contract; in practice making all of this work without a highly leveraged financial structure is often difficult.
- The sole value of lenders in such contracts is to provide financial rigidity. And even this comes at a high cost, even apart from the difficulty of putting the lending arrangements in place. Expectations that lenders will provide oversight on the delivery process as a result of their exposure are misplaced.
- Clients must be bold in helping the contractor deliver once the contract is signed. Without the restructuring of milestones in the early years of Prestige this project would have been consigned to the large bin of failed IT projects, categorised alongside other smartcard projects that have fallen into trouble. Providing relief to the contractors takes political courage but it can come at little cost. The most expensive route when a contract is in trouble is to let it fail; the additional cost of running another competition to replace a failed contract can be large. In addition the delay while all this happens is frustrating to the client and to the travelling public. The damage it could do to the reputation of both client and contractor is prohibitive. A second cost incentive for supporting delivery is that if the contractor wants relief,

the client can ask for something in return, whether that is a reduction in price, additional services, enhanced services, etc. Having a wish list to trade off against providing relief to contractors is no bad thing.

- Clients must ensure that a contract returns high-quality outcomes for their customers. Turning a contract and a project into a service that customers like takes a lot of effort. It is especially difficult in a project environment where deadlines are more important than the quality of the delivered product. The role of the client, therefore, goes beyond managing a project. Clichéd measures such as “on time and on budget” are not sufficient for measuring the success of a smartcard project.
- Contracts must be subject to change along with technology and client needs. Completely contrary to the theological view of PPP contracts that the client should set requirements for the life of the contract is the reality of a constant stream of change orders. In the nearly 12 years since Prestige started over a thousand change orders have been processed. Many more have been proposed but not followed through. This may sound like a commentary on the Prestige contract itself rather than the general principle of such contracts but the same is true of the contract that replaces Prestige. Although service on the new contract is yet to go live more than twenty change orders have been processed already. Providing a mechanism for ensuring that change orders can be done cost effectively is important. Open book accounting, rights of audit and a good relationship between client and contractor are all useful for this.
- Contract termination and transition should be considered at the outset. Playing out that end scenario is essential in order not to get trapped in the contract forever. Yet, the incentive is to spend less time on this and more on the early years of the contract in the hope that the later problems will be someone else’s.
- Building get out mechanisms is essential to maintain discipline in the contract. Termination provisions are always contested by prospective contractors during negotiations but they have immense value at a future date and so cannot be ignored.
- Transit agencies must have the courage to use the full force of the contract on the contractors. If they choose to be soft that ought to be in exchange for something else. It is useful to remember that contractors price the contract as they see it.
- Getting good behaviour from any contractor requires both contractor and client to work together and to establish and maintain an amicable relationship.

The big question remains – with twelve years of hindsight, would TfL do another contract like Prestige? The answer is not clear but altogether it seems that despite the warts this is an example of something successful. It is worth repeating but with improvements from the

lessons we have learnt. Our ticketing services will probably be broken up in the future to allow space for more than one contractor. That means bringing back some system integration responsibility to TfL. Future contracts may not be as long as the Prestige contract but will probably still last seven to ten years. The performance regime will probably still be specified in output terms but with our knowledge of running a contract on this basis we can do a better job.

All of this means that the client needs to be intelligent. That is perhaps the greatest learning of all – that no amount of clever contracting substitutes for an intelligent client willing to take bold decisions and manage risk.