



CASE STUDY

Pan/Parapan Am Games, Canada

Client:

Pan/Parapan Am Games, Canada

Project:

Implementation of a CAFM system with a fully integrated performance payment mechanism module to log, monitor and report on the hard service provision in the Athletes' Village at the Pan Am Games

Objectives:

Enhance hard service delivery to demonstrate value for the P3 project

Results:

Effectively scheduled work, streamlined processes with a planned preventative maintenance approach that was underpinned by effective performance management and project transparency

How a public-private partnership helped to deliver Olympic standard services to an international sporting event

For more than two decades, countries such as the United Kingdom and Australia have used Private Finance Initiatives (PFI) as a regular method of procurement for public infrastructure projects. The private finance initiative is a way of creating 'public-private partnerships' (PPPs) by funding public infrastructure projects with private capital.

In this way, private consortia design, finance and build new hospitals, schools, prisons, roads, bridges, railways, defence systems and Government offices. Most of these facilities are now being operated by private sector companies under service concessions that run for 30 years or more¹.

In the UK these projects often attract criticism, amidst accusations that PFI deals result in costly follow-on maintenance contracts awarded to affiliates of the construction partners².

The UK's Coalition Government responded to such criticisms in 2012 with the introduction of a new version, Private Finance 2,³ which excluded soft FM services, including cleaning and catering from PF2 contracts. Market response to these reforms has been positive,⁴ but given the United Kingdom's apparently shrinking project pipeline, it is yet to be seen if this will be matched by sufficient new projects to support the new model.

Although certain mature PFI contracts continue to experience mixed reviews⁵, P2 contracts are still being adopted in the UK to help finance procurement and hard FM services for schools and hospitals⁶.

The use of PFIs and Public Private Partnerships (PPPs) to deliver new public infrastructure and services is growing internationally, with the Canadian model of Public-Private Partnerships (P3s) considered to be one of the most successful in the world⁷.

There are major political commitments to P3s across Canada, by administrations at the federal, provincial and municipal level, with over 200 infrastructure projects delivered since 2009, representing over C\$70bn (for projects that have reached financial close) of capital investment.

The evidence shows that P3s have an impressive record internationally, and jurisdictions that have thus far made limited use of the model have much to learn from global exemplars of good practice.

¹ www.swg.com/aus/white-paper/retrofitting-payment-mechanisms-delivering-ppp-contract-value

² www.fm-world.co.uk/news/business-analysis/fm-faces-pfi-spring-of-discontent

³ www.fm-world.co.uk/news/fm-industry-news/pf2-contracts-in-fm-services-out

⁴ www.swg.com/can/canadas-next-top-model

⁵ www.i-fm.net/news/cumberland-infirmar-y-battles-major-flaws-in-pfi-deal

► Strategic approach

It has been estimated that US\$57 trillion in new investment in global infrastructure is required between 2013 and 2030 worldwide⁸, with the investment requirement in the US alone being US\$3.6 trillion between 2013 and 2020⁹. Despite being one of world's most affluent societies, the quality of its infrastructure is ranked 15th in the world.

P3s can provide an opportunity to invest over and above what formal government capital budgets will allow but, more importantly, also help improve the quality of investment decisions and the efficiency with which projects are delivered.



A key determinant of success is the strength of the relationship between the public and private sectors. This is clear in Canada, where the clarity of the pipeline, strong legal framework and the extent of trust between the public and private sector have helped to foster a stable, competitive and efficient market environment.

At the individual project level, trust and partnership working are fundamental to securing the risk-sharing and good, balanced, contractual relations that are at the heart of good project delivery.

However, to generate this, it is essential that the contracting parties have access to clear, transparent and objective information about the level of performance under the contract.

The following case study illustrates how the provision of a CAFM (Computer Aided Facilities Management) system for logging, monitoring, and reporting on the hard service provision in the Athletes' Village at the Pan Am Games in Ontario Canada in 2015, helped to provide seamless delivery of services, resulting in Olympic standard facilities management.

This was achieved with the use of FM software to manage maintenance requests, to enhance hard service delivery, to streamline reporting and increase transparency, all of which demonstrate value for the P3 project.

⁶ www.i-fm.net/news/financial-close-for-interserve-schools

⁷ www.constructcanada.com/wp-content/uploads/2014/08/canada_p3_white_paper_swg.pdf

⁸ http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_083856.pdf

⁹ www.infrastructurereportcard.org/



► Pan/Parapan Am Games, Canada

The Pan American Games are the world's third largest international multi-sport Games, only surpassed in size and scope by the Olympic Summer Games and the Asian Games.

The Pan Am Games, which began in 1951, are held every four years for athletes from nations of the Americas and Caribbean. Since 2007, the host cities have also organised the Parapan Am Games for athletes with disabilities.

In 2015, Toronto became the Host City of the Pan Am and Parapan Am Games, which took place in Toronto in July 2015 and involved athletes from 41 countries across the Americas. The event was on a huge scale, catering for 10,000 athletes competing in 36 sports and 400 events across the Pan Am and Parapan Games.

Following the Games, the Toronto 2015 Pan Am/Parapan Am Games Organising Committee (TO2015)¹⁰ estimated that between ticketed events, municipal activities and free PANAMANIA festivities, close to a quarter of a million visits were made to Games venues from 7-15 August 2015.

The event cost more than 730 million Canadian Dollars in capital spend. As the host jurisdiction, Ontario invested an additional \$709m to build the village, which was broken down into:

- \$514m capital; and
- \$195m site preparation and transaction costs.

In 2012, Infrastructure Ontario (IO),¹¹ a Crown corporation owned by the Province of Ontario, which provides a wide range of services to support the Ontario Government's initiatives to modernise and maximise the value of public infrastructure, announced that the creation of the Pan/Parapan Am Games Athletes' Village for the Games would be funded under a P3 contract¹². The long-term aims of the development were as follows:

1. To create the development of a new community in a long unused part of downtown Toronto, to create jobs and to stimulate economic growth in Ontario.
2. To offer Ontarians an environmentally-sustainable range of housing, retail and recreational opportunities.

3. To provide a temporary home-away-from-home for more than 10,000 athletes and officials participating in the 2015 Games.
4. To form a strong bond from the initial procurement phase to allow the development of the project from a solid foundation. The goal for the entire team – both public and private sector – was to help each other achieve excellence.

The wider strategic objectives for the TO2015 Pan Am Games were:

1. **Economic:** to ensure the economic benefits of the Games were shared among the broadest number of people possible. TO2015 achieved this by leveraging the investment in the Games as a platform to advance diversity and inclusion in recruitment and procurement practices.
2. **Leadership:** to ensure leadership opportunities associated with the Games were shared among the broadest number of people possible. TO2015 achieved this by linking and partnering with community leaders to ensure TO2015 programmes were relevant, actionable and effective.
3. **Awareness:** to build awareness about diversity, inclusion and accessibility issues. TO2015 achieved this by leveraging its public profile and presence to be a role model.



¹⁰ www.toronto2015.org/about-us/organizing-committee

¹¹ www.infrastructureontario.ca/home.aspx

¹² www.pppcouncil.ca/



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3 of 8



Because this was a P3 contract, the event required full accountability and transparency. Service Works Global (SWG – part of the Service Works Group of companies)¹³, an FM software company, provided its QFM software¹⁴ to the event, particularly to EllisDon¹⁵, the construction and Facilities Service provider for the Athletes' Village.

EllisDon is an employee-owned company, delivering construction expertise and services to clients throughout the world. Completing in excess of \$3.5bn in new construction annually, EllisDon employs approximately 1,400 people and has a presence in North America, as well as offices in the United Arab Emirates. EllisDon Facilities Services Inc.¹⁶ is a specialist subset service within the EllisDon Corporation, which provides all-encompassing soft and hard facilities services, catered to each project's needs.

SWG is an international provider of comprehensive Facilities, Property and Workplace Management software. With a global network of offices, it delivers CAFM, CMMS (Computerised Maintenance Management Software) and MMS (Maintenance Management Software) solutions to over 1,000 customer sites across the globe to manage a broad spectrum of workplace and service environments.

As funding for the Pan Am Games came from the public purse, and in light of the huge capital outlay for the Athletes' Village, accounting for spending and proactively demonstrating value for money was essential. A robust system that could underpin quality assurance and monitoring was vital. Through quality, real-time data and comprehensive reporting, QFM software created a completely transparent system for EllisDon Facilities Services and the Toronto 2015 Games Organising Committee to monitor and manage service delivery, using an auditable system, demonstrating delivery of contractual compliance.

TO2015 and EllisDon Facilities Services chose the QFM system for the strong credentials it had in other P3 contracts in Canada – SWG is primarily involved in P3 infrastructure projects in Canada, with one of the first being the Alberta Schools Project Phase 1 (18 schools) in 2009. Other key projects SWG is involved with include the Humber Hospital in Toronto and OPPM (the Ontario Provincial Police Modernisation project).

Explains Eric Arsicot, General Manager at Service Works Global – Canada:

***“SWG’s software is successful in the P3 market, because of its fully integrated Payment Mechanism module, which calculates complex deduction rules instantly. This real-time view of performance deductions and potential deductions accruing is a powerful tool in the management of SLAs, enabling proactive intervention and the identification of trends in problem areas. The on-demand nature of the reporting suite enables the service provider to concentrate on delivering the best service possible, instead of focusing on working out complex deductions manually, which can be extremely time-consuming and labour-intensive.*”**

“All the calculations and results are stored within the QFM module, enabling a full audit trail and traceability of all actions. This transparency is a powerful feature which instils greater confidence to the end user clients regarding the integrity of the data used to compile the deduction summaries each month.”



¹³ www.swg.com/

¹⁴ www.swg.com/products/qfm/

¹⁵ www.ellisdon.com/

¹⁶ www.ellisdon.com/facility-management



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4 of 8

► Challenges

EllisDon Facilities Services began working on the FM system a year in advance of the Games. They created high-level information for the system that was continually fine-tuned and perfected right up to and during the Games, thus avoiding wasted time through incorrect specifications.

Inputting the layout of the 1.5 million square feet Athletes' Village was the most time-consuming task, and began with building the information in the database, including the geography of the structures relating to the site, including their location, floors and individual rooms.

Another element was the type of services required. When a service was raised in QFM, it was termed an event, with each type of service shown in a series of dropdown menus within different service groups. For example, housekeeping, plumbing and electrical works would all be categorised into service group, service and type of work. All these categories had a priority with a deadline set for each type of work.

The other types of information required were the planned maintenance schedules, which had to be inputted closer to the event. Says Eric Arsicot:

“The system had to be operational by February 2015, giving enough time for EllisDon to familiarise themselves with the system and understand how to get the data in and out and run reports, before the Games began in July. For this particular project it was quite interesting because the implementation was not just between us and EllisDon, but also Toronto 2015, so it was a three party project.”

The size of the Athletes' Village is about 35 acres in total, with around 1.5 million square feet of built space. Five new mid-rise residential towers were constructed for the Games, which were also designed to provide a legacy that would aid the development of downtown Toronto.

The site also featured a modular 'polyclinic' structure, which essentially acted as a hospital for the athletes while they were there. Three heritage buildings were also created; one used as an internet café, another for storage, and the last, known as the Foundry, was incorporated into the plan to contain all the operational services for the site, including police, security, food services, the EllisDon Facilities Services and Toronto 2015 teams.

Other components included the main restaurant for athletes and coaches, which was a temporary facility with a kitchen capable of serving 2,500 people. A welcome centre and small shopping plaza was also constructed entirely through overlay methods, including tents and hard-walled temporary structures.

The Village was to be inhabited for almost two months by over 10,000 people, comprising athletes, officials, staff members and volunteers.



Explains Katherine Paez, Manager for Support and Services Operations on the Toronto 2015 Pan/Parapan American Games Organising Committee:

“It’s interesting to see the pressure that exists when you have athletes coming to a place like the Village, and one of the major concerns was that we were occupying a brand new development, so how were the buildings going to react to that capacity?”

“It had never been tested to that extent, for example with plumbing. How would it work if everyone started flushing the toilets? Or if everyone decided that they wanted their air conditioner at a high heat?”

The challenge for EllisDon Facilities Services was to efficiently and effectively deliver hard services for a high profile project, and the scale of the task – delivering 24/7 maintenance to what was in effect a small village, with its own florist, bank and medical centre – was immense.



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5 of 8

During the Games, EllisDon Facilities Services would receive a work order around every 30 minutes, and would carry out around 5,000 jobs over the course of the Games period. These varied from essential plumbing maintenance to ensuring that the automated door system was in full working order.

The QFM system enabled EllisDon Facilities Services to effectively schedule work and streamline work processes, with the adoption of a planned preventative maintenance (PPM) approach.

According to Yumna Nasir, Facilities Manager and Operations Lead at EllisDon Facilities Services, a major challenge for the software was to ensure seamless communication between all the third party sub-contractors and facilities teams.

She explains that, due to the size and scale of the site, not every building was designed by the same architect or by the same contractor.

“This meant there were so many third party contractors on the job that communication had to be on point. You had to know everything and everybody in order to get the site service that you wanted and all the services needed to be completely transparent, so if there were any queries regarding progress on an event, the answers would be readily available.”

For instance, if athletes had requested a work order, the QFM system would chart its current status, allowing the Toronto 2015 clerks to dispatch work orders and continually update the system.

Says Nasir:

“The QFM system was not only designed to produce work orders, but provided a range of monitoring reports, in which it showed every single work order that had been produced, the status of that work order, when it was responded to, how it was rectified, and when it was closed, so there was absolutely no confusion.

“The result of this was that, during the Games, TO2015 created such confidence within the governing bodies that they were able to move from the usual daily reporting schedule to only being required to meet with the officials every three days.”

Another major challenge was managing the security of the accommodation blocks, because each athlete was issued one key that opened the main door plus a specific room key to their apartment.

Several approval processes were put in place to indicate which key belonged to which block building, all of which needed to be colour coordinated. However, as the architectural numbers often conflicted with the wayfinding numbers, to ensure ease of identification for the maintenance team, the system cross-referenced each key with the FM team’s designations for rooms.

In practice this meant that, if an athlete had their suite key but no idea where they were, and needed assistance in their room, the facilities team could identify from the code that they were, for instance, in the north tower, block 11 on the fifth floor, and despatch a repair person straight there.

TO2015 created such confidence within the governing bodies that they were able to move from the usual daily reporting schedule to only being required to meet with the officials every three days



Says Paez:

“With this system it meant that even if we were told: ‘I don’t know where I am. I have to go look outside my suite,’ you could just ask ‘Where’s your key? Can you read your key? Okay, and then we know exactly where you are and we can go from there.’

“It sounds like such a small thing, but at the end of the day it’s those small items that can inundate you when it comes to the hands-on operation of the facility, so we worked in tandem to solve them.”



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6 of 8



Paez's role within the Village was to help facilitate the services between many of the departments, so she was very close in terms of communication with the delegates and the athletes, and is pleased to report she received plenty of positive feedback.

"In fact, I think we've set the bar," says Paez, "and a true testament to that is we had daily meetings with the representatives for each country, and during those meetings in previous Games, you would always have somebody complain, often rightfully so, as these Villages were new and untried.

"But what set us apart was that there came a point where they said, 'Well, there aren't that many issues, so let's postpone the daily meeting to maybe every other day'. Towards the end we had meetings that were postponed to the third or the fourth day, just because we were getting praise, rather than complaints.

"This gave athletes and officials the reassurance that we were on top of our game, that the communication here was a priority and that we were getting things done and once again that helped us reduce the amount of meetings that we would have with these delegations."

Reports from QFM were also used as evidence to refute media allegations that there were problems with the project's quality and standards. Eager for a story, the press escalated a rumour about a blocked toilet, and the whole Village suffering from sewage problems. Using data from the system, TO2015's Director of Operations was able to issue a statement that proved this was untrue.

Other services managed by the QFM system were logistics, housekeeping, and some site management. Using the software,

the TO2015 team was able to issue requests for housekeeping services and logistics, which for example might include luggage assistance within the Village for the athletes

Meanwhile, as a P3 project that attracted interest from around the world, the Toronto 2015 Pan Am and Parapan Am Games strategy was guided by a detailed service framework. This referred to Toronto 2015's (TO2015) high-level values and aspirations and the collections of standard procedures, guidelines, training materials, documented ways of working and key performance indicators (KPIs).

QFM enabled EllisDon and TO2015 to demonstrate that 95-99% of jobs were closed down within the allocated timeframe during the Games. The technology enabled them to exceed expectations, and the International Olympic Committee (IOC) stated that they had gone way above and beyond the standards expected, going so far as achieving Olympic standard¹⁷.

► Legacy

The Athletes' Village was created with a view to support the wider Ontario community by providing a beautifully designed, sustainable, mixed-use riverside community.

The attention to detail for the Parapan athletes has made the Village a very user-friendly space for all. Increased visibility and sightlines, in addition to variations in contrast to assist with identifying changes in grade, and areas that are spacious enough to properly and smoothly accommodate wheelchair turns, make the accommodation inclusive and sustainable.

Maintaining these facilities is not hard as some of the best architects and designers in Toronto were used to come up with effective and efficient designs to complement people's needs.

Says Nasir:

"PFI was used because, without the input of the public sector, and without the ingenuity and creativity of the private sector, the Pan/Parapan Am Village would be nowhere near as effective as it was. The Government had a stake in these buildings more so than private condos, especially as they were going to be represented internationally to present Toronto and Canada to the world. Therefore, everything was monitored, reviewed, questioned, and transparent."



¹⁷ www.olympic.org/news/ioc-president-meets-the-athletes-on-the-first-day-of-competition-at-pan-am-games-attends-opening-ceremony/246540



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7 of 8

Before the QFM software was decommissioned after the Games, the reporting information was used to contribute to the Games' legacy report with a plethora of data, including equipment PPM history and effective and efficient working processes and materials.

For the EllisDon team, this means that managing the legacy beyond the Games has been much simplified because, using the information presented by the software, the construction team was already appraised of the key areas that they needed to focus on to ready the new buildings, and which temporarily changes made for the Games now needed to be made permanent.

As they already had that information they could prepare well in advance to bring the correct materials on site to meet their deadlines, which were essentially very tight because they had to turn the site around by March 2016 when it was due to be handed over to the developers.

Lessons learnt

Arsicot believes that one of the best aspects of the project was the level of communication and transparency between EllisDon and Toronto 2015, which, with regards to the QFM system configuration, meant that it had open up more than usual. He explains:

"A self-service portal usually provides access to all the calls raised within a building for a particular concierge, enabling that person to see all the jobs."

"However, typically a self-service user will only have access to their own jobs, but in this case we had to open QFM up so that the clients could see all of the jobs on a particular building."

"You will often have clients saying, 'We want to shut the system down as much as we can and just provide the bare information', whereas with the Pan/Parapan Am Games QFM was designed to be more open as to what the user could see, and I think that's reflected in how transparent and how clear the communication was for this project."

Nasir agrees:

"As stated by the International Olympic Committee, we didn't just achieve acceptable levels of service for the Pan Am and Parapan Am Games; we achieved what would be expected at an Olympic standard event, and in fact excelled at it. So Rio Olympics 2016 needs to watch out because people are going to be expecting a lot!"



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8 of 8