

APM Project Management Awards



# WINNER'S

## CASE STUDY



Category **Project of the Year 2012**

Winner **Green Park Station Step-Free Access Project,**  
Transport for London

Sponsor **SIEMENS**

### Overview

It sounds like a run of the mill tube station facelift – installation of a new lift shaft to give those using the station step-free access to platforms.

Now consider that you are digging the lift shaft 26-metres deep in a building that was constructed in 1906 and then expanded in the 1930s and again in the 1960s when asbestos was widely used in construction materials. The lift shaft needs to be built between two active tube tunnels and alongside a bank of three escalators. The station itself has to remain active throughout the project

and you have an immovable deadline. Finally, you're next door to the Ritz and a Royal Park. Not so straightforward after all.

The task facing Transport for London (TfL) was vast, and the successful delivery of the project saw it awarded Project of the Year at the 2012 APM Project Management Awards.

When London Underground, in its support for London holding the Olympic Games, committed to the Olympic Delivery Authority (ODA) and the International Olympic Committee (IOC) to make Green Park station step free



by 1st December 2011, it was designated the 'accessible station' for central London.

The project contained some significant risks and was delivered ahead of schedule and under budget in the constrained environment of a sub-surface operational railway and a Royal Park.

## Objectives

The Green Park Step-Free Access (SFA) project has its origins in the late 1990s when London Underground identified a core list of stations it planned to make step-free accessible as required by the Disability Discrimination Act. A more detailed SFA programme was developed in 2006, which coincided with the ODA identifying Green Park station as a strategic transport interchange for the London Olympic Games. Green Park serves the Jubilee, Piccadilly and Victoria lines and provides access to Heathrow, numerous main line stations, Olympic venues at Stratford, Wembley, Earls Court and Lords and, due to its central location, provides easy access to Olympic events on the Mall, Horse Guards Parade and Hyde Park.

When London won the Games in July 2005, London Underground had to make good its commitment and did so by August 2011 when Green Park station became the 63rd step-free station on the London Underground network – the first within the Circle line.



## Resources

The team achieved delivery of this project through application of good project management techniques in a rigorous manner bringing it in under budget, within the fixed-time constraint of the Olympics and to a standard that all the stakeholders are very pleased with. They achieved all they did by getting the best from expert resources to support them on the wide variety of specialist tasks needed to complete this project from heavy civil engineering through to artwork.

Successful delivery of such a complex project required clear leadership to keep the project on track. This was achieved through consistency in the client project management team and main contractor construction management team with a lot of work done to ensure alignment of the team, extended team and the supply chain.

The project required the creation of a major building site which, at times, required 24-hour working in a highly sensitive area, with significant restrictions on noise, traffic, light and vibration being imposed by the City of Westminster, The Royal Parks and neighbouring buildings, notably the Ritz Hotel.

This has been achieved by maintaining a good working relationship with all key stakeholders and addressing their concerns throughout, which resulted in minimal complaints being received.

The design was developed to meet the aspirations of different stakeholders in a highly visible location. This was achieved by extensive consultation with the City of Westminster, The Royal Parks and English Heritage, and resulted in a contemporary design that uses traditional materials.

The stone cladding for the surface buildings incorporates artwork reflecting the geological history of Portland stone and which improves the station environment for station users and other travellers along Piccadilly, adding to an already high-quality design.

## Challenges

Despite the complexity, and a number of difficult issues to manage particularly early in the project, the project managers used multi-disciplinary design reviews, risk workshops and programme workshops to maintain the direction of the project and improve the quality of decision making.

One such example of this was in the relation to the tunnelling works and how London Underground, the client, Tube Lines Limited, the main contractor and Joseph Gallagher Limited, the sub-contractor, worked together to resolve the conflicting requirements for speed while not making noise outside normal working hours.

Because of its duration, and the limited works that could be progressed until they were complete, the tunnelling works were on the critical path. Therefore the original intention was to start this activity as early as possible. But the nature of the tunnelling methodology required meant that both maximum speed and 24-hour working was required. The associated noise at night would not be acceptable to The City of Westminster or the Ritz. The solution developed by all parties was to build an acoustic shed over the work site.

The shed was built large enough to accommodate the material excavated during the night and the concrete required to stabilise the excavation. Thus when the doors were closed at the end of the day shift the noise could be controlled.

## Co-ordination

In addition to making the station step free, the improvements provide a larger station entrance on the south side of Piccadilly and a new ramped entrance direct from the park.

Three new lifts have been installed taking customers from street to platform level. One lift takes customers from the street to the ticket hall, then two lifts go from the ticket hall to the Victoria line and the Piccadilly/Jubilee line interchange passageway.

The constraints of the site required the identification of a scheme that minimised the impact on neighbouring properties and disruption during construction, while achieving best value and meeting an Olympics deadline of December 2011. This was achieved by using detailed options appraisal methodology and value engineering techniques.

The approved scheme that came out of the concept design in 2008 required the construction of the main lift shaft between and under an escalator barrel and the northbound Victoria line tunnel. The project was set the challenge of delivering this without causing disruption to services. The team achieved this by developing a design and construction methodology that minimised ground movement coupled with the preparation of detailed operational and engineering contingency plans to be put into action should significant movement occur. This resulted in minimal movement and the contingency plans ensured no disruption to passenger services.

## Successes

The changes made by the project allowed Green Park Station to perform as promised during the London 2012 Olympics and contribute to making sure the Games were as accessible as possible.

The project was completed three months ahead of schedule and substantially under budget, without using any of the risk or contingency initially allowed. All this has been achieved while maintaining the highest standards of safety through continuous improvement. As of June 2012, the project had undertaken more than 400,000 man-hours with zero lost-time injuries.





**The APM Project Management Awards** have been celebrating project management excellence since 1993 and the broad range of categories is designed to make entry possible for projects and companies of all sizes and complexity.

The awards reflect the invaluable contribution project managers make in all sectors of society and the event provides an opportunity for industry professionals to meet with colleagues and entertain guests as well as celebrate at one of the year's most exciting events.

Highly regarded in the project management industry, the awards reflect the dedication and talent that helps to shape the project management community and the world around us. The finalists, winners and sponsors of the awards attract national publicity for their achievement and involvement. Winning an award provides invaluable recognition and kudos to the careers of winners.

For more details on the awards and how to enter or attend, visit [apm.org.uk/awards](http://apm.org.uk/awards) or email [awards@apm.org.uk](mailto:awards@apm.org.uk)

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