



Rio2016™



With the Olympic and Paralympic Games now just a month away *Focus* investigates the journey towards delivering a successful and sustainable games and ensuring that Rio de Janeiro creates a legacy for positive change in logistics and transport.



AUTHOR

DAVID BAMFORD

Lessons from London: Rio's golden opportunity

University of Huddersfield's David Bamford discusses how hosting the Paralympics can make cities more accessible.

In September 2016, 4,350 Paralympic athletes will arrive in Rio de Janeiro to compete for medals across 23 different sports. The Games in Rio have a lot to live up to. London's 2012 Paralympics proved to be a magnet for sponsorship, and competitors have said that the crowds – and their enthusiasm – were unparalleled. However, there is another respect in which the 2012 Games set the standard for future Paralympic tournaments: it made the host city itself more accessible.

In order to secure their bid for the London 2012 Olympic and Paralympic Games, organisers had to make two key promises to do with transport. One was to make public transport a key part of their sustainability agenda. The other was to make London 2012 more accessible than any previous Games. London 2012 was planned as a public-transport-driven Games, and the London Organising Committee of the Olympic and Paralympic Games (LOCOG) took action to maximise its usage.

The challenges

To live up to their promises, the committee had to overcome a number of challenges. Parts of London's transport system had to undergo a radical overhaul. The commitments

also had major implications for venue design, equipment and even the workforce of the Games; and because the idea of legacy was central to all of the preparations for the Games, the solutions put in place needed to work over the long term, not just the main event.

When LOCOG started its work, disabled people's confidence in using the public transport network was very low, so there was a need to change people's perceptions through advertising. The demand from disabled people to attend the Paralympics was higher than expected, but organisers did not know what sort of mix of disabled spectators they needed to plan for – for example, while they knew that many groups of wheelchair-users would be arriving, they did not know how many would be using electric wheelchairs, manual wheelchairs or scooters, each of which has different requirements for travel.

Finally, the transport system needed to be flexible enough to accommodate the extra short-term influx and diverse needs of disabled people, and revert back to more standard operations after the event. For a transport system first developed in the mid-1800s, these were no small demands.

The London Underground was the first underground rail network in the world. At some points, the tracks are almost

60m below ground. Modernising such a system involves working around complex arrangements of existing infrastructure – for example, adding a two-lift shaft to Green Park station in central London in time for the Games required engineers to build a straight path between pedestrian tunnels, escalators, stairwells and the platforms themselves – not to mention finding the least disruptive times to carry out the developments and space to store the construction equipment.

Such logistics meant that it was impossible for LOCOG to create new accessible entrances into all of the stations. Nevertheless, the organising committee worked with Transport for London to adapt the public transport system and improve accessibility.

The changes

Evidence such as wheelchair ticket sales, pre-booked journeys and increased lift usage suggests that many more people with disabilities were using public transport throughout the Games. Tactile paving and protective walls at the platform edges made the system safer for the visually impaired, and 66 of London's 270 functioning tube stations were fitted with step-free access, while the overground DLR system was fully accessible.



The London Underground was the first underground rail network in the world



→ In many stations, particularly on the Piccadilly Line, the issue was the height difference or the gap between the platform and the carriage floor. Changing the position of the platforms would have been disruptive and costly. So instead, platform ramps were installed across four stops on the Piccadilly line, while manual ramps were provided at 16 strategic stations, to make it easier for wheelchair users to get on and off the train.

These ramps not only benefited disabled people, but could also be used by the wider community, including parents with pushchairs and tourists with suitcases. They were left in place after the Games as part of LOCOG's legacy commitment, and have since been added to 28 more stations. Of course, there is still much to be done before London can be a truly accessible city, a fact highlighted by Paralympian Hannah Cockcroft, who challenged then London Mayor Boris Johnson to spend a day navigating the tube in a wheelchair (he declined). There are concerns, too, that the momentum towards further improvements is waning.

However, London 2012 still marked a major leap forward in disabled access to public transport. Through a combination of controlled traffic management, communication with Londoners and collaboration with industry partners, LOCOG was able to develop practical and efficient transport solutions. These did more than fulfil the transport requirements for the Olympic and Paralympic Games; they also left a legacy value for Londoners to enjoy, and set a new standard in Games-time transport.

Now, Rio is taking the challenge to heart, by launching projects to improve accessibility in the city ahead of the 2016 Olympic and Paralympic Games. Indeed, British experts have been actively involved in helping to transfer the learning from London 2012 to improve accessibility for Rio 2016. Rio has a golden opportunity to seize this legacy opportunity and set even better standards.

Below: Manual ramps were provided at 16 strategic stations in London to make it easier for wheelchair



IN FACT

2016 Summer Paralympics:

7th September

Opening ceremony

15th

Summer Paralympic Games

23

Sporting disciplines

528

Events

21

Venues

176

Competing countries

18th September

Closing ceremony

DAVID BAMFORD

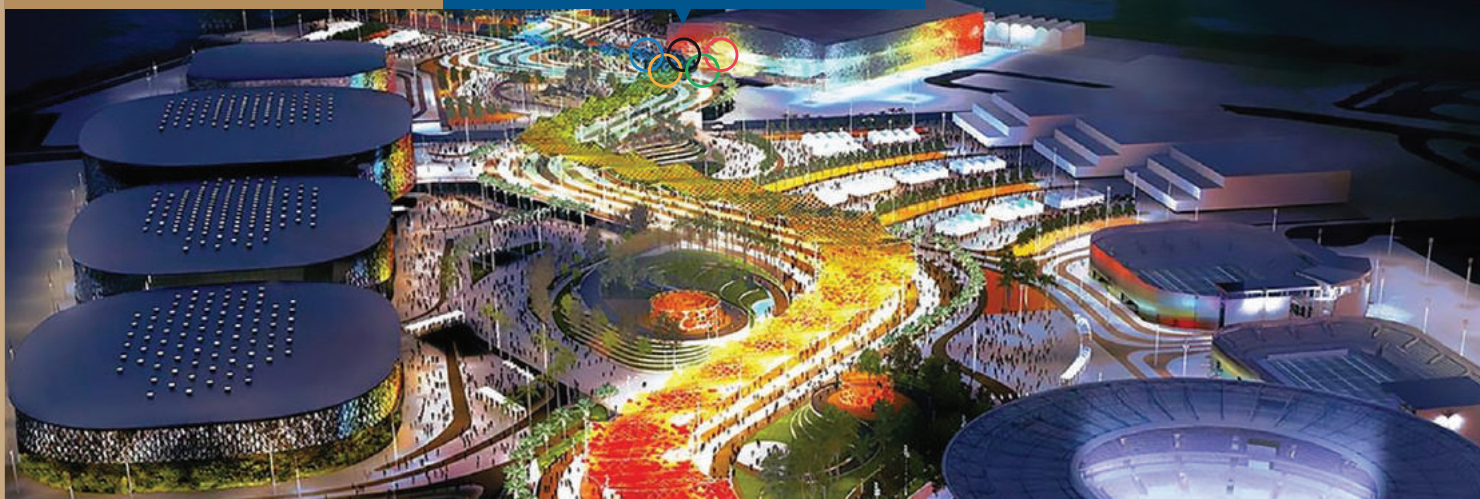


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This article first appeared on **The Conversation**:
www.theconversation.com/lessons-from-london-how-hosting-the-paralympics-can-make-cities-more-accessible-53044





AUTHOR

ANTHONY KENDRICK

Delivering the Games with the Brazilian Post Office

Anthony Kendrick asks how the Brazilian Post Office will deliver the 'biggest peacetime logistics operation in the world'.

Staging the Olympic and Paralympic Games is one of the largest and most complex operations that exist, and the sheer scale of the project has been illustrated by the Rio 2016 Organising Committee and the Brazilian Post Office, which is the official logistics operator of the Games.

The Brazilian Post Office (known as Correios), a government-owned company that was selected in an international tender process, will employ more than 2,000 people in the logistics operation. It will repeat the role it fulfilled at the Rio 2007 Pan American Games, where it was responsible for all shipping and assembly.

To guarantee a clear and efficient process in all purchases, the Rio 2016 Sustainable Supply Chain is based on five pillars: optimisation of cost; transparency; sustainability; risk management; and operational excellence. These aspects will guide the entire process of preparing the

market and hiring suppliers. Managing all of the supply chain solutions in an integrated manner, Correios will provide logistics services at venues, through its warehousing facilities and its strong delivery network that routes every kind of shipments, from documents to heavy cargo.

More than 30 million items will need to be transported in order to stage the Olympics. To prepare the venues that will host about 15,000 athletes from 205 countries, a mind-boggling array of items will need to be delivered, including: 980,000 pieces of sports equipment, 120,000 seats, 40,000 beds and mattresses, 25,000 tables, 18,000 sofas, 36,000 items of athletes' luggage, 8,600 anti-doping samples, 300km of barriers and 40 horses.

The total storage area required for the games will be 100m² and will be divided into three warehouses. Approximately 170

trucks will be used, along with 2,000 pieces of handling equipment, such as shelving, fork lifts, tractors and cranes. In total, there will be approximately 200 vehicles, which will travel 1.2 million km.

UPS fulfilled the logistics provision role for the London Olympics and Paralympics in 2012, an effort that was often dubbed: 'the biggest peacetime logistics operation in the world'; but now Correios is taking on that role. For over two decades, the Brazilian Post has been fostering the development of Brazilian sport. It is the official sponsor of water sports, tennis and handball, and supports the development of athletes from grassroots to high performance levels, while helping schools to introduce children and teenagers to sports. It was also a pioneer in the world's biggest sporting programme of individual sponsorship, Plano Brasil Medalhas (Brazil Medal Plan), launched in 2012 by the Sports Ministry. ☹



Rio 2016 and urban mobility





AUTHORS

ADAM TALBOT AND DÉBORA ZUKERAN

Adam Talbot and Débora Zukeran investigate how the transport infrastructure for the Olympic Games will have a positive and negative effect on the citizens of Rio. →



Around 80,000 favela residents have been forced to leave their homes due to developments of Games' infrastructure



→ **R**io de Janeiro is a changing city. A decade of mega-events, including the Pan-American Games and the FIFA World Cup, culminates this summer with the 2016 Olympic Games. As part of the legacy commitments for these events, investment has flowed into new transport systems for Cariocas, as citizens of Rio are known. Three key projects for this investment are the new metro line to the wealthy neighbourhood of Barra da Tijuca where the main Olympic Park is located, a bus rapid transit (BRT) system primarily serving the city's West Zone, and a new light rail system (VLT) serving the Central business one.

Metro Line 4 is seen as the flagship legacy promise from the 2016 Games. Costing around BRL 10 billion (£2 billion),¹ it will link the famous South Zone neighbourhoods of Copacabana, Ipanema and Leblon to the gated condominium communities of Barra da Tijuca. Currently, this 20km journey is awful during rush hour, taking up to three hours by bus. The metro line is expected to relieve around 2,000 cars-worth of traffic from the roads each hour from peak rush hour, carrying 300,000 passengers a day. Despite going through several wealthy neighbourhoods, this line will also enhance urban mobility for around 70,000 residents of Rocinha, Brazil's largest favela. Construction is currently running against the clock, with the deadline for delivery recently pushed back for the fourth time to 1st August, just days before the Olympic party is due to commence.

The BRT system, where buses run in exclusive lanes and carry large numbers of passengers, consists of four lines: TransOeste, opened in 2012 with 57 stations over 52km from Alvorada in Barra da Tijuca to Santa Cruz and Campo Grande in the far west of the city, and it is currently being expanded eastwards by 6km to link up with the new metro line. Transcarioca, opened in 2014 with 47 stations over 39km with the ability to carry 230,000 passengers between Alvorada and Rio's international

The metro line is expected to relieve around 2,000 cars from the roads each hour

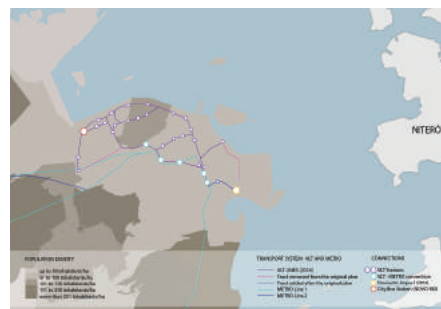
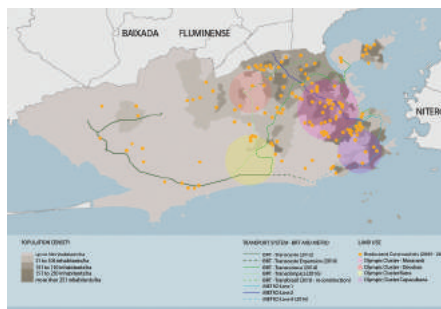
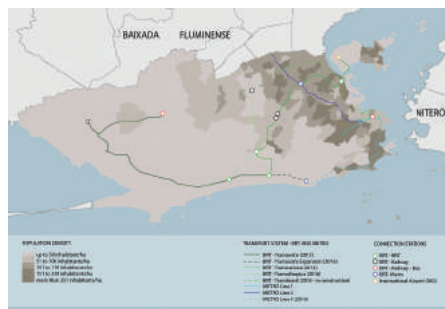


airport in the North Zone, stopping in 27 neighbourhoods. TransOlimpica, to be opened in the coming months, will have 18 stations over the 26km between the Barra Olympic Park and the Deodoro Olympic Park, reducing a journey of 150 minutes to just 30. The final line, TransBrasil, is not officially part of the Olympic legacy but will open in 2017 taking 820,000 passengers per day the 23km from Deodoro to the city centre.

A VLT or light rail system is being installed in the Central Zone of Rio, the traditional business district to the tune of BRL 1.2 billion (£250,000). Its main purpose is to reduce problematic congestion from the city centre by removing traffic from the road, taking by 250,000 passengers a day around the busy central district. It will link various parts of the area with 32 stops, including the city's bus terminal with the domestic airport Santos Dumont, and integrate with the metro system already in

place in the city. Initial tests on parts of the system have begun, with the first section due to open on in early June.

There are, however, several issues with the construction of these projects, beyond missing delivery deadlines. In their haste to get everything ready for the summer's Olympic party, it appears construction firms have compromised on quality. Part of a newly constructed cycle lane along the coast was recently destroyed by a wave, killing two people. A report by the Secretariat of Public Works found that despite its location directly next to the sea, the risk of wave damage was not even considered. The new asphalt laid for the BRT is uneven and the resulting bumps have caused injuries to passengers and put 20% of the bus fleet out of commission already. The surface isn't sufficient to take the weight of a crowded bus and should have been made of concrete, but this would have taken more time and money.





Below: TransOlimpica will have 18 bus stations between the Barra Olympic Park to the Deodoro Olympic Park



The problems with construction don't stop there. The corruption scandal that is storming through Brazil's political and economic elite is investigating various Olympic contracts. This includes the contract for construction of the new Metro line, which allegedly includes BRL 500,000 (£100,000) in kickbacks. Odebrecht SA, the company responsible for the construction of the metro line, is involved in around 50% of Olympic construction. Marcelo Odebrecht, CEO until he was arrested in June 2015, was recently sentenced to 19 years in prison for corruption.

Further, the construction of this transport infrastructure has involved the displacement of thousands of favela residents, with the BRT system accounting for around 3,000 families evicted, according to documents from the Popular Committee for the World Cup and Olympics. The new system is also highly confusing and can involve switching (which normally involves paying again) between three or four different forms of transport for a single journey – for example, to get from Recreio in the West Zone to the domestic airport downtown could involve taking a regular bus, a BRT, the metro and the VLT.

Despite construction and quality issues, these new investments will go some way to improving the urban mobility of many Cariocas in the long term. However, the regular buses in the city, which is the main form of transport for most people, have seen price rises and 26 lines cut, affecting over two million passengers a month. Concurrent above-inflation prices rises mean Cariocas in 2010 spent on average 19.6% of their income on transport, up from 11.2% in 1970. This has had a woeful effect on urban mobility, particularly for those living in the city's North and West Zones, which tend to be the poorer parts of the city. The new Olympic infrastructure is unlikely to ameliorate fully the damage this degradation of the regular bus service has done to mobility for much of Rio's urban poor. As such, the legacy of mega-events in Rio is worsening levels of urban mobility in a city already world famous for inequality.

The new transport infrastructure fails to understand the city of Rio as the heart of a huge metropolitan area. While the city states this new infrastructure is needed by Cariocas, it is clearly related to Olympic events; hence the concentration of projects in the West Zone, where comparatively few people live. Comparing this to the lack of transport investment in the city's North Zone, it is necessary to bear in mind that urban mobility should not be isolated from public policy, and policy towards the North Zone appears to be based on spatial segregation and apartheid.

ADAM TALBOT AND DÉBORA ZUKERAN



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Débora Zukeran is an architect and urban planner, co-founder StudioTri, Rio de Janeiro.

Despite these considerable problems, judging by recent Olympic Games the transport infrastructure will be one of the few legacy areas where the city will have a chance to argue that the Games have had a positive impact for at least some of the host population. However, this should not be used by governments to sell future mega-events to host populations. Just as urban mobility cannot be isolated from public policy, this investment cannot be isolated from the damaging cost of the Olympics Games. Costs have spiralled out of control, as crucial education and health budgets have been slashed, and around 80,000 favela residents have been forced to leave their homes. If Rio really needed its new metro line, BRT and VLT, then the city government should have invested only in those infrastructure upgrades. It did not need to spend billions on 17 days of sport to justify improving the transport for ordinary Cariocas.



REFERENCES

1. All figures are official figures and in most cases are estimates. Costs are likely to be higher, and passenger numbers could be lower.



The transport infrastructure will be one of the legacy areas that the city argues has had a positive impact



A successful supply chain involves everyone working together. It is less the 100m sprint and more the finals of synchronised swimming

Going for gold, goals and the extra mile

**Phil Storer explains why partnership
working reduces costs, eliminates
waste and promotes supply
chain sustainability.**



AUTHOR

PHIL STORER

We are in the midst of a long, hot summer of sport in the form of Euro 2016, Wimbledon and the Rio Olympic and Paralympic Games. As I write this, I am eternally optimistic that we will net a glut of goals, golds and glory.

Such sporting events feed our expectant nation, and pallet companies will see double-digit additional volumes for barbeque bangers, beers, soft drinks, snacks and crisps this summer, on top of the 20 million items they delivered in 2015. We drove more than 1.2 billion pallet miles last year and events such as Euro 2016 and the Olympics will see us go the extra mile this year as clients see volumes and temperatures rise. We move everything from beer to barbeques, fresh fruit, water, crisps, snacks and sun cream, and we are already seeing demand figures up dramatically. When we see fmcg clients engage in promotions around sports events, it is not unusual to witness major spikes in demand as people do more socialising and even have sports-themed parties.

At Pooling Partners, we have seen trends come and go, but global supply chains leave indelible carbon footprints, so we are under increasing pressure to deliver not only cost-effectively, but also in an environmentally responsible and sustainable way, a science we refer to as the ECO-nomics of the circular economy. Short-termism in supply chain modelling has been used in many industries where just-in-time delivery or supply-in-line are utilised to meet tight deadlines, but the concepts may create supply chain inefficiencies, with many vehicles returning empty, which generates unnecessary CO₂. However, environmental and economic considerations have never been mutually exclusive. Going the extra mile to reduce going the extra miles not only saves the planet, but also reduces costs in terms of operational wear and tear.

Many of our long-term clients operate with us along the lines of a more open approach, a partnership through which we all benefit from the mutual savings created by winning supply chain solutions. One of our major fmcg clients is now millions of miles better off, while the UK roads have been saved from the pollution of 40,000 additional trucks, and all thanks to the ubiquitous wooden pallet.

Every day, millions of people in the UK and Ireland enjoy their snacks and juices, thanks to a sophisticated logistics operation that transports products from manufacturing



Left: The Olympics will see the supply chain go the extra mile as volumes increase

sites to customers around the country. Seven years ago, a global fmcg producer continued its journey to reduce its supply chain costs and boost its environmental performance. Every link in the supply chain was examined and it soon became apparent that the wooden pallet held the key to reducing costs and the helping to save the planet.

Pallets are not purchased but leased through Pooling Partners, a rental, retrieval, repair and repatriation arrangement that optimises the supply chain in line with cost and carbon reductions, minimising downtime and maximising cost and efficiency savings. The arrangement, called Vendor Managed Pallets (VMP), involves a Pooling Partners employee being embedded in the client's supply chain operation, which subverts the traditional client-supplier relationship into one of collaborative partnership allowing greater transport co-operation and increased retail pallet collections, and converts manufacturing forecasts to pallet demand planning to reduce operational inefficiencies. In its first year of operation, the client collected more than two million pallets from retail in collaboration with Pooling Partners: the equivalent of removing 5,620 truck journeys from Britain's roads and reducing CO₂ by 642 million tonnes.

Today, with additional pallet demand, the parties have collected 12.5 million pallets, removing more than 40,000 transport loads from the UK's roads and saved in excess of five million road miles – a reduction of 4,000 million tonnes of CO₂.

This example is one of many that proves that the sustainability feeds into the broader corporate social responsibility agenda. Companies no longer simply buy and sell, but also interact in a way that reduces their commercial impact on everyone else. This is part of a marathon rather than a sprint, but the journey has created a shared heritage and understanding and the ability to continue to build competitive advantage through collaboration and partnership.

Unlike Euro 2016 or the Olympics, there can be more than one winner when companies integrate their supply chains. It is less the 100m sprint and more like the finals of synchronised swimming, where everyone has worked together to take 30 million truck-miles off the UK roads. What might appear to be micro-level re-engineering of the supply chain is in fact a real game-changing approach to the way we do business.

PHIL STORER



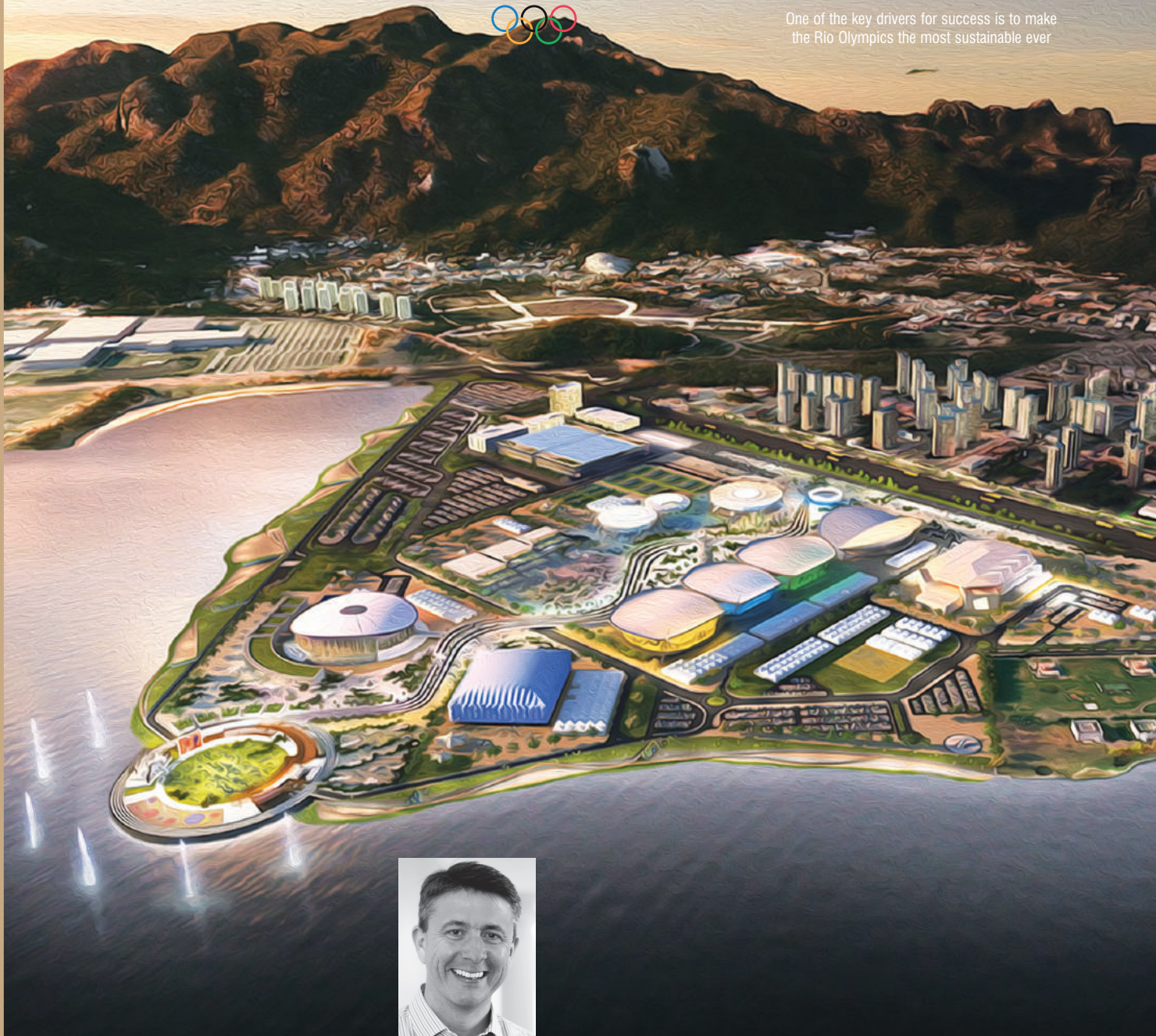
Phil Storer is a director for IPP Logipal, part of the Europe-wide Pooling Partners Group.



Staff at Pooling Partners in Meriden Business Park, Coventry, have seen an increase in work during Euro 2016



One of the key drivers for success is to make the Rio Olympics the most sustainable ever



AUTHOR

RICHARD GURNEY

Organisers of the Olympic Games are committed to making sustainability criteria an integral part of the management cycle of the Games. Richard Gurney reviews the methods being used by the organisers to ensure Brazil will meet its sustainability targets.





The Sustainability Games

This year's Olympic and Paralympic Games in Rio de Janeiro are fast approaching. With city managers and Games organisers working round the clock to complete preparations on time and to a very high standard, we can be sure of a unique spectacle come the summer. Despite Brazil's difficulties with international events in the past, the great supply chain practices already put in place by the Olympics Committee are convincing many onlookers that Brazil has learnt from the past, and will make this year's Games a success.

One of the key drivers for success is to make the Rio Olympics the most sustainable ever. As the first South American-hosted Olympic and Paralympic Games, this commitment is significant. Brazil's recent track record for hosting large events has been mired by poor logistics management, most notably with the 2014 World Cup, leading to initial scepticism of Brazil's ability to host the Olympics. However, the Olympics Committee's approach to this year's event has allayed such fears for many critical onlookers. With sustainability a key consideration, the Games have the capacity to create a legacy for positive change in the region, as well as potentially revolutionising supply chain sustainability worldwide.

The organisers for this year's Olympics have adopted a sustainability mind set from the very start of the planning stages. Central to this has been the drive to ensure that all suppliers are adopting sustainability practices, with organisers demanding 100% recovery, disposal and use of goods and waste. They have been keen to ensure that all suppliers adopt sustainable practices, including managing waste, minimising the use of harmful substances, making conscious use of energy and water, and

maintaining ethical labour practices. Additionally, businesses are invited to participate in training sessions on sustainability as part of the bidding process.

This makes sense, and to a degree could be expected. The Olympic and Winter Olympic Games are often held up as the standard to measure sustainability practices against for large international projects. The worldwide supply chain sector is keen to observe how sustainability practices are adhered to, as well as how the events contribute to the wider economy of the host country.

That said, Games in the past have not always lived up to these standards. The London 2012 Olympics was initially billed as 'the most sustainable ever', but associations with key sponsors, including BP, Rio Tinto, Dow Chemical and McDonald's, provoked a backlash from a coalition of campaign groups keen to highlight the negative social or environmental impact of these firms.

Eyebrows were raised at the choice of this year's host country following supply chain difficulties at recent events. Brazil's hosting of the FIFA World Cup in 2014 was not without controversy. More than \$3 billion was spent on building five new stadiums and renovating seven existing ones, but many of these so-called white elephants are now as likely to collect dust as they are to generate ticket receipts.

Brazil clearly does not want to see a repeat of this. There's been a lot of knowledge sharing between teams involved in both the World Cup and the Olympics, with mistakes analysed and addressed ahead of this summer. Despite a backdrop of political and economic uncertainty, Brazil has promised that this year's Games will bring permanent changes to the city of Rio de Janeiro with benefits spread throughout the country. This is a large part of the





If carried out effectively, the Games have the capacity to revolutionise supply chain sustainability.



→ reason for such an emphasis on sustainability, which is seen as central to the Games' management cycle. Sustainability has been in the DNA of the Rio proposal since it first announced its interest in hosting the greatest sporting event on the planet.

In many ways, Brazil is very well placed to meet its sustainability targets. Energy production in the country is already very clean, due to the abundance of hydroelectric power sources and recent investments in wind power. Compared to London, Rio's smaller carbon footprint already boosts its sustainability rating. Brazil has also been able to learn lessons from previous Olympics host countries to aid further the decrease in their carbon footprint; Sochi in 2014 was able to mitigate all its carbon emissions over the course of the event and subsequent cool down. Combined with the experience gained from London, the Olympics Committee is in a good place to deliver very low emissions throughout the Rio Games. Indeed, upon its finish, the committee will sit down to measure their carbon emissions against the targets set for them to ensure that they remain on track well after the event.

Additionally, the Olympics Committee will manage the nationwide dissolution process across supply chains until 2017. This includes closing contracts, selling property assets and managing donations and returns. This planning was part of the purchasing

Sustainability has been in the DNA of the Rio proposal



process and is considered part of the total cost of acquisition in purchasing decisions. Again, the goal is 100% recovery, disposal and use of goods and waste. So far, Rio has made the decisions necessary to see this carried out.

Aside from reducing the environmental impact and the volume of waste after the Games, the initiative has informed producers about how to get more sustainable alternatives to their products. Companies were invited to participate in training sessions as part of the bidding process to win contracts. Many companies still have the perception that sustainable products are more expensive. In fact, more often than not, the price of a product or service can be greater, but the cost reductions and elimination of waste in the

value chain through sustainable practices can lead to a lower total purchase cost.

Time will tell on the impact of these decisions for Rio, but if carried out effectively, it has the capacity to revolutionise supply chain sustainability, as well as creating a legacy for positive change. If that is the case, it will certainly have cause to rival London 2012 for the most sustainable Olympics ever.

RICHARD GURNEY



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