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Vaulting tall parking and transit hurdles before the World Cup and Olympic Games in Rio de Janiero, Brazil.

By Bill Smith

The eyes of the world will be on Rio de Janeiro, Brazil, for the next few years, as the city gears up to host the 2014 FIFA World Cup soccer tournament and the 2016 Summer Olympic Games. These events bring prestige, lots of attention, and billions of dollars (or Brazilian reals) in spending. However, events such as these also bring extraordinary challenges. After all, it's no small thing to introduce millions of visitors into an already-crowded city.

Rio has a permanent population of more than 6 million residents. During the 32-day World Cup, that population will swell by another 3 million visitors, and for the Olympics two years later, it will nearly double.

How do you introduce all of those people into a relatively small area, provide places to park their vehicles, and keep them moving to and from events? The task would be an enormous challenge for any city, but Rio is seaside, which means its eastern border is definitively defined by the Atlantic Ocean. There simply is nowhere to expand.

Preparing for the Games

No one knows more about Olympic-sized challenges like these than Tony Vitrano, senior vice president of SP Plus Gameday. SP Plus Gameday handled parking and transportation for the Vancouver Winter Olympics in 2010 and the London Summer Olympics in 2012. According to Vitrano, as challenging as parking was at the Vancouver and London games, Rio—and the other 19 sites hosting World Cup matches—will provide an even greater challenge.

"Rio's challenges are huge. Much larger than in Vancouver and London," says Vitrano. "In fact, if you were able to take Vancouver and London's challenges with traffic and congestion and combine them, the combination would be just about as large as Rio."

The good news, he says, is that the Brazilian government has initiated massive infrastructure improvements

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to ensure that fans, athletes, officials, and members of the media can make their way throughout the city during both the World Cup and the Olympics. It is estimated that Brazil will invest $1 trillion in infrastructure improvements for the two events. Much of that money will be spent creating and improving heavy and light rail resources and bus lines.

"These events are going to require extensive transport systems," says Vitrano. "Fortunately, the Brazilian government is off to an excellent start in ensuring that those systems will be ready to go."

The key will be to get people out of private vehicles and rental cars and onto public transportation. Rio is famous for its traffic; even the 2011 20th Century Fox animated movie by the same name showed that gridlock is a daily fact of life for residents and visitors. The city's leaders and their partners at the World Cup and International Olympic Committee (IOC) plan to overcome this through the development of a transportation system that will rely largely on bus rapid transit, with support from additional light rail and heavy rail.

Moving People

For next year's World Cup, June 12–July 13, the focus will be on getting fans, athletes, organizers, and media to and from Estadio do Maracana, Rio's world-renowned stadium, and other venues. Brazil's largest football (soccer) stadium currently holds more than 75,000 spectators, and will be expanded to handle another 10,000 before the tournament. Maracana frequently hosts international and local sporting events and concerts, so getting people to and from the stadium is old hat for local officials. Still, the World Cup isn't exactly business as usual, and the transportation infrastructure that's being implemented is vital to the tournament's success.

The 2016 Summer Olympics will present even more daunting challenges. Not only will the Olympics attract twice as many visitors as the World Cup, but there will be four venues in greater Rio de Janeiro. In addition to the primary venues in the Barra da Tijuca section of the city, events will also be held on Copacabana Beach, as well as the Maracana and Deodoro areas. The vast physical infrastructure that's being created now will be vital, but personnel, technology, and management systems will play just as important a role.

"This is a massive undertaking," says Vitrano. "It's not just about building bus rapid transit lanes and rail lines. Organizers and their transportation consultants are going to have to acquire 1,000 or more buses, hire at least that many drivers, and procure huge amounts of land for bus yards."

Vitrano says that while transport companies will bring in experienced managers to operate their systems, most of their personnel needs will have to be met through local hires, particularly when it comes to bus drivers. Finding so many qualified and experienced drivers is obviously a huge undertaking, but organizers feel the systems were perfected during the Vancouver and London Olympics, and they are confident that when the World Cup starts next year—and the Olympics two years later—they will have all the experienced and skilled people they need in place to transport millions of people to and from the various matches and events.

That said, physical infrastructure and personnel are only part of the story. This won't be your typical mass transit system, where people buy tokens and wait for trains. Both the World Cup and Summer Olympics will rely on state-of-the-art technology that will allow people to reserve their entire transportation packages in advance. Before they even set foot in their vehicles, they will purchase tickets for their bus or rail trips and reserve space in specific parking venues adjacent to the public transit they are using.

The advantages of this system are obvious. By reserving and paying for facilities and transportation in advance, visitors will significantly reduce the amount of time they spend waiting in line to enter parking facilities or purchase train and bus tickets. The entire process will be streamlined to an extraordinary degree. Organizers will also benefit from being able to monitor in real time who is using the transit system and how it's all working. If necessary, they can move transportation resources to areas of heaviest use and make other administrative adjustments to keep the system operating seamlessly.

"This technology was used successfully in Vancouver and London and it will provide enormous benefits in Rio," says Vitrano. "Electronic reservation and management will eliminate many headaches for both attendees and World Cup and Olympic administrators."

High-Tech Security

Of course, in the post-9/11 world, security is of paramount importance to organizers of any event, particularly events as large and well-attended as the World Cup or Olympics. Fortunately, the same technology and strategies that will help manage parking and transit can also promote security. In fact, the transit system will be an integral element of the security systems of both events.

One of the keys to providing a secure environment is making sure people are only provided access to appropriate areas within individual venues. Spectators are likely to have the most limited access and will be primarily permitted into viewing areas. Media, on the other hand, will have somewhat wider access and will be allowed into both viewing and media areas. Athletes will have even wider access and will be permitted in competition areas, housing locations, and backstage areas in which they will be able to prepare for their events. Finally, there will be numerous staff members—thousands of them—all with different responsibilities. For these staff, access will be determined by their roles and where in the various venues they need to be at any given time.

Access will be managed through the creation of a variety of geographic rings. Outer rings will provide general access, while entrance to inner rings will be increasingly limited as the bulls-eye narrows. Checkpoints will be established at the entrance of each ring and access for individuals and vehicles will be filtered through these checkpoints.

"At the Vancouver and London games, the transit system also served as an essential component of the security program," says Vitrano. "The vast majority of athletes and employees relied on shuttle buses to get to and from events. The advantage of this approach is that it is relatively easy to monitor access to shuttle buses and trams when you are providing the actual transportation to athletes and IOC staff. It's essentially a one-stop system that makes security much more manageable."

Not everyone will travel by transit, however. There will be many IOC and World Cup staff, not to mention other VIPs, who will need to travel to competition venues and other key points in their own vehicles. They will be directed to vehicle screening areas (VSAs) where security staff will check the credentials of drivers and passengers to ensure that they are authorized to travel to various areas on their own. Vehicles themselves will also undergo comprehensive security screening in VSAs.

For both private and transit vehicle screening, much of the security will be handled manually by trained staff. These manual screenings, combined with secure transit networks should provide a safe and secure environment at both events for athletes, organizers, media, and staff.

"While the final systems have not been put in place for the World Cup or the Olympics, it's likely that Rio will take a similar approach to recent Olympic games," says Vitrano. "The systems that were put in place in Vancouver and London were extremely effective and it would make sense to rely on tried and true technologies and practices."

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