

Rio 2016 Olympic Park Master Plan Competition

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In the Summer of 2011, the city of Rio de Janeiro held an international competition for the planning and design of the main facilities park for the 2016 Olympics. Faculty Vicente del Rio was one of the co-authors of the runner-up entry, and this article transcribes the project's report.



The city of Rio is determined to capitalize on the opportunity to host the Olympic and Paralympic Games in 2016. It aims to deliver a memorable and picturesque event while leaving a strong, sustainable, environmental, architectural, cultural and economic

legacy for city's development. The successful hosting of the Games, set with the backdrop of Rio's stunning beaches, mountains, and forests, will help draw the attention to the city's coming of age and its prominent position in Brazil's economic resurgence.

Through an international design competition the city encouraged the most creative and experienced minds across the globe to apply their knowledge in designing the Rio 2016 Olympic Park. The Park is one of four key sites programmed for the 2016 Games and it will be built in a 12.7 million square foot area in Barra da Tijuca, one of Rio de Janeiro's most important growth areas. During the games it will host the main sporting activities (fifteen Olympic and eleven Paralympics sporting events) and will be the great public meeting place where spectators, sponsors and athletes will congregate. The Park also represents the greatest post-Games redevelopment opportunity and the city aims at establishing a long-term partnership with the private sector and the national and international Olympic organizations in future urban development. The investments in infrastructure, utilities, and venues for the games represent a unique opportunity for the implementation of sustainable principles and will become an important legacy and a benchmark for future development in the city.

In Legacy Mode, the phase after the games are completed, around 60% of the site will be redeveloped as a sustainable mixed-use urban district that will become part of Barra de Tijuca. Residential, commercial, retail, recreation and leisure, as well as the necessary public facilities, will be underpinned by the network of open spaces, green and efficient infrastructure, sporting and leisure facilities and urban transportation built for the Games. The remaining 40% of the site with some of the facilities built for the Games will become a new Olympic Training Centre for elite training for future generations of Brazilian and South American athletes. Its integration to the new mixed use urban

will generate opportunities for amenities and social interaction with sports and the natural environment as center pieces.

Crucial to the post-Games success of the Olympic and Paralympic Park is the strong commitment to sustainable development that marks all investments and preparations. In following sustainable principles from planning and design to construction and operation, the Olympic Park and the new district that will follow will become important urban design and architectural legacies to Rio de Janeiro.

The competition was launched on May 3 with deadline for submissions on July 28, 2011. This quick process demanded fast thinking and intense collaboration between team members in order to generate sound concepts and feasible proposals. Submission was anonymous and the ten-member international jury reviewed 59 entries from all over the world.¹ The following sections transcribe the project description submitted together with plans and drawings (in a total of five boards), by the runner-up team, composed by Gensler Architecture and The SWA Group (both through their Los Angeles offices), Coutinho Di-egues Cordeiro Architects and Miguel P. Guimarães Arquitects (from Rio de Janeiro), and CRP faculty Vicente del Rio for urban design. The team also counted on environmental, transportation, and safety consultants.

The Proposal: Vision Statement

The embrace is a pure Brazilian gesture. An embrace unifies, and is a universal symbol of love and acceptance, a theme which defines the Olympic Games while providing lasting identity for the City. The embrace is both gesture and emotion, and may be interpreted on many scales, whether echoing the urban iconography of Christ the Redeemer's open arms, the cultural exuberance of Carnival, the delicate, natural beauty of a butterfly's open wings, or the victorious stance of an Olympic athlete.

Like these images, Rio de Janeiro, a city of vibrant culture, rich history, economic growth and verdant natural landscapes-

¹ First place was awarded to AECOM, the company that has authored the 2012 London Olympics master plan. For an overview of the competition process and the finalists go to <http://concursoparqueolimpiorio2016.iabrj.org.br/>

embraces its role as the prime city of South America. The 2016 Olympic and Paralympic Games poses an incredible opportunity for Rio to build upon these assets, igniting community enthusiasm, global friendship, environmental stewardship to establish a compelling and sustainable vision for Barra da Tijuca. The Games serve as catalyst for a continuous energy that supports sustainable growth and the development of strong neighborhood connections for years to come.

We are passionate about our proposal for the Rio 2016 Olympic Park with “Embrace” as its driving force. Our vision embraces Brazil and Rio de Janeiro, and will unite its people, city and nature in the ambitions of the present and the unique challenges of the future. Four major points for consideration are:

CITY: Rio is famous for the uniquely close relationship it fosters between its urban fabric and its stunning natural environment. Christ the Redeemer echoes this in a sculptural gesture that both welcomes visitors and symbolically brings the cariocas together. It stands tall atop the Corcovado, culminating an ever-present mountain range that is also embracing the city neighborhoods. Our proposal celebrates these powerful relationships by juxtaposing and interweaving the site, the lagoon, and the mountains that embrace the Jacarepagua valley.

CULTURE: Rio’s incredible and unique culture is perhaps best expressed in the celebration of Carnival. During Carnival the cariocas come together in an inclusive and exuberant atmosphere. Similarly, the Olympic Games celebrates inclusiveness, bringing people from all over the world together in the spirit of competition. The Carnival and the Olympic Games both embrace the similarities and differences between people. Inspired by the excitement of Carnival, our proposal creates a festive experience for visitors and athletes during the 2016 Olympics, knowing that the cultural and social atmosphere will continue as part of the City’s legacy.

NATURE: The Olympic Park sits in the heart of Barra da Tijuca and the Jacarepagua Lagoon. Coastal lagoons like this are characterized by vibrant wetlands that are home to unique flora and fauna that live symbiotically with the water around them. This delicate ecological circle is at the heart of our sus-

tainable strategies. It aims not only to restore the lagoon ecology, but also to create a similar symbiotic relationship between people and their environment.

LEGACY: Olympians throw their hands in the air in a celebration of victory shared with the world. Their celebrity stems from their forward-looking nature, an ability to approach life with passion, perseverance, and patriotism. The Olympic Park, a singular site within a huge city, seeks to learn from these athletes. It will embrace the challenge of sustainability to become an extraordinary place and a hallmark of Brazilian design in the 21st century.

The Masterplan Framework

As in the design of many great cities, our plan seeks to establish a cohesive and compelling sequence of extraordinary and energized spaces. Great cities are comprised of networks of streets, places and parks that contribute to a strong image and a coherent urban structure, allowing opportunities for work, play and gathering. These networks define an urban fabric that supports great cultural cohesion and establishes a framework for business, socialization and recreation. Similarly, the masterplan will support the volume of crowds and activities during the Games, while sowing the seeds for a new generation of sustainable urban structure.

This plan encompasses ‘Games’, ‘Transition’, and ‘Legacy’ as an integrated plan that grows and blossoms over time. To that end, our design is guided by four major goals: Urban Design, Architecture, Sustainability and Accessibility that will guide the design of the Olympic Park as time moves forward.

Urban Design

Five “Big Ideas” help to structure the plan:

1. **Restored Waterfront:** The restored lagoon edge is an opportunity to send the message that sustainability can enhance people’s lives and create a new landmark for Rio’s urban future.
2. **Public Events Core:** Reserving the heart of the site for public

Figure 1: The images representing the inspiration for the design vision, the Embrace: City (the arms of Christ the Redeemer), Culture (the samba dance), Nature (open wings of a local butterfly), and Legacy (the open arms of celebration).





Figure 2: Designated site for the Olympic Park in Barra da Tijuca, by the Jacarepagua Lagoon. It now holds a car racing track, structures from the Pan-American Games, and a small squatter settlement.

use is a central element of the design and will ensure that the Olympic Park will always be an inclusive place. Visitors, athletes and residents will spill out into this dynamic area to enjoy picnic lawns, the Abraço Plaza, an interpretive walk, Medals Plaza, and Vista Park. Though its perimeter will shift, this core will remain intact from Games to Legacy with its purpose intact: to embrace the public.

3. **Greenway Network:** A network of parks and linear greenways is at the heart of our urban design strategy and leaves a strong mark in the fabric of the site. This network will shift off of the urban street grid so that pedestrians and cyclists have the opportunity to travel the site unencumbered by vehicular traffic.

4. **Urban Forest:** Clustering a majority of the Olympic venues will give a collective identity to the venues, eventually forming the Olympic Training Facility (COT). This "urban forest" of venues will pair with a forest of trees to form an intimately scaled district, attracting visitors to spend the day and encourage athletes to choose it as an optimal place to train.

5. **Olympic Boulevard:** Arching across the site, from the west to the south, is the site's main commercial spine. During the Games, this pedestrian arc will be lined with souvenir kiosks, food halls, and sponsor tents. The same axis will be developed into a multi-modal avenue during legacy mode, activating the edges of the new residential neighborhoods with shopping, public transit, linear park, and pedestrian promenade.

Architecture

Flexibility, regional character and sustainability are key factors in the development of architecture for the Rio 2016 Olympic Park. To this end, our masterplan proposes a catalog of architectural solutions that range in size, presence, and permanence. Like a flowing river, the curved, sinuous path of the Olympic Boulevard guides the architectural layout from the park entrance all the way to the lagoon.

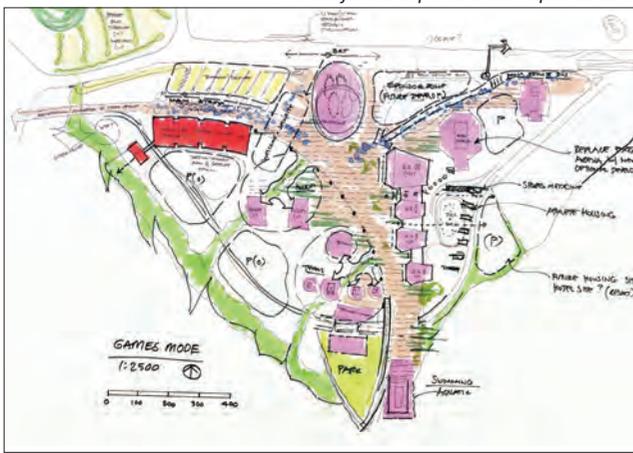
1. **Permanent Anchors**

a. **Olympic Training Facility (COT)** - Encompassing the existing Olympic Arena and Maria Lenk Facility as well as four new arenas, medical center, sports medicine lab and practice track, the COT is the largest permanent complex on the campus. It will be home to such sports as judo, volleyball, wrestling among much else. The four new arenas fronting the COT are linked by a photovoltaic roof that filters light and reduces the need for interior cooling. This elegant and lightweight canopy is a sustainable element that gives a long-lasting identity to the COT.

b. **Velodrome** – The Olympic Boulevard culminates with the Velodrome, an architectural gem sitting atop the raised vista park. Sculptural and sinuous, this building has the opportunity to be a signature commission for the Olympic Park. As a permanent building (as demanded) which replaces an older, inadequate facility, the Velodrome is a sculptural punctuation to the entire campus. As though thermo-formed for extreme aerodynamics, this building speaks of advanced materiality, science and sculptural beauty.

c. **Tennis Center** – Directly across from the COT is the tennis campus. It is comprised of two temporary venues (3,000-seat and 10,000-seat) and a permanent venue (5,000-seat).

Figure 3: Early conceptual sketches interpreting the vision and the embrace, showing the major concepts and the importance of the pedestrian axis towards the lagoon.



Sheathed in a smooth metal panel, the design is inspired by the top spin of a tennis ball in flight. The extended arms house amenities serving the competition courts.

2. Temporary Structures (Games Mode only)

a. Rio Experience and Sponsor Village – A pedestrian bridge from the Olympic Village to the west will extend across the Jacarepagúa Lagoon and touch down at the Rio Experience, a small scale temporary streetscape that will be a celebration of Carioca culture, where local vendors and artists will showcase local food, art, dancing, and music. As the street widens, the Rio Experience, will give way to the Sponsor Village where Olympic sponsors will market new products or services with interactive programming.

b. Aquatic Center – The temporary Aquatic Center, adjacent to the Olympic Plaza, is inspired by the scattering of light through rippling water. Its translucent box is composed of stretched fabric of various transparencies. These reduce the need for electric light by effectively filtering sunlight into the facility. The lightweight materials also make for quick disassembly and minimal waste after the Games.

c. Shade Canopies – Canopies overhead shade visitors while collecting photovoltaic energy which supplies lighting through the evening. The dappled, filtered light creates areas for educational displays explaining the importance of local ecologies, the Amazon, biodiversity and the balance of nature.

d. Live Site – At the tip of the site, adjacent to the Velodrome, will be an open plaza called the Live Site, built with overlay equipment to provide large-scale outdoor entertainment for visitors to the Olympic Park. Large LCD screens will show live broadcasts of Olympic events, and a temporary stage will present musical concerts.

Sustainability

Creating a powerful Games experience that will be a marker

of things to come, the site will be carefully planned and implemented in a highly sustainable manner, adaptable to potential impacts of both climate change and sea level rise. Our project concept challenges us to be inclusive, to embrace the myriad opportunities of Rio 2016 to connect the natural and built environment. The heart of the Olympic Park design will be its sustainable legacy, and that theme will be a guiding force starting with the Games and continually gaining momentum after.

Though sustainability weaves through every element of design, our team has developed 6 Pillars of Sustainability to guide the Olympic Park design and form the foundation for sustainable development. Within each, we have identified site specific, achievable actions that will yield a healthier, more vibrant Olympic Park legacy. With these 6 Pillars, the Olympic Park will embrace the site, and the site will embrace the future.

1. Ecology: Restore, Restore Restore - Rio used to be part of the Mata Atlantica, an immense coastal tropical forest. Our team will restore elements of Barra da Tijuca's native forest habitat and aquatic ecology to give this Olympic Park a unique, specific sense of ecological place. This will not be just another concrete Park.

Actions:

- Restore the site's native Mata Atlantica Restinga habitat to support threatened native species like the Fluminense Swallowtail butterfly.
- Implement a comprehensive water quality treatment solution for Jacarepagúa Lagoon, improving its water quality and making it the aquatic heart of the site.

2. Water: Capture, Conserve, Treat, Reuse, Restore - Water is a precious resource and growing more so. This masterplan will meet 85% of the Park's water needs with onsite sources. Low Impact Development (LID) design, which mimics natural landscape processes, will maximize the site's potential to infiltrate, evapotranspire or reuse stormwater or runoff where it is generated. The project will be a model for responsible water use/reuse while improving the lagoon's water quality.

Figure 4: The proposal in the Games Mode.



Actions:

- a. Use non-potable water for non-potable needs.
- b. Capture and use rainwater to support 12% of onsite water demand.
- c. Build Urban Stormwater Greenways to collect and filter runoff before it enters the Jacarepagua Lagoon.
- d. Build Organica™ garden-like wastewater treatment plants that are scientific, educational, and recreational spaces for wastewater renewal.

3. **Energy/Carbon: Conserve, Optimize, Generate** - This project will strive for a Net Zero Carbon strategy that supports Rio's commitment to address climate change. The strategy will be supported by a dynamic energy grid capable of providing a reliable source of energy from a portfolio of alternative sources.

Actions:

- a. Implement low-carbon construction practices and material selection to reduce Olympic mode carbon footprint by 25% (133,333 to 100,000 tons of CO₂).
- b. Preserve 77 hectares of existing Amazon forest to offset the remaining 100,000 tons of CO₂ that will be released during Olympic mode construction.
- c. Install a portfolio of alternative energy strategies consisting of solar photovoltaic panels, biomass electrical generation, wind power, carbon offsets, and landfill gas capture to offset the 419 tCO₂ per year that will be released by the Park's legacy mode operation.

4. **Materials: Use Less, Reuse More** - Our team believes in using local materials thoughtfully and sparingly, creating inspiring structures and places with little waste. For the Games and beyond, any waste generated is treated as a site and regional resource, rather than refuse.

Actions:

- a. Implement "Zero waste" principles - Reduce, Reuse, Recycle, Compost, Recover.

b. All new buildings will meet LEED Gold rating and renovated builds will meet LEED silver rating c. Reclaim 90 percent of materials from the Olympic Park demolition for reuse and recycling.

d. Separate organics out of the waste stream and use them for compost to support agriculture and urban landscapes; and for biomass energy generation in the Legacy mode.

5. **Green Economy: Rio 2016 as a seed for growth** - Brazil has the second fastest growing economy in the world and a tremendous opportunity to shift to a greener economy. This project can help to be a seed for that transformation by supporting the development of local low-carbon businesses.

Actions:

- a. Use the Olympic Games as a seed for the development of green business.
- b. Issue contracts with requirements for green business. The high value and guaranteed nature of these contracts will spur the growth of new industry.
- c. Innovative site infrastructure (green wastewater treatment, LID, renewable energy, etc.) will attract green technology oriented businesses.
- d. Transform 10% of the site's temporary Olympic land uses to support green technology demonstration projects to hasten and guide Brazil's sustainable future.

6. **Community: Embrace**: A successful Olympic Park Legacy mode is going to rely on regular Cariocas feeling like this site is really theirs -- not just the jurisdiction of international Olympic phenomena. Our team believes that if a sense of local site stewardship is fostered from the start, the Legacy mode will thrive as vibrantly as the Games. The site should be built by locals, used by locals, and loved by locals.

Actions:

- a. Locally source 85% of construction labor.
- b. Locally source 90% of ongoing operations labor.



Figure 5: The proposal in the Legacy Mode.

- c. Create specific destinations that are free and fun for all.

Accessibility

Access is at the heart of an inclusive project. Design creates interesting spaces, sustainability addresses the future, but people bring the experience and curiosity, which breathes life into the site.

1. Security

It is recognized that safety and security is one of the highest priorities of an Olympic Games. Accordingly, our masterplan is based on the concept that safety and security should be integrated into the design at the outset. In addition to accommodating the expansive requirements of the Games security overlay, this approach ensures future benefits in the legacy mode.

Our masterplan implements a layered protection strategy which maintains a welcoming presence along Avenida Abelardo Bueno. This overarching 'layering' security strategy incorporates design elements to manage access and anti-intrusion measures and support security screening procedures while ensuring ease of mobility for the various constituent groups within and around the park and its venues. In games mode the highest level security, accessed by a secure Ring road, is pulled southward toward the site perimeter, quietly sheltering the athletes and Olympic personnel. The center of the site, at medium security, will form the project core.

a. Outer Perimeter Key Elements

i. Physical Boundary – This fenceline circumnavigates the entire precinct, providing anti-intrusion protection from the public domain. It is positioned to provide a large 'security' setback from interior venues.

ii. Main Spectator Entry – Located at the north perimeter along Av. Abelardo Bueno will be a large and attractive canopied entry plaza for ticketed spectators to accommodate arrival from nearby transport nodes; queuing and PSA design includes 'express lanes' adjacent to 'regular lane' to optimize throughout/minimize wait times. Large blowout 'egress' gates located east of the entry plaza, with supplemental exit gates in the entry

area to accommodate heavier flow during evening egress.

iii. Accredited Entry & Operational Gates – Pedestrian entry areas for accredited groups (i.e. Media, Olympic Family, Athlete/Official, Workforce) with the largest areas located at the northwest corner of the site to accommodate on-foot approach from OLV, OFH & Media Village. These gates are located far from the spectator entry zone to reduce congestion.

iv. Vehicle Entry & Screening Areas – As only permitted vehicles will be allowed to access the Park, the main vehicle entry areas are located in the area northwest of the site and use the Ring Road to travel to parking areas and venue drop areas. The large VSA will screen those vehicles that do not have 'expedited entry privileges' (i.e., bubble-to-bubble) from the OFH, Athletes' Village and Media Village.

b. Common Domain Key Elements

i. Front of House – Once spectators clear the security screening area, they proceed into a large, open Spectator Plaza in the heart of the Park, allowing for views and easy navigation to competition venues. The wide and arching boulevard allows for comfortable movement and mingling of crowds, reducing the need for complicated pedestrian management systems in the common domain.

ii. Back of House – A bi-directional road traverses the Park along the southern edge of the site, providing vehicle & shuttle access to the back-of-house areas of the competition venues. During off-hours, the ring road will support restocking and venue servicing operations. Parking lots are reserved for particular accredited groups: Sponsors, Media, and Olympic Personnel.

c. Venue Elements

i. Venue boundaries – The masterplan allows the venues to behave as 'islands' within the Park, with corresponding front-of-house entrances for spectators and back entrances for accredited groups (served from the Ring Road). The masterplan supports the standard Olympic accreditation zoning policies.

ii. Operational Compounds – The areas for Broadcast, storage, temporary offices and other Olympic overlay are located in the

Figures 6 & 7: The proposal in the Games Mode.



back-of-house areas of the venues. Our masterplan identifies opportunities to consolidate and share compounds between nearby venues, reducing footprint and resource costs.

2. Circulation

In the Olympic Park, pedestrian circulation is primary and vehicular circulation is secondary. The road layout is strictly functional and minimal in both Games and Legacy modes, bringing visitors to the neighborhood and residents back home. On a more experiential level, pedestrian and bike paths will be numerous and diverse, encouraging exploration and exercise.

a. Games Mode

Circulation in Games mode is governed by security and centralization. These two goals work generate a circulation strategy that is clear, unencumbered, and unified. The Ring Road not only ensures expedited and dependable service for high-priority accredited groups, but allows the spectator zones to be free of vehicle activity and therefore more safe, comfortable and enjoyable. The location of the central BRT station, directly across from the spectator access plaza and far away from the vehicular entry point, will further establish pedestrian unity. This location will only strengthen the central axis of the park as it brings countless visitors to experience the Games.

b. Transition Mode

Transition Mode will establish the infrastructure for circulation that will create the unique neighborhood character of Legacy mode. New roads and greenways will form residential parcels and districts, connect the major parks and plazas of the site, and craft an urban connection with the greater neighborhood of Barra da Tijuca.

c. Legacy Mode

Community development is the key to circulation in Legacy mode. Roads will serve the community, providing neighborhood access points. The greenway system will establish a rich pedestrian network allowing pedestrians to travel the site unencumbered by vehicular traffic. The greenways will help connect the site's diverse population through various path types.

Bike circuits and running paths will encourage COT athletes to explore the greater neighborhood, meandering paths will encourage slow strolls, and small path clearings will be built in meeting spots for friends to gather.

3. Utilities

The Olympic Park design will implement an infrastructure that is designed for ease of use and longevity. Not simply functional, these elements will be accessible to all, helping to educate the next generation on the importance of the environment. Highlights include garden-like wastewater treatment plants, rainwater collection system, energy collecting photovoltaic cells on new buildings, and stormwater treatment greenways.

Master Plan Chronology

A. Games Mode

The master plan creates an exciting experience for visitors, spectators, and athletes alike and sets up a framework for legacy development. Upon entering the park, visitors will be swept immediately into the magic of the Games. The Abraço Plaza will pull visitors across the site to explore, its sinuous paving pattern playfully directing the flow of people through the park, carving out seating and shaded areas for all to enjoy.

Olympic Walk will form a curved axis along this central core. Small programmatic elements will hug this spine as it extends across the site. These programs include the Rio Experience, Sponsor Tents, Food Halls and Live Site. In addition, a series of elegant pylons will line the boulevard to commemorate the history of the Olympic Games and provide energy efficient lighting at night.

These pylons are but one of many visual indicators of sustainability during the Games. As a global event, the Games are a unique opportunity for Rio to showcase the big moves that will set the Olympic Park on a sustainable course for the next 30 years and beyond. On display will be "big moves" like the large scale restoration of the lagoon, and the newly designed LEED accredited sports venues.



Figures 8 & 9: The proposal in the Legacy Mode.



B. Transition Mode

Redevelopment of the Olympic site will concentrate on the production of a highly sustainable urban form that is unique, and presents alternative housing not currently seen in the Barra real estate portfolio. The intent being to produce a self-sustaining market for the Olympic site that does not cannibalize existing markets and can be delivered at a scale and cost that is consistent with the real estate market in Barra.

The construction phasing is intended to provide a balance of unit types and mix available at any one time, yet be sufficiently flexible that the developers of the new Olympic Community will be able to respond to changes in the market in the future.

Open space improvements will be developed in tandem with development, and the cost of these improvements and ongoing maintenance shall be established through a long range financing option consistent with Brazilian practices.

Post Olympics: 2016-2018 - In the years immediately following the Olympics, the existing infrastructure and buildings will be renovated to form the base of Legacy development. The security infrastructure will be removed, the Olympic Walk will be retrofitted for vehicular access, and the Media Center will be renovated into a dynamic commercial center. Most of the open spaces planned for Legacy mode will be developed immediately following the Games. This includes planting the COT's urban forest, gradually opening the restored wetland to the public as the ecosystem stabilizes, and converting part of the Abraço Plaza into a central park.

Phase 1: 2018-2023 - A combination of apartments, midrise residential developments, and high-end waterfront towers will establish a diverse neighborhood population. These developments will be in close proximity to the converted Media Center to maintain a strong sense of place and identity and reduce the operations of utilities and infrastructure. New roads and greenways will be laid out to form these initial development blocks.

Phase 2: 2023-2028 - The rest of the site will be built out in Phase 2, continuing the pattern of development established in Phase 1. New neighborhoods will be instrumental in linking Phase 1 neighborhood with the COT, establishing a fully unified site.

C. Legacy Mode

Thirty years after the close of the Games, the Olympic Park legacy will be a new urban center that is a fore-court to training and living in a landscape. By repurposing and reusing the Olympic infrastructure, this neighborhood will become the emblem of a sustainable future for Brazil. In Legacy Mode, the former Olympic venues become the Olympic Training Facility (COT), training the next generation of elite athletes. The other 60% of the site will be home to new developments, a mix of new construction and adaptive reuse. An innovative network of open space will weave its way across the site, linking residential communities, the mixed use corridor, and the COT together.

In grouping all permanent venues into an intimately scaled, tight cluster, the COT will continue to have strong internal identity well after the Games. This will be reinforced by the unique urban forest running through it. This forest will provide natural cooling and will also spill out into the central plaza, creating a link between the COT and the residential communities.

The residential communities will vary in character, a combination of apartments, gated communities, and luxury towers. The urban apartments will be highly accessible and convenient. Located across from the major BRT station, this neighborhood will attract residents who value urban amenities and connectivity with the larger city. Just south of the Olympic Boulevard will be a medium density residential district. Its position between the site's bustling urban center and the peaceful lagoon will help establish it as family-oriented community. Further south, along the waterfront park, residents of luxury towers will enjoy the picturesque quiet serenity of lagoon views.

The open space network, comprised of linear greenways, is the signature element of Legacy mode. It is the infrastructural element which will establish universal access, social cohesion, and stormwater treatment across the site. It will support the surrounding communities with small scale park programming, paths, and other community event space. Though primarily a residential amenity, the greenways will be open to all, linking together the larger neighborhood programs and open spaces.

One of these open spaces, the Waterfront Park, will be a refuge from the city, a peaceful place that connects people to the environment. A picturesque boardwalk will wind its way across the park for all to enjoy. The park will also be an educational resource for Rio, highlighting newly restored habitats. The Waterfront Park's more urban counterpart, the Abraço Plaza will be the site's major gathering place with its adjacencies to office buildings, urban apartment complexes and the commercial corridor of Olympic Boulevard.

In all, the Olympic Park legacy is that of a dynamic neighborhood that will support a diverse population of residents and visitors.

Conclusion

The proposal's guiding vision –to embrace– challenges us to create an Olympic Park that brings people together for many years to come. Our vision respects the environment, encourages people to gather, welcomes a diverse population, and helps grow Rio's economy for the future. We are confident that our vision for the Olympic Park will make the Rio 2016 Games a fun, exciting, and memorable experience for all, and set in motion an equally unique and successful future for Barra da Tijuca and Rio de Janeiro.