



# A LIVELY AND INCLUSIVE DOWNTOWN WITH A NEW ICONIC WATERSCAPE EXPERIENCE

**WEST PALM BEACH, FLORIDA**





# LEADING TEAM



Ecosistema Urbano is a company of architects and urban designers, operating within the fields of urbanism, architecture, engineering and sociology.

Ecosistema Urbano is specialized in architectural and urban projects and leads construction processes from initial conceptualization to final implementation working for local, national governments and multilateral agencies. In recent years, our research has focused on the design of public spaces and its climatic conditioning, for contexts and climates as diverse as Norway, Bahrain, China or Spain. In parallel, ecosistema urbano has played a pioneering role in the design of digital networks, developing social software and exploring the possibilities of new technologies to improve social interaction. Since 2000, ecosistema urbano has received prizes and awards in more than 40 occasions. Since 2010 Directors Tato and Vallejo have taught at Harvard's Graduate School of Design and Columbia University GSAPP, USA.

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# CONSULTANTS

Ecosistema Urbano has selected and contacted the following US based consulting firms. They have expressed their interest in collaborating for the further development of the proposal.



For over sixty years, Sasaki has brought together the best of landscape architecture, planning, urban design, architecture, interior design, civil engineering, graphic design, place branding, and data science to shape the places in which we live. Today Sasaki is a diverse practice of 270 professionals who share a singular passion for creating spaces and places around the world that prove human potential.



Simpson Gumpertz & Heger Inc. (SGH) is a national engineering firm that designs, investigates, and rehabilitates structures, building enclosures, and materials. It employs more than 500 employees spread throughout seven offices that focus on providing a wide range of design-led solutions with various 5-6 person teams.



Cosentini Associates provides consulting services in the mechanical and electrical engineering disciplines. What started out as a six-person firm has grown to employ more than 350 professionals in offices in New York, Boston, Chicago, Los Angeles, Irvine, San Diego, Freehold, Houston, Miami, Mexico City, Calgary, Paris, and Shanghai.



Transsolar is an international climate engineering firm determined to create exceptional, highly comfortable indoor and outdoor spaces with a positive environmental impact. Transsolar believes that the very measures taken to create remarkable architecture can simultaneously enhance human experience and minimize resource use. The firm believes that sustainability is not separate from design, but an indispensable component that enhances the experience of the built environment.

# LANGAN

Langan provides an integrated mix of engineering and environmental consulting services in support of land development projects, corporate real estate portfolios, and the oil and gas industry. Langan clients include developers, property owners, public agencies, corporations, institutions, and energy companies around the world. Founded in 1970, it employs more than 1,000 professionals in its Parsippany, NJ headquarters and among regional offices.

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# SUMMARY

## AN URBAN VISION ▾

This proposal considers the city as a balanced and connected human ecosystem in which the whole is greater than the sum of its parts. Challenges are addressed and opportunities are developed in each of the specific proposals and, in the greater picture, the relation and integration between each new proposal and the existing city is carefully considered. This project imagines the future West Palm Beach as a dynamic and inclusive downtown

where activities and spaces are closely interwoven, providing access to a new urban waterscape, enhancing the city's connection to the lagoon and bringing infinite possibilities of urban culture, economic development and leisure. In this vision, the waterfront plays a key role as the most representative and attractive space, and the Banyan Hub becomes a forward-thinking epicenter for urban reactivation.



## WATERFRONT ▾

The new waterfront hosts a wide array of outdoor activities and public spaces that enhance the urban experience and multiply the possibilities of interaction with the water. The project takes into consideration the needs of youth and elders alike in order to make a positive impact on the city as a whole and create a healthier living environment for all residents and visitors. The ecological and resilient design proposed here allows peo-

ple to enjoy a more comfortable environment all year round: by coordinating natural elements and bioclimatic devices, each space will be characterized by a specific microclimate matched to the activities that will take place there. This will also help reconnect people to nature and to the uniqueness of the Lake Worth Lagoon. This climatic comfort and range of activities will foster social interaction, making the downtown more active and appealing.







## BANYAN HUB ▲►

The former garage is reimagined as a new focal point for activities in downtown. It will be open to the public day and night, from the ground floor to the public roof terrace. It will have an active presence in the city, attracting business and talent to create knowledge, cultivate culture and foster innovation. Its flexible configuration will allow different uses to coexist and evolve in time, and its design will ensure pleasant environmental conditions all year round while reducing the environmental impact and management costs.



## GREAT LAWN ▲

The Great Lawn, already a central part to the city's life, will become the 'urban living room' of West Palm Beach, a place to celebrate big civic events and at the same time enjoy routine activities like resting, meeting, eating or even working in the comfort of a well equipped and conditioned public space. This space will keep a wide, green yet durable esplanade at the center, while adding a shaded and fresh environment around it and two new singular plazas providing an innovative relation between public space and water.



## MEYER AMPHITHEATER ▼

The Meyer Amphitheater will become the ultimate space for huge urban events and all kinds of cultural activities such as concerts, theater plays, dance performances, etc. The existing space will be opened and equipped with a new 'belt' structure to protect the surroundings from sound and bring complementary leisure and dining activities into the area. It will also expand towards the water, increasing its capacity with a multi-purpose stage that will also become a landmark and reference point for the whole waterfront.



## PASSAGEWAYS ▲

The alleyways will undergo a rapid activation process ranging from temporary interventions to the development of permanent structures and spaces to host new programs. Walkability, security and comfort will be the first priorities to be addressed by means of active and passive climatic mitigation, new waste disposal and lighting systems, etc. Activities will disperse later into adjacent public spaces and buildings, and these revamped 'passageways' will become thematic routes connecting different parts of the city.



# VISION

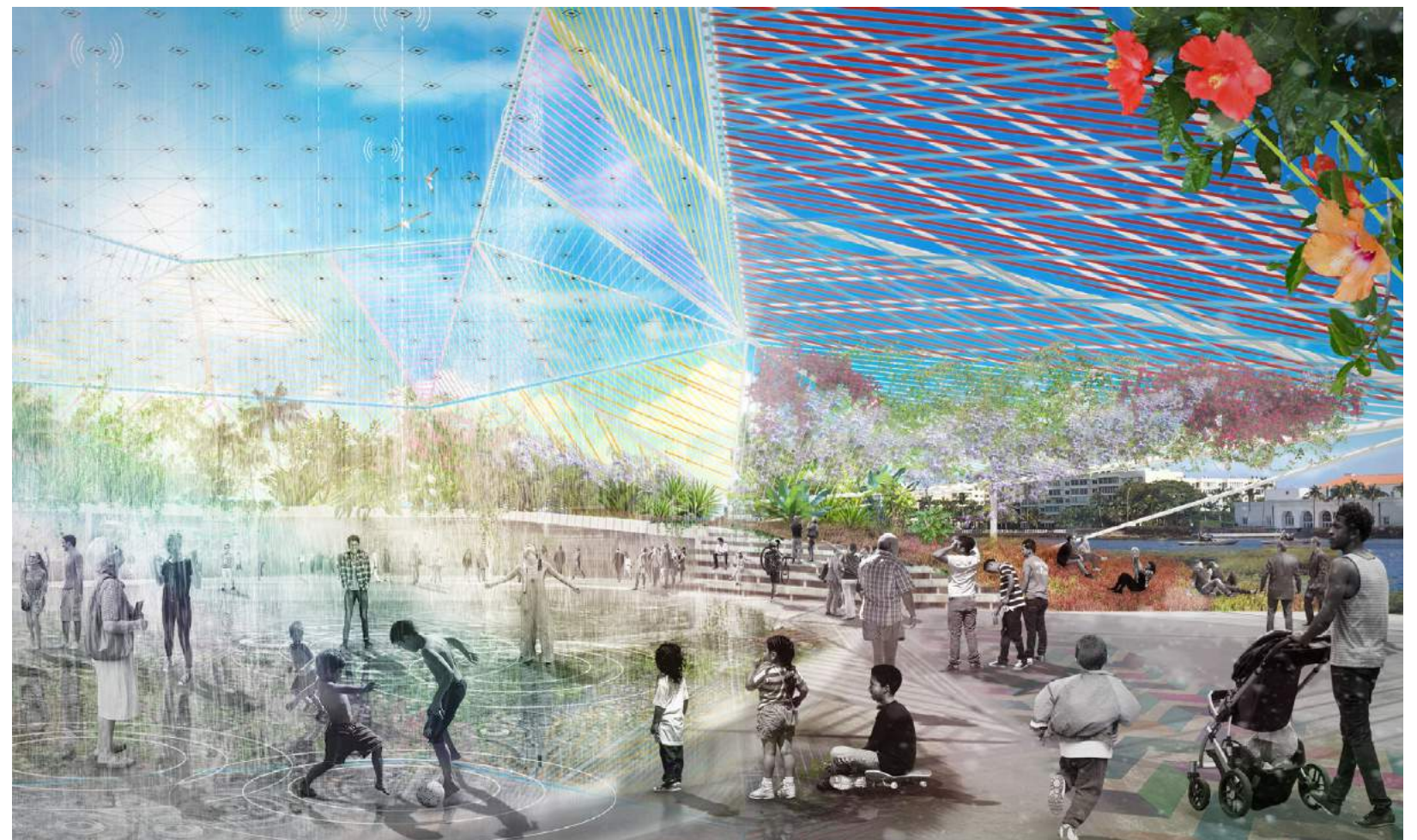
## LOOKING INTO THE FUTURE

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Our proposal for West Palm Beach comes partly from a vision of urban quality that is rooted in our professional practice and in our lives as citizens. But even more so it is determined by the deep knowledge of the city that we have acquired by directly interviewing locals and visitors, and by analyzing technical data.

From the combination of all of these points of view a new shared vision is forged. One that takes the history and character of the place, together with the existing initiatives and projects, and merges them with new approaches and ideas to have the West Palm Beach of 2030 look like the city we all dream of:

A city accessible and open to citizens and tourists alike. A city bustling with diverse people and activities all year long. A city open to the lagoon, with a downtown full of unique attractive places and innovative urban experiences. A healthy and comfortable city suitable for everyone, with spaces for children and elders, spaces to play, work, rest, eat, meditate or meet with other people. A city people want to live in and visit.



## WE IMAGINE A LIVELY AND INTERACTIVE URBAN WATERSCAPE

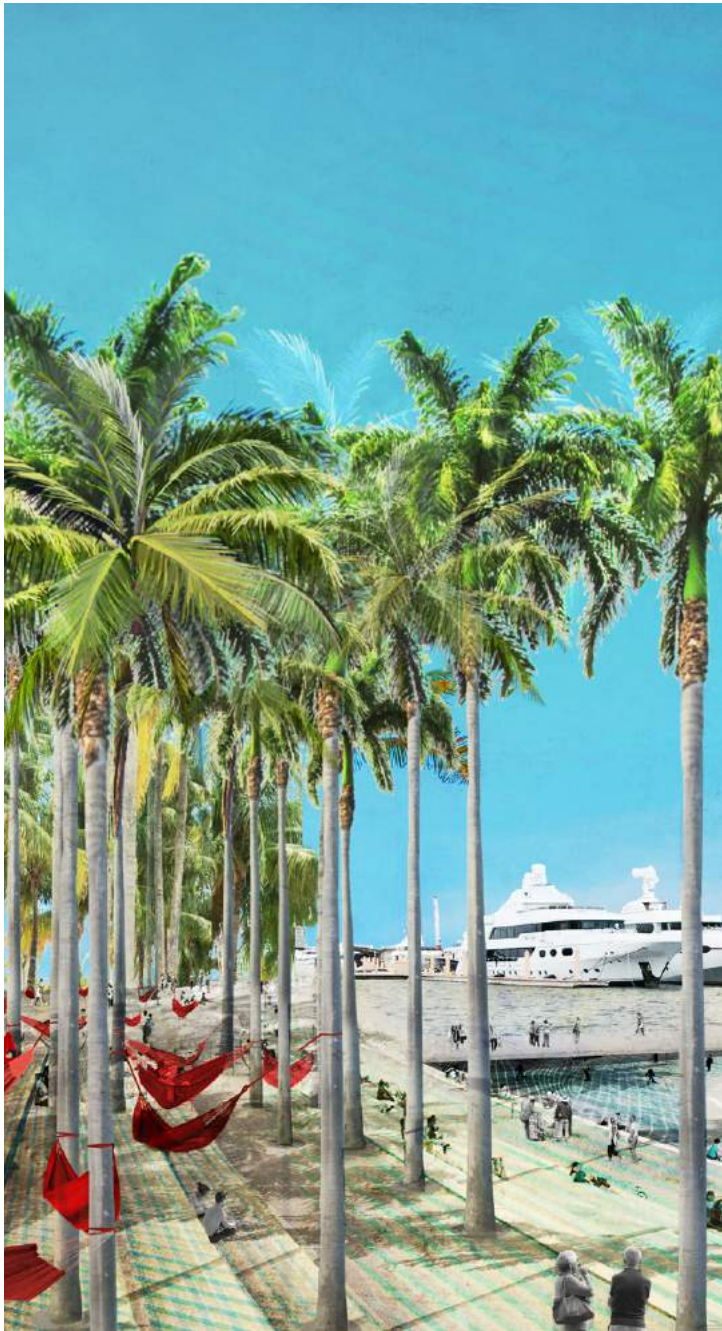


**WE IMAGINE...**



**... A CLOSER  
CONNECTION  
WITH NATURE**

**... NEW  
FLEXIBLE  
CULTURAL  
SPACES  
EMBEDDED IN  
THE LANDSCAPE**



**... AN INCLUSIVE  
CITY WITH  
A MYRIAD  
OF URBAN  
ATMOSPHERES**

**... A SMART,  
OPEN, AND  
INNOVATIVE  
CITY**





# STRATEGY

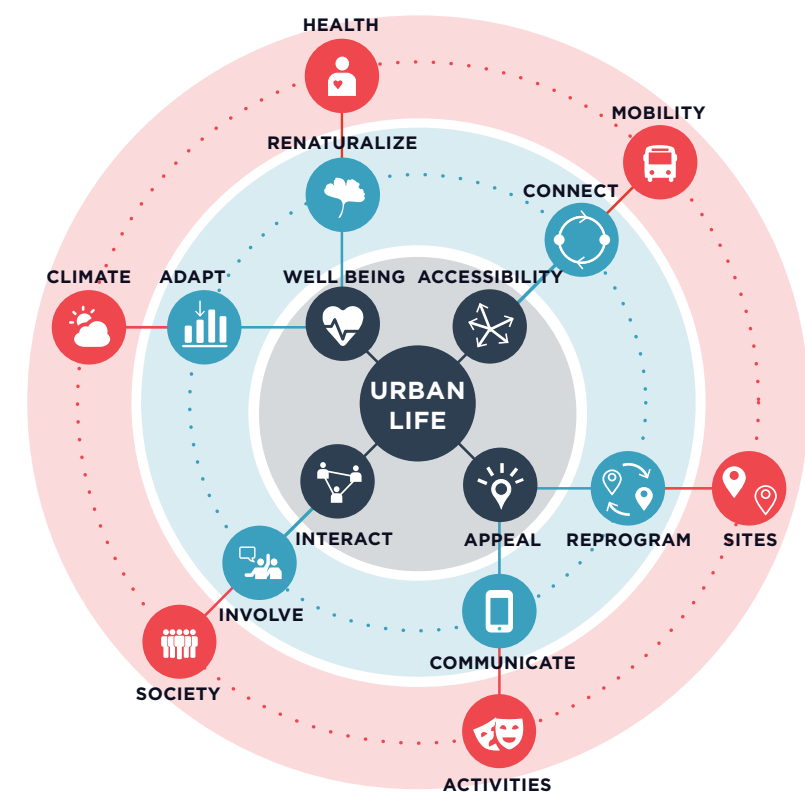
## TRIGGER THE CHANGE

Our approach to the project implies understanding West Palm Beach as a whole from urbanistic, cultural, social, economic and environmental perspectives. We analyzed available information as well as carried out our own surveys and interviews to identify relevant issues and areas of opportunity regarding new urban experiences.

The waterfront area is where the city shows its great potential, but also its needs for improvement: For better connection with the rest of the city; for balance against seasonal fluctuations; for social inclusiveness and diversity; for an expansion in urban density to achieve sustainable levels of activity; for resiliency against climatic, social or economic impacts; for improvement accessibility and public spaces of comfort; for innovation in combining and addressing all of these aspects in the best possible way.

These challenges require a holistic approach. We can trigger powerful transformations in the city by rethinking the waterfront, the alleyways and the Banyan building. First it is necessary to understand the current urban dynamics to be able to propose a framework for a consistent development that can make these projects meaningful.

- OPPORTUNITIES
- STRATEGIES
- OUTCOMES

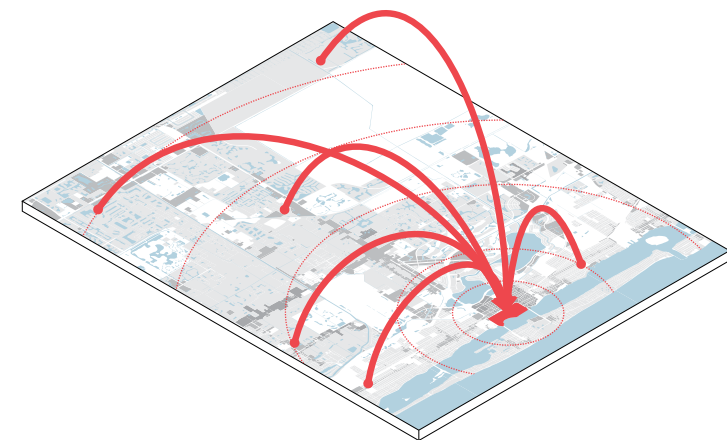




# MOBILITY AND ACCESSIBILITY

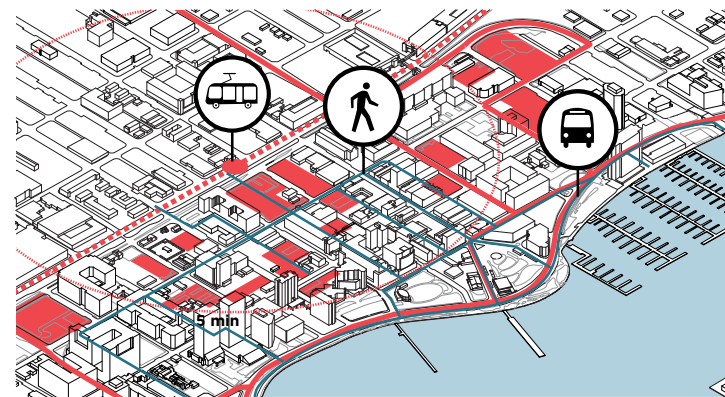
## STRATEGY

### CONNECTING THE DOWNTOWN WITH THE SUBURBS



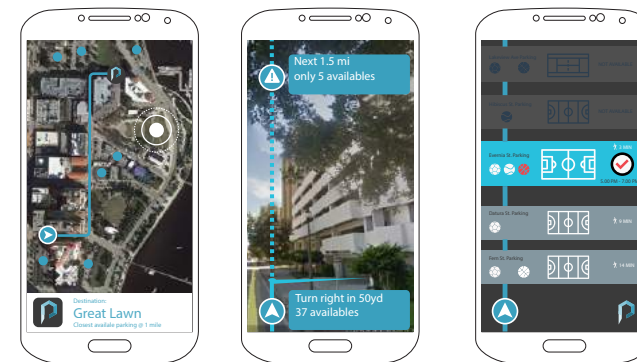
Statistics, local surveys, geographical data and the physical configuration itself show that there is a strong difference in terms of cultural offerings, facilities and services between the downtown and surrounding neighborhoods. County-wide urban and social policies shall foster a more open and diverse downtown, attracting people from all neighborhoods to promote a multi-layered city center. The proposed design should be inclusive and inviting, enabling anyone to be part of the new downtown urban life and events. Downtown itself would be positively affected by, for example, younger visitors or residents, balancing the current population pyramid.

### UPGRADING PUBLIC TRANSIT AND SUSTAINABLE MOBILITY



Mobility is key to transforming downtown WPB into a more urban, efficient and friendly environment. First of all, it is necessary to improve public transport to allow people from the suburbs to reach downtown without the need of a car. Existing bus lines could be improved and optimized at a county scale in order to offer a better service and accessibility to the core area. New and existing Amtrak and Tri-rail train stations should also be considered as part of this plan connecting WPB with the rest of the Miami Metro Area and Northern Florida.

### OPTIMIZING THE MANAGEMENT OF EXISTING PARKING LOTS



Downtown WPB can count on numerous public and private parking lots and parking buildings, all relatively close to one other and to the waterfront. There seems to be a lack of a comprehensive management system to allow citizens to find the closest free spot to their final destination. An integrated parking system (for example using a mobile application) would make navigating through the city easier for users as well as would allow the city to gather real time information about parking needs to progressively reduce the space used for parking. This would also free up space for more attractive and profitable uses like sports, events, etc. in places currently used only as part time parking lots.

### INCREASING WALKABILITY FOR A MORE LIVELY CENTER



The presence of people in public spaces is the ultimate expression of a healthy urban life. For this to happen, public space has to become easily accessible to everyone and inclusive regardless of age, socioeconomic status or cultural background. It also has to be comfortable and attractive enough to deliver an enjoyable, healthy and safe experience. This is where the concept of 'walkability' comes in. Walking is the most universal way of moving in the city. Improving the walkability of a place makes it better in terms of accessibility, inclusiveness, attractiveness, safety and comfort. A walkable downtown will be an improved downtown, attracting people to live, work and enjoy.



## INTRODUCING AN ECOLOGICAL PERSPECTIVE IN EXISTING PARKING LOTS



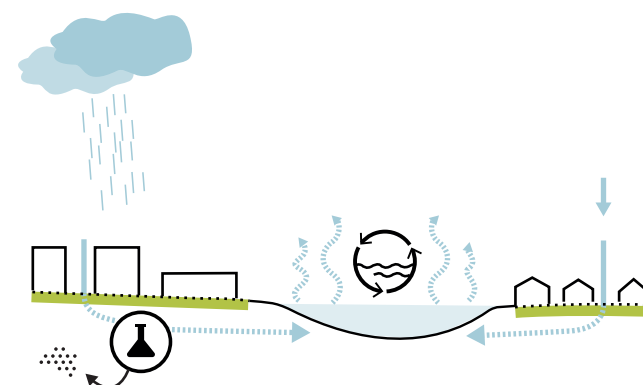
The extensive area covered with asphalt or concrete is one of the main ecological problems in a low density yet highly infrastructured city. The vast majority of parking lots are impermeable to water, becoming a matter of concern for the treatment of both contaminated surface water and rain water. Using landscaping techniques it is possible to progressively increase the permeable area while at the same time treating the runoff water. This reduces the contamination and the need to convey the same water to the main water treatment plant. Parking lots also offer a great opportunity for including more vegetation and improving the climate and comfort in the urban fabric around them.

## INCREASING STREET PERMEABILITY AND IMPROVING STORMWATER MANAGEMENT



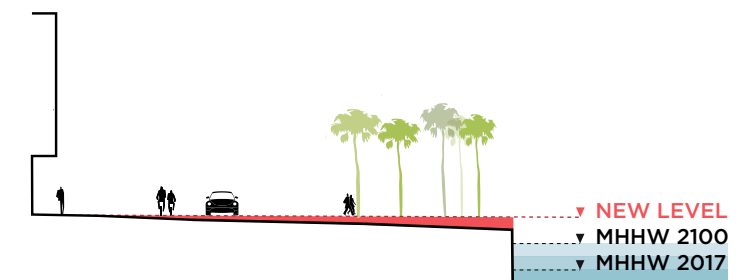
WPB streets are part of the city's mobility system, but also play a fundamental role in the water management system: They serve to collect rainwater and direct it to the lagoon. Improvements in the permeability of the streets have a great impact in the water cycle. According to the city's Stormwater Masterplan, the implementation of vegetated filter strips, rain gardens, bioswales, pocket wetlands, infiltration trenches, dry wells, permeable pavements and similar systems, together with a low-impact design approach, can improve safety and reduce impacts and associated costs.

## ENHANCING LAGOON METABOLISM



Being a coastal city, West Palm Beach has an impact on the quality of the water of the Lake Worth Lagoon. According to the Stormwater Masterplan, the downtown belongs completely to the Lake Worth Basin, discharging directly into the lagoon. The study shows a high potential pollutant load of nitrogen and phosphorous. It is necessary to avoid that these (and all) pollutants reach the lagoon in order to maintain and improve its natural biological state. Improving the water cycle, monitoring the pollutant loading, and encouraging on-site water treatment policies, are key factors to bringing people and activities to the water.

## ADAPTING TO SEA LEVEL RISE WITH A GLOBAL RESILIENCE STRATEGY



Climate change, and the consequent sea level rise, especially in South Florida, is a matter of concern. The proposal for the waterfront addresses the probable rise of the water level in the Lake Worth Lagoon over the next 100 years. However, we are aware that this is not enough to improve the whole city's resilience to climate change. A wider and more effective strategy is necessary: defining a +3.0 ft "free-board" requirement for all new projects situated in floodable areas is a start, but a more conscious urban planning is recommended in order to avoid new construction in low lands and encourage it in safer areas.

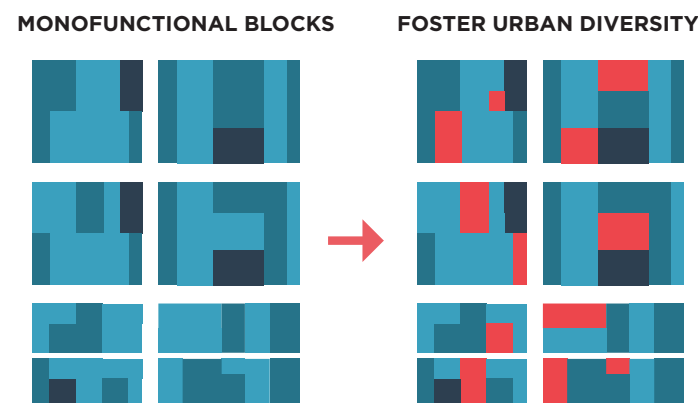


## INTRODUCING FUNCTIONAL MIX AND MANAGING A WIDER URBAN DEVELOPMENT

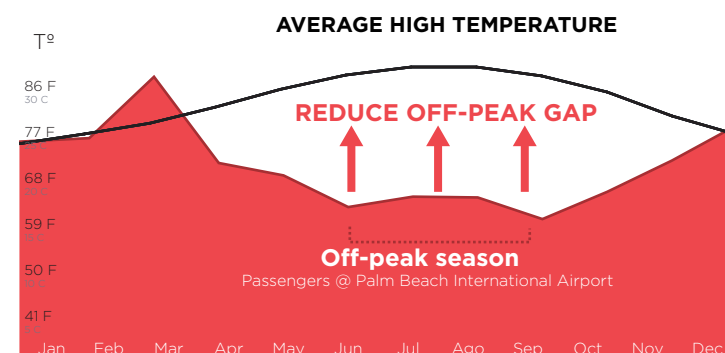
## BOOSTING YEAR-ROUND ACTIVITY AND REDUCING SEASONAL FLUCTUATIONS

## GENERATING A LONG TERM VISION TO FOSTER URBAN CATALYZERS

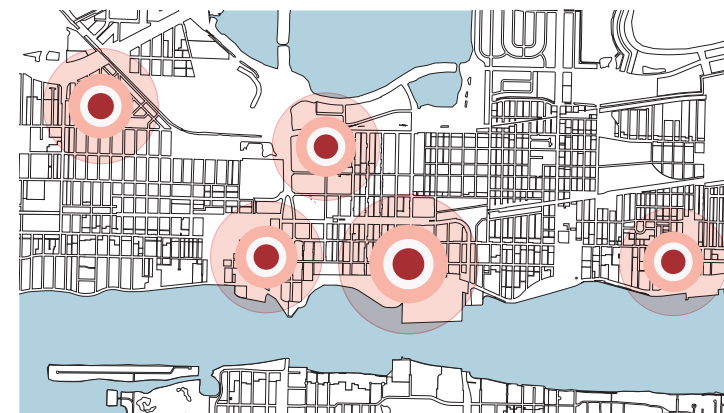
## ADOPTING AN ECOLOGICAL AND PEDAGOGICAL APPROACH



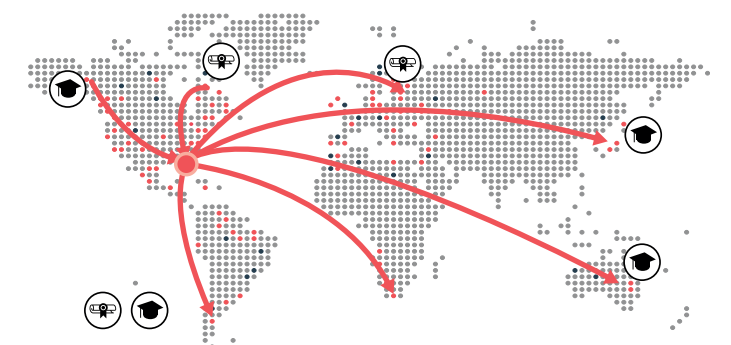
The core area of West Palm Beach certainly hosts a wider range of uses than the rest of the city, which is mostly mono-functional. The extensive low density residential areas require an intense city center. It is necessary to foster a more diverse downtown, a development not exclusively focused on tourism, but allowing the combination of traditional and innovative uses which aim to improve WPB residents' daily life by offering a myriad of opportunities. The variety of uses will increase the "urbanity" and the level of economical resilience of the city, attracting new investments and boosting the local economy.



Two main factors influence the seasonal fluctuations of WPB economy and urban life: tourism and the climate itself. Wide fluctuations have a big economic and social impact. The first one can be approached by creating a more active city center (for example improving the residential offer and cultural infrastructures, generating more spaces for young entrepreneurs, etc.) This will attract more permanent citizens and users whose presence in the city will not depend on touristic seasons. The second can be addressed by reducing the impact of adverse climatic conditions, especially during the summer season, when people are discouraged to live in and visit the center due to high temperatures.



The operation that is launched with the transformation of the Banyan Garage has to become a milestone in the evolution of the city's downtown. Beyond being an innovative building, its ambition is to become the first in a series of buildings that are capable of improving the city by generating new activities and becoming new urban hubs. In order to achieve this it is necessary to promote and encourage the development of dense, mixed use buildings similar to the Banyan Hub, capable of generating innovation by means of interaction between diverse users and activities in fruitful proximity.



All technologies and strategies should be conceived to be seen, understood and even controlled or modified by different urban actors, bringing open knowledge and co-creation to the city. Thus, the transformation of WPB can become a national and international example. A pilot experience for attracting visitors and future citizens to a city, and a case study on how to create unique urban water-scapes combining nature and technology. It will demonstrate that environmental design, when made visible and self-explanatory, can become an educational experience for citizens and a source of valuable data for urban professionals and researchers.



# DESIGN

## FROM 'WHAT' TO 'HOW'

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In order to connect the project to the general urban vision and turn them into a coherent design, we have to carefully look into the different programs and places, and define the relations between them.

On one side, the program of the new waterfront, its different 'plazas' and the Banyan Hub have to be defined. The project tries to balance activities to generate differentiated vectors of attraction to specific areas of the waterfront to keep it alive all day long and throughout the year. It also proposes the inclusion of activities that complement the ones already taking place in the nearby urban context. It includes new programs and powerful urban experiences, interesting enough to attract locals and foreigners beyond the tourist season, to experience a renovated urban lifestyle.

On the other side, there is a clear need to find or establish fluid relations between the different components of the project, and between them and the existing city. This can be best done by increasing connectivity and accessibility.

By combining these two aspects —programs and relations— the project can facilitate new synergies and become a balanced and cohesive solution in which the whole is greater than the sum of its parts. Each part of this proposal responds to a holistic approach in which the downtown and the waterfront contribute to one another, aided by the activating effect of the Banyan Hub and the unifying role of the passageways.



# WATERFRONT





# A UNIQUE SETTING FOR AN INSPIRING URBAN LIFE

The new waterfront is an extraordinary opportunity to reconnect the city to the water, making good use of West Palm Beach's spectacular location. The goal is to create a stronger and more appealing relationship with the lagoon. This unique feature will attract people to visit and to enjoy a wide range of aquatic activities and climatic environments.

The waterfront will be active, continually changing day and night. It will host diverse outdoor spaces that are comfortable year-round, each one in an extraordinary context with gorgeous views and the capacity to foster different activities. This new urban environment will blur the line between the city and the water, bringing nature back to the city center.



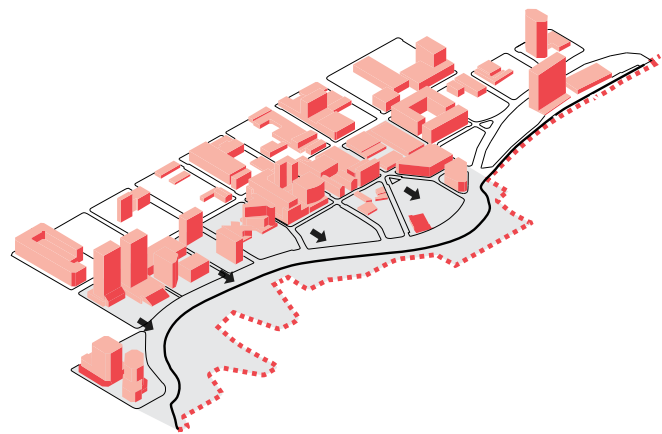
Day Vision of the Aquatic Plaza



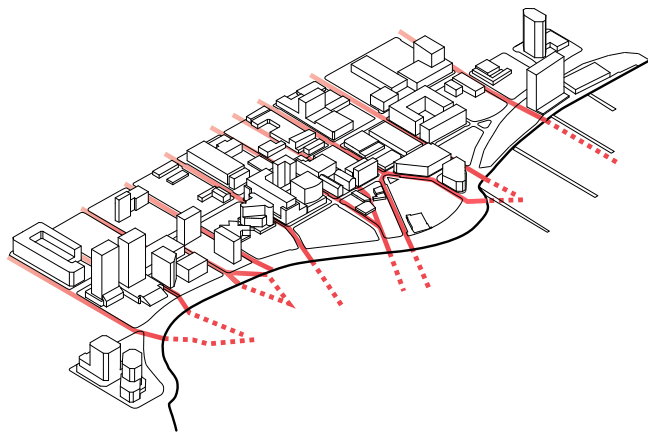
# WATERFRONT URBAN CONCEPT

URBAN AND ECOLOGICAL STRATEGIES BEHIND THE NEW WATERFRONT

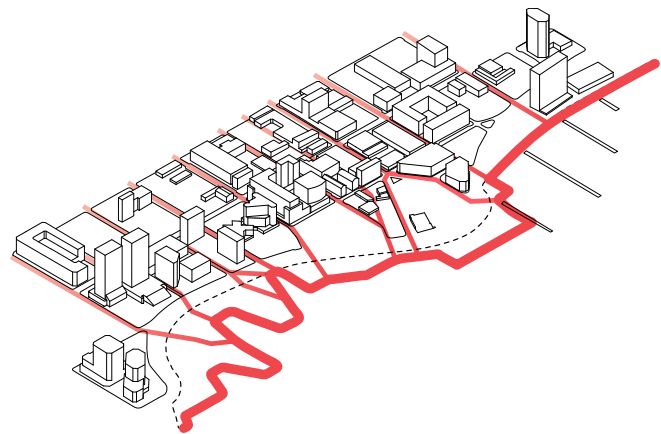
# WATERFRONT



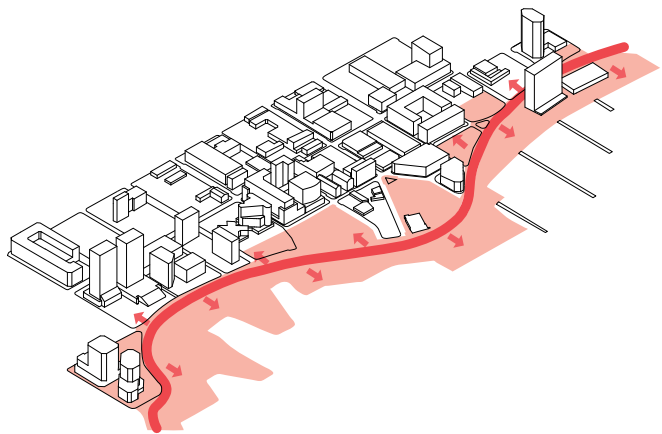
**EXTEND THE CITY**  
The waterfront extends the downtown over the lagoon, creating new urban spaces.



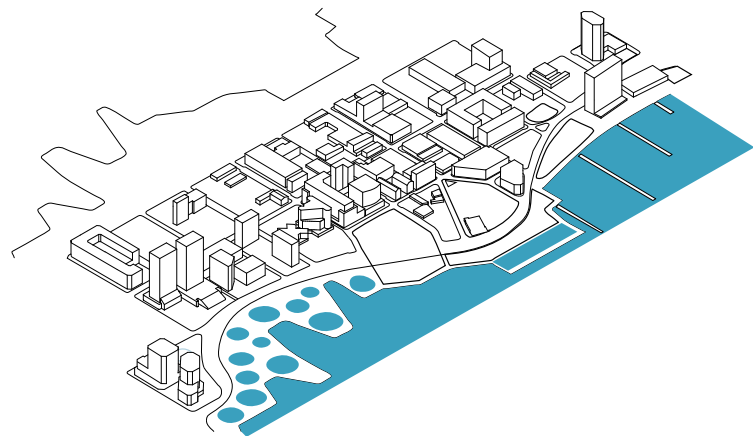
**EXTEND THE STREETS**  
The new waterfront becomes an extension of the existing east-west streets.



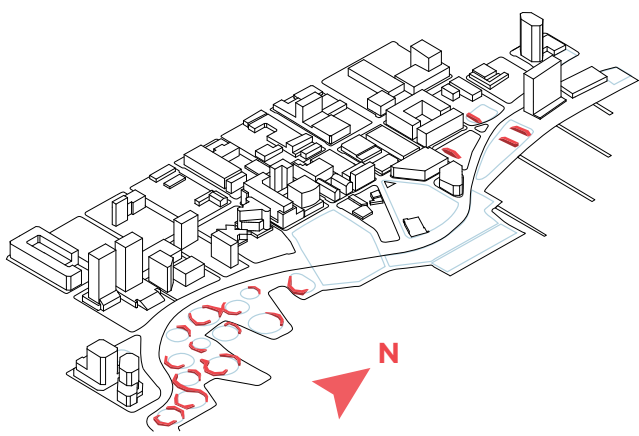
**CONTINUOUS PUBLIC LOOP**  
The waterfront shore line connects the extension of existing streets into a continuous pedestrian loop.



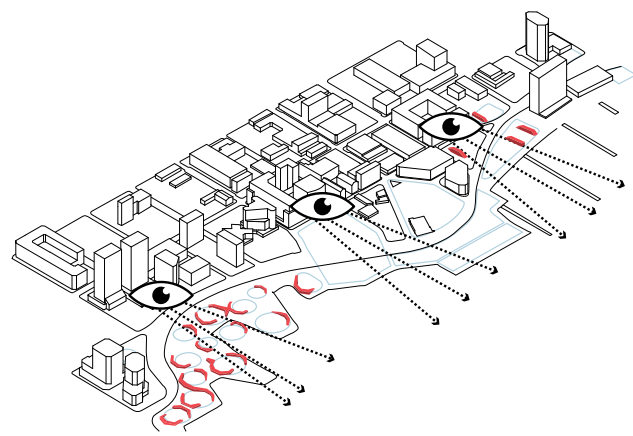
**INTEGRATED FLAGLER DRIVE**  
Flagler Drive becomes an integral part of the new waterfront configuration.



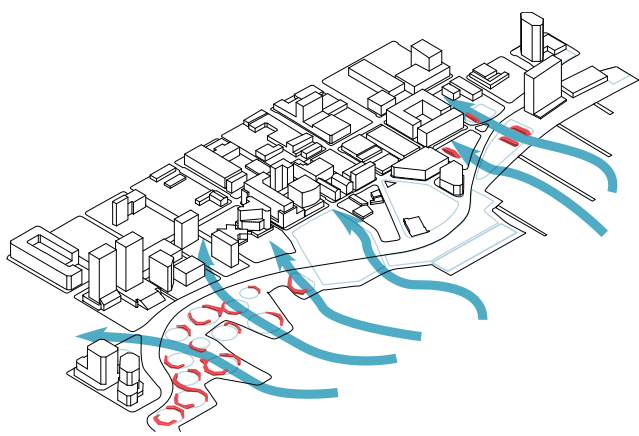
**PIERCED PLATFORMS**  
The layout of the extended platform creates new ways of accessing the water.



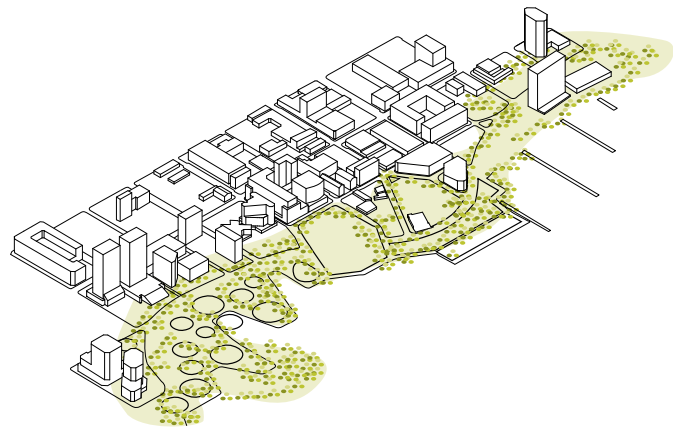
**OPEN PLAZAS: ORIENTATION**  
The structures built above ground are mainly oriented in east-west direction.



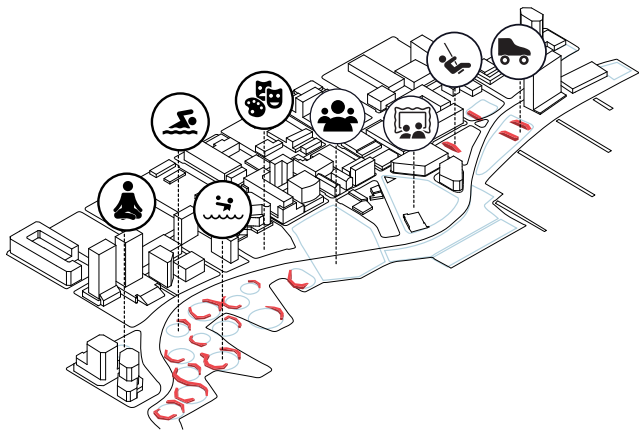
**OPEN PLAZAS: VIEWS**  
The orientation of the plazas keeps the views across the waterfront.



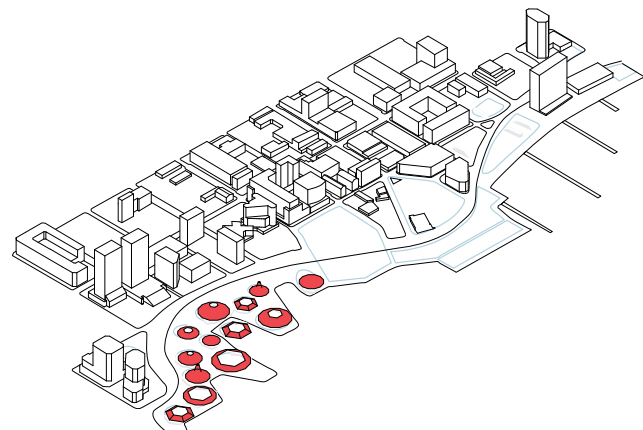
**OPEN PLAZAS: WINDS**  
It also lets the dominant winds and the breeze pass through the shore.



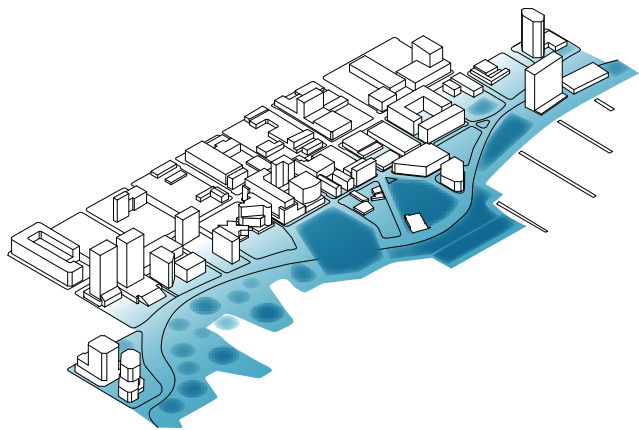
**RENATURALIZATION**  
Nature is brought into the waterfront area while keeping its urban character.



**THEMATIC PLAZAS**  
The open plazas are characterized by singular atmospheres and activities.



**BIOCLIMATIC CANOPIES**  
The structures that cover the plazas play a protective and bioclimatic conditioning role.



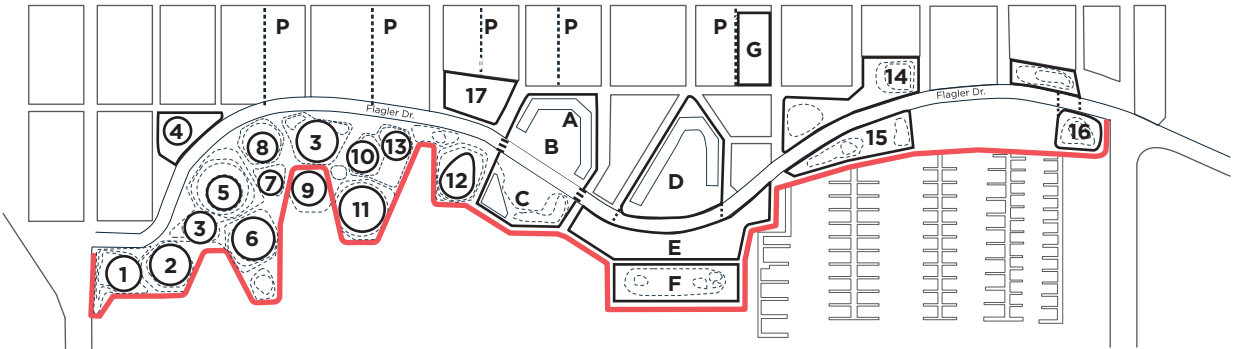
**BIOCLIMATIC WATERFRONT**  
The climatic conditions of the waterfront are improved using sustainable methods.



# URBAN LAYOUT

RECONNECTING THE DOWNTOWN TO THE LAGOON

# WATERFRONT



- 1 Landscape Art Plaza
- 2 Climbing Plaza
- 3 Aquatic Plaza
- 4 Mindfulness Plaza
- 5 Rain Plaza
- 6 Aquatic Sports Plaza
- 7 Splash Plaza
- 8 Thermal Plaza
- 9 Mangrove Plaza

- 10 Foggy Plaza
- 11 Aquarium Plaza
- 12 Cloud Forest Habitat Plaza
- 13 Public Art Plaza
- 14 Playscape Plaza
- 15 Sandy Plaza
- 16 Sports Plaza
- 17 Forest Art Plaza

- A Meyer Amphitheater
- B Multi-Use Urban Space
- C Chameleonic Plaza
- D Great Lawn
- E Palm Grove Plaza
- F Tidal Plaza
- G Banyan Hub
- P Passageways



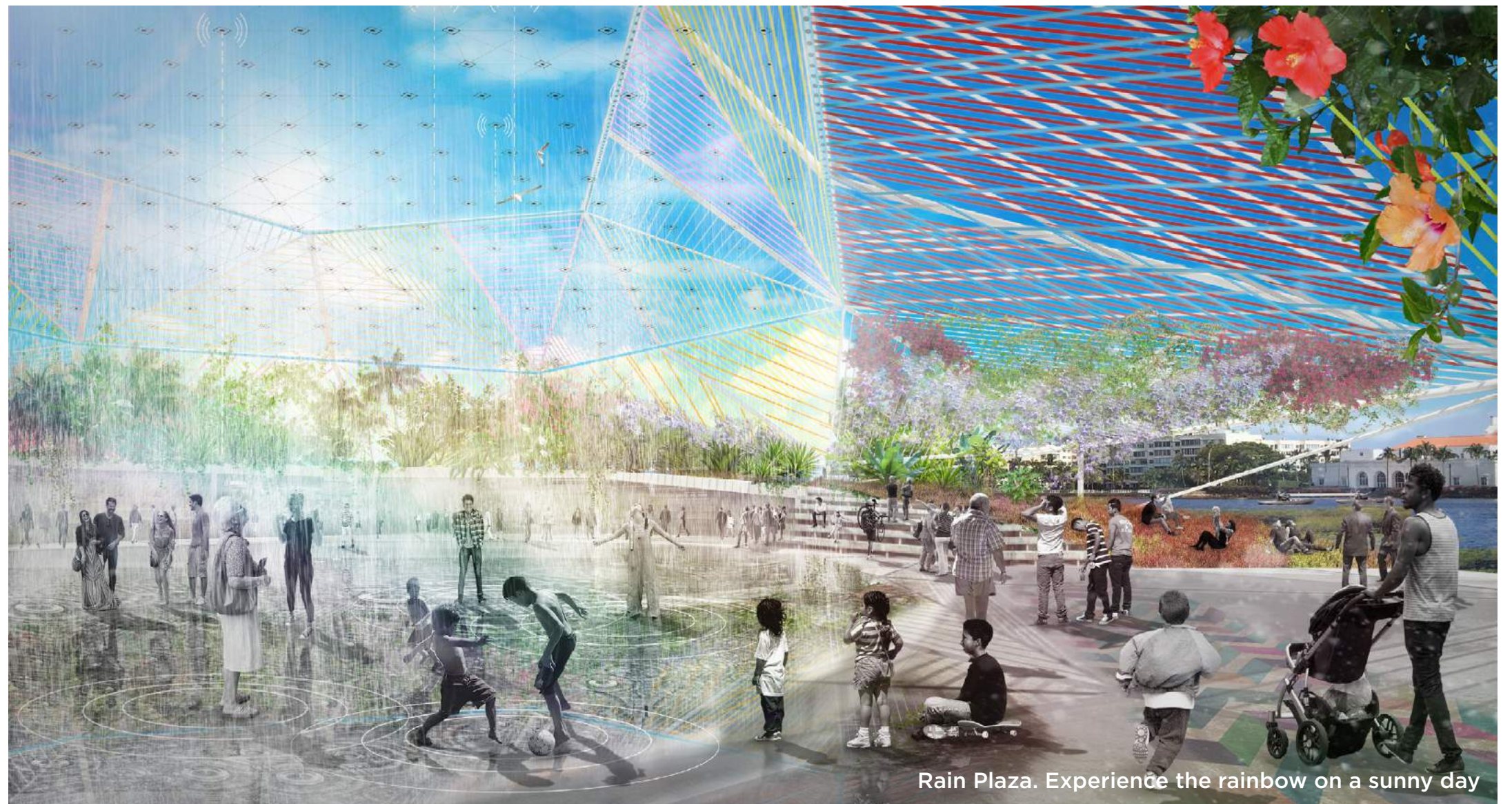


# MEMORABLE ATMOSPHERES TO CELEBRATE PUBLIC SPACE

Every aspect of each of the waterfront ‘plazas’—the structure, the shape, the colors and materials, the presence of vegetation or passive and active bioclimatic technologies—is aimed at creating a specific and memorable atmosphere especially conceived to play along with certain activities.

Fresh and shady like a forest. Open and breezy like a seashore. Clean and bright like a museum hall. Quiet and peaceful like a private courtyard. Filled with water like an aquarium. Humid and warm like a sauna. Sandy and sunny like a beach. Colorful and imaginative like the best playground a child could ever imagine.

Water, sound, shade, vegetation, music, topography, silence, color, creative furniture, sun, wind and—of course—people, all conform an urban experience like no other: one that celebrates the spirit of West Palm Beach.



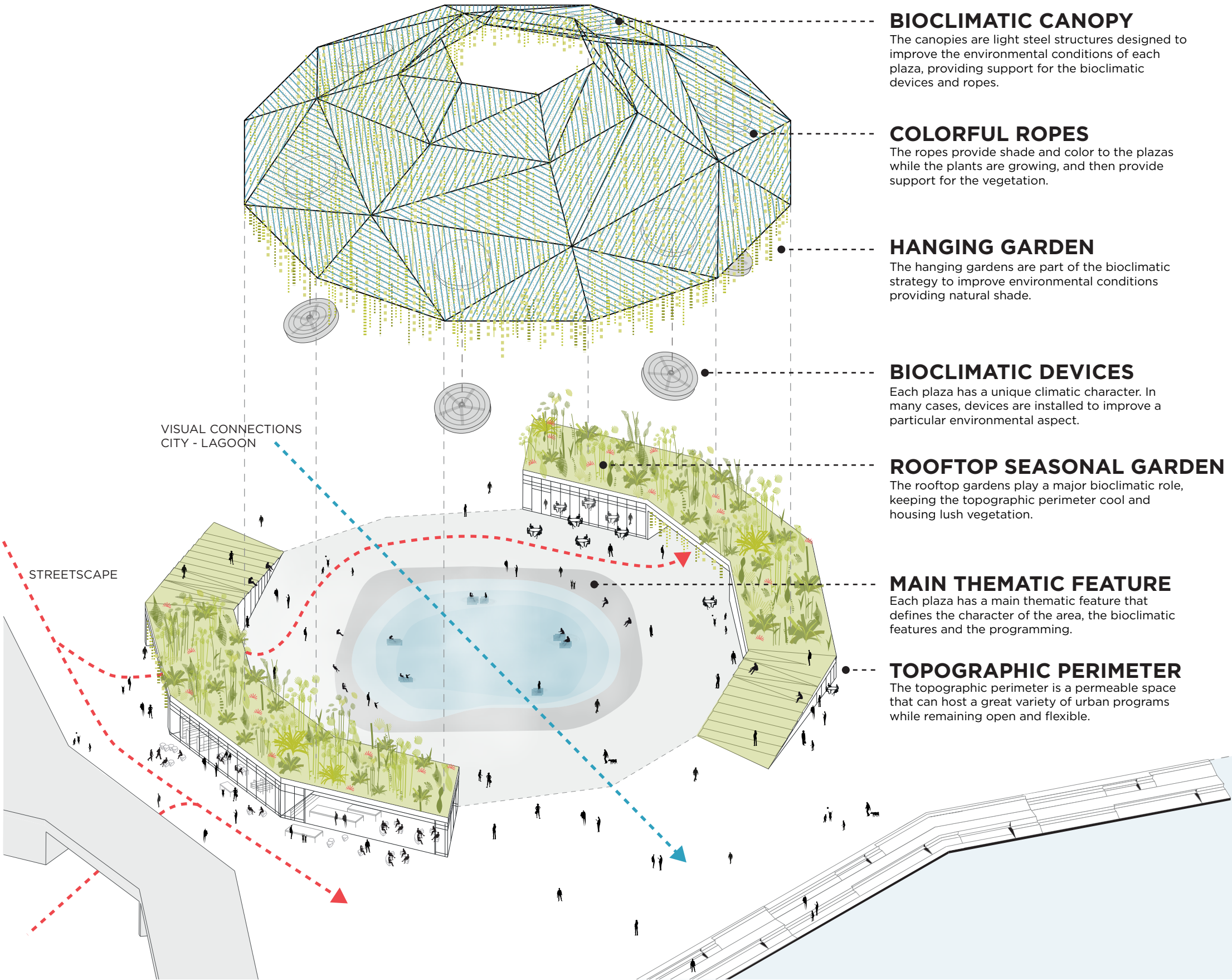
Rain Plaza. Experience the rainbow on a sunny day



# INSIDE A WATERFRONT PLAZA: A BIOCLIMATIC & THEMATIC UNIT

NATURAL SOLUTIONS COMBINED WITH BIOCLIMATIC TECHNIQUES

## WATERFRONT



Each of those urban units or ‘plazas’ in the waterfront is shaped by a series of technical elements that support the desired activities and atmospheres:

A central space hosting a ‘thematic feature’ like a pond, a sandy beach, a climbing structure, a water-park, a sculpture, a playground or a part of a mangrove ecosystem. Those inner spaces are partially open to the rest of the waterfront, and partially surrounded by a topographic perimeter containing complementary programs that bring economic, social and cultural activity to the waterfront. These same activities also face the spaces between the plazas, which work like more compact urban streets. On top of that, a canopy of variable shape controls the weather, offering protection and supporting the passive and active natural bioclimatic systems to create climatic comfort outdoors.

Both the central space, the topographic perimeter and the canopy feature a variable presence of nature and technology.

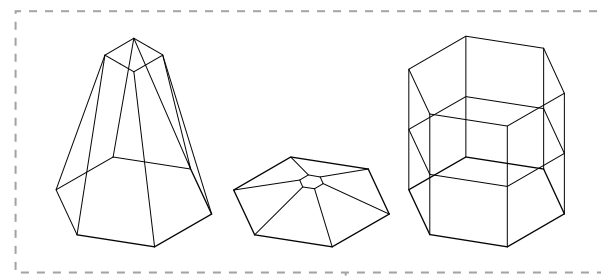


# ECOLOGIC STRATEGIES FOR CREATING DIVERSE ENVIRONMENTS

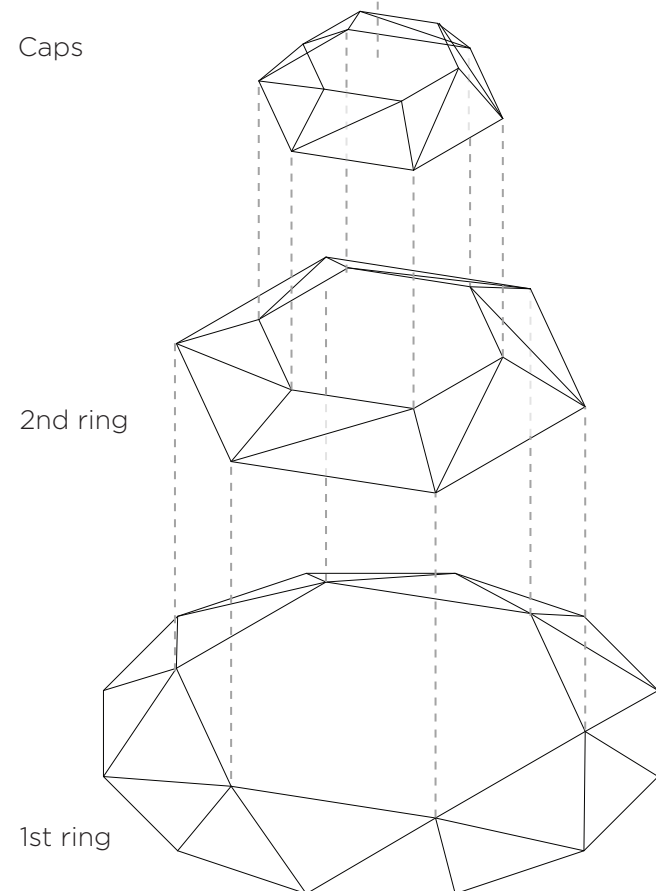
COMBINATION OF BIOCLIMATIC SOLUTIONS FOR CREATING A MYRIAD OF PLAZAS

Under the same concept of sustainable urban climate adaptation, different natural bioclimatic conditioning solutions are used in each case, depending on the character and shape of each space.

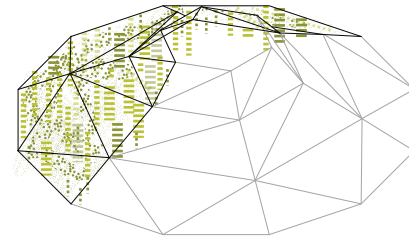
Passive solutions like shade or natural ventilation are combined with active systems like sensor-activated water sprinklers and low speed ventilators.



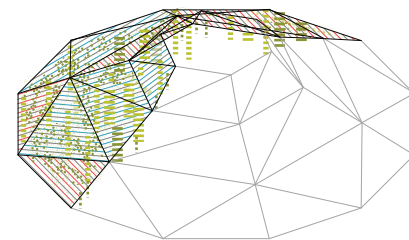
Caps



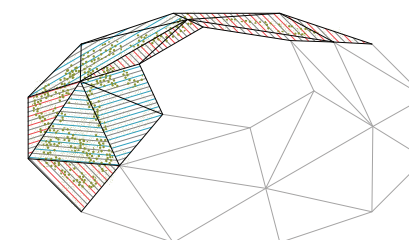
BIOCLIMATIC CANOPY STRUCTURE



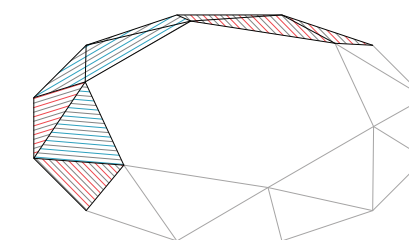
ROPES ARE REMOVED



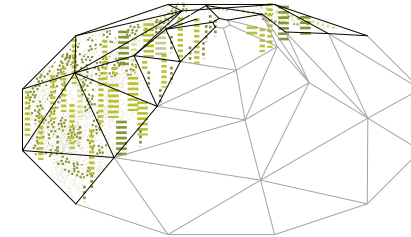
VEGETATION FINALLY COVERS CANOPY



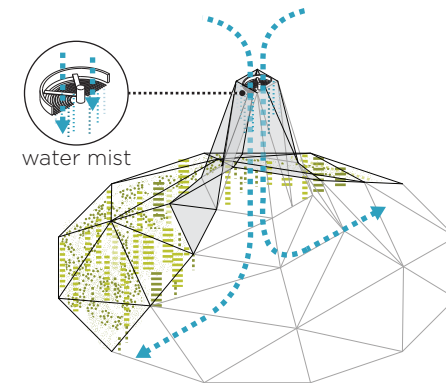
ROPES SUPPORT VEGETATION GROWTH



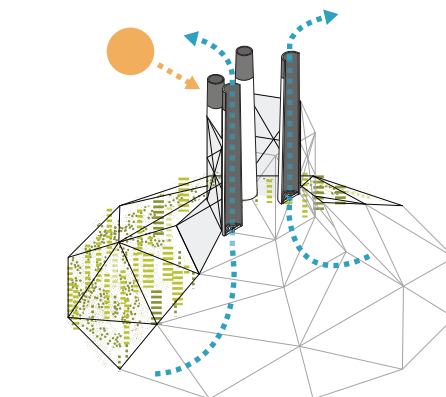
CANOPY STRUCTURE AND ROPES PROVIDE SHADE DURING 1ST PERIOD



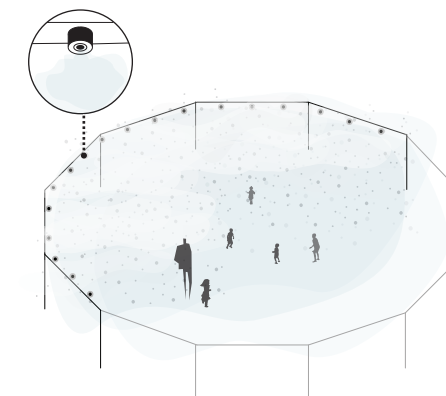
CLOSED DOME



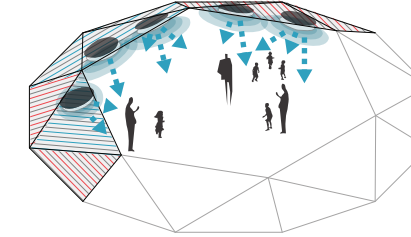
DOWNWARD EVAPORATIVE COOLING



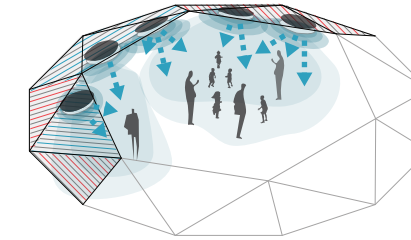
SOLAR CHIMNEY



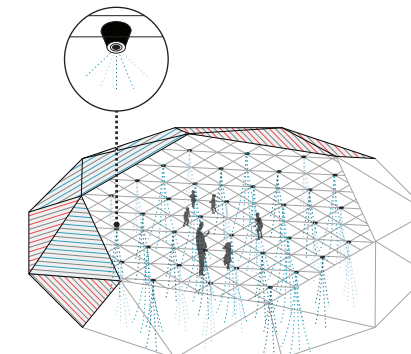
FOG RING



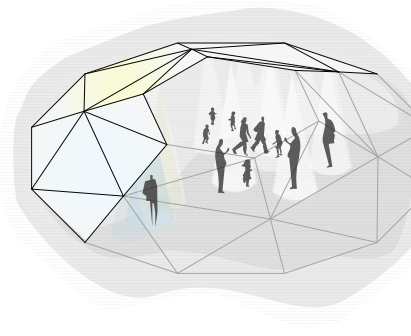
FANS



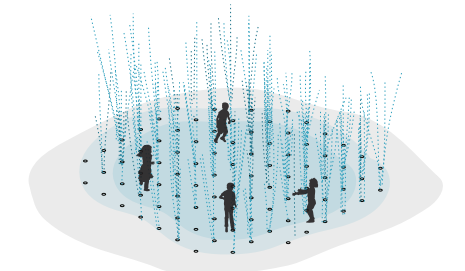
FANS AND FOG



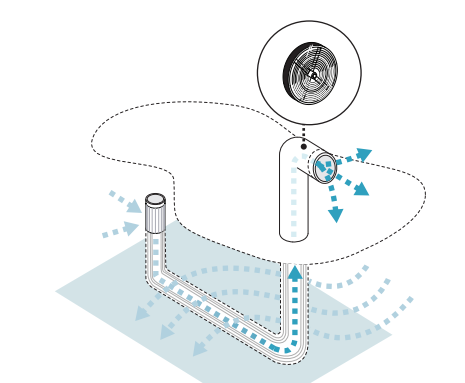
WATER SPRINKLERS



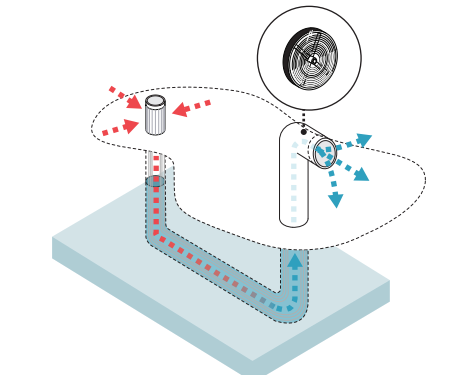
RESPONSIVE LIGHTS



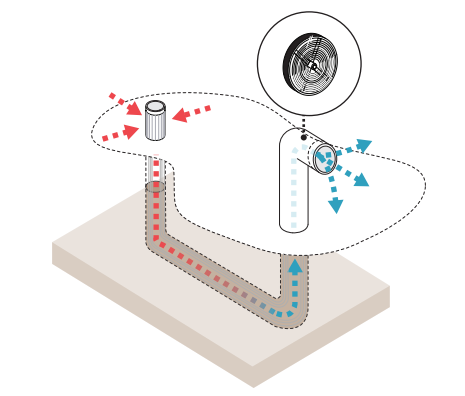
GROUND JETS



AIR COOLER



WATER-AIR HEAT EXCHANGER



EARTH-AIR HEAT EXCHANGER



# A MYRIAD OF POSSIBILITIES

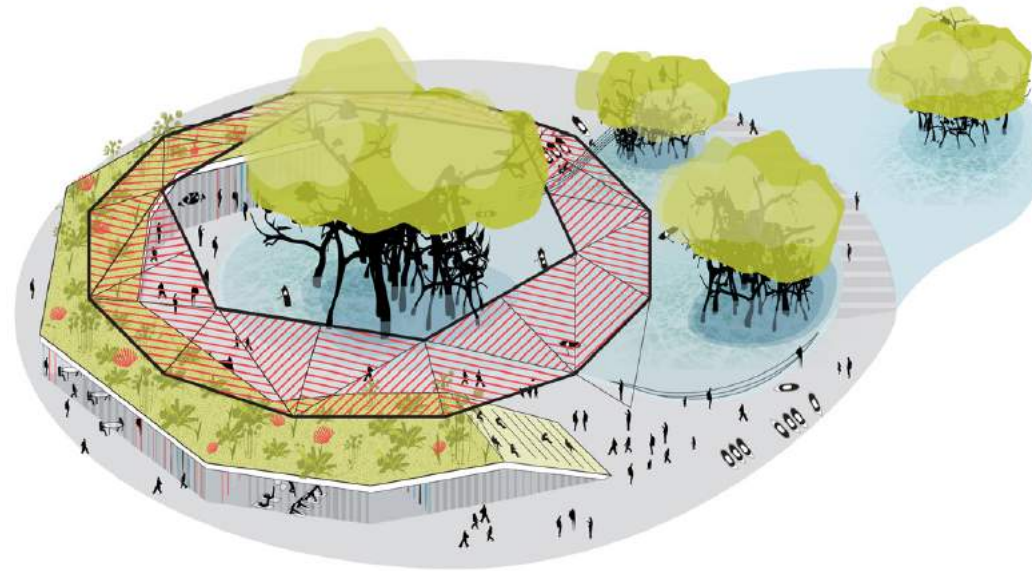
ATMOSPHERIC PLAZAS TO ENJOY A NEW URBAN WATERSCAPE

The waterfront works as a flexible and scalable intervention that can be implemented incrementally and according to the needs of the city and the citizens. It provides a fluid and accessible urban space for everyone, but it also features a great variety of spaces that can be walked across, visited, or used to enjoy completely different experiences: From the thrill of adventure to the peace of total relaxation; from ample views of the city and its surroundings to more protected and comfy interior spaces; from pure fun to mind-challenging education and culture; from a packed and lively urban setting to a more natural environment opening to the lagoon.

Each of those places favors a specific program or a particular set of activities while remaining open to reinterpretation and use by its local inhabitants or temporary visitors. The different activities are organized inside a series of 'plazas' or micro-centers, but also between and around them.

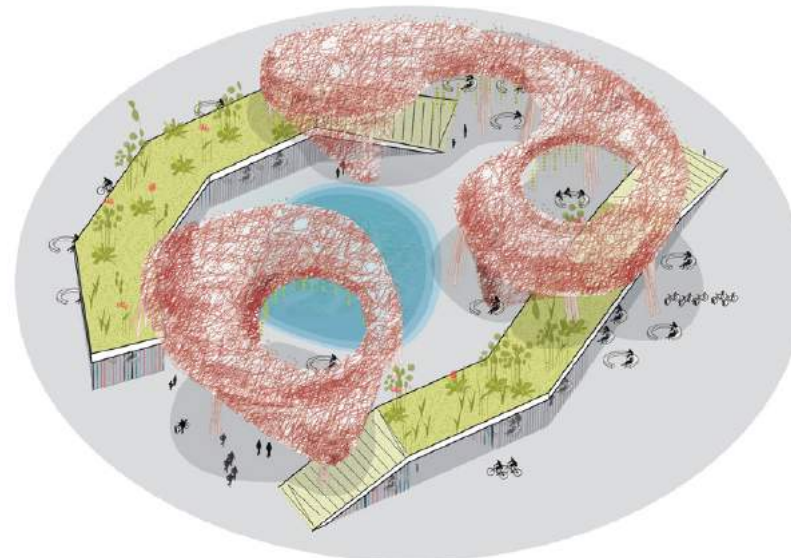
Matching atmospheres are also created through environmental design and climatic conditioning systems.

These aspects, combined and supported by site-specific equipment, particular materials or colors and purposefully chosen spatial designs, give a singular character to each of the public urban spaces.



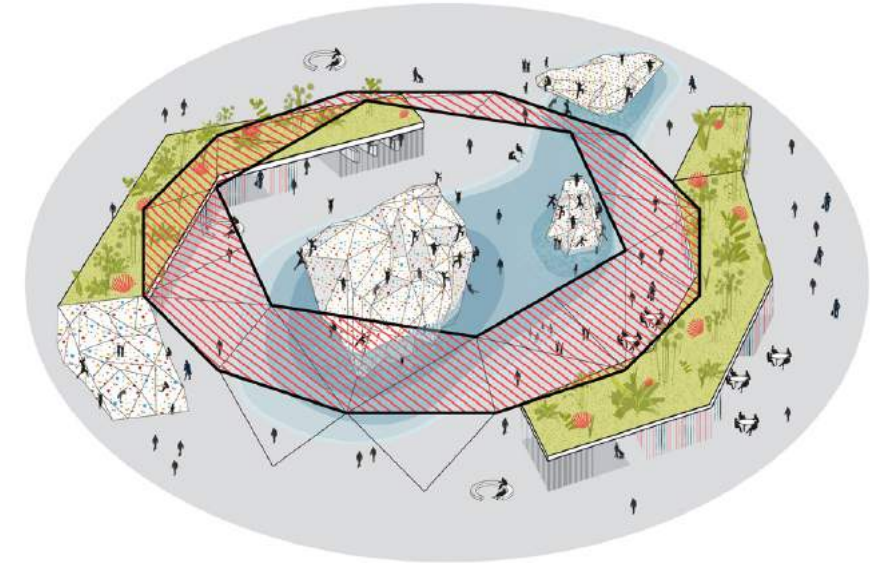
## MANGROVE PLAZA

Large pool with leafy mangrove habitat and lush aquatic vegetation  
Experience a true Floridian wetland landscape!



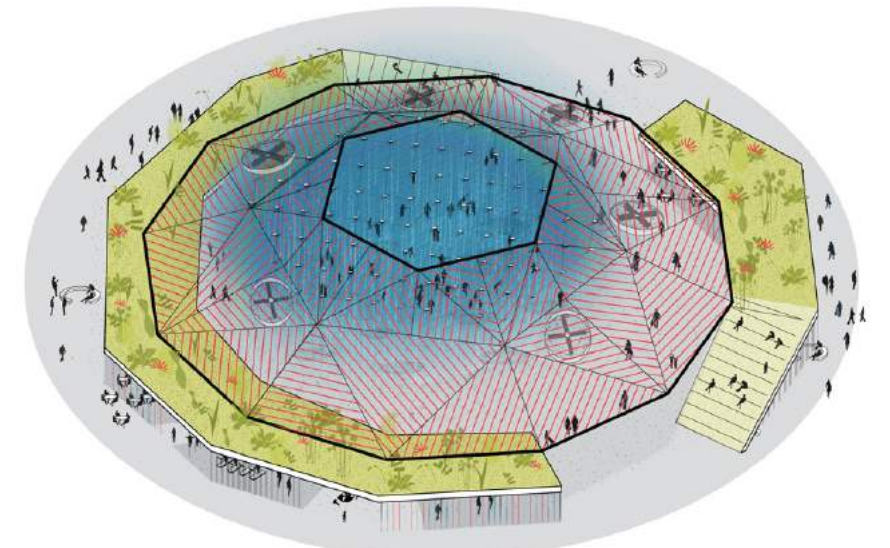
## PUBLIC ART PLAZA

An iconic interactive sculpture combined with the waterscape creates an unforgettable photo op. #Selfie!



## CLIMBING PLAZA

Natural pool with climbing features emerging from the water.  
Combine climbing and cannonballs!



## RAIN PLAZA

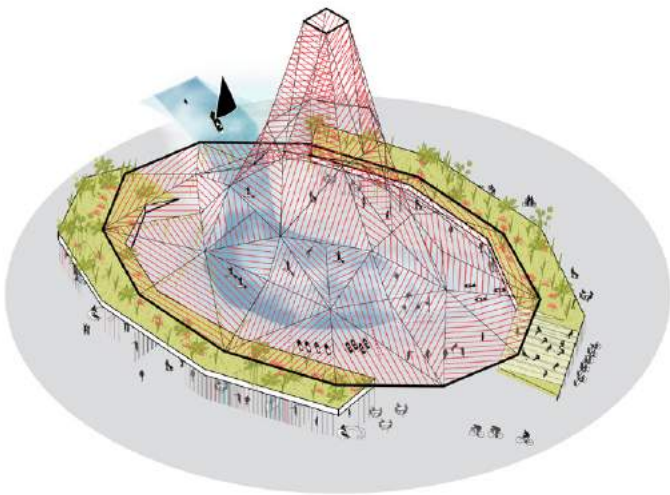
Light dome canopy containing playful and interactive artificial rain system  
You can't stop the rain! (or can you?)



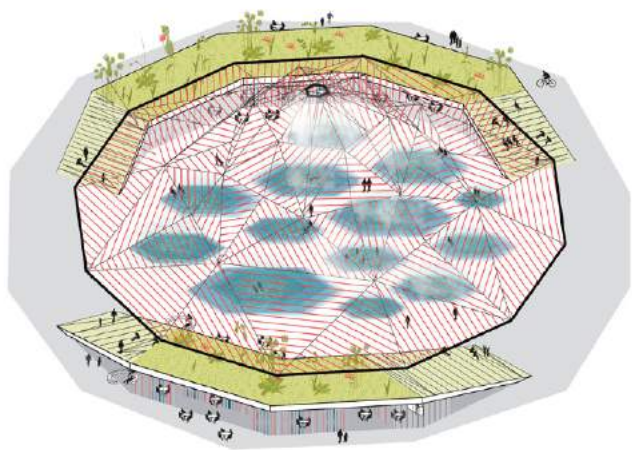
# A MYRIAD OF POSSIBILITIES

# WATERFRONT

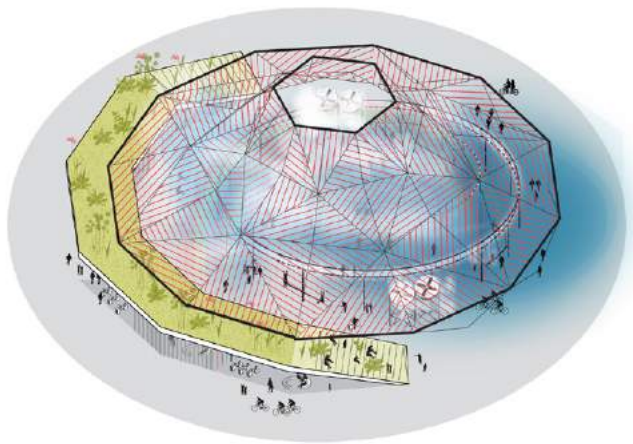
The proposal creates a myriad of possibilities: Many different plazas, each one with its own unique character and atmosphere, each one with a specific function and an impact on the urban life and the whole waterfront. The implementation plan will respond to the social context enabling a public participatory process to decide which thematic plazas could be more relevant and appealing for the city. Its flexibility allows for an incremental growth which can efficiently adapt to a changing reality.



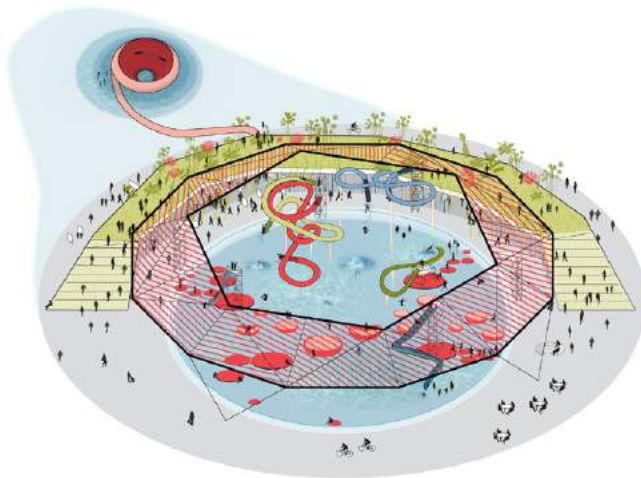
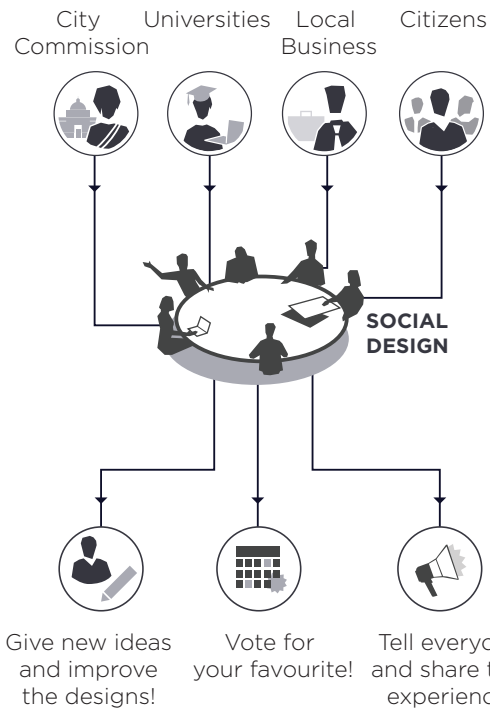
**AQUATIC SPORTS PLAZA**  
Active urban spot to practice various aquatic recreational activities. Keep calm and paddle on!



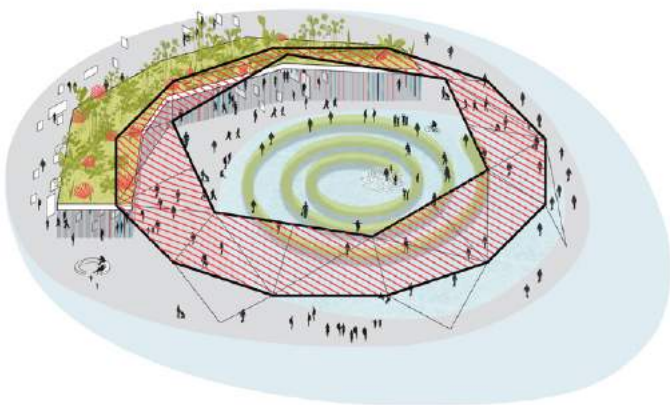
**THERMAL PLAZA**  
Open thermal bath experience with pools of different sizes and temperatures. Indulge in your new city spa!



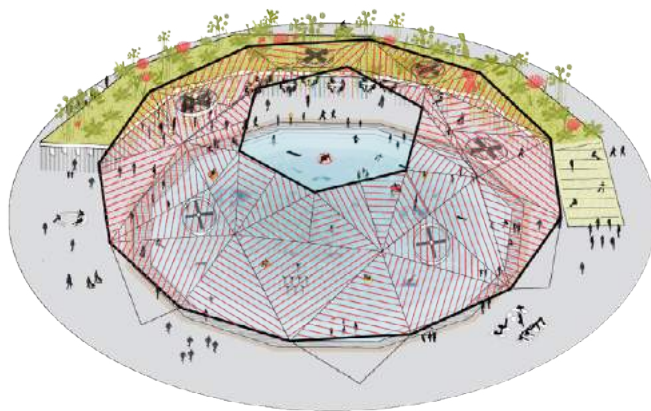
**FOGGY PLAZA**  
Interactive fog and breeze installation generating artificial clouds and creating different atmospheric experiences. Feel the weather!



**SPLASH PLAZA**  
Natural pool with winding water slides to experience the landscape while gliding through the water. Urban splash!



**LANDSCAPE ART PLAZA**  
Immersive land art installation generating a playful interaction between the city, the aquatic landscape and people. Find the art within nature!

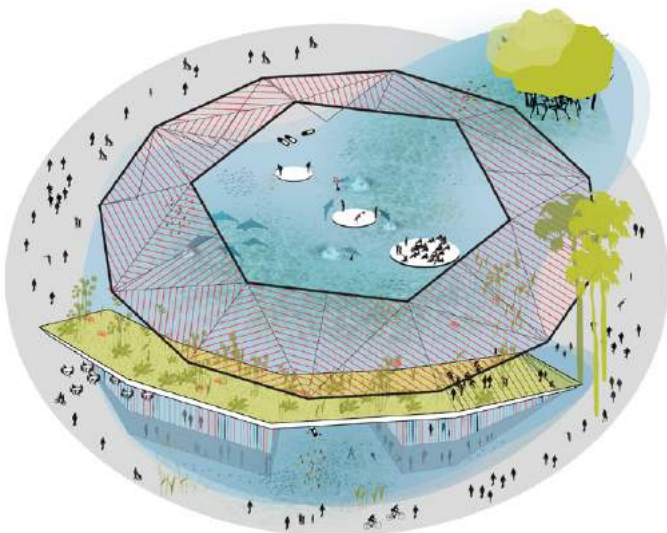


**AQUATIC PLAZA**  
Natural pool with surrounding hanging gardens creating an urban beach experience. Enjoy the city while swimming!

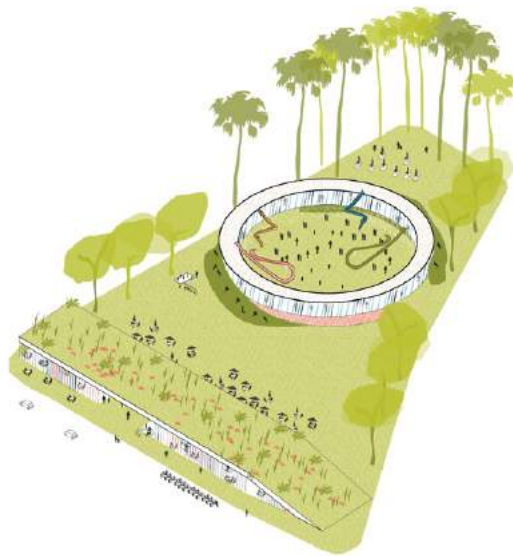


# A MYRIAD OF POSSIBILITIES

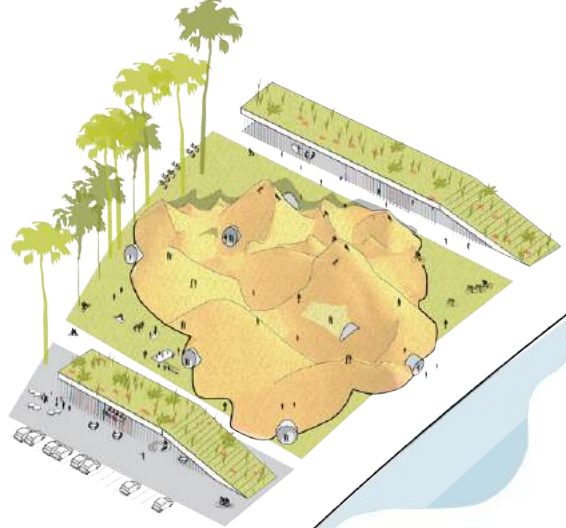
# WATERFRONT



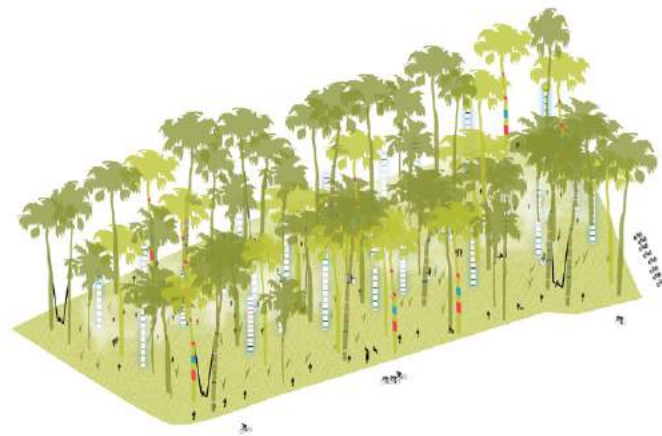
**AQUARIUM PLAZA**  
Aquarium pool with natural habitat for local marine species and vegetation. Unique urban diving experience!



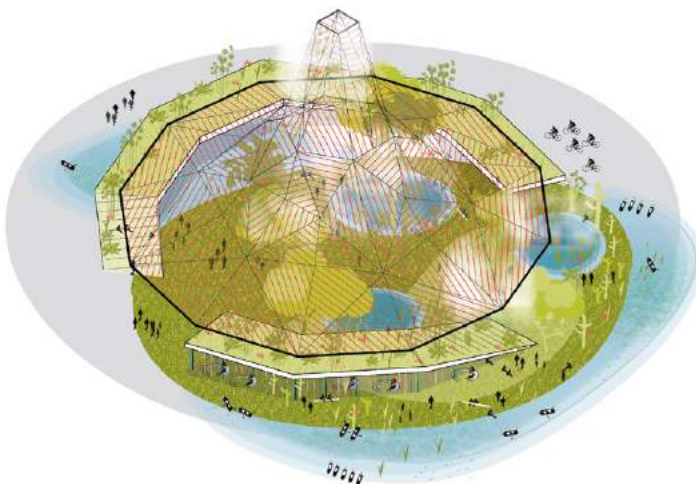
**PLAYSCAPE PLAZA**  
An unconventional playground for children and adults alike. Don't forget to play!



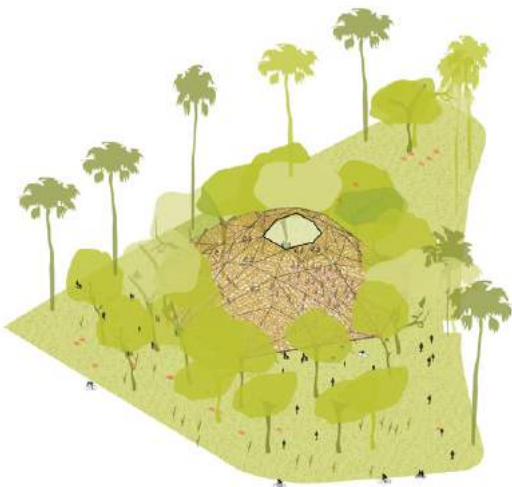
**SANDY PLAZA**  
Dunar landscape with playful sandy mountains. A new way to experience the sand between your toes!



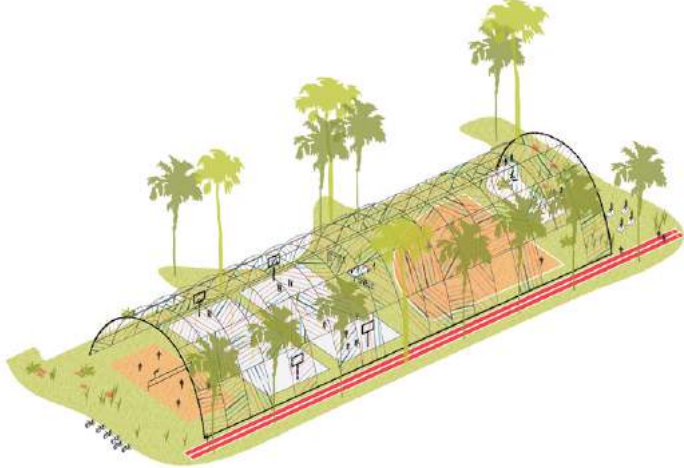
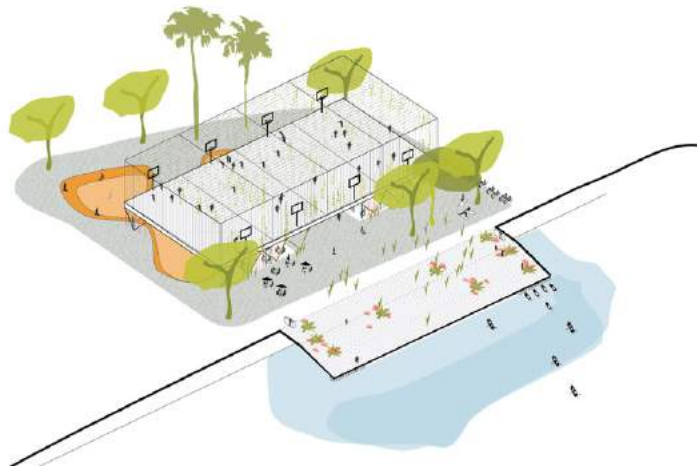
**FOREST ART PLAZA**  
A shady open air museum for displaying public art and enjoying the playful swings or the relaxing hammocks. Take a cultural break!



**CLOUD FOREST HABITAT PLAZA**  
Botanical cloud forest dome with seasonal hanging gardens and diverse weather experiences. Breathe in nature!



**MINDFULNESS PLAZA**  
Relaxing setting with a strong presence of nature to enjoy yoga, taichi, meditation.... Find your chi!



**SPORTS PLAZA**  
A multisport facility to practice anything from basketball to ultimate frisbee. Get ready to play!



# A WATERFRONT BUSTLING WITH ACTIVITIES

REVITALIZING BOTH SIDES OF FLAGLER DRIVE

In order to bring new activity to the waterfront, the project aims to create an urban atmosphere.

Flagler Drive will no longer represent the end of the downtown but the spine of a series of spaces on both sides. It will be modified to become a boulevard that both motorists, cyclists and pedestrians can enjoy. The sections of Flagler Drive in front of the Meyer Amphitheater and the Great Lawn will be designed as shared spaces in order to improve the connections between both sides.

A network of pedestrian- and bike-friendly routes will connect the downtown streets, across Flagler Drive, to a new extension of public space by the shore. These routes will turn the space among the state of the art 'plazas' into lively streets that can develop their own economic and social dynamics and behave like a whole new part of the city.



Strolling on the Waterfront



Flagler Drive and the Cloud Forest Habitat Plaza



# RESILIENCY AND ADAPTATION

APPROACHING CLIMATE CHANGE THROUGH DESIGN

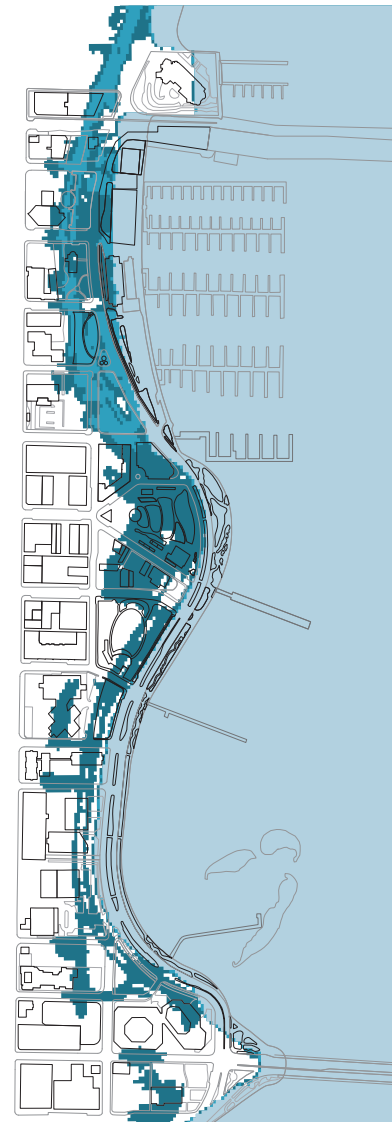
WATERFRONT

The waterfront is designed to adapt the estimated three-foot rise in sea level over the next century.

By working with topography it is possible to build a waterfront that remains usable regardless of the sea level, even in the case of very high tides. Furthermore, the variations make the space evolve over time and become more interesting: enlarging and shrinking depending on the time, the day and the year; hiding or showing parts of the topography; creating surprising interactions, etc.

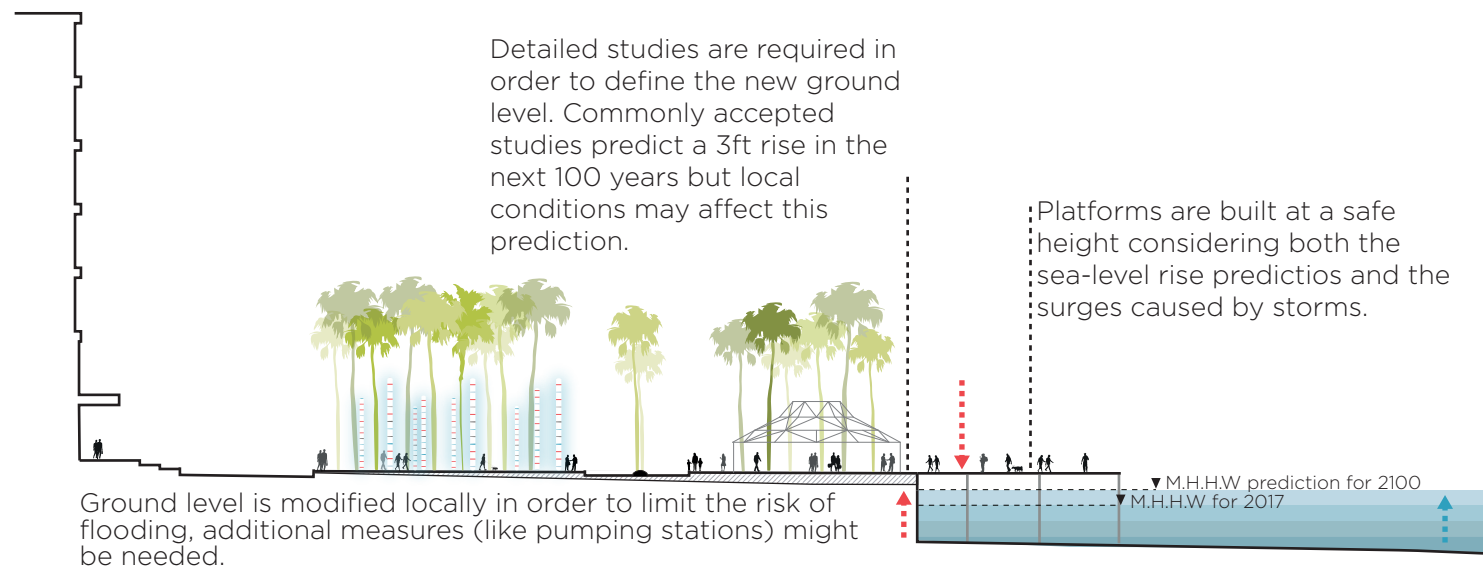
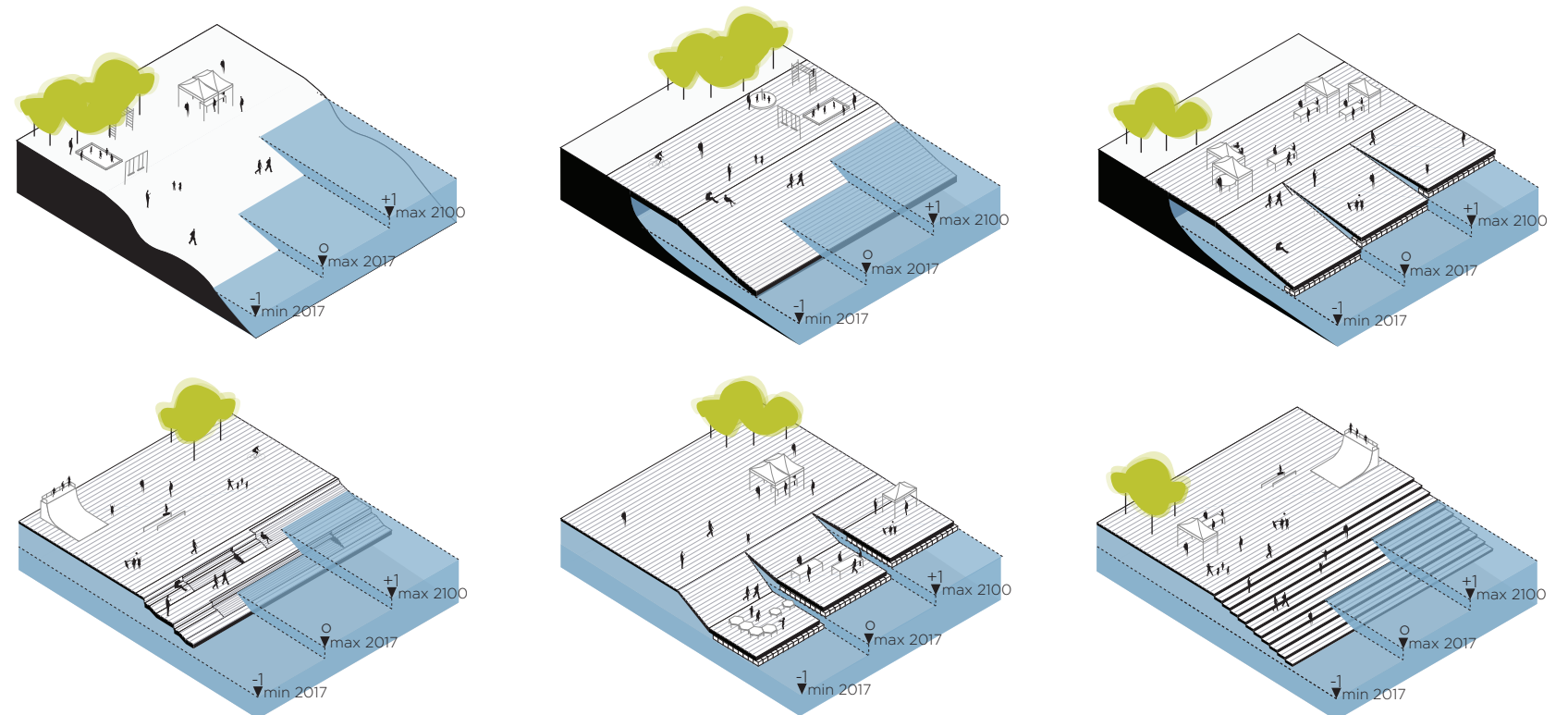
In terms of resiliency, another important factor is the preparation of all the urban elements for extreme weather events like storms and hurricanes.

All of the structures are designed to resist strong winds by means of their shape and flexible behavior. They are also conceived to be removable in case of need, and to allow a rapid and affordable reparation in the event of damage.



- CURRENT SEA LEVEL RISE IMPACT IN THE AREA
- 1 FT OVER CURRENT MEAN HIGHER HIGH WATER
  - 2 FT OVER M.H.H.W.
  - 3 FT OVER M.H.H.W. - POSSIBLE SEA LEVEL RISE OVER A 100 YEARS TIME

A RESPONSIVE AND ADAPTABLE STRATEGY TO DEAL WITH TIDES, FUTURE SEA LEVEL RISE AND STORM SURGES



## WIND RESILIENCY

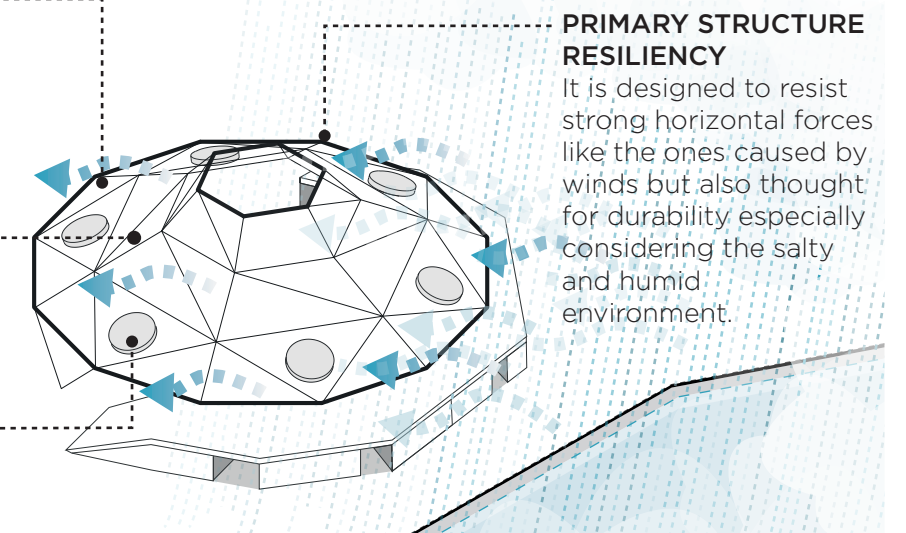
Ropes provide shade but are permeable to wind, they offer a reduced resistance reducing the stress on the structure limiting the sail effect.

## ROPES REPLACING

Ropes can be easily replaced in case of damage caused by strong winds or if it wears out.

## REMOVABLE DEVICES

Technological devices can be removed in case of hurricanes or violent storms and then easily reinstalled.

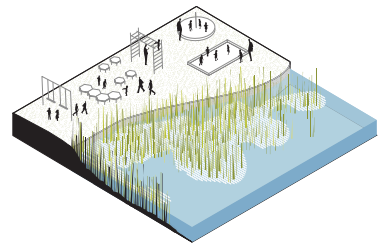




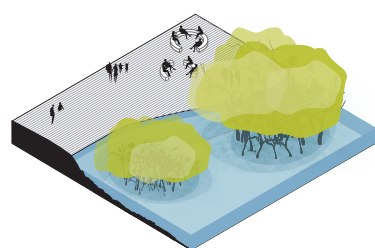
# RENATURALIZING WEST PALM BEACH

BRINGING BACK THE TRUE FLORIDA WETLAND LANDSCAPE

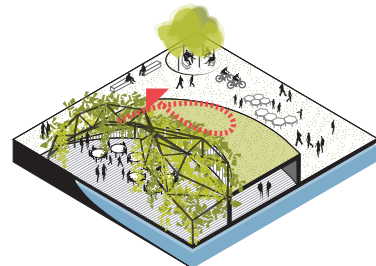
WATERFRONT



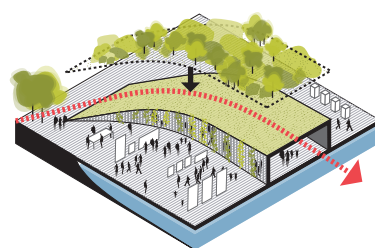
WETLANDS  
RENATURALIZE THE BORDER



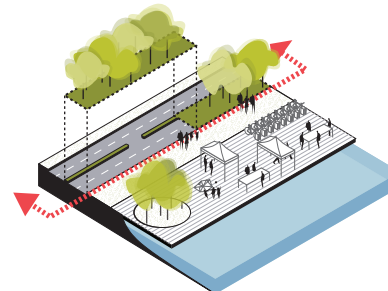
MANGROVE ISLANDS



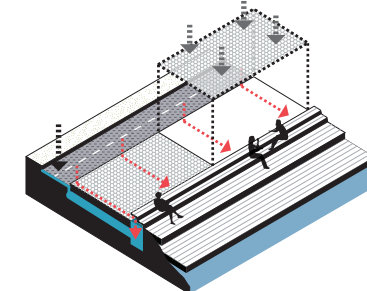
HANGING GARDENS  
CLIMBING PLANTS



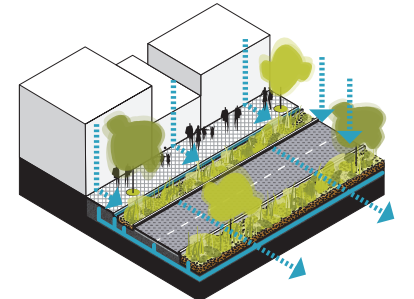
PLAZAS GREEN ROOF  
TOPOGRAPHIC PERIMETER



REDUCE TRAFFIC  
LANES & RENATURALIZE



PERMEABLE MATERIALS  
RAINWATER COLLECTION



STORMWATER GARDENS  
BIORETENTION PROCESS

While being a man-made extension of the city, an artificial ecosystem, the whole waterfront works together with the natural processes in a myriad of different ways.

It takes into account the water cycle, finding ways of absorbing, filtering, reusing and bringing rain water back to the lagoon and to the sea. It lets the water flow into urban space, and urban space flow into the water.

As part of a process of 'renaturalization', the waterfront explores many possible relations between construction and vegetation, letting it grow on top of structures, under artificial covers, in vertical surfaces or in hybrid, permeable pavements.

It blurs the limits between an urban space and a natural one, creating many opportunities to experience one, the other, or both at the same time.



Experience nature up close at Mangrove Plaza

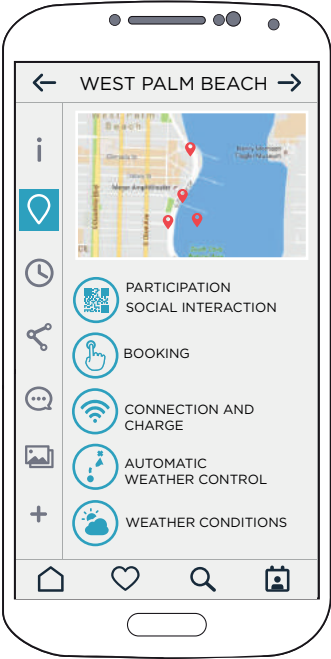


# A CONSTANT DIGITAL-PHYSICAL INTERACTION

A PIONEER EXPERIENCE ON URBAN DIGITAL INTERACTION

The new waterfront of WPB will become one of the first truly augmented public spaces in the world. People will be able to interact with the physical space in innovative ways, either from their own mobile devices or through simple interfaces included among the urban elements, using off-the-shelf technologies like sensors, controllers, standard connection protocols, mobile applications and other common components arranged in new ways.

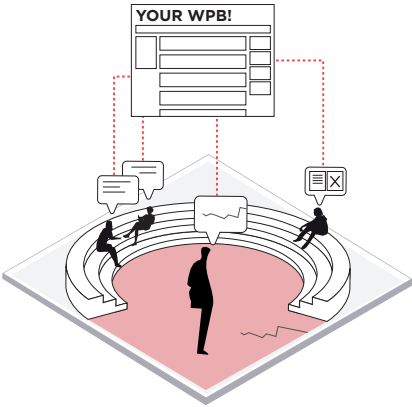
Enabling a digital layer for information, control and communication opens a wide new range of possibilities for responsive and actively controlled public spaces. This can be accomplished, not by building an automated ‘smart city’, but by empowering a generation of conscious ‘smart citizens’ that use their digital data and tools to adapt their urban environment to their own needs.



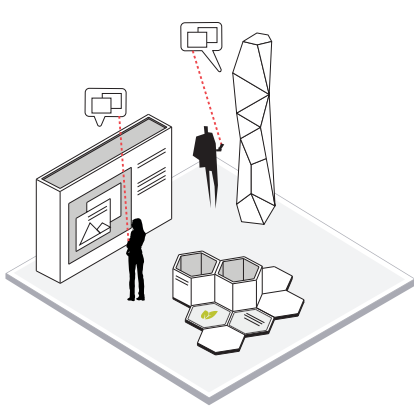
**PHYSICAL + DIGITAL**  
Use your phone to connect to WPB



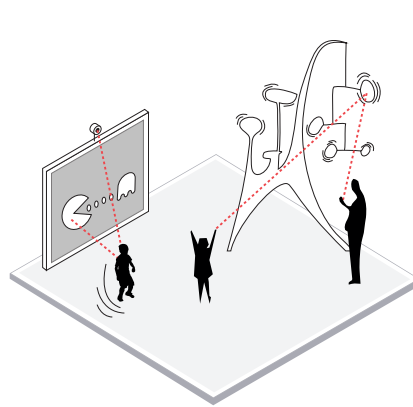
**CONNECT AND RECHARGE**  
WiFi-enabled elements give access to services and info (events, etc.).



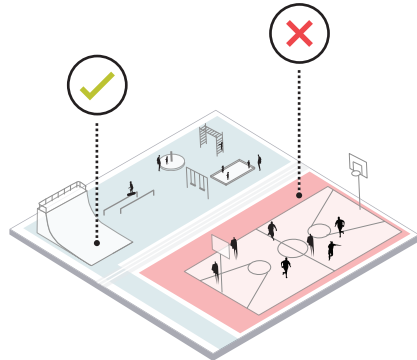
**PARTICIPATION**  
Making suggestions, reporting damage, voting proposals. Improving the city together.



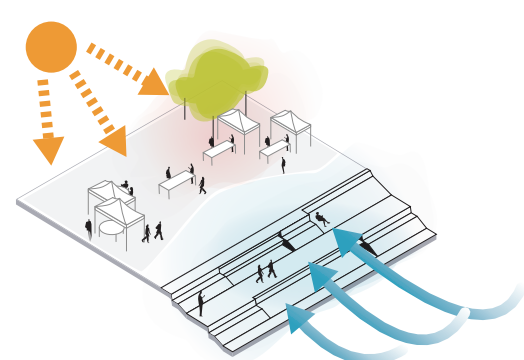
**SOCIAL INTERACTION**  
Users can view/publish digital pictures or messages attached to places, objects and land-marks.



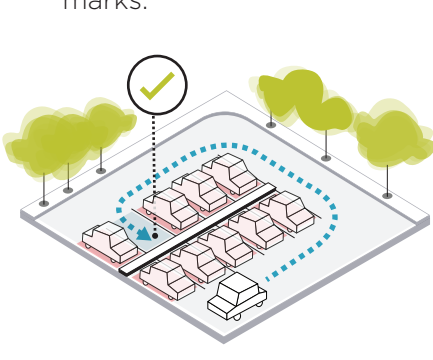
**GAMING, ART AND EDUCATION**  
Playing games and interacting with art installations or with educational experiences.



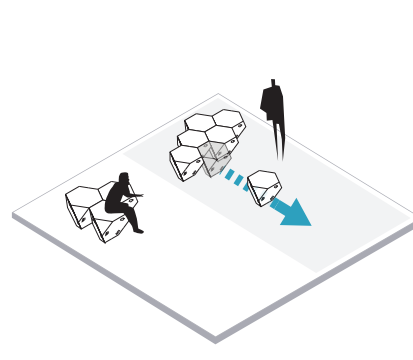
**BOOKING**  
Book spaces like: courts, sport fields, rooms, etc.



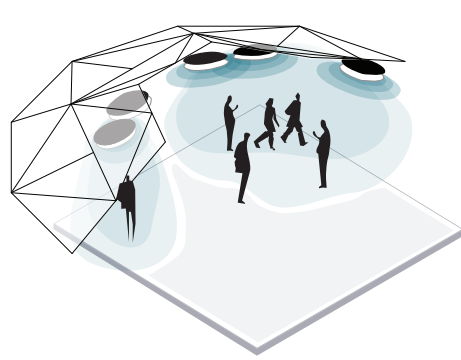
**WEATHER CONDITIONS**  
Find what area along the waterfront is the most comfortable.



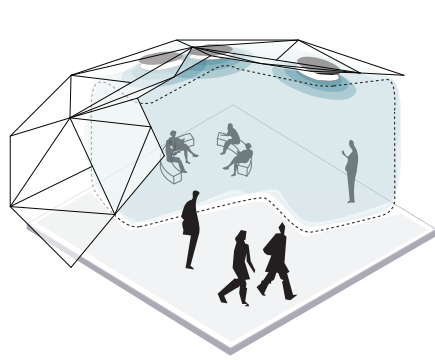
**PARKING SPACES**  
Easily find the closest empty parking space in the area, identify free parking lots, etc.



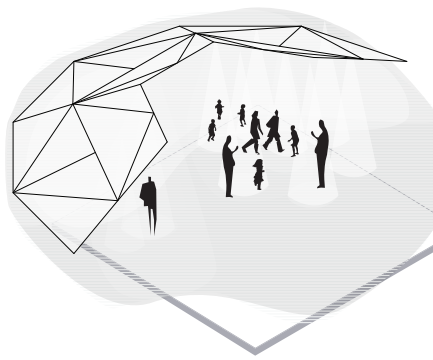
**MOVABLE FURNITURE**  
Unlock and use seats, umbrellas, deck chairs, etc. with your phone.



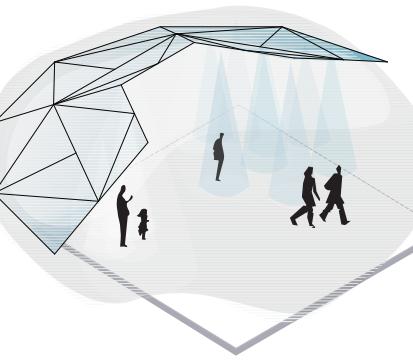
**AUTOMATIC WEATHER CONTROL**  
Temperature/humidity/air-flow change depending on the number of people.



**USER-DRIVEN WEATHER CONTROL**  
Climatic conditions can also be changed by users through their smartphones.



**LIGHT CONTROL**  
Lighting conditions can change by activity, number of people and user's desires.



**LUMINOUS ROPES**  
Light spectrum responds to climatic conditions, as an interactive visualization.



# THE GREAT LAWN



Tidal Plaza, where the Great Lawn meets the lagoon



# THE URBAN LIVING ROOM OF WEST PALM BEACH

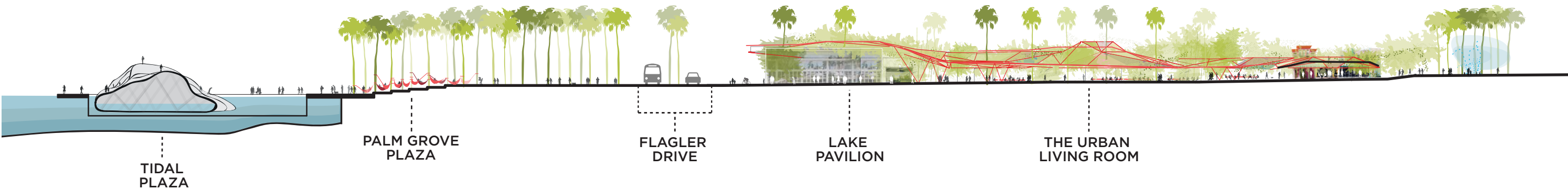
## GREAT LAWN

### EXTENDING THE SPIRIT OF CLEMATIS

This space, already a central part to the city's life, will become a place to celebrate big civic events and at the same time enjoy quotidian activities like resting, meeting, eating or even working in the comfort of a well equipped and bioclimatically conditioned public space.

It will retain an urban character, closely connected to the cultural and gastronomic activity of Clematis Street, the new Meyer Amphitheater and the Banyan Hub, while at the same time opening the heart of the city to the wide and glimmering water surface of the lagoon.

The Great Lawn will keep its name and part of its essence, and become an urban living room... featuring a spectacular urban porch.



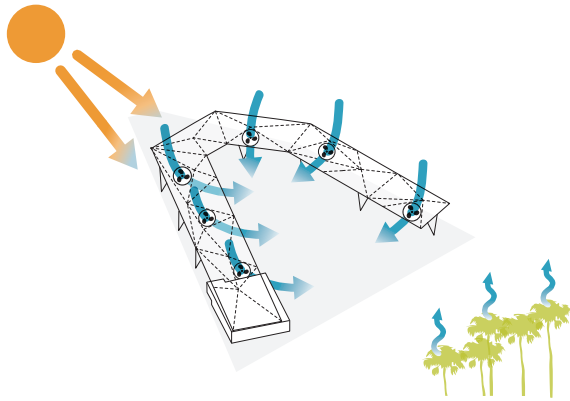
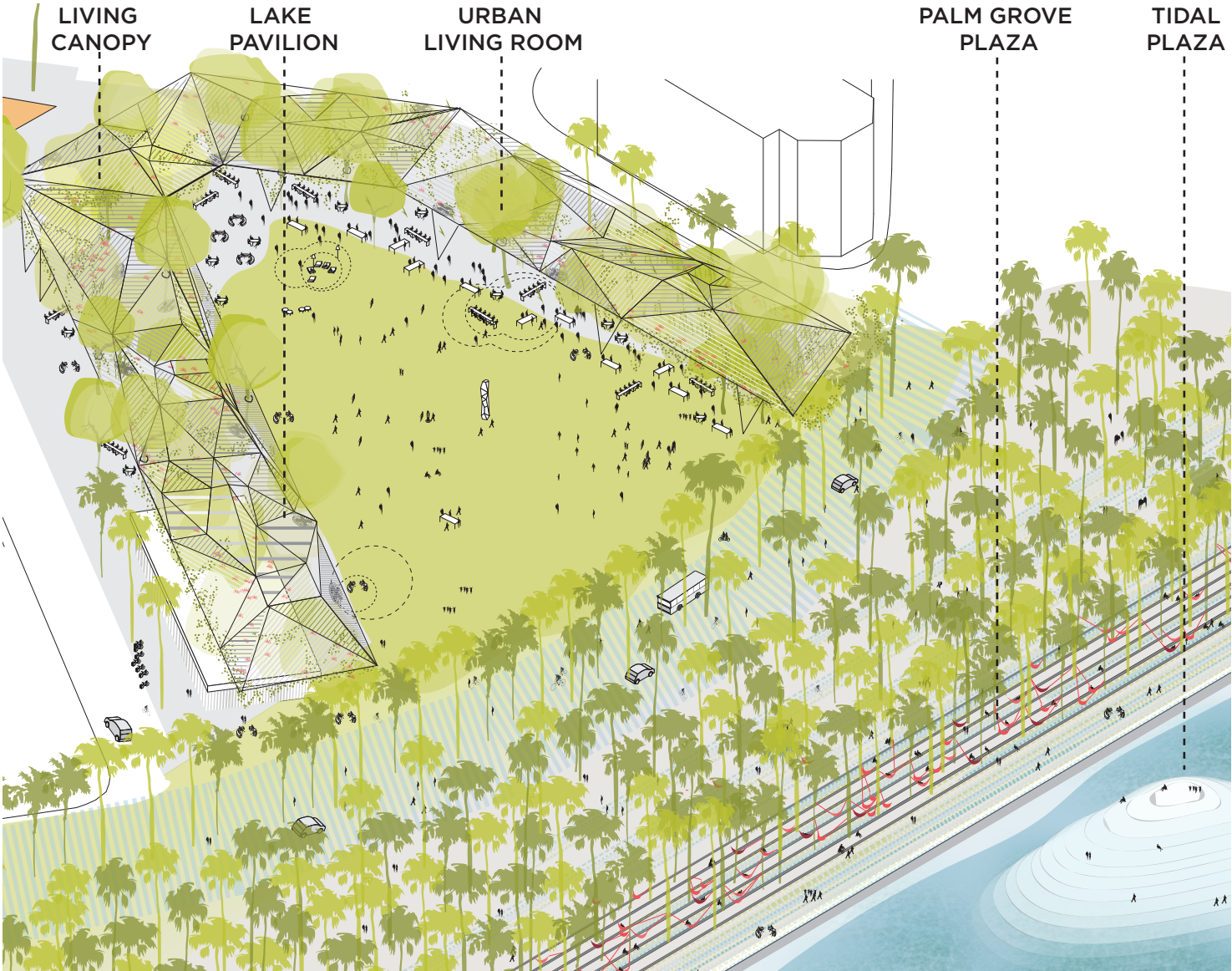


# THE URBAN LIVING ROOM OF WEST PALM BEACH

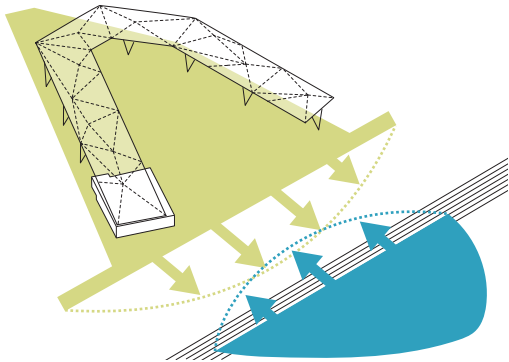
## THE GREAT LAWN

The new configuration of this space will preserve the wide esplanade at the center, keeping a green pavement but making it more durable. Around that central area a bioclimatic canopy combined with new and existing trees and linked to the Lake Pavilion and the Visitor Center will create a shaded, cooler environment. It will be equipped with comfortable and innovative urban furniture capable of supporting a whole new range of activities.

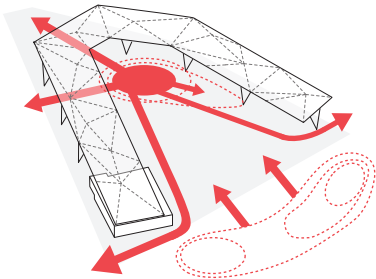
Across a shared space of Flagler Drive, the space will lead towards two singular areas:  
**PALM GROVE PLAZA**  
 A descending stepped Palm Grove that connects the Lawn with the lagoon while creating a place to sit back and enjoy the views from either an urban sofa or a red hammock.  
**TIDAL PLAZA**  
 Where the Palm Grove Plaza reaches the lagoon, an interactive and immersive art display highlighting the ever present and ever changing tidal landscape.



**CONDITIONING THE GREAT LAWN**  
 Active and passive conditioning systems to make the great lawn a comfortable place throughout the year.

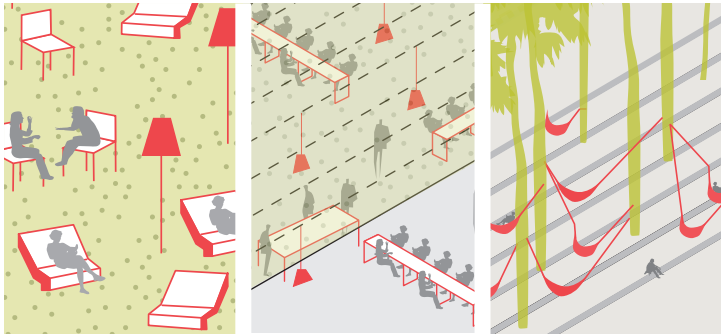


**MERGING THE GREAT LAWN AND THE LAGOON**  
 The great lawn leans towards the water while the lagoon enters in the urban landscape



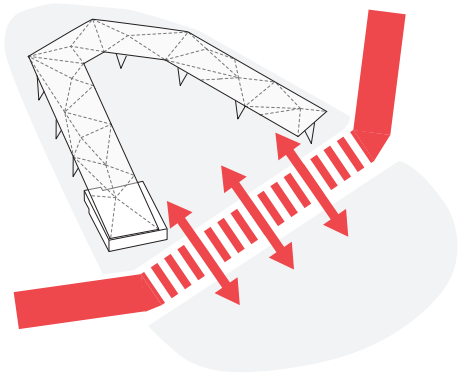
**FLEXIBLE SPACE FOR BIG EVENTS**  
 The Great Lawn will continue to be the perfect setting for gatherings and big events.

## GREAT LAWN

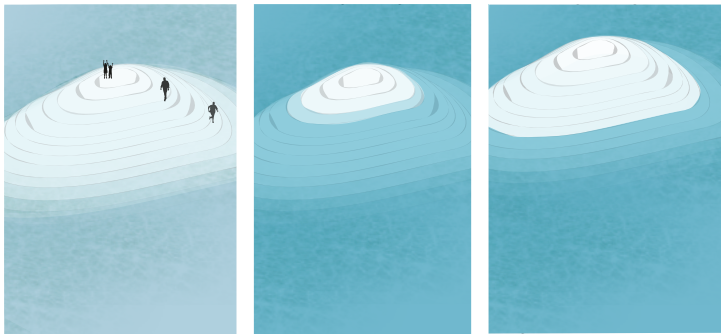


MOVABLE FURNITURE      LIVING CANOPY      PUBLIC HAMMOCKS

**A FULLY EQUIPPED PUBLIC SPACE**  
 A flexible use is guaranteed, and all kind of homy furniture turn the great lawn in a 'public living room'.



**FLAGLER DRIVE AS A SHARED SPACE**  
 Flagler Drive is integrated by mitigating the traffic between the Great Lawn and the Palm Grove



LOW TIDE - REACHABLE      HIGH TIDE - SUBMERGED      HIGH TIDE - FLOATING

**EXPERIENCING THE TIDE**  
 An interactive element that constantly changes its configuration according to the tides.





# THE MEYER AMPHITHEATER

Night view at the new Meyer Amphitheater



# A CULTURAL SPOT OF REGIONAL RESONANCE

A NEW MULTIPURPOSE CULTURAL VENUE COMBINED WITH DIVERSE URBAN AMENITIES

The Meyer Amphitheater will become the ultimate space for great urban events and all kinds of cultural activities like concerts, theater plays, dance representations, etc.

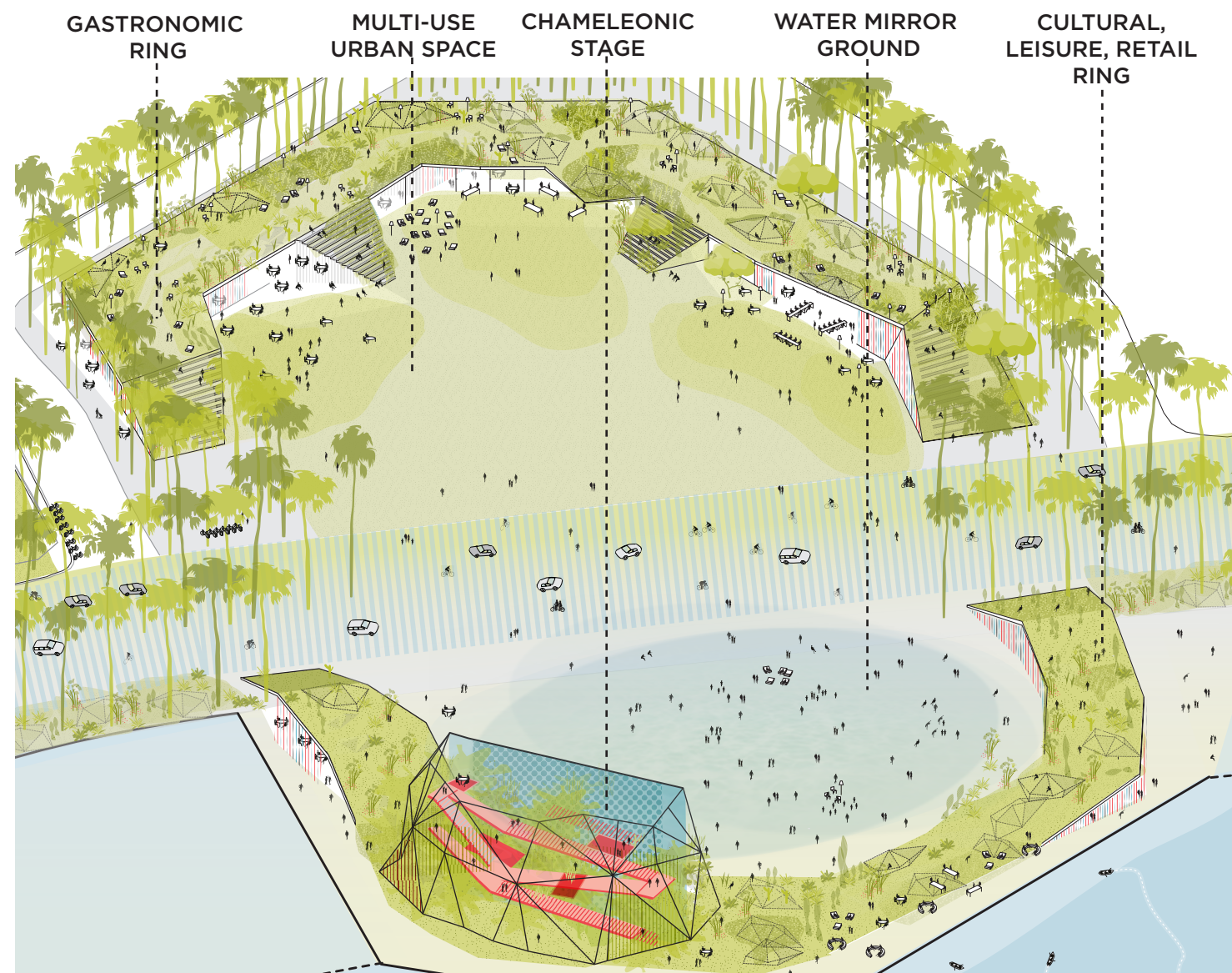
## GASTRONOMIC RING

The existing space will be opened and equipped with a new 'belt-like' structure to protect the surroundings from the sound and bring complementary leisure and food-related related uses to the area. It will also be expanded towards the water, at the other side

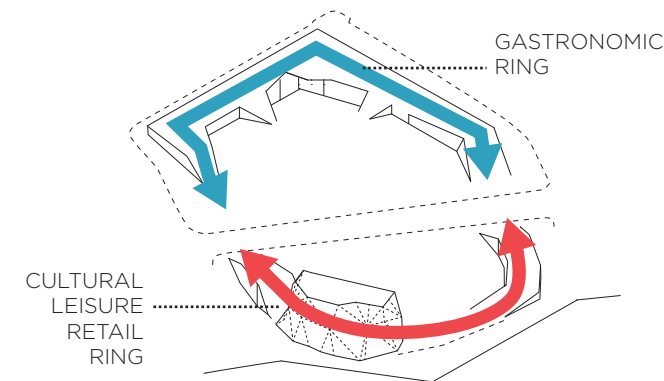
of Flagler Drive, doubling its capacity and multiplying its possibilities for the celebration of events, for tourism and other forms of urban leisure.

## CHAMELEONIC PLAZA

A multi-purpose 'chameleonic' stage close to the water will, at the same time, become an urban lookout and a landmark, a reference point for the whole waterfront. The relocation of the stage reduces noise pollution in residential areas.

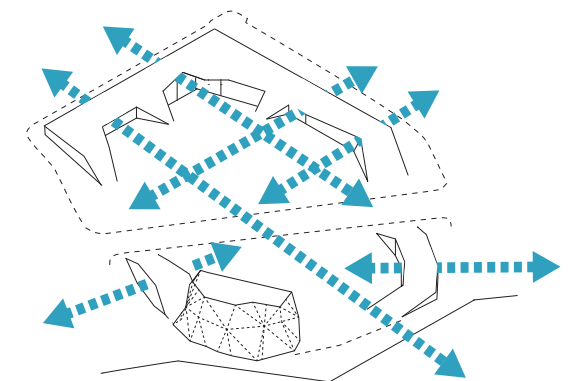


# MEYER AMPHITHEATER



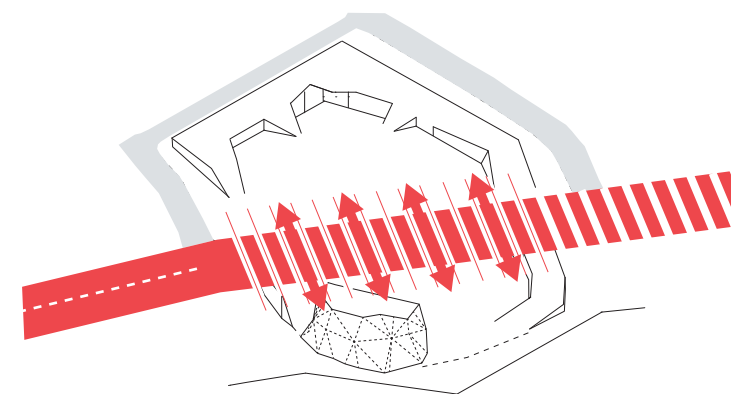
## GASTRONOMIC RING + CULTURAL, LEISURE, RETAIL RING

Characterized topographic buildings with thematic activities and green roofs.



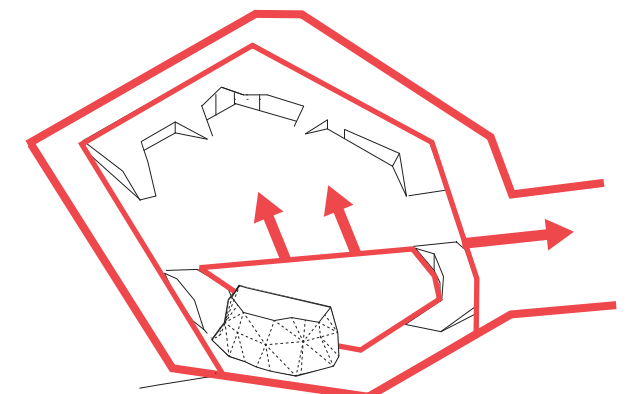
## PERMEABLE BUILDINGS

The rings are embraced by 'porous' topographic buildings that ensure complete permeability.



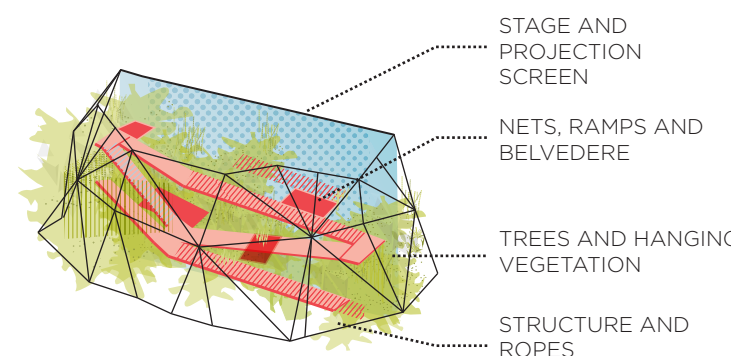
## FLAGLER DRIVE AS A SHARED SPACE

The Meyer lawn is the perfect setting for the terraces of the gastronomic ring while remaining available for events



## NOT ONE, BUT TWO AUDIENCE AREAS

The expansion of the amphitheatre into the new platform of the waterfront doubles the capacity.



## CHAMELEONIC STAGE

An intriguing element functioning as main stage, support for projections, and panoramic ramp.



## WATER MIRROR GROUND

When the plaza is not used for events, a thin water layer covers the ground creating a playful area.



# PASSAGEWAYS





# FROM SERVICE ALLEYWAYS TO SURPRISING PASSAGEWAYS

## DESIGN STRATEGIES BEHIND THE RADICAL TRANSFORMATION

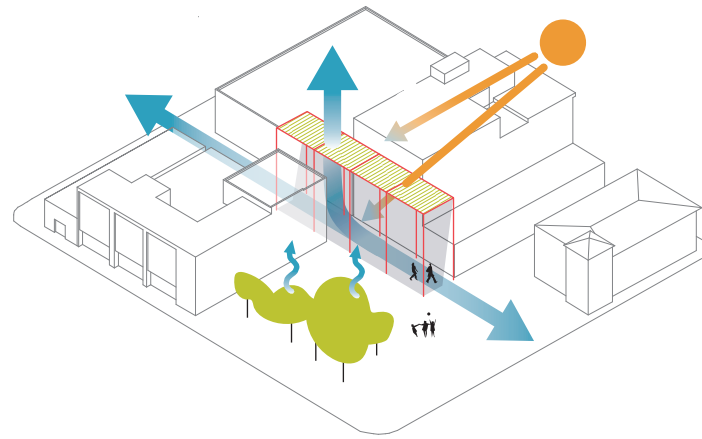
The main goal is to turn the overlooked alleyways into attractive passageways where culture, sport or social activities can take place.

Injecting new uses into the alleyways requires a series of prior qualitative transformations to make them safe, attractive and comfortable spaces. These transformations are achieved with a flexible system that can be applied not only to each alley but also to other adjacent spaces and buildings.

The system will take care of setting the right conditions for the new activities regarding available space, need of furniture, security, specialized equipment for certain uses, etc.

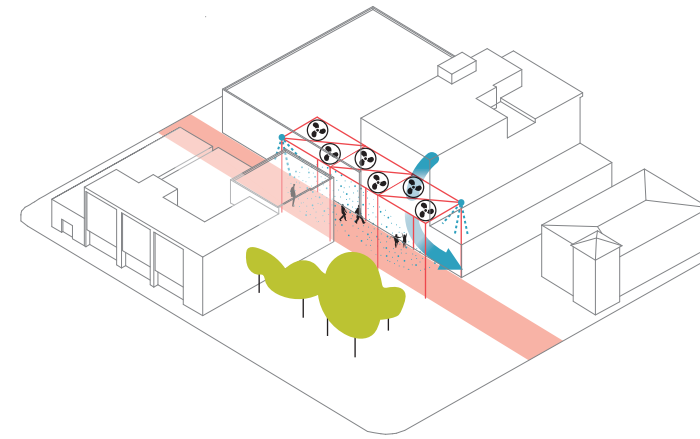
In order to obtain the desired level of comfort, climatic conditions also have to be improved by controlling temperature, airflow, air quality and other parameters.

This structural and bioclimatic system can be reconfigured, modified or adapted to specific needs or conditions of each particular location, like changing actors, nearby buildings or available free spaces. It can also be extended to either host new programs or complement existing ones.



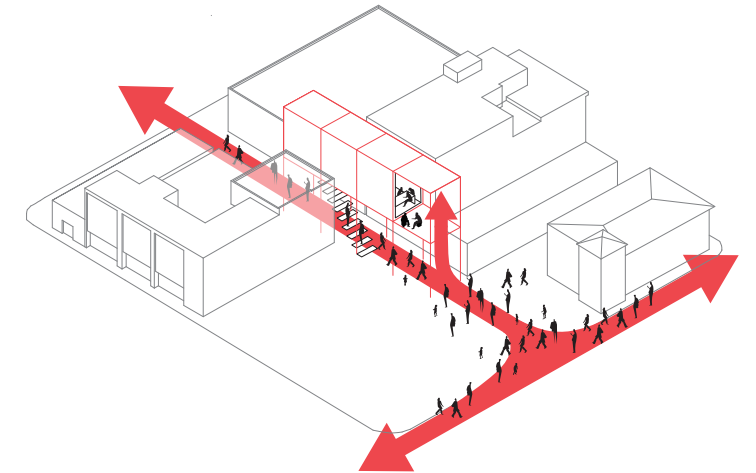
### PASSIVE CLIMATIC MITIGATION

Sun shading elements: textile canopies, combined with vegetation for cooling and natural ventilation.



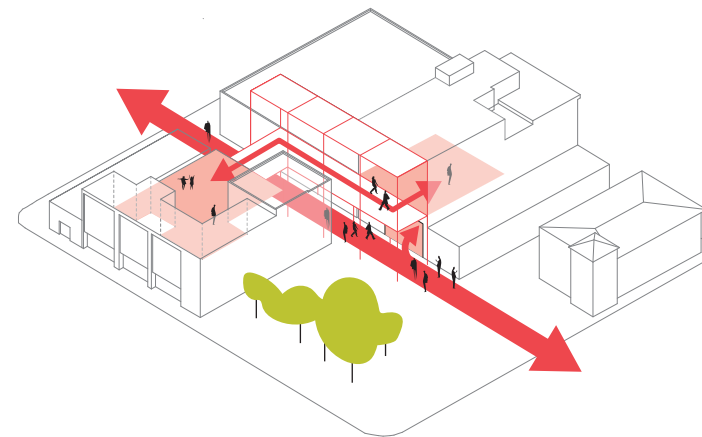
### ACTIVE CLIMATIC MITIGATION

Water misting combined with fans, controlled by automatic environmental sensors.



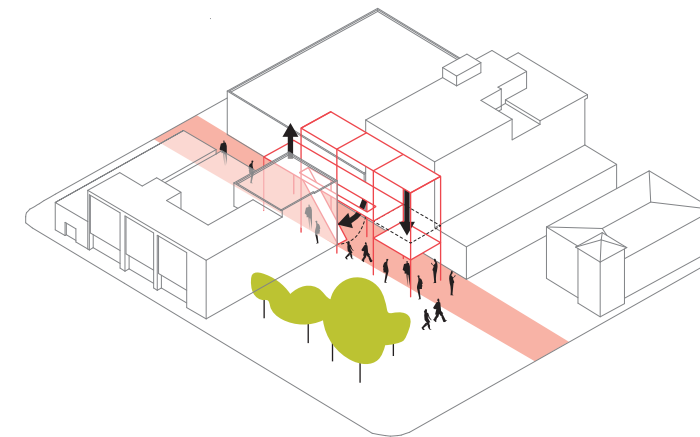
### THEMATIC ROUTES

Connecting the programs in the waterfront with the rest of the city through the passageways.



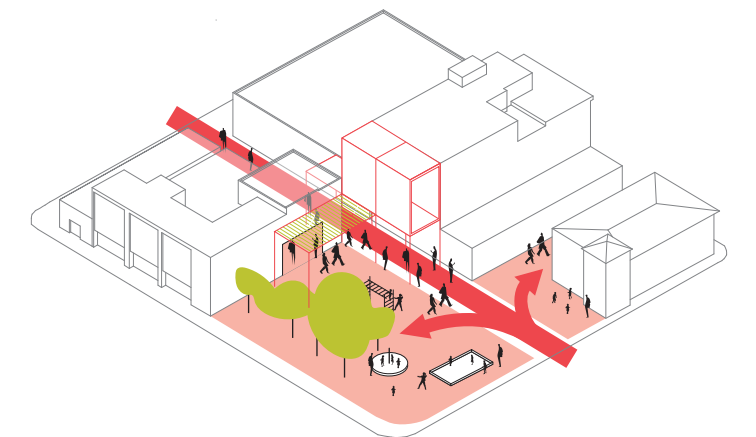
### EXPANSION INTO BUILDINGS

Connecting the space of the passageway to the adjacent buildings and including new activities.



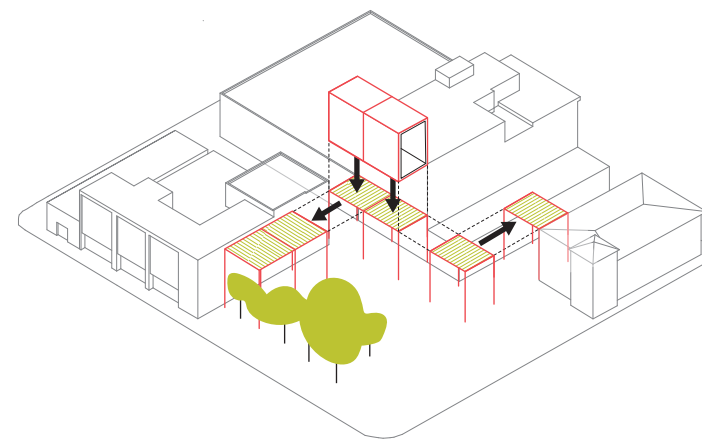
### MULTI-LEVEL SPACES

Adaptive structures are developed in different levels to create new spaces and expand the program.



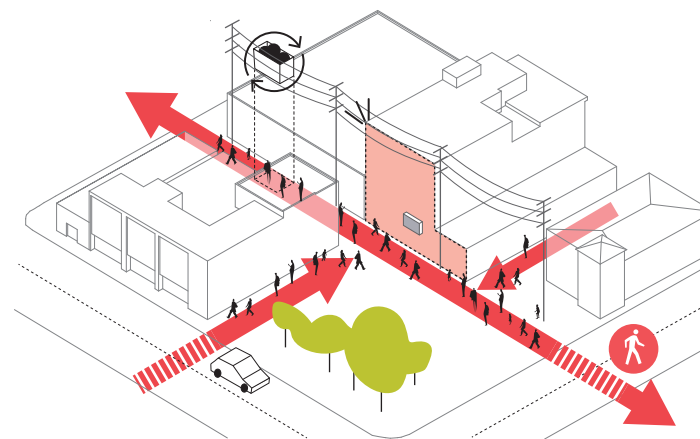
### EXPANSION INTO PUBLIC SPACE

Nearby spaces are connected with passageway creating a more varied and polyvalent public space.



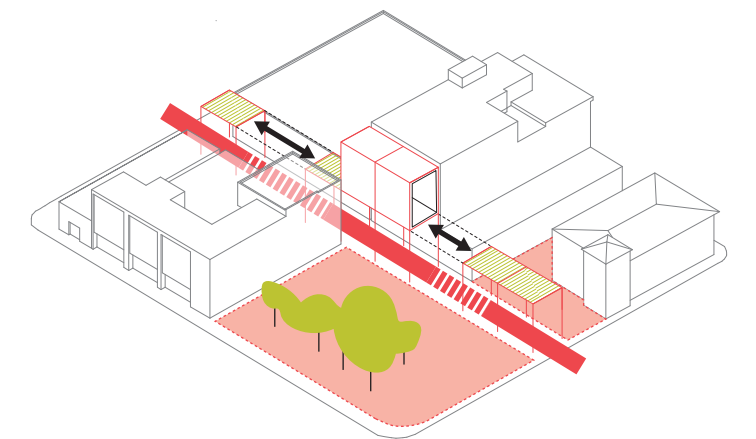
### ADJUSTABLE TO SPACES

The modular structure can be adapted to the available space regardless of its size and shape.



### IMPROVED WALKABILITY

The spaces are improved by changing the garbage collection system, pavements, façades, etc.



### PHASING

Passageways can be developed in phases, adapting to the changing needs of the surrounding city.



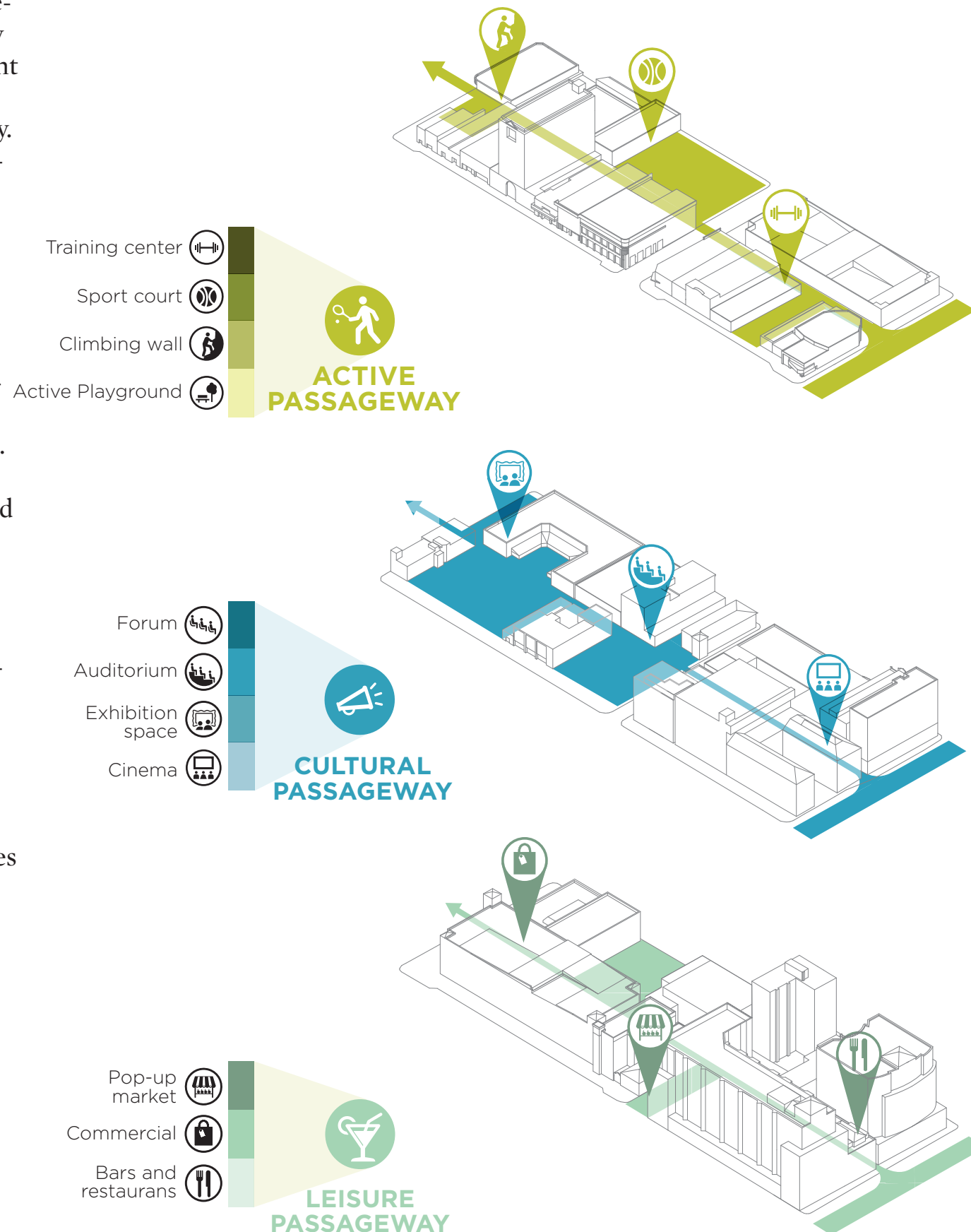
# PROGRAM BASED PASSAGEWAYS

THEMATIC AND CLIMATIC RECONFIGURATION OF EXISTING ALLEYWAYS

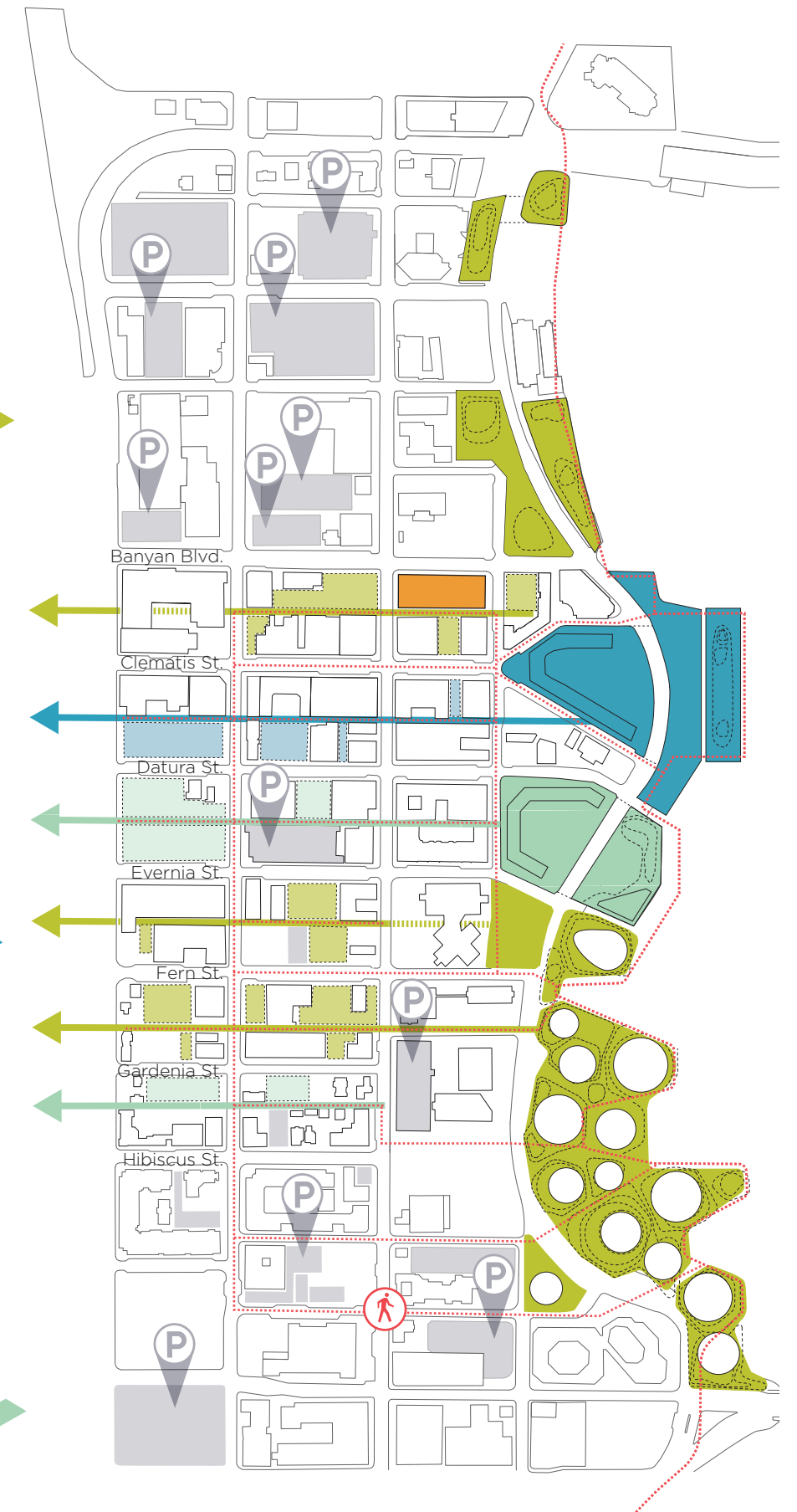
The alleyways are a great opportunity to create a new way of experiencing the city. They can serve as passageways to connect different areas in a new, attractive way that complements other means of moving across the city. This provides a relaxed, comfortable, pedestrian-friendly, bike-friendly and picturesque experience.

The system proposed for the occupation of the alleyways is highly flexible and allows the inclusion of different kinds of activities in any of them. In order to attract the interest of people, however, the program has to be carefully chosen in relation to its context. This can also provide a 'branding' that describes the character of each passageway and positions it as a unique place.

To achieve this, each passageway is given a particular theme that is linked to important urban areas in the waterfront and the downtown, extending existing programs into the city: **Leisure Passageways** connecting with commercial areas, **Cultural Passageways** providing new places for cultural and social interaction, **Active Passageways** bringing sports, physical activity and healthy practices into the city...



## PASSAGEWAYS





# TRANSFORMATION PROCESS

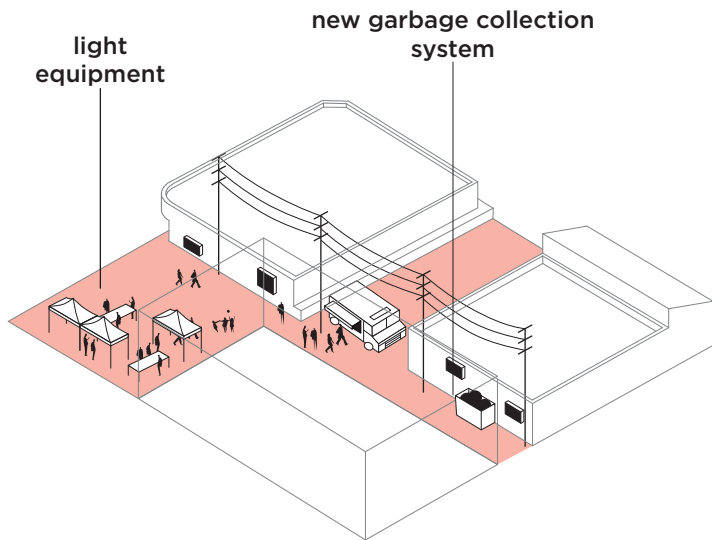
ACTIONS AND STAKEHOLDERS FOR CHANGE

# PASSAGEWAYS



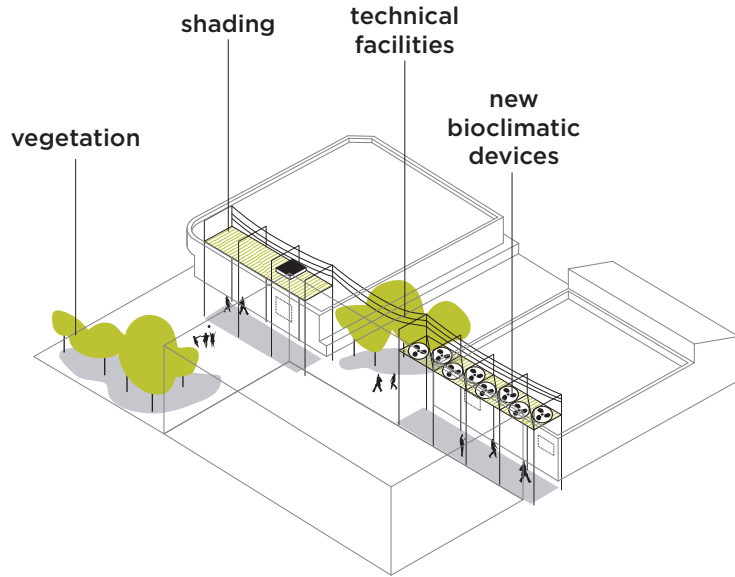
## ACTIVATE

Bring new uses to a space by adding furniture and other equipment.



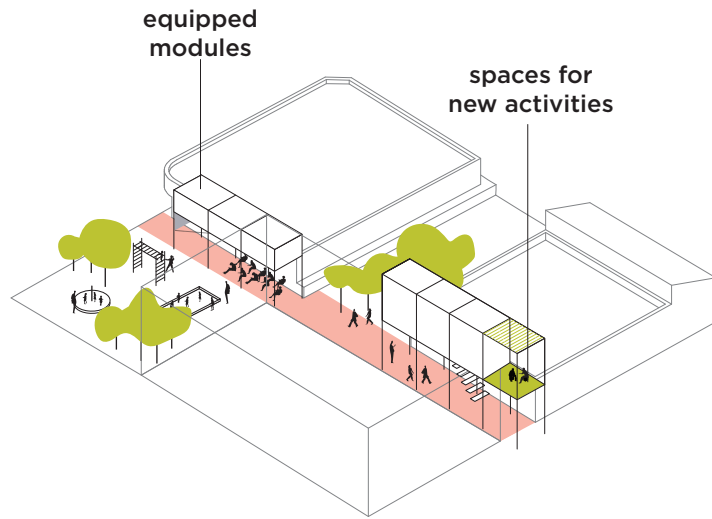
## CONDITION

Improve the climatic and health conditions with innovative technologies.



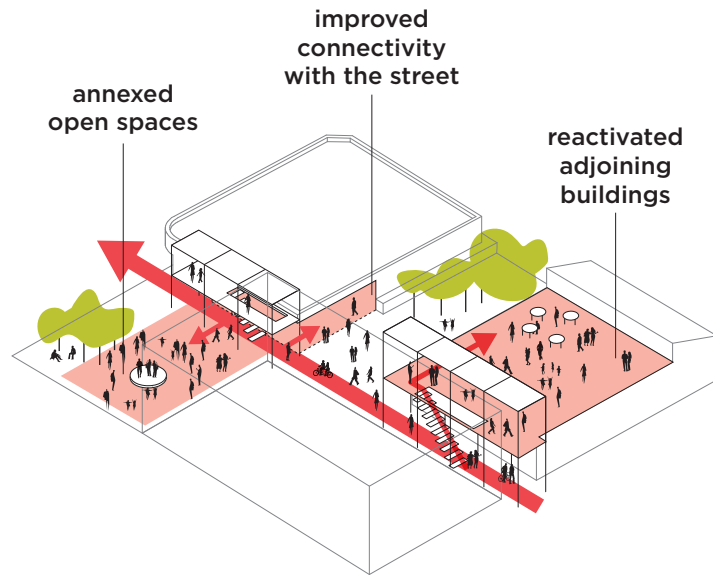
## EXPAND

Build structures to create new spaces and increase usage possibilities.



## ANNEX

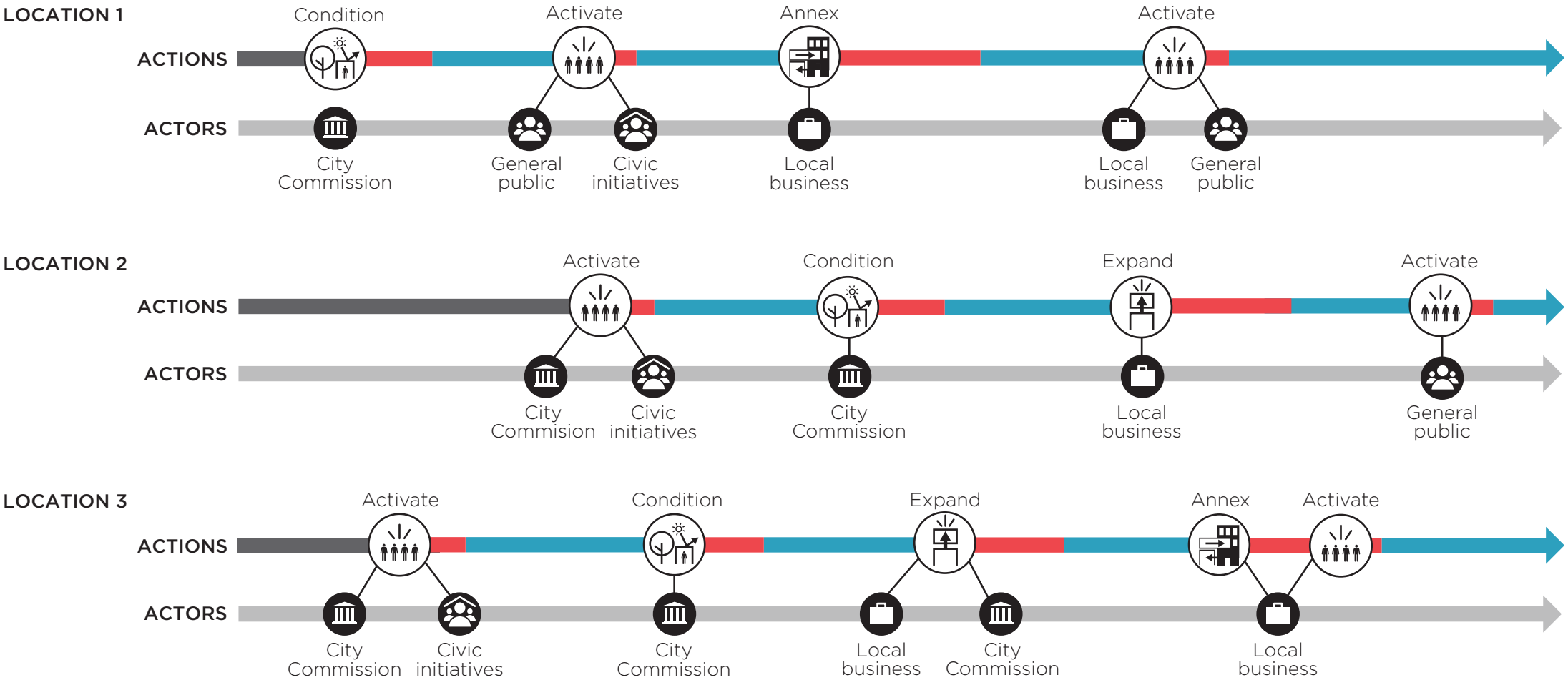
Connect the alley to adjacent spaces and extend the range of activities.



## PROCESS: ACTIONS AND ACTORS

The development process of each passageway is based on a series of actions implemented over time by different urban actors: activating a space with new uses, improving climatic and health conditions, expanding with new structures and annexing adjacent spaces to the alleyway. Different actions can be combined in a singular intervention, or applied separately throughout a longer time frame. These changes can affect a whole alleyway or specific locations inside it.

The graphic to the right shows the possible development process for three generic locations (P1, P2, P3). The actions to be carried and the actors to be involved would highly depend on the specific location.





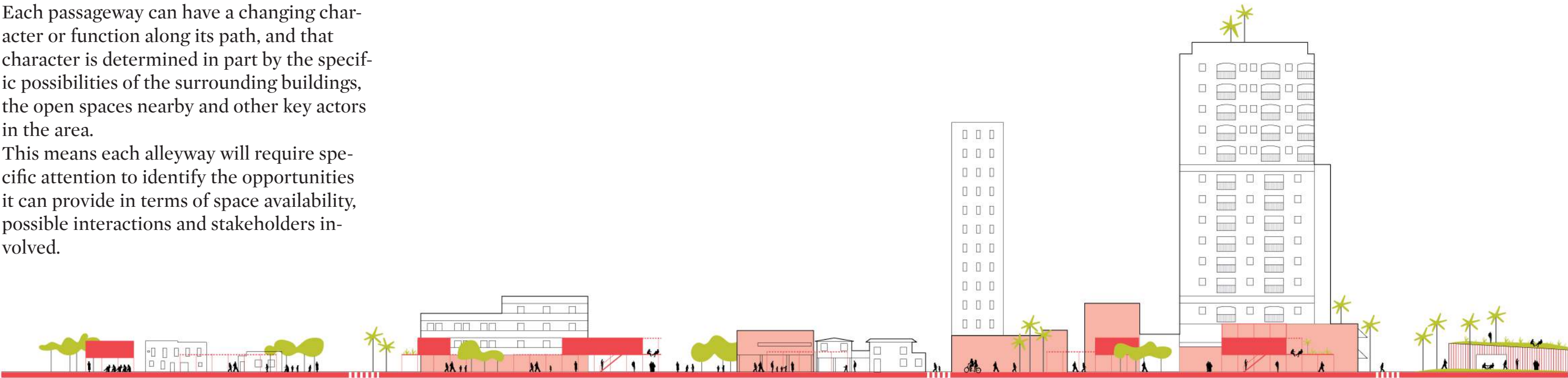
# AN INSPIRING STREETScape

A STREET TRANSFORMED INTO AN EXPERIENCE

# PASSAGEWAYS

Each passageway can have a changing character or function along its path, and that character is determined in part by the specific possibilities of the surrounding buildings, the open spaces nearby and other key actors in the area.

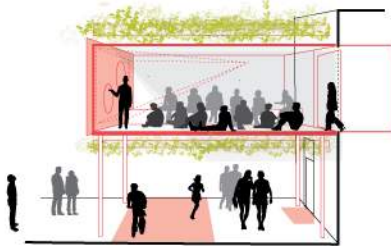
This means each alleyway will require specific attention to identify the opportunities it can provide in terms of space availability, possible interactions and stakeholders involved.



## CATALOGUE OF THEMATIC IDEAS



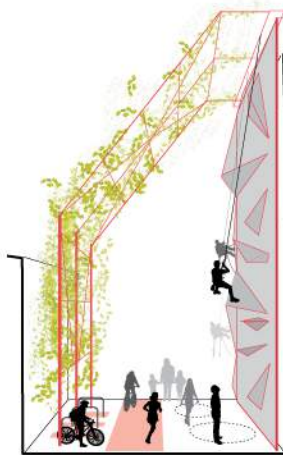
**GREEN PASSAGEWAY**  
The presence of vegetation radically changes the perception and the comfort of the passageway. It becomes a quiet, cool and relaxed place.



**CIVIC PASSAGEWAY**  
Spaces are equipped and expanded with structures that can host different activities. The passageway turns into a place for civic engagement.



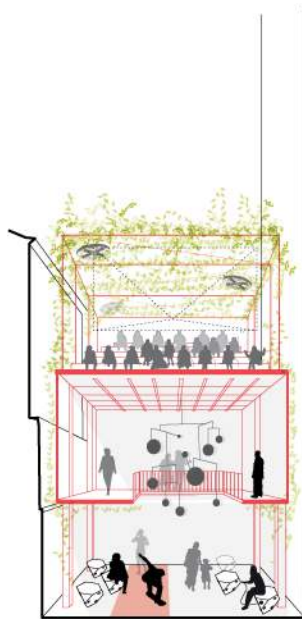
**PLAYGROUND PASSAGEWAY**  
Structures, games and other elements turn the space into an adventure for both children and adults. A safe, fun, open air playground!



**ACTIVE PASSAGEWAY**  
The protected but open space of the passageway becomes the perfect place for a cool and well ventilated gym, a training track, etc.



**LEISURE PASSAGEWAY**  
In for a drink? Want to hang out with some friends? The passageway is a unique place to meet, talk, eat and drink, or even have an intense party.



**CULTURAL PASSAGEWAY**  
Art and culture can also find their way into the singular space of a passage. Exhibitions, workshops, lectures, plays, presentations, etc.





# BANYAN HUB





# A NEW URBAN SPOT OPEN TO THE CITY AND ITS CITIZENS



Farmers Market day at Banyan's ground floor

The Banyan garage is conceived as a focal point for activities downtown. This hybrid and flexible building will be open to the public all day long and will be an active presence in the city, producing culture, knowledge and even goods, while attracting businesses, talent and innovation with its varied program. Its configuration allows many different uses to coexist, which also makes it flexible to permit future program change.

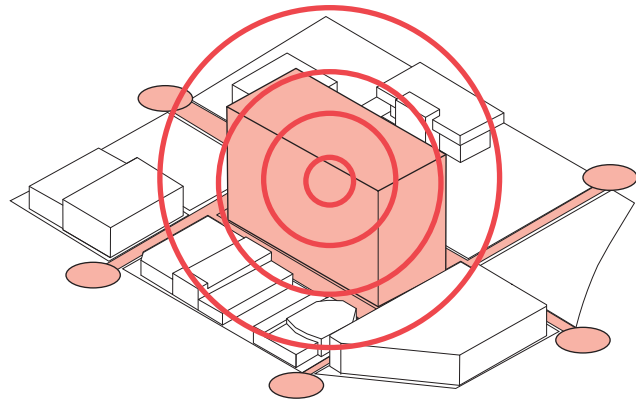
It is a permeable building, open and accessible to all citizens, a true part of the city from the ground floor to the public roof terrace.

Its bioclimatic design, based on a green permeable façade and two big thematic courtyards—nature and digital—will provide pleasant environmental conditions throughout the year while reducing environmental impact and management costs.



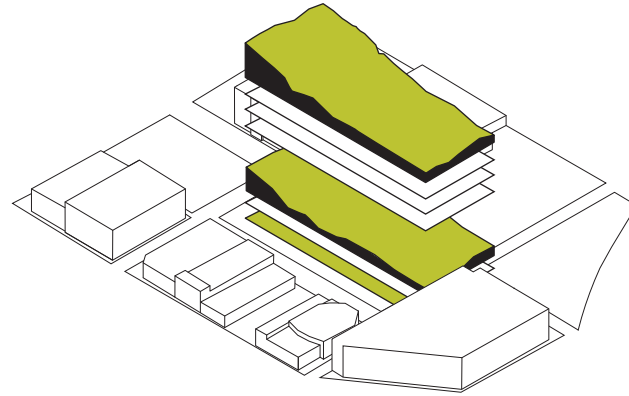
# CIVIC-MINDED DESIGN

URBAN AND ECOLOGICAL STRATEGIES BEHIND THE BANYAN HUB DESIGN



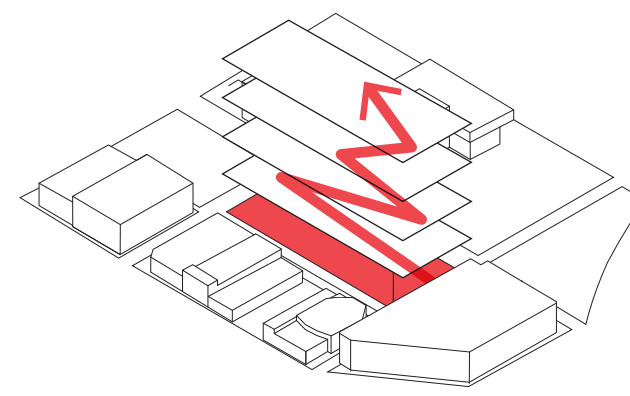
## CENTRALITY

An urban hub that concentrates programs and activities around it.



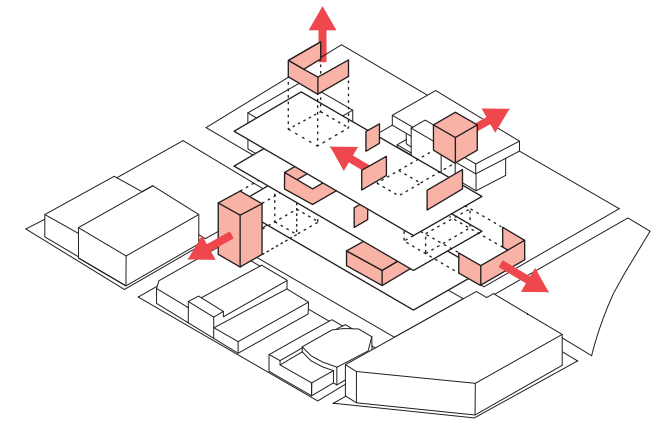
## STACKED PUBLIC SPACES

The public space is multiplied to create unique elevated plazas and gardens.



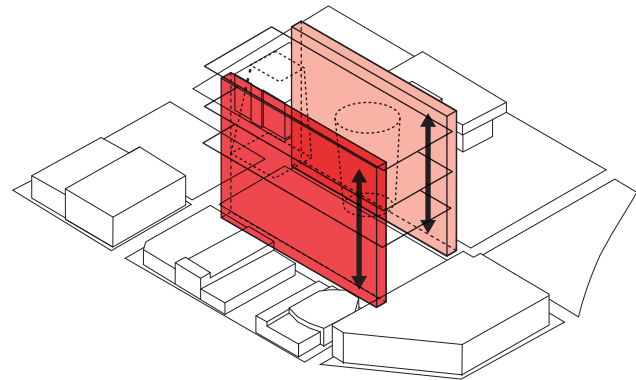
## INDOOR STREET

An accessible strip connects each floor of the building up to the terrace at the top.



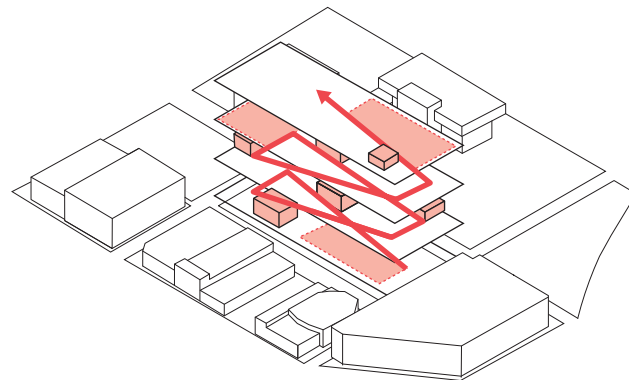
## FLEXIBILITY

Programs can be easily reorganized allowing changes over time and temporary uses.



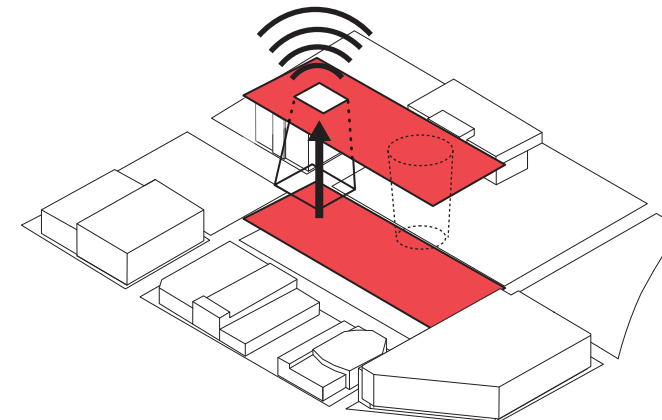
## VERTICAL COMMUNICATIONS

Vertical communications cores between the different levels are located on both façades.



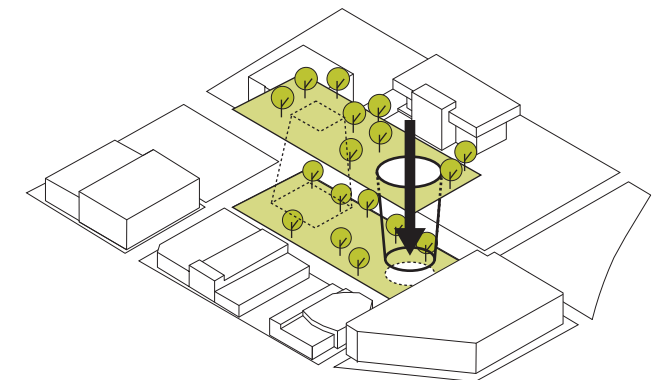
## FLEXIBLE PARKING AND STORAGE SPACE

The wide ramps allow vehicles to drive up the building and access storage/parking spaces.



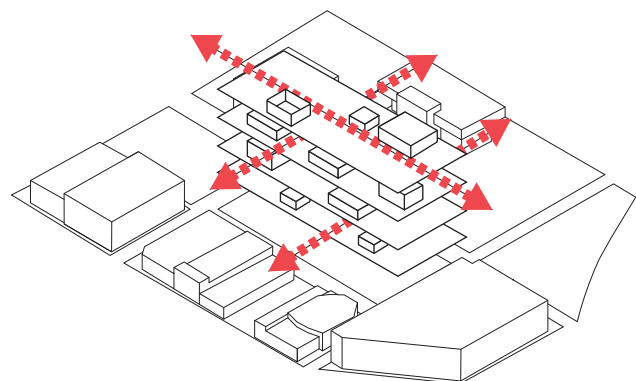
## TECH COURT

The Digital Court concentrates active conditioning systems and digital technology related uses around it.



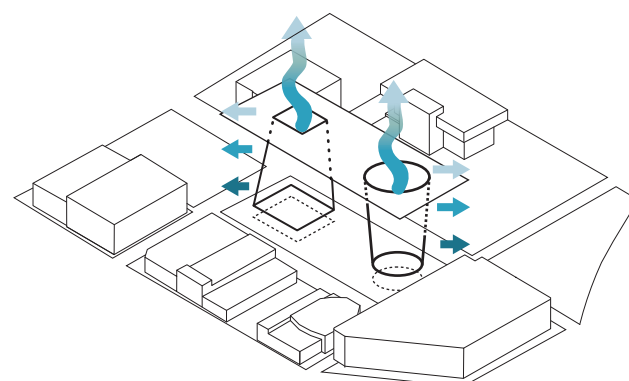
## GREEN COURT

The Green Court connects public garden spaces and has a passive bioclimatic function.



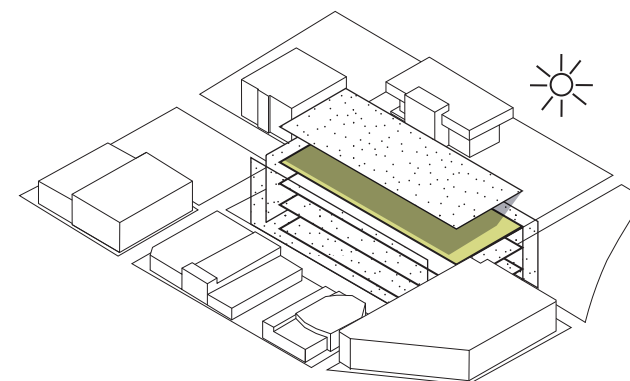
## PERMEABILITY

Wind and natural light permeate the building due to its porous nature.



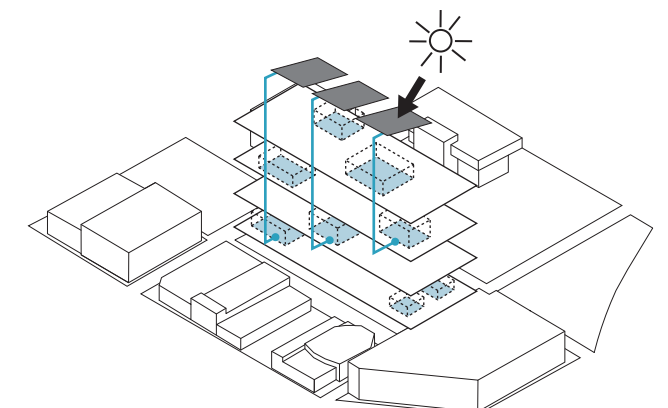
## VENTILATION COURTS

Two patios act as large bioclimatic ventilation ducts.



## RESPONSIVE SHADING SKIN

The façade and roof structure act as a responsive green skin that protects the building.



## CONDITIONED ENCLOSED SPACES

When active conditioning is needed, enclosed spaces rely on highly efficient climatic systems.

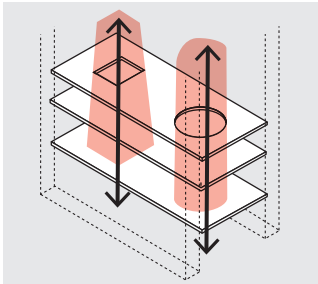


# TWO OPTIONS: UPCYCLING THE BANYAN OR A NEW BUILDING

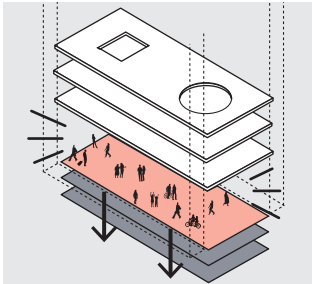
SAME DESIGN PRINCIPLES FOR BOTH SCENARIOS

## OPTION A: NEW BUILDING

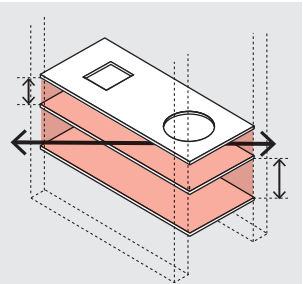
A complete demolition of the existing Banyan Building would facilitate a seamless application of the design principles, gaining flexibility in the distribution of the lower levels and simplifying its general structure.



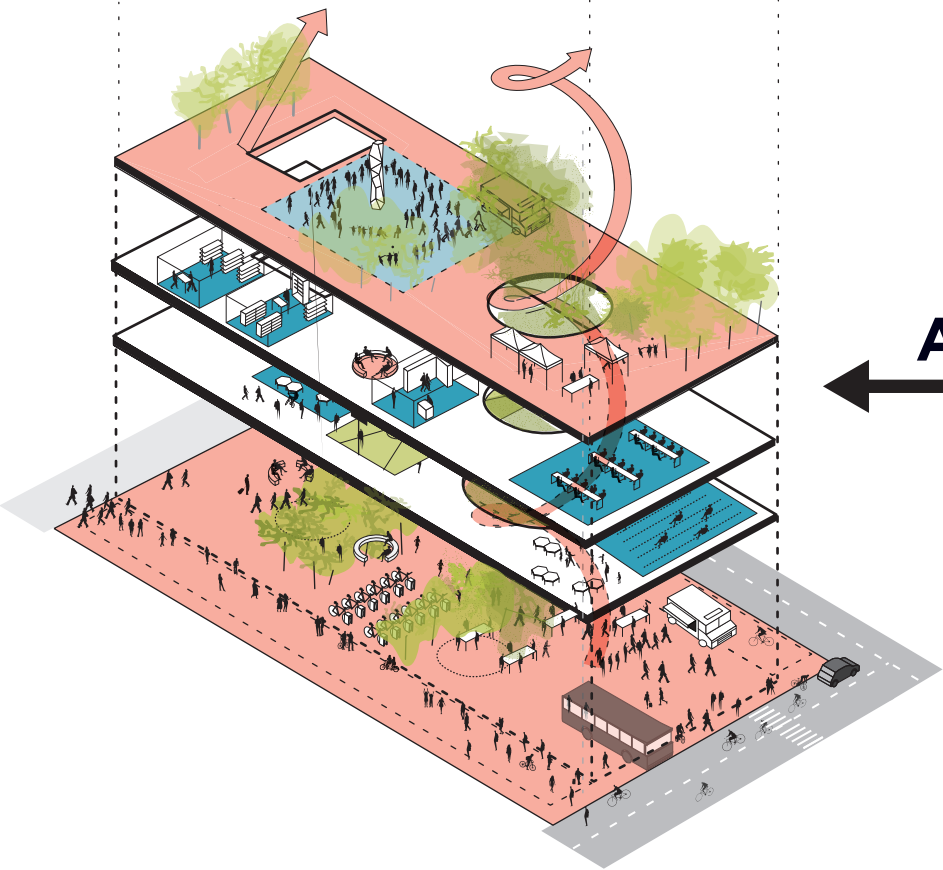
**CONTINUOUS COURTS**  
Communication axis continue until ground floor. Simpler concept and connections.



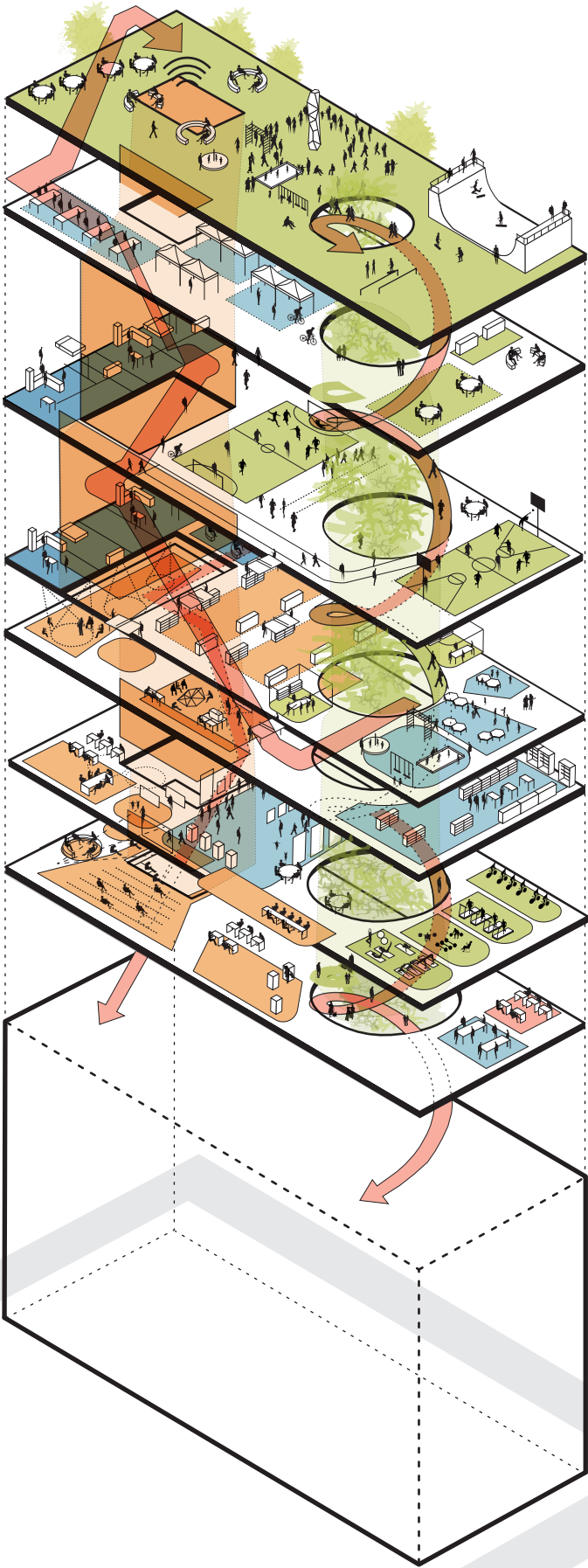
**FREE GROUND FLOOR**  
Open and flexible ground floor to allow a greater range of spatial qualities and activities.



**FLEXIBLE SPACE**  
The flexible decks system from upper floors continues down to the street, maximizing adaptability.

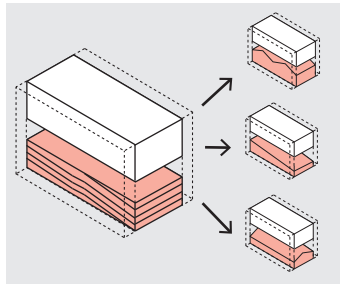


**A**

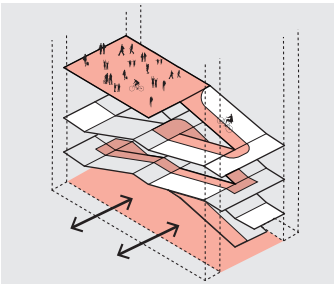


## OPTION B: UPCYCLING THE BANYAN

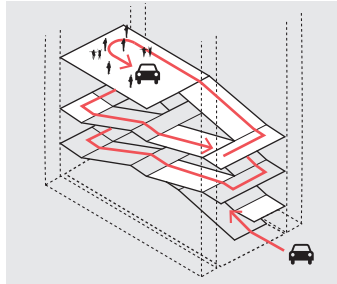
Leveraging part of the existing structure would be an opportunity to innovate. The Hub would become a reference by including a new kind of public space with surprising possibilities and a singular character.



**BANYAN AS A CASE STUDY**  
The project as an example of how to upgrade preexisting buildings in WPB and worldwide.

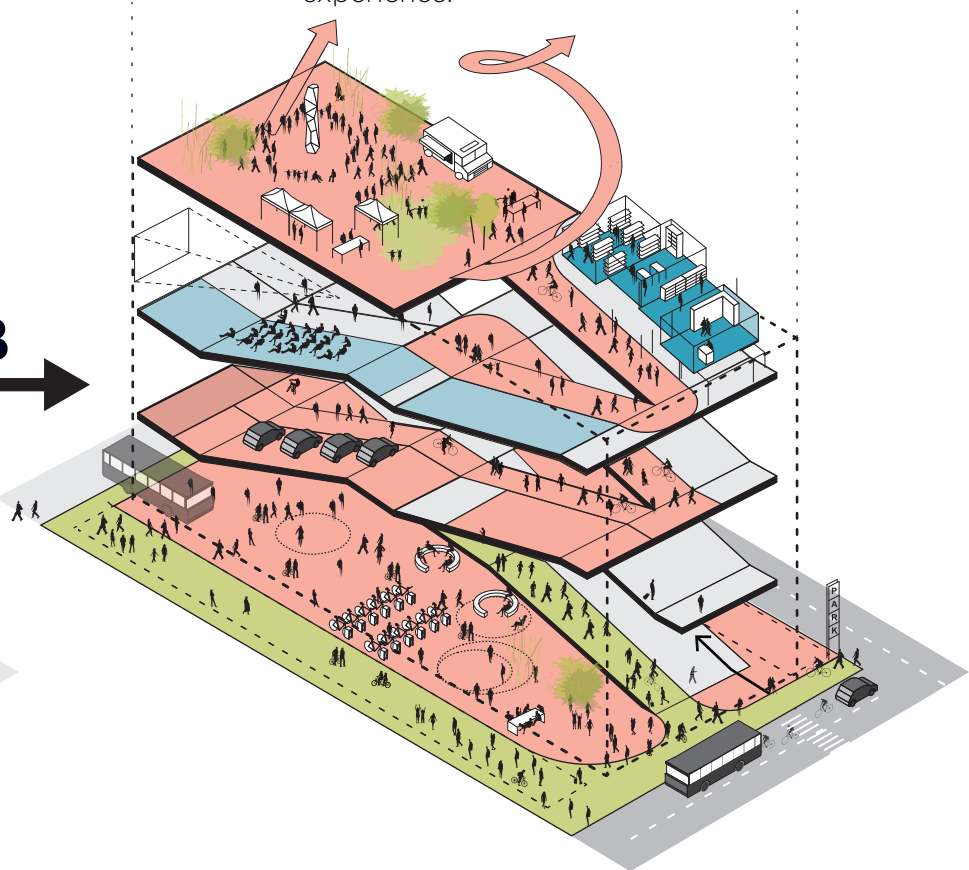


**PUBLIC SPACE**  
Continuous space allows the city to enter into the building as an indoor street with a seamless walking and riding experience.



**DRIVE-IN SPACE**  
Enabling activities that need heavy drive-in access (food truck markets, popup events, etc.) to the upper floors.

**B**





# A CITY INTO A BUILDING

AN URBAN ECOSYSTEM IN THE HEART OF WEST PALM BEACH

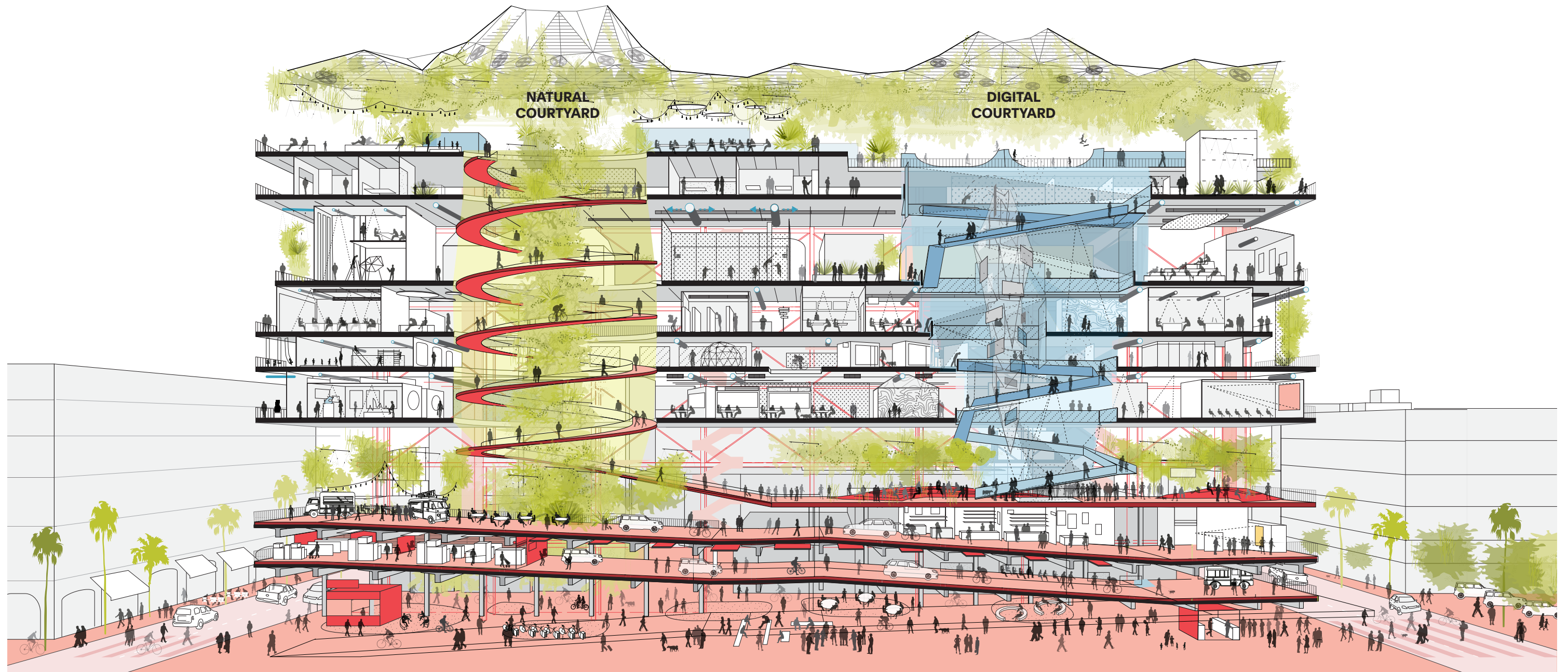
BANYAN DESIGN

The Banyan Hub is not only tightly connected to the street: it takes the street and its energy inside and makes it one of its core features.

Folding, twisting and ramping up towards the open terrace on the roof, this new kind of street provides a unique urban-like experience inside the building, but also retains many of the features of an ordinary street.

It is open to the public at anytime. It can be used by pedestrians, cyclists, skaters as well as light vehicles even cars or vans. It connects different uses along its path, from businesses to cultural spaces to public plazas.

This way the Banyan Hub can become a small urban ecosystem and a tangible experience of the future of West Palm Beach.







The Active Roof Terrace open to the landscape

# OPEN HUB OPEN PLAZAS

A TRUE PART OF THE CITY

The Banyan Hub includes a series of public spaces located at different levels and connected through a covered public street that ramps up between different spaces and twists around the courtyards.

The Hub includes three main public spaces:

A flexible square at ground level, with an open hall connected to the surrounding streets and to the passageway at the back of the building.

A covered but open air plaza at an intermediate level of the building, right where the two courtyards begin. This space is the heart of the Hub and plays a crucial role in its climatic conditioning and cultural activity.

A top terrace, overlooking the lagoon offers a panoramic view of the natural environment and of the whole downtown. Relaxing and breezy like the deck of a cruise ship, it is and an ideal place to begin a stroll down through the building and along the waterfront.



Level 4 - Open-air Plaza at the Banyan



# ONE BUILDING, A MILLION CONFIGURATIONS

CHANGE IS THE ONLY CONSTANT

BANYAN DESIGN



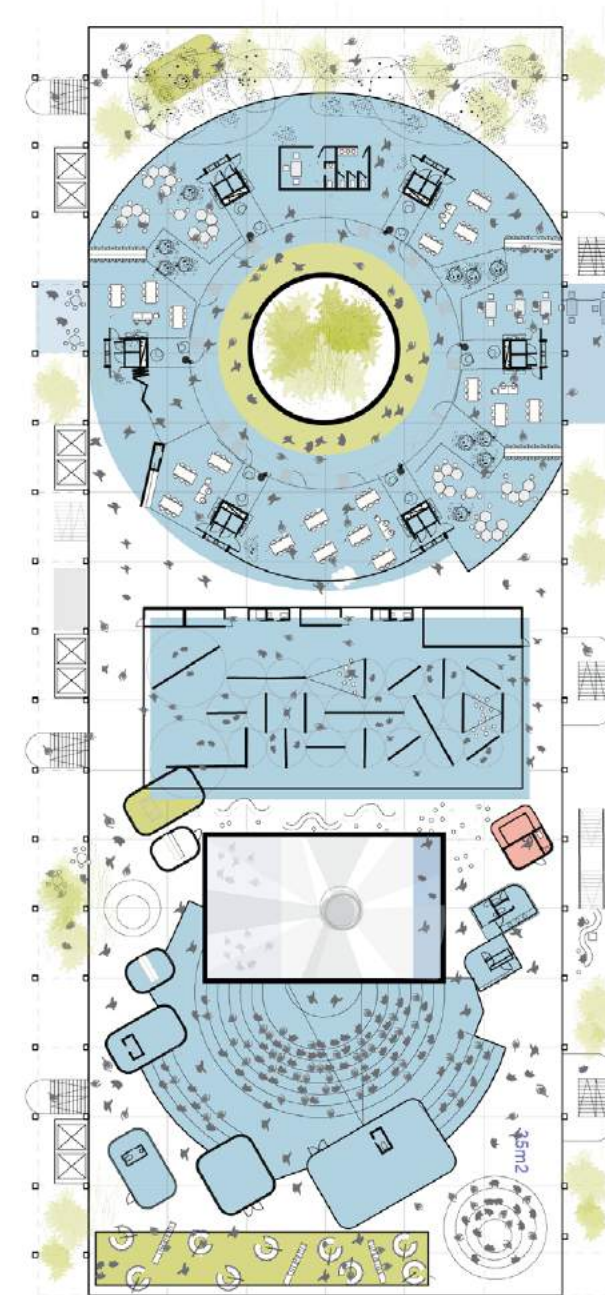
## GROUND FLOOR: A BUSTLING HUB

A covered open plaza, a welcoming hall that connects to surrounding streets and passage-ways. Farmers markets, street dance, a pop up library, a fashion show... any activity can catch your attention as you enter into the building.



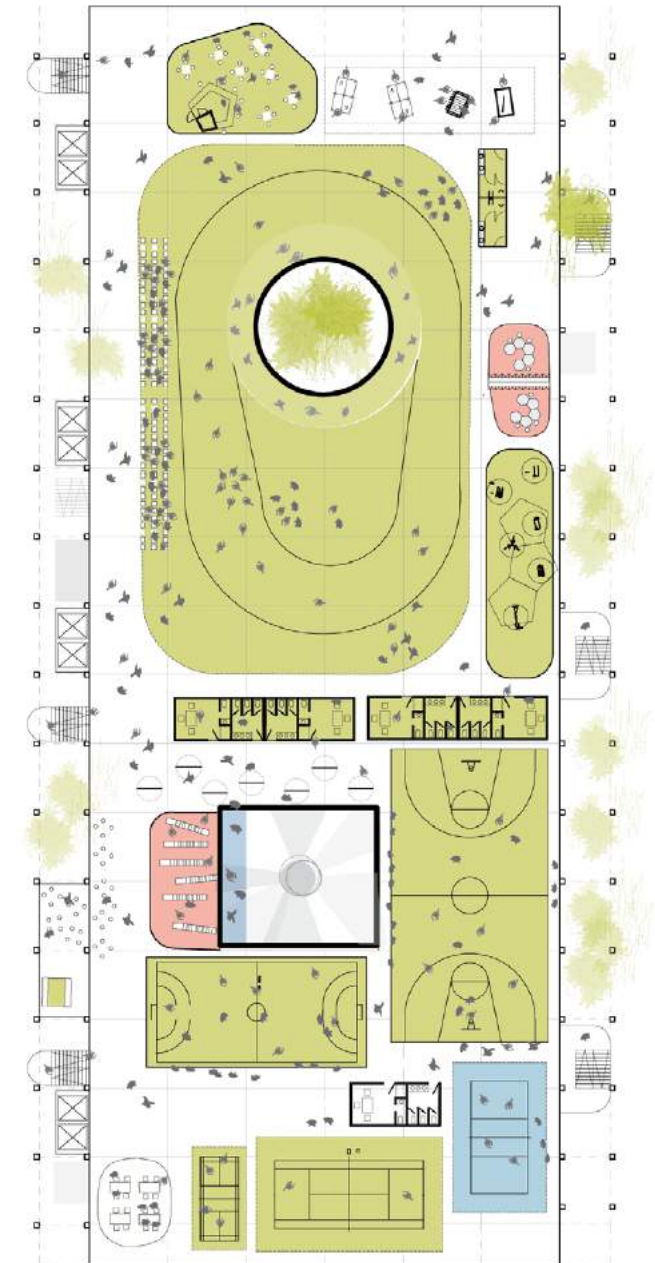
## FLOOR 4: AN INNOVATIVE INCUBATOR

A configuration capable of hosting temporary events and talks, coding academies and coworking spaces to promote a thriving community of professionals and companies in the fields of cultural industries and technology.



## FLOOR 6: A CULTURAL FORUM

A space configured with exhibition areas and open forums for special events, meetings and live shows. A fully featured conference hall with the flexibility of a theatre stage.



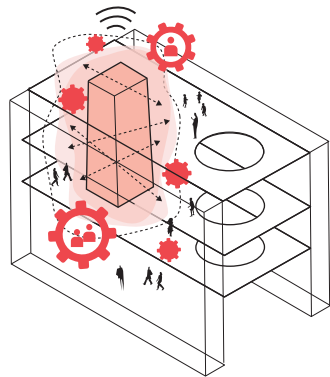
## FLOOR 8: AN ACTIVE SPORTS AREA

Sport facilities taking advantage of the easily configurable climatic conditions in each part of the building: increased ventilation without direct wind, cooler temperatures, etc.



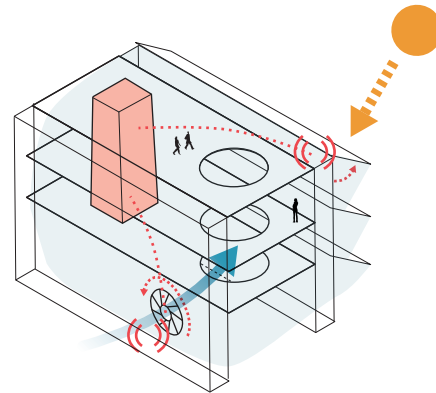
# A DIGITAL HUB FOR URBAN INNOVATION

WEST PALM BEACH "SMART CITY LAB"



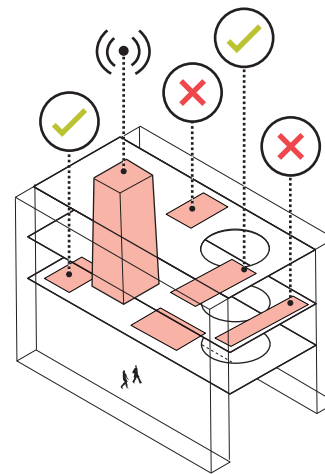
## EXPERIENCE AND EDUCATION

Tech-related activities (fab labs, maker spaces, offices), exhibitions and interactive installations around the Digital Courtyard.



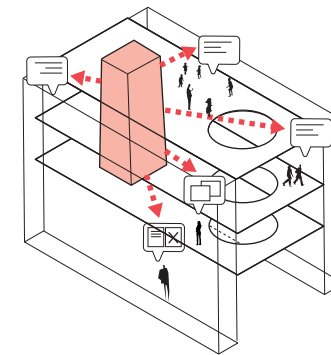
## USER-CONTROLLED WEATHER

Internal bioclimatic conditions can be changed by users. The building becomes an interactive and educational experience.



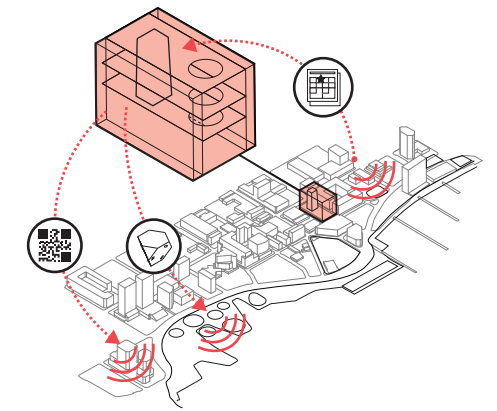
## MANAGEMENT AND CONTROL

The building can be managed and controlled digitally. Reporting issues, unlocking equipment, booking spaces, etc.



## INFORMATION AND INTERACTION

Users can read/publish pictures or messages attached to spaces and objects. The physical world is augmented by digital information.



## SMART CITY LAB

The Hub manages activities and climatic conditions in the waterfront, experiments and delivers technical proposals.



The Banyan Hub will be the experimentation ground and the prototyping workshop for many of the digital-physical technologies that will be used at the waterfront.

The Digital Courtyard, with a tech-oriented design, will gather around itself fab-labs, maker spaces and coworking spaces, combining creative, experimental, educational, informative and productive activities.

From this 'Smart City Lab', different actors will be able to identify the needs, co-create the solutions, control the functions and follow the evolution of the digitally-enabled waterfront and the Banyan Building itself.

When visiting the Banyan Hub, citizens will be able to view the activities inside and outside of the building, check levels of comfort in different urban spaces, leave messages or read those left by others, participate in decision making process, etc.



# A NATURE HUB FOR URBAN SUSTAINABILITY

A RESPONSIVE DESIGN TO CREATIVELY DIALOGUE WITH NATURE

BANYAN DESIGN

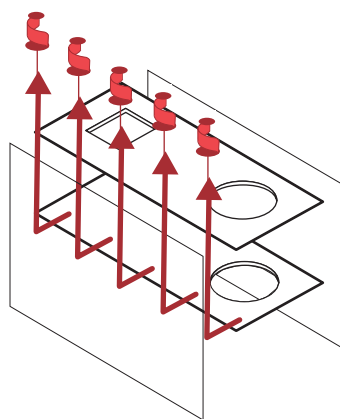


Breathe in deep at the Nature Courtyard



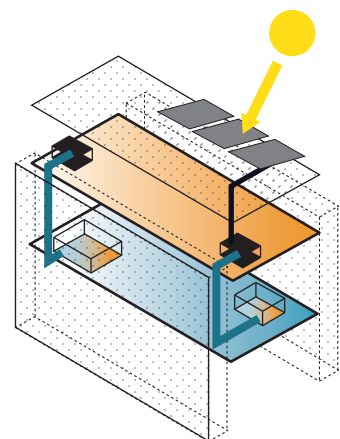
# BIOCLIMATIC DESIGN

HIGHLY NATURAL AND EFFICIENT BUILDING



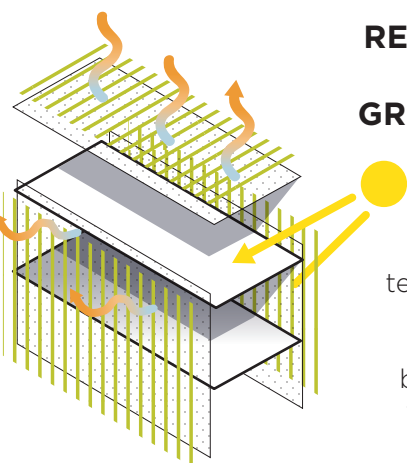
## SOLAR CHIMNEY: PASSIVE VENTILATION TECHNIQUE AND ENERGY PRODUCTION

The Solar Chimneys at the roof level create natural ventilation on both open and enclosed spaces of the building. At the same time this air flow is used to produce energy for the building's operation.



## ENCLOSED SPACES: ACTIVE RENEWABLE ENERGY SYSTEMS

Enclosed flexible spaces are conditioned combining natural ventilation (solar chimney) with renewable energy (solar thermal panels) and high efficiency air conditioning.



## RESPONSIVE FAÇADE: SUN SHADING AND GREEN BUFFER SPACE

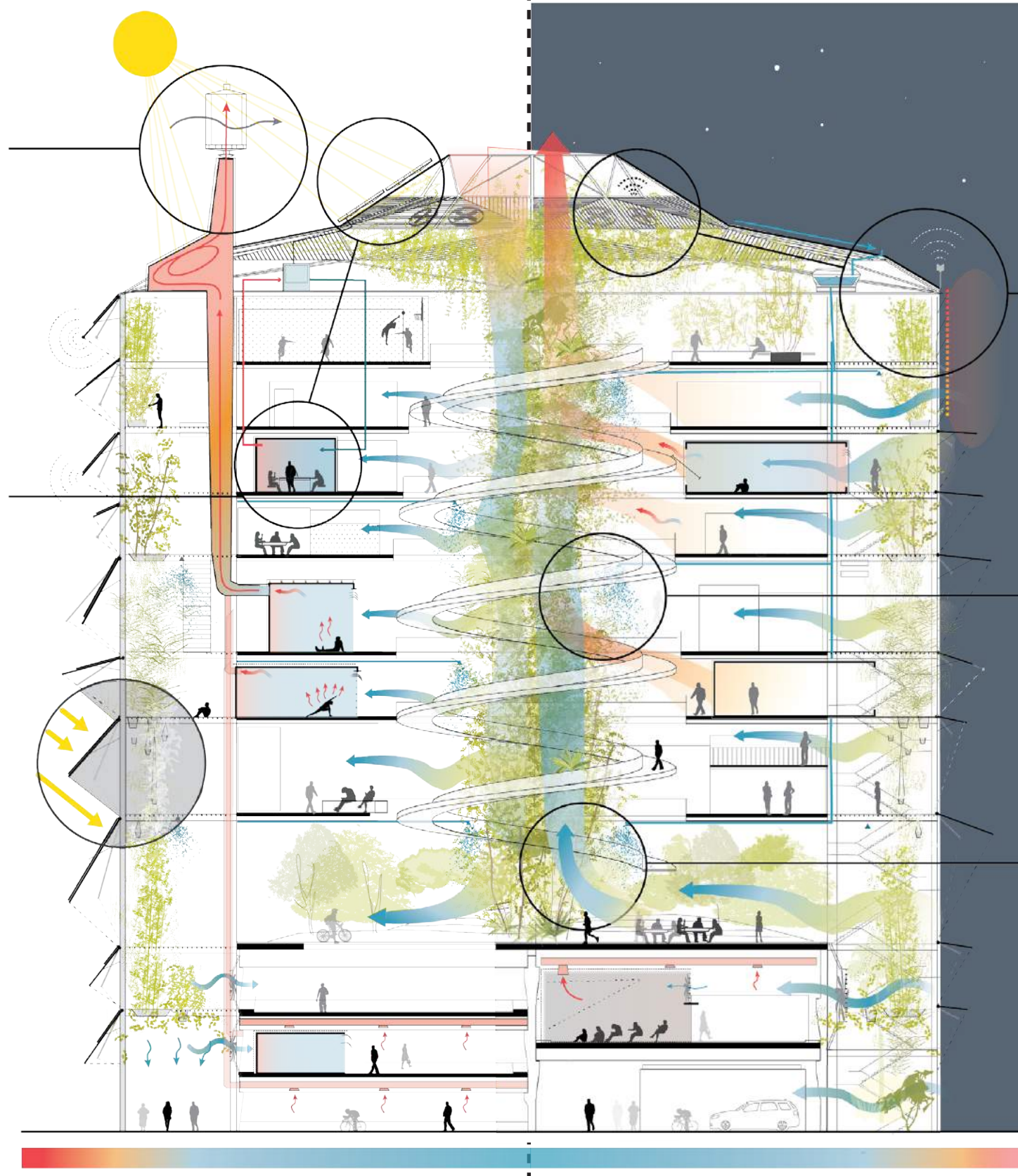
The façade of the Banyan Hub acts as one of the main passive techniques of the building. The responsive textile façade protects a green buffer zone that works as the fresh breathing lungs of the project.

## DAY PERFORMANCE

The Solar Chimneys extract hot air from both the open and enclosed spaces of the building. The network of low speed fans at the top of the courtyards introduces air flow that, in contact with the water atomizers and green natural elements, cools down the air, refreshing the building interiors. The responsive façade is closed, providing sun shading protection. The green buffer zone becomes an insulating barrier.

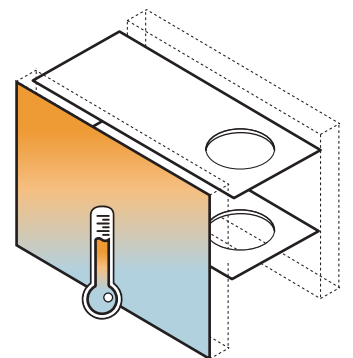
## NIGHT PERFORMANCE

The building cools down during the night. The responsive façade opens up to allow air flow in. The green buffer zone becomes a cooling filter. Enclosed spaces open up. The Network of low speed fans at the top of the courtyards extract the hot air and create a vertical airflow towards the roof, renovating and refreshing the air inside.



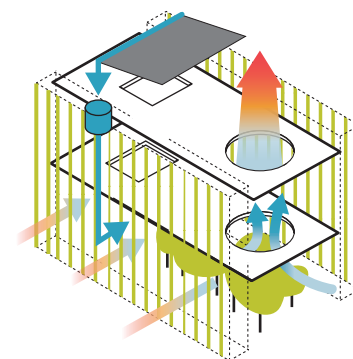
## SMART MONITORING TOOLS

Different sensors placed along the building provide real time monitoring of its climatic performance.



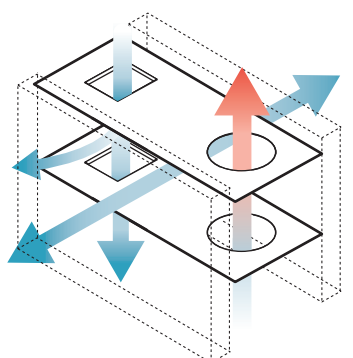
## NATURAL EVAPORATIVE COOLING

Passive cooling techniques combining green natural elements with water atomizers at inner courtyards and responsive façades. Rainwater is collected at roof level. It is then filtered and reused for the irrigation of the natural green system of the building.



## NATURAL VENTILATION

The two courtyards act as natural ventilation ducts, supported by an array of low speed fans.





# A RESPONSIVE BREATHING SKIN

BIOCLIMATIC LAYERED FAÇADE FOR ACHIEVING INDOOR COMFORT

The north and south façades are green buffer spaces, protected by a responsive textile external skin.

This space support the growth of different types of vegetation and include elements that can be dynamically modified to control light and ventilation, as well as the exterior configuration and appearance of the façade.

## SHADING LAYER

The façade acts as one of the main conditioning systems of the building, filtering direct sun and regulating ventilation. It is formed by an array of individual elements that present a responsive behavior, autonomously sensing the climatic conditions and the needs of the building and changing their position.

## GREEN BUFFER

Protected by the external shading, there is a green buffer zone, mainly comprised of a permeable structure holding vegetation and supporting varied activities. This space acts as a second natural filter for light and wind, and contributes to the regulation of the internal temperature through evaporative cooling.

## ENCLOSED SPACES

Inside the general open-air space of the building, which takes advantage of the favorable climatic conditions of West Palm Beach, there are enclosed spaces that allow for more precise, intense or independent conditioning. These spaces will also feature a higher level of security and equipment.



Social green space overlooking the downtown



Responsive façade detail

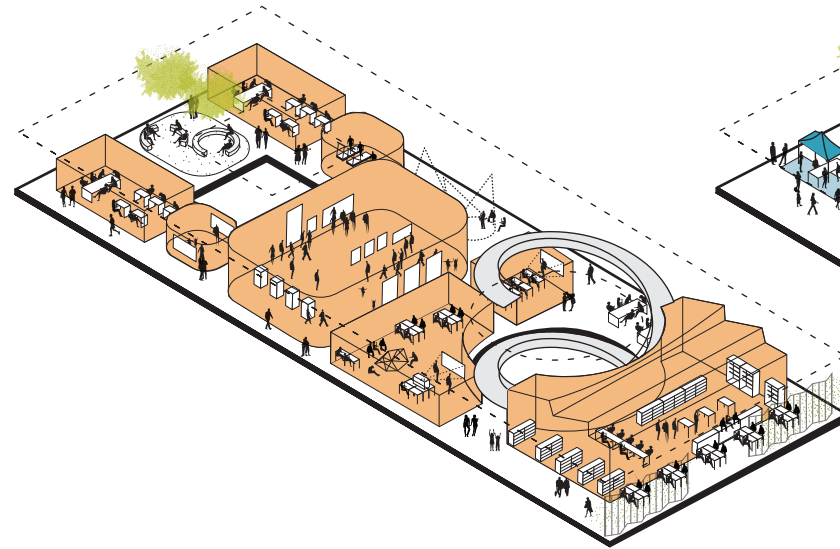


# FLEXIBILITY

AN EXCEPTIONALLY FLEXIBLE AND HYBRID BUILDING

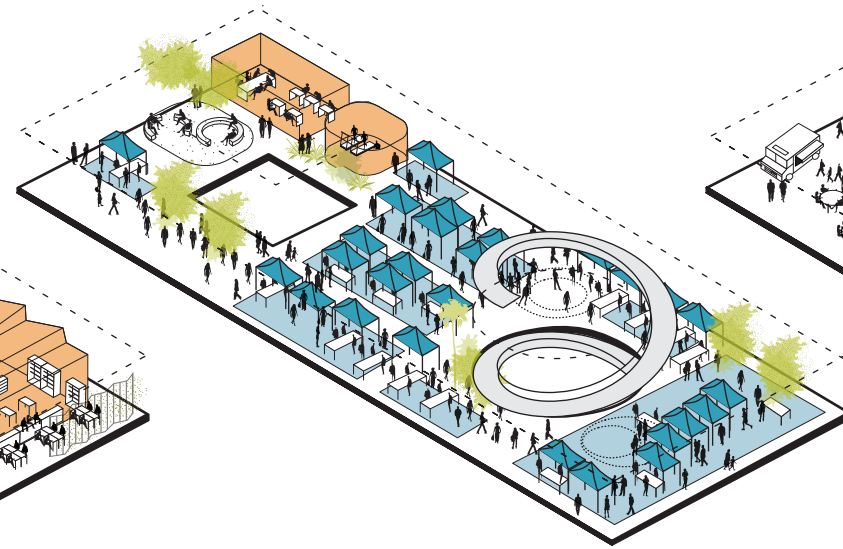
One of the most important qualities of a city is the ability to evolve by changing its uses and its physical configuration according to the needs of the society that lives in it.

The Banyan Hub embodies these principles: As it is conceived, change is the only constant. It will stay open to transformation by its managers and users, embracing evolution as a way to stay useful and relevant. This will be achieved by introducing changeable programs and spaces between the most fixed elements, and designing moving physical delimitations and reconfigurable technical infrastructures.

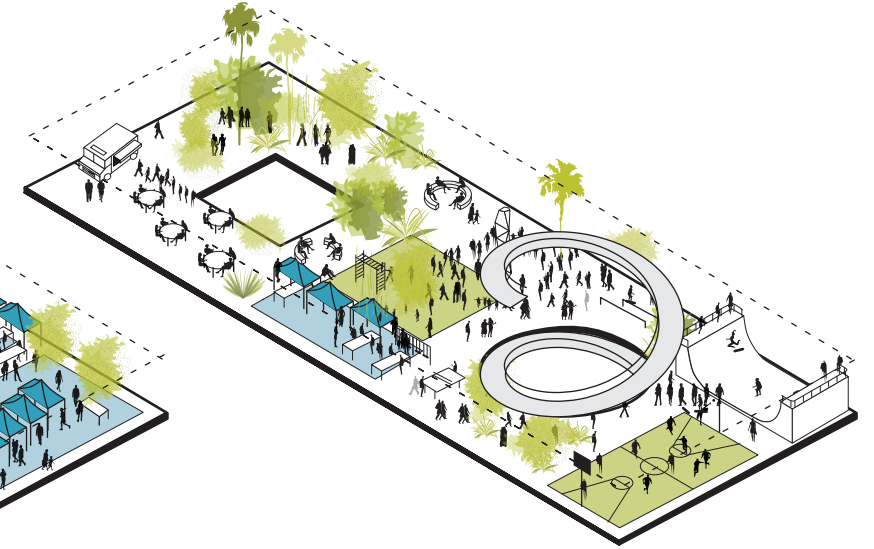


POSSIBLE CONFIGURATIONS  
OF A FLOOR OF THE BANYAN  
HUB EVOLVING OVER TIME

MARCH 2020  
CONFIGURATION 01



AUGUST 2025  
CONFIGURATION 02



DECEMBER 2035  
CONFIGURATION 03



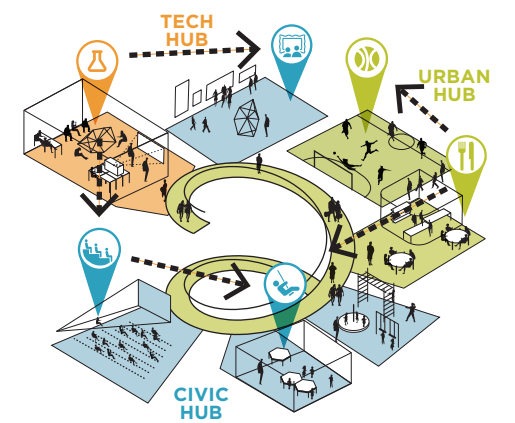
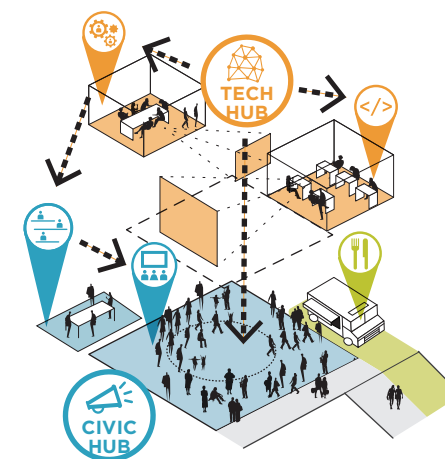
Work and Leisure at the Banyan Hub

# BANYAN PROGRAMMING AND MANAGEMENT

## INTERACTION

UNCONVENTIONAL CONNECTIONS

The rich mix of different uses in proximity helps creates situations where activities can complement and benefit each other. This also gives a special character to each part of the building, enabling interactions that would not take place in a conventional building.



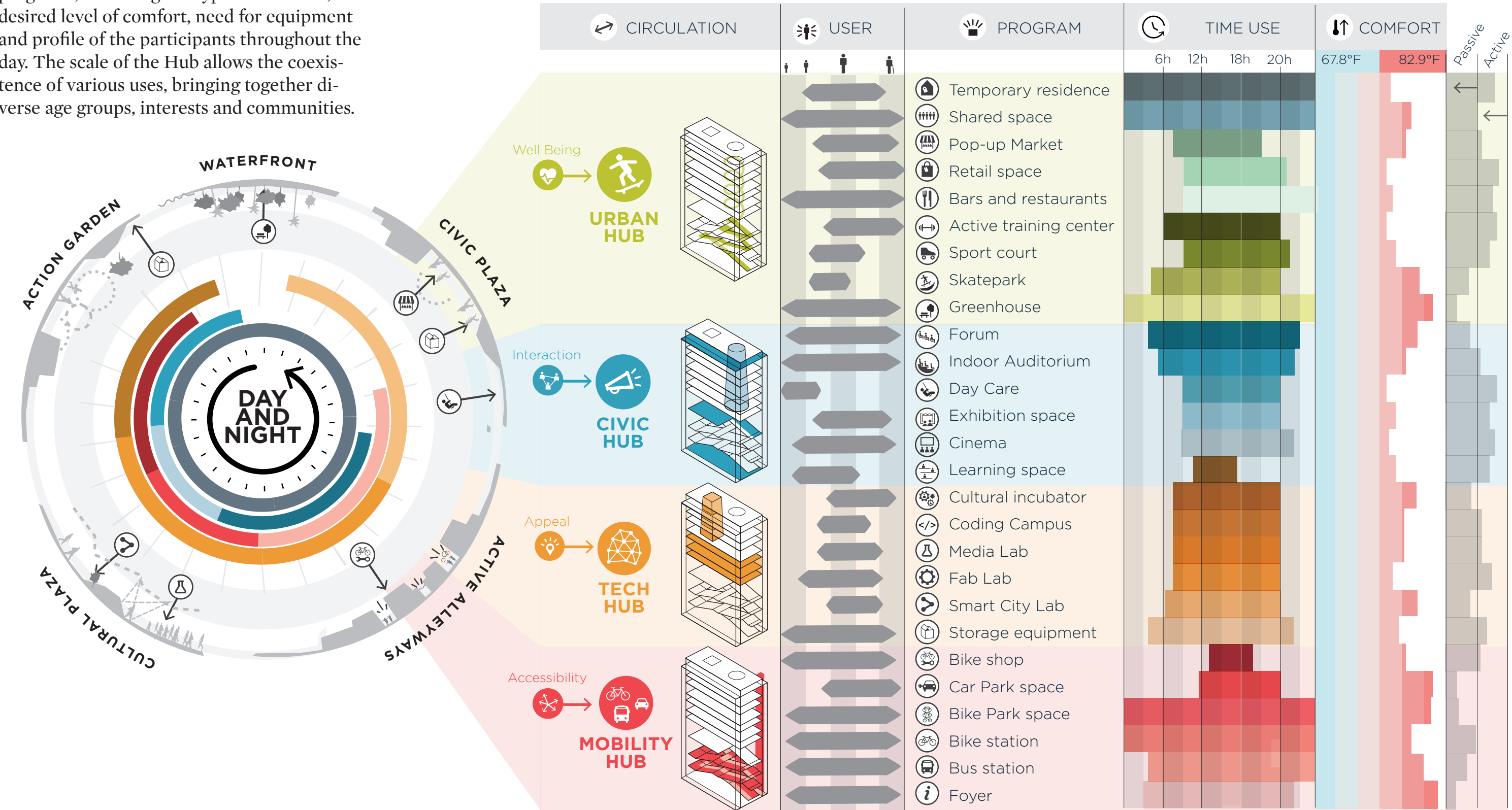


# AN EVER CHANGING URBAN HUB OPEN DAY AND NIGHT

A HYBRID BUILDING WITH ACTIVE PRESENCE IN THE CITY

In order to become the ever-beating heart of West Palm Beach, the Banyan Hub will include a diverse and complementary set of programs, balancing the type of activities, desired level of comfort, need for equipment and profile of the participants throughout the day. The scale of the Hub allows the coexistence of various uses, bringing together diverse age groups, interests and communities.

# BANYAN PROGRAMMING AND MANAGEMENT





# MANAGEMENT & STAKEHOLDERS

## BANYAN HUB OPERATIONAL MODEL

The Banyan Hub operational model could be developed as a public-private partnership. The Founding Partners—comprising city hall, private companies, universities and other organizations—would form a managing board that would share the funding, ownership and make the most important decisions.

This board would take care of the construction and later grant spaces and equipment to other urban stakeholders. It would also create working committees for logistics and maintenance, activation and cultural agenda, and communication and participation. It would serve as a mediation entity between institutions, general public, entrepreneurs and other potential partners.



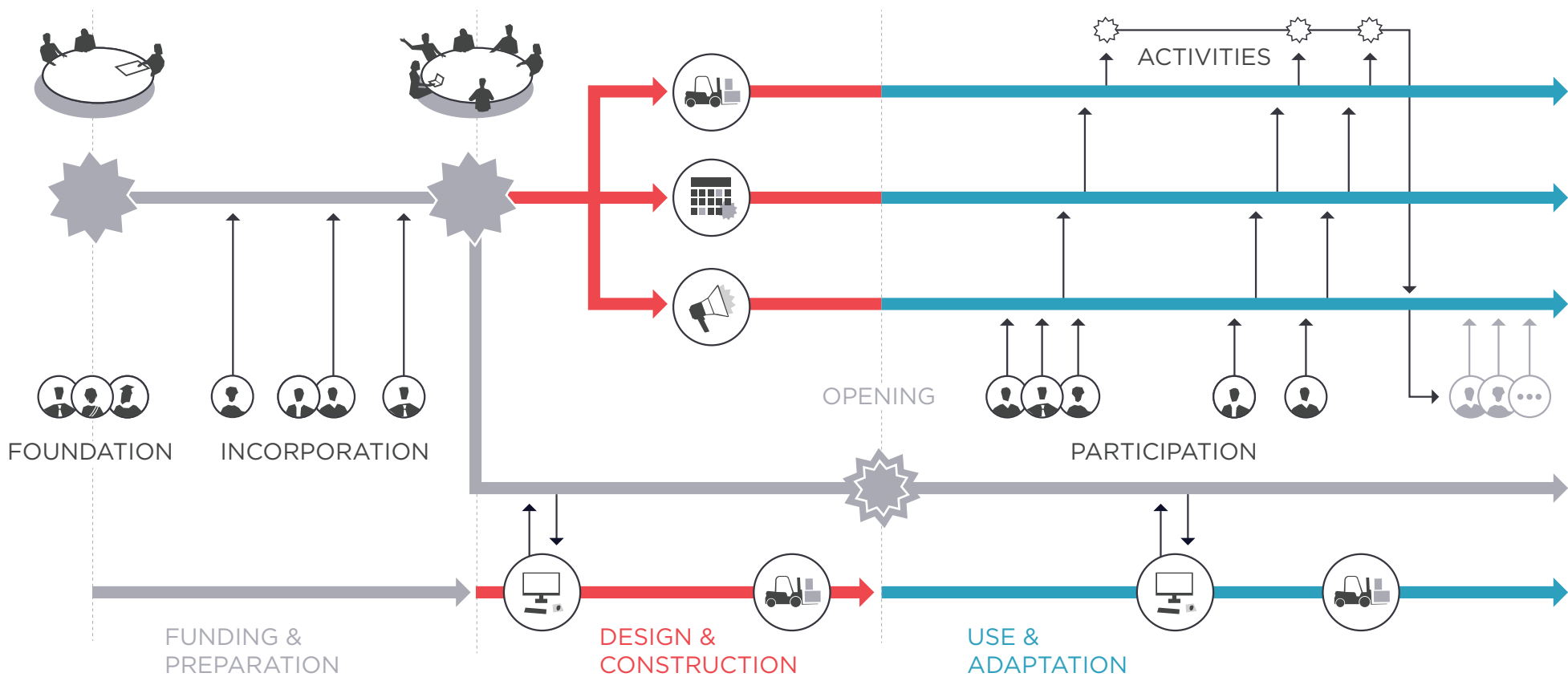
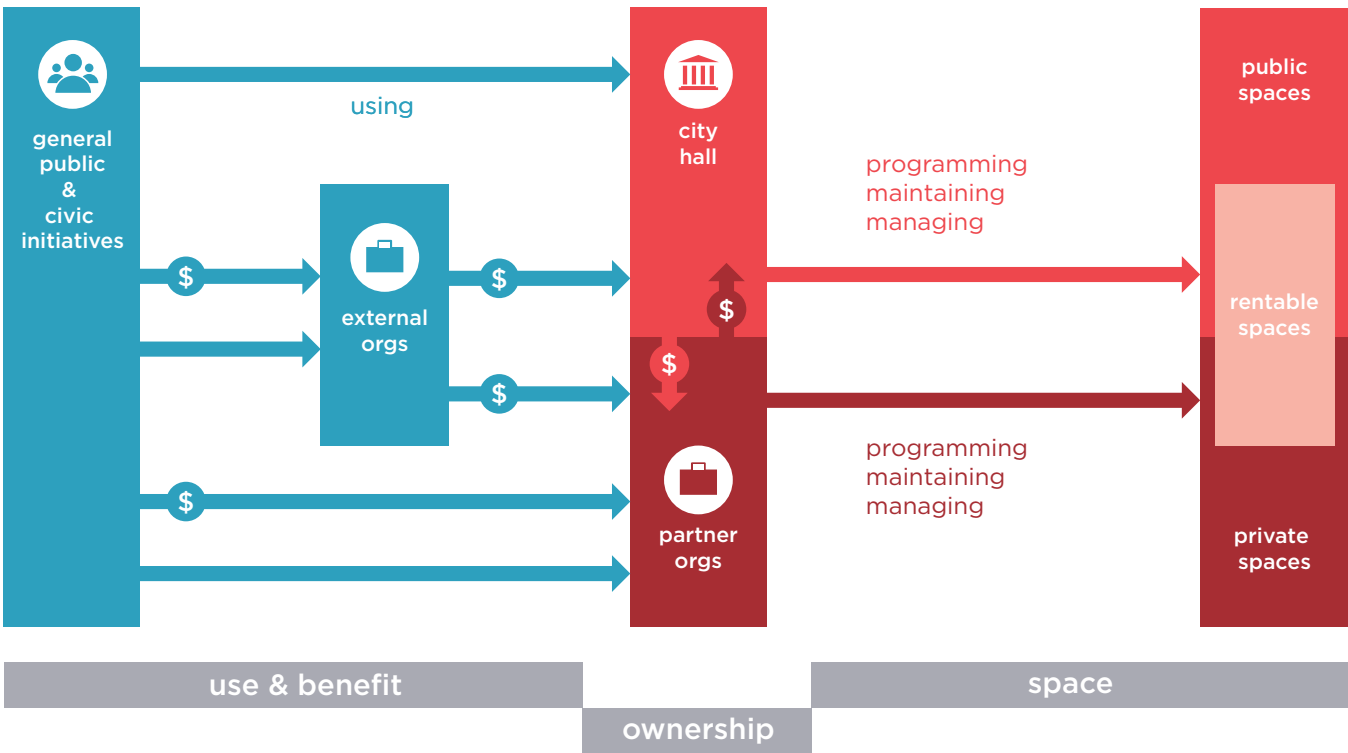
# BANYAN PROGRAMMING AND MANAGEMENT

# DEVELOPMENT PROCESS

## AN EVER EVOLVING SCENARIO

The initial managing board would gather the key stakeholders and funds, and would start the process in close relation to the architectural design team. In this first phase of development, the goal would be to build the core spaces and features of the Banyan Hub and put them to work for the city.

Once built, the different committees would take care of supporting the active life of the building: identifying and involving new stakeholders, proposing a coherent and attractive agenda, and managing the maintenance, climatic functioning and technical equipment. During the active life of the Banyan Hub, a light but continuous adaptation process would take place in order to constantly meet the needs of the city and its citizens.





# IMPLEMENTATION

## DRIVING DEVELOPMENT

In order to involve the citizens in the design and to keep the waterfront alive during the transformation process, the area of intervention is divided into sectors that can be developed incrementally.

A participatory process will help to define the uses and priorities. Thanks to this methodology, it becomes possible to establish an implementation strategy in agreement with citizens, commissioners and investors.

Below, we present four possible scenarios out of the multiple possibilities:

### SMALL

The Banyan Hub is developed early on in the process, acting as a catalyst for the surrounding area. The Meyer Amphitheater, the Great Lawn, the Palm Grove and some of the Thematic Plazas are also developed in order to respond as early as possible to the increasing demand of large spaces for special events.

The squares and gardens to the north and south of the area can also be rapidly transformed and activated, becoming an important asset from the beginning.

Two alleyways are also transformed and turned into passageways, connecting to local groups and bottom-up activities.

With this option, the city can have an urban boost within a short period of time and with a relatively limited investment, generating a momentum that raises awareness and generates social interest.

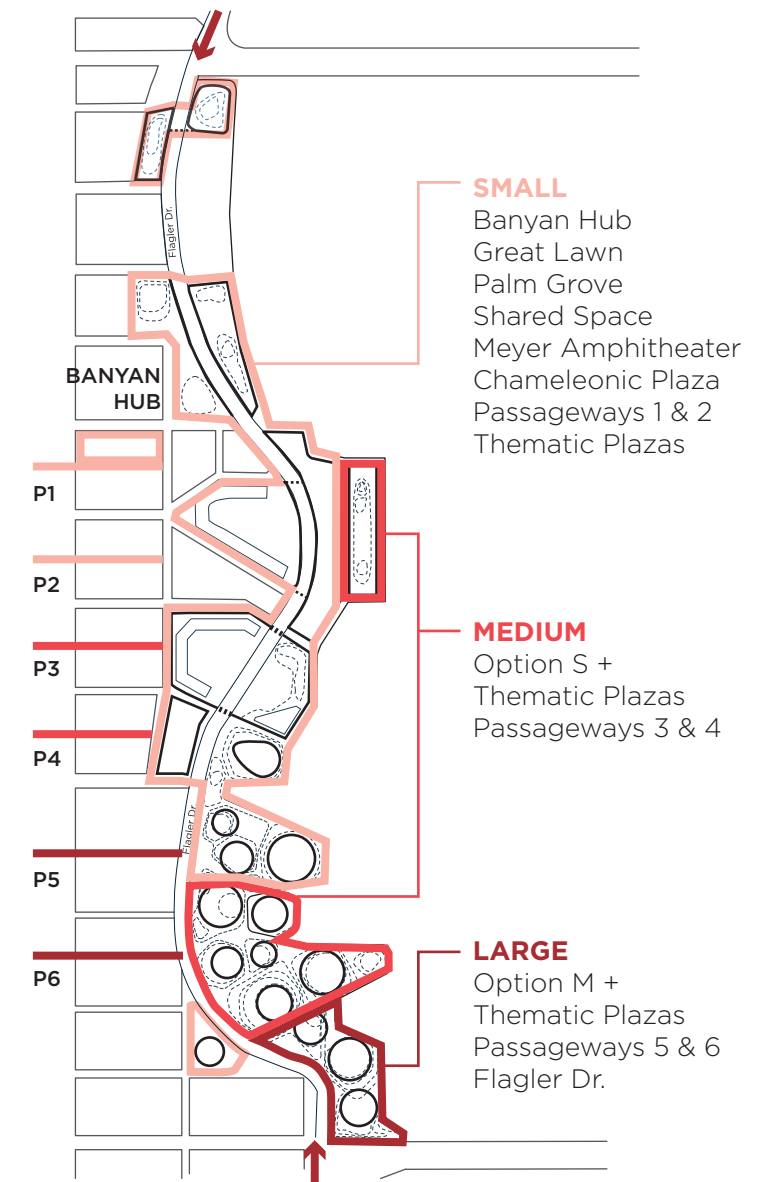
### MEDIUM

By incorporating the new extension to the Great Lawn, the Tidal Plaza, and other Thematic Plazas over the water, a new and deeper relationship with the Lake Worth Lagoon is created.

This is a well balanced option of benefits and costs as it covers most of the ideas behind the proposal making it viable from the economic and management point of view.

### LARGE

By activating two additional passageways, and the Thematic Plazas and by completely reconfiguring Flagler Drive, the new shore would be a public space full of life, new uses and with the highest standards of accessibility and mobility.

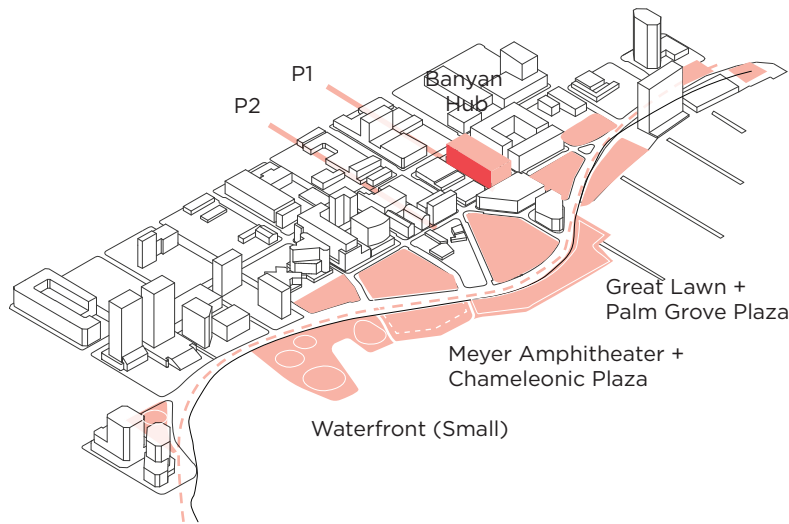




# FLEXIBLE DEVELOPMENT

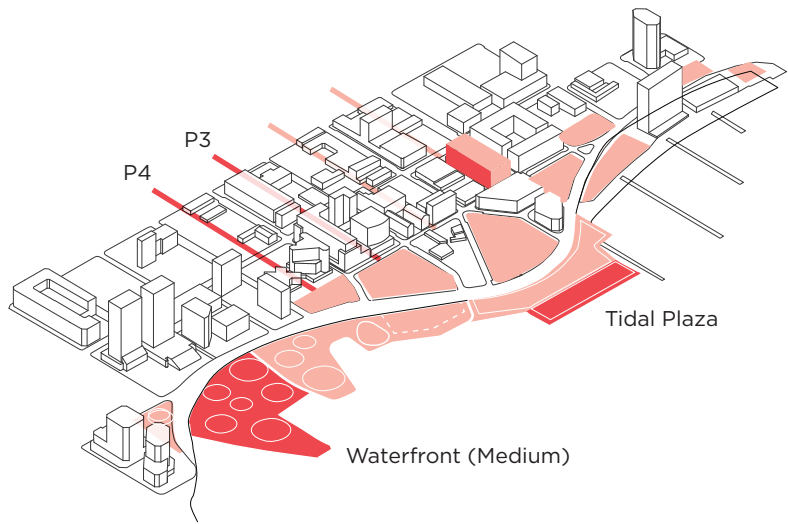
POSSIBLE SCENARIOS OF THE IMPLEMENTATION PROCESS

## SMALL



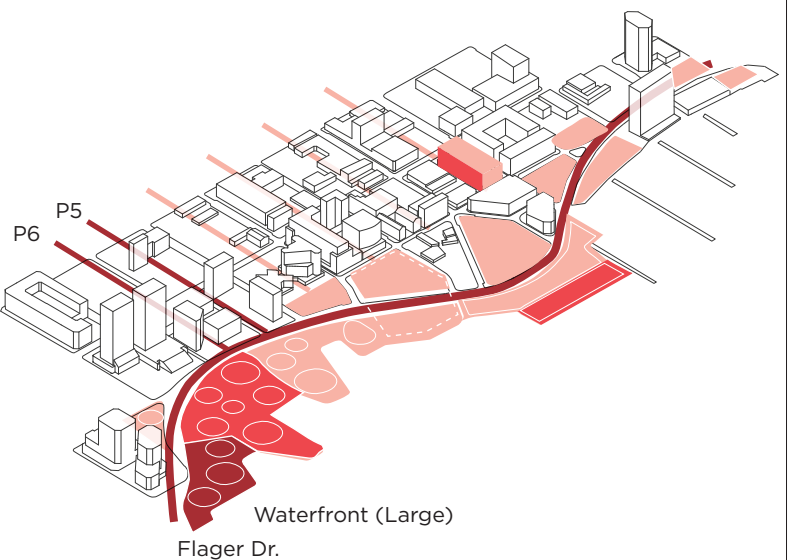
SMALL option includes: **Banyan Hub, Great Lawn, Palm Grove Plaza, Shared Space, Meyer Amphitheater, Chameleonic Plaza, 2 Passageways, Waterfront (Small):** Thematic Plazas

## MEDIUM



MEDIUM option includes: **Banyan Hub, Great Lawn, Palm Grove Plaza, Tidal Plaza, Shared Space, Meyer Amphitheater, Chameleonic Plaza, 4 Passageways, Waterfront (Medium):** Thematic Plazas

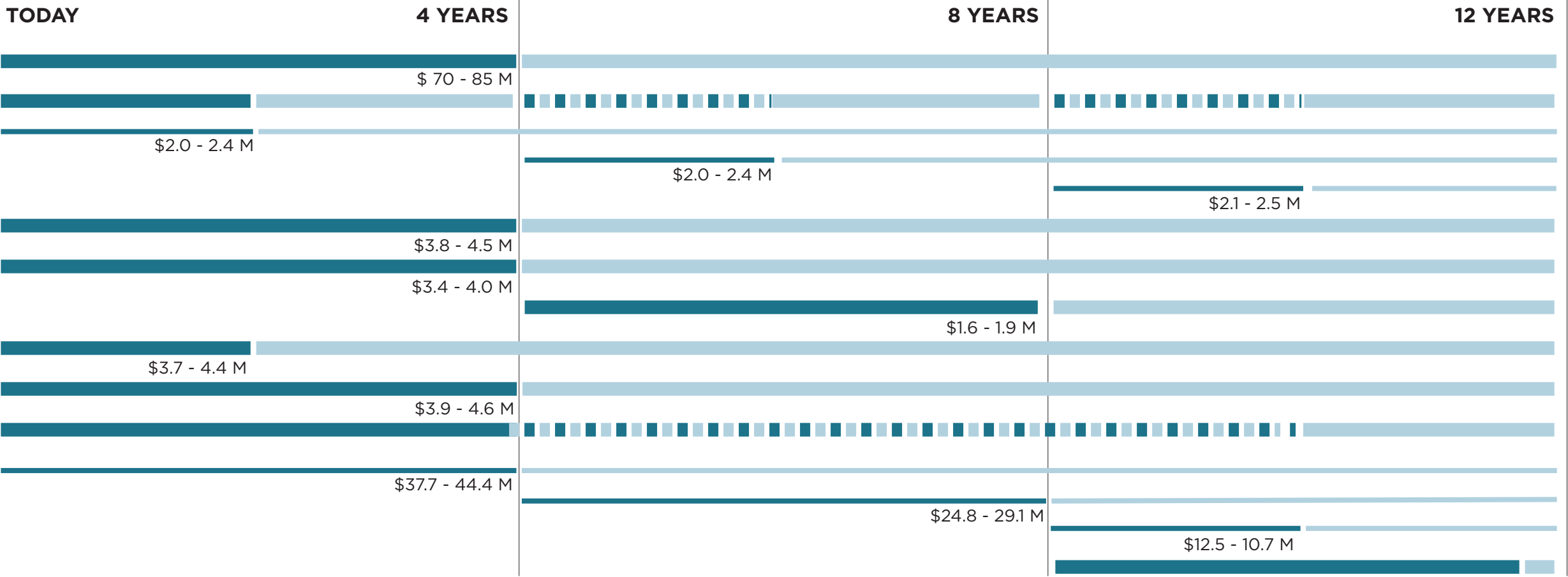
## LARGE



LARGE option includes: **Banyan Hub, Great Lawn, Palm Grove Plaza, Tidal Plaza, Shared Space, Meyer Amphitheater, Chameleonic Plaza, 6 Passageways, Waterfront (Medium):** Thematic Plazas

CONSTRUCTION  
IN USE

<b>BANYAN HUB</b>	<b>430,000 sqft</b>
<b>PASSAGEWAYS</b>	<b>2.55 acres</b>
P1 + P2	0.83 acres
P3 + P4	0.83 acres
P5 + P6	0.89 acres
<b>GREAT LAWN</b>	<b>3.35 acres</b>
<b>PALM GROVE</b>	<b>3.50 acres</b>
<b>TIDAL PLAZA</b>	<b>1.67 acres</b>
<b>MEYER AMPH.</b>	<b>2.41 acres</b>
<b>CHAMELEONIC</b>	<b>2.50 acres</b>
<b>WATERFRONT</b>	<b>21.96 acres</b>
SMALL	11.33 acres
MEDIUM	18.77 acres
LARGE	21.96 acres
<b>FLAGLER DR.</b>	<b>7.89 acres</b>





# URBAN LOOPS: AN ENHANCED URBAN VISION

THE NEW URBAN NETWORK FOR DOWNTOWN WEST PALM BEACH

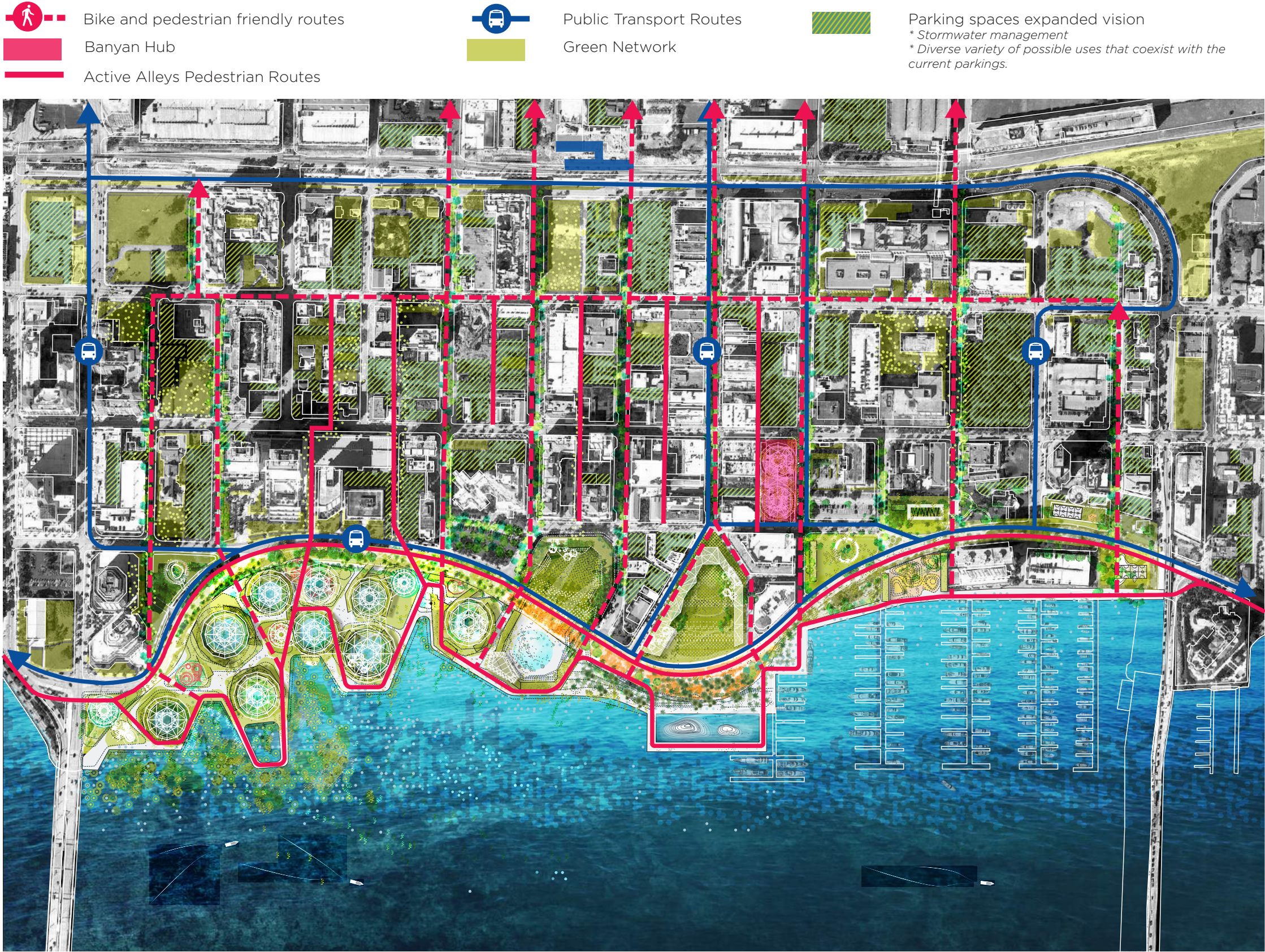
## EXTRA LARGE

In order to connect the project to a general urban vision working towards a coherent design, we have to carefully look into the different programs and places, and define the relationships between them.

There is a clear need to find or establish fluid relations between the different components of the project, and between them and the existing city. This can be best done by increasing connectivity and accessibility.

To approach this, we propose a series of “urban loops” to reconnect the waterfront with the rest of the downtown. These are the most significant routes which can be developed in order to achieve the desired urban cohesion. They consist of pedestrian-friendly streets—including existing alleyways—and public transport routes that connect the most important places in the city, fostering the development of commerce, restoration, business, cultural events and other urban activities along their way.

The long term vision would be to further develop the “urban loops”. Flagler Drive, the alleyways, the new waterfront, and the streets arriving from the city center will be connected following a city-wide strategy, providing an enhanced experience for pedestrians and public space use.





# PREVIOUS PROJECTS

## ECOSISTEMA URBANO

Ecosistema urbano is a Madrid based group of architects, urban designers and professionals specialized in urban innovation projects, operating within the principles of design thinking at the intersection between different disciplines: architecture, urban design, engineering, sociology...

Their approach can be defined as urban social design by which they understand the design of environments, spaces, dynamics and tools in order to improve the self-organization of citizens, social interaction within communities and their relationship with the environment. Ecosistema Urbano has used this philosophy to design and implement projects in urban contexts from different countries: Norway, Denmark, Spain, Italy, France, China, Russia, Paraguay, Bahamas, Ecuador, Bahrein, Honduras, USA, etc...

Since 2000, Ecosistema urbano has received prizes and awards in more than 40 occasions by numerous international organizations (awarded by UN-Habitat on 3 occasions) and their work has been covered by media from more than 30 countries (specialized publi-

cations, tv programs, international press,...). Their projects have been exhibited in many galleries, museums and international institutions (Venice Biennale, Louisiana Museum in Copenhagen, Shenzhen Biennale, London Design Museum, Deutsches Architekturmuseum in Berlin, National Museum of Norway, Chicago Art Institute, Lisbon Triennale,...).

Ecosistema Urbano is specialized in urban consultancy projects (architecture and urban design), public space quality assessment and leads urban transformation processes (from initial conceptualization to final implementation) working for local, national governments and multilateral agencies. In recent years, their research has focused on the design of public spaces and its climatic conditioning, for contexts and climates as diverse as Bahrain or Norway. They have also designed and developed methodologies that incorporate participatory mechanisms with digital tools to allow collaborative network design.

Ecosistema urbano's latest projects include the **"Ecopolis Plaza" a waste to resources building in the outskirts of Madrid (Spain)**, the **Master Plan for the historical centre of Asunción (Paraguay)**, the **environmental and socio-economic regeneration of the Voronezh Sea (Russia)**, a **strategy for public spaces in the historical centre of Cuenca (Ecuador)**, the **Sustainable Development Plan of Encarnación (Paraguay)**, an **experimental urban playground in Dordrecht (Netherlands)**, and **Dreamhamar in Hamar (Norway)**, a **network design project for the redevelopment of the city's main public space**.

In parallel, Ecosistema urbano has played a pioneering role in the design of digital networks, creating different communication platforms around the subject of creative urban sustainability; developing social software that explores the possibilities of new technologies to improve social interaction and create urban environments redefining the concept of citizenship.



# WE DESIGN URBAN PLACES AND SOCIAL METHODOLOGIES FOR THE PUBLIC GOOD

## DREAMHAMAR

**CLIENT:** HAMAR KOMMUNE, NORWAY  
**DATE:** 2011-2013  
**STATUS:** BUILT

**PROGRAM:** PARTICIPATION PROCESS AND DESIGN  
DEVELOPMENT OF THE MAIN SQUARE OF HAMAR.  
**SCOPE:** CONCEPT, PARTICIPATIVE PROCESS, CON-  
STRUCTION DOCUMENT AND URBAN DESIGN.  
**LOCATION:** HAMAR, NORWAY



## ECOPOLIS PLAZA

**CLIENT:** MUNICIPALITY OF RIVAS VACIAMADRID  
**DATE:** 2009-2010  
**STATUS:** BUILT  
**PROGRAM:** ECOLOGICAL RECONFIGURATION OF A  
FORMER INDUSTRIAL SITE INTO A KINDERGARTEN,  
NEW PUBLIC SPACE AND WATER RECYCLING SYSTEM.  
**SCOPE:** DESIGN, STRATEGY, CONSTRUCTION DOCU-  
MENT AND CONSTRUCTION FOLLOW-UP.  
**LOCATION:** RIVAS VACIAMADRID, SPAIN

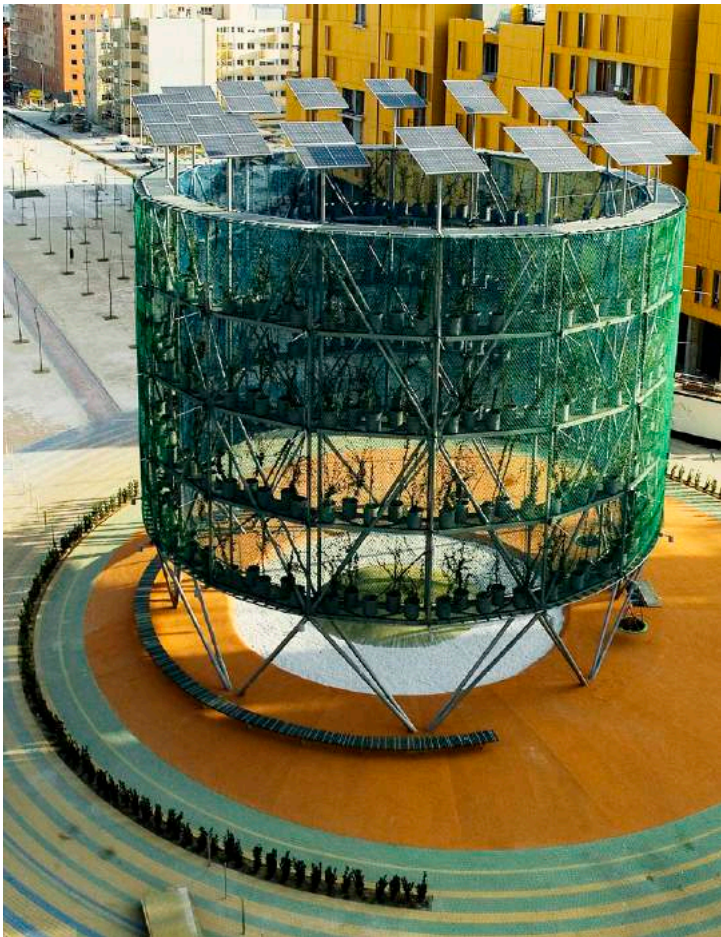




# WE CREATE ENVIRONMENTAL RESPONSIVE DESIGNS

## AIR TREE

**CLIENT:** FUNDACIÓN MADRID CIUDAD GLOBAL 2010  
**DATE:** 2009-2010  
**STATUS:** BUILT  
**PROGRAM:** ECOLOGICAL PAVILION FOR A SOCIAL AND BIOCLIMATICALLY CONDITIONED PUBLIC SPACE AT SHANGHAI WORLD EXPO 2010  
**SCOPE:** DESIGN, CONSTRUCTION DOCUMENT, ENERGY STRATEGY AND CONSTRUCTION FOLLOW-UP  
**LOCATION:** SHANGHAI, CHINA



## ECO-BOULEVARD

**CLIENT:** MUNICIPALITY OF MADRID, EMVS  
**DATE:** 2004-2007  
**STATUS:** BUILT  
**PROGRAM:** ECOLOGICAL BOULEVARD FOR A SOCIAL AND BIOCLIMATICALLY CONDITIONED PUBLIC SPACE  
**SCOPE:** DESIGN, CONSTRUCTION DOCUMENT, ENERGY STRATEGY AND CONSTRUCTION FOLLOW-UP  
**LOCATION:** MADRID, SPAIN





# WE INNOVATE USING NEW TECHNOLOGIES AND DIGITAL TOOLS



## MASTERPLAN OF THE HISTORICAL CENTER OF ASUNCION

**CLIENT:** MUNICIPALITY OF ASUNCION, PARAGUAY  
**DATE:** 2014-2015  
**STATUS:** ONGOING  
**PROGRAM:** URBAN/ENVIRONMENTAL DEVELOPMENT AND PUBLIC SPACE DESIGN  
**SCOPE:** REVITALISATION OF THE HISTORICAL CENTRE OF ASUNCION  
**LOCATION:** ASUNCION, PARAGUAY



## CUENCA RED

**CLIENT:** IADB - INTER-AMERICAN DEVELOPMENT BANK  
**DATE:** 2015-2016  
**STATUS:** ONGOING  
**PROGRAM:** PUBLIC SPACE REACTIVATION PLAN OF THE HISTORICAL CENTER OF CUENCA  
**SCOPE:** CREATION OF A NETWORK OF ACTIVITIES AND PROGRAMS IN PUBLIC SPACE, IMPLEMENTATION OF A PARTICIPATORY PROCESS THROUGH ON-SITE AND ONLINE ACTIVITIES, HISTORICAL BUILDING REHABILITATION. 130,000 SQF. CONSTRUCTION DOCUMENT.  
**LOCATION:** CUENCA, ECUADOR



## ENERGY CAROUSEL

**CLIENT:** MUNICIPALITY OF DORDRECHT  
**DATE:** 2010-2012  
**STATUS:** BUILT  
**PROGRAM:** UNCONVENTIONAL PLAY OBJECT  
**SCOPE:** CONCEPT DESIGN, DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENT  
**LOCATION:** DORDRECHT, NETHERLANDS