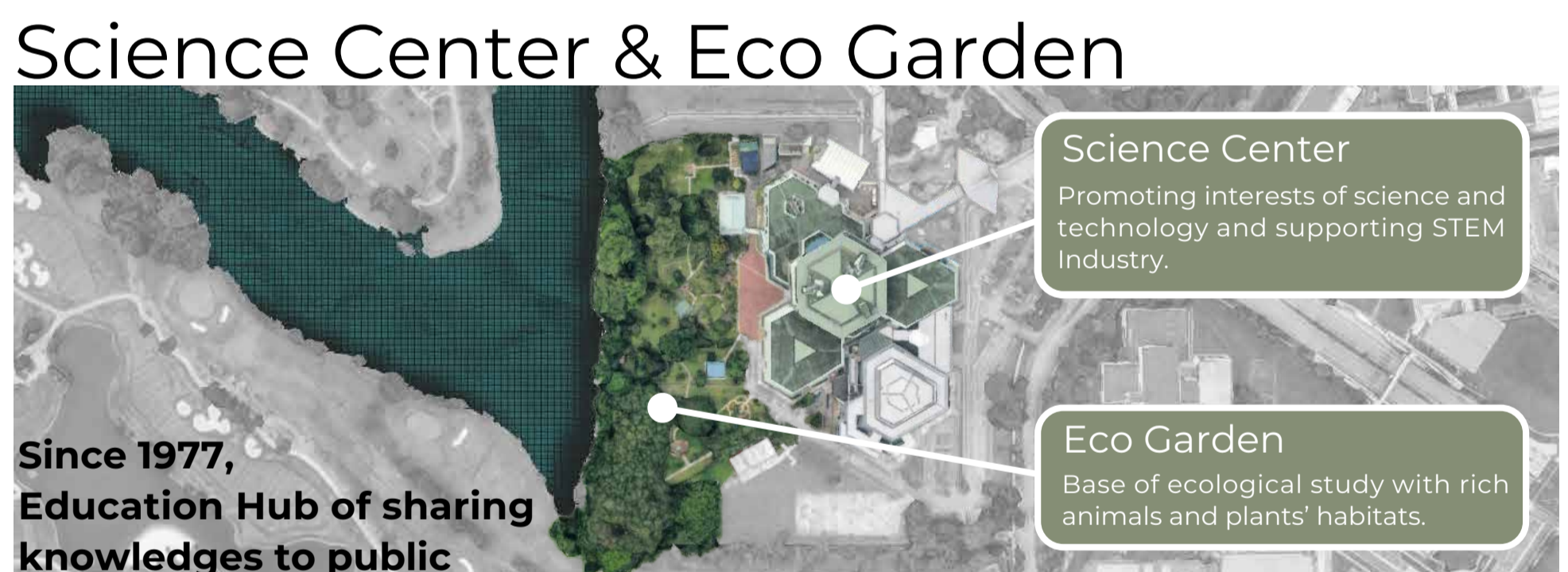
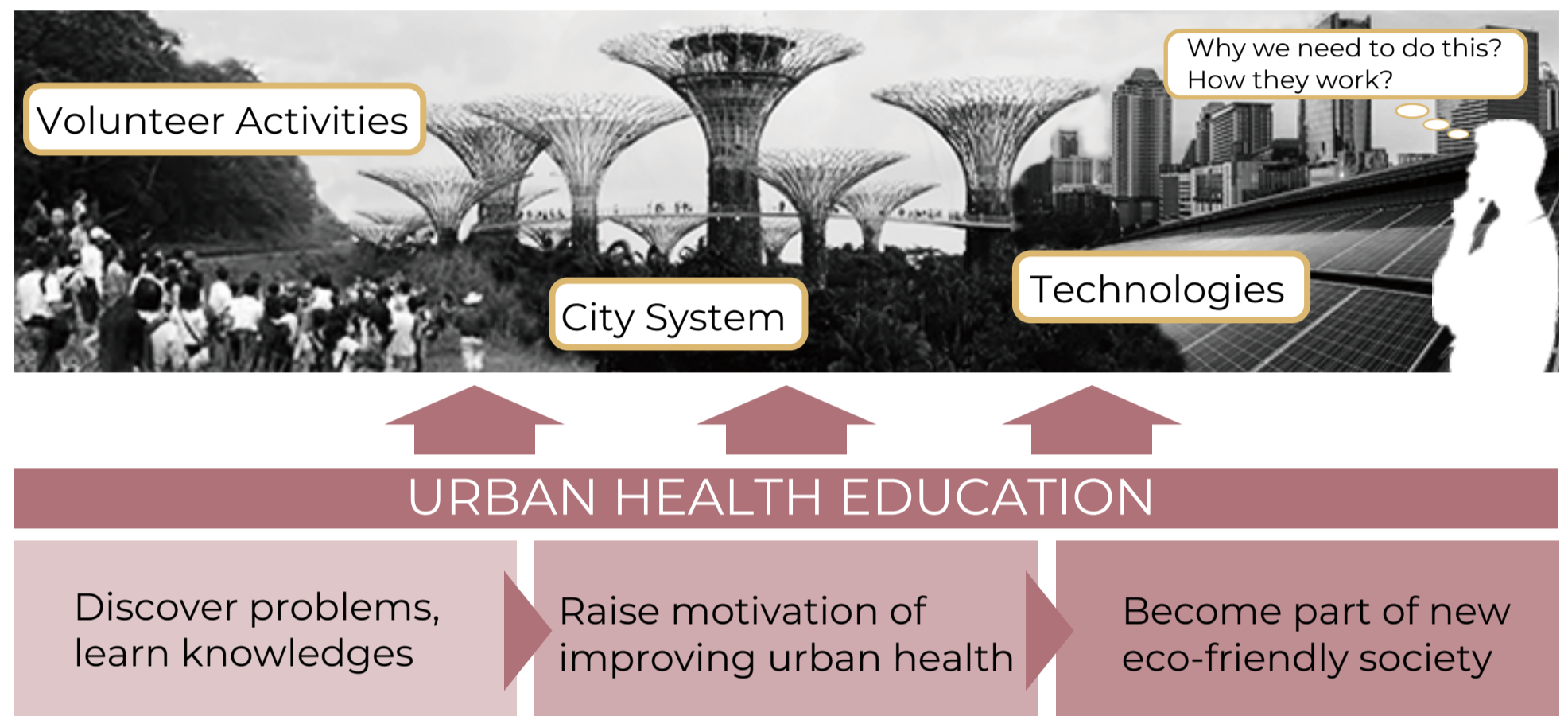
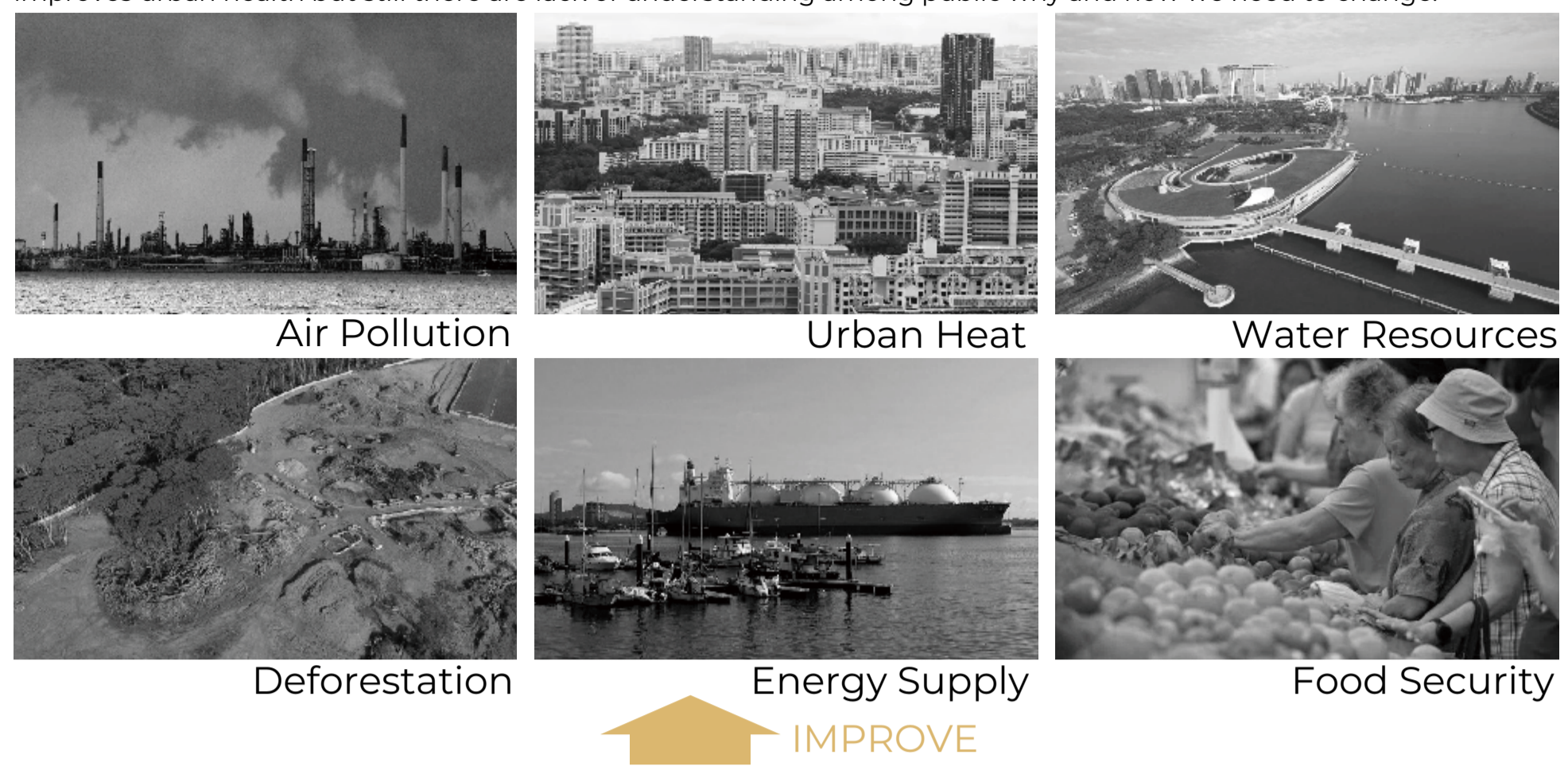




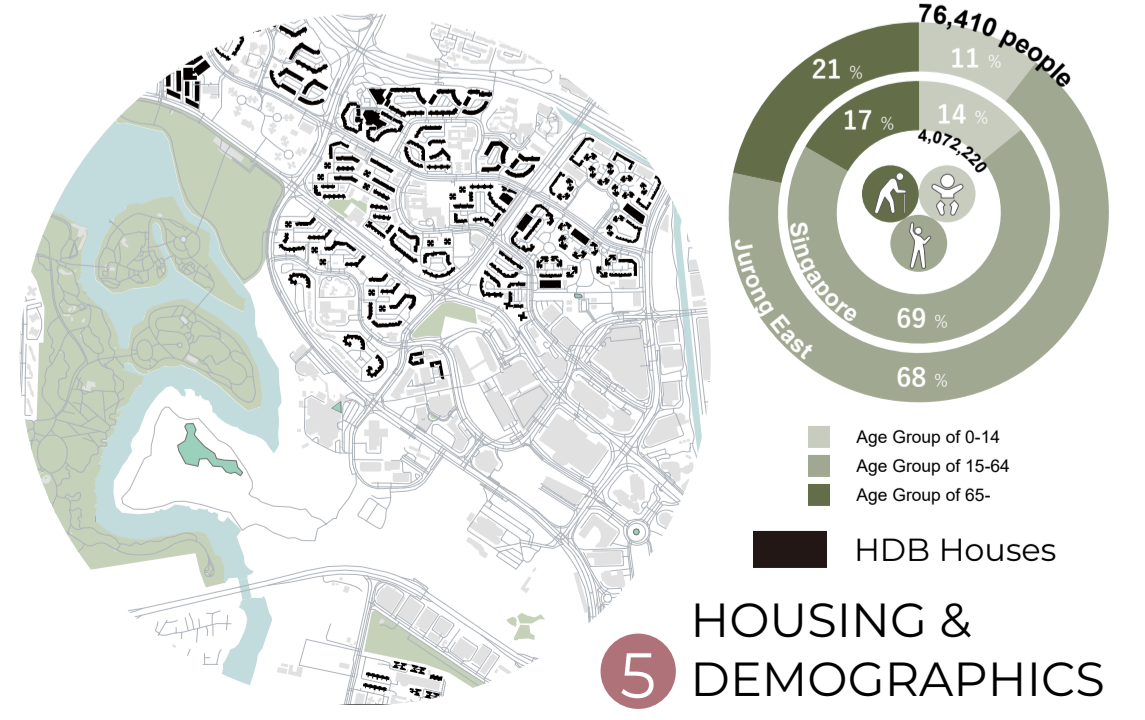
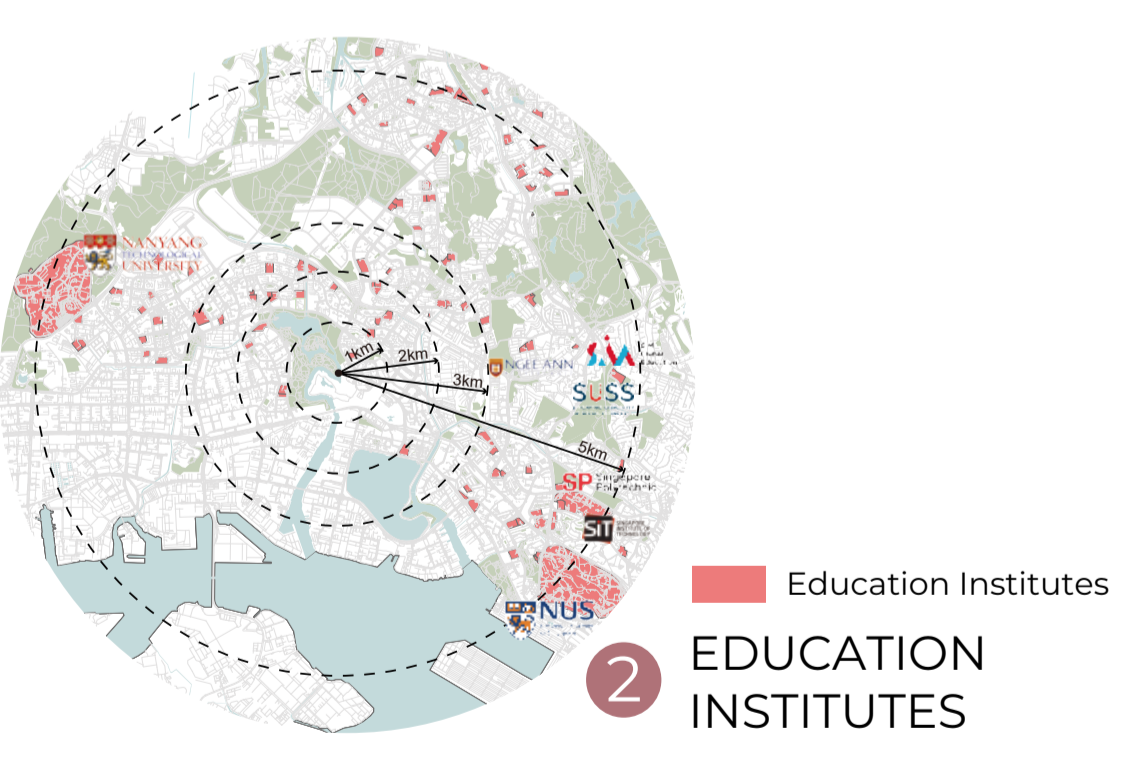
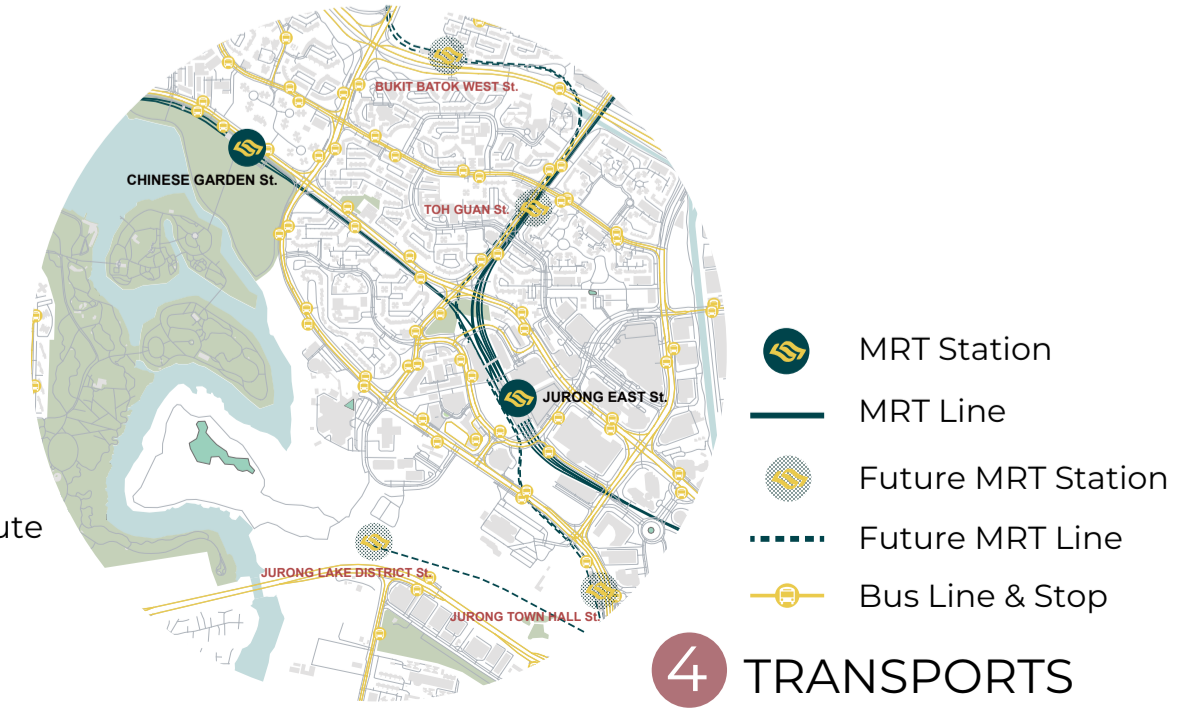
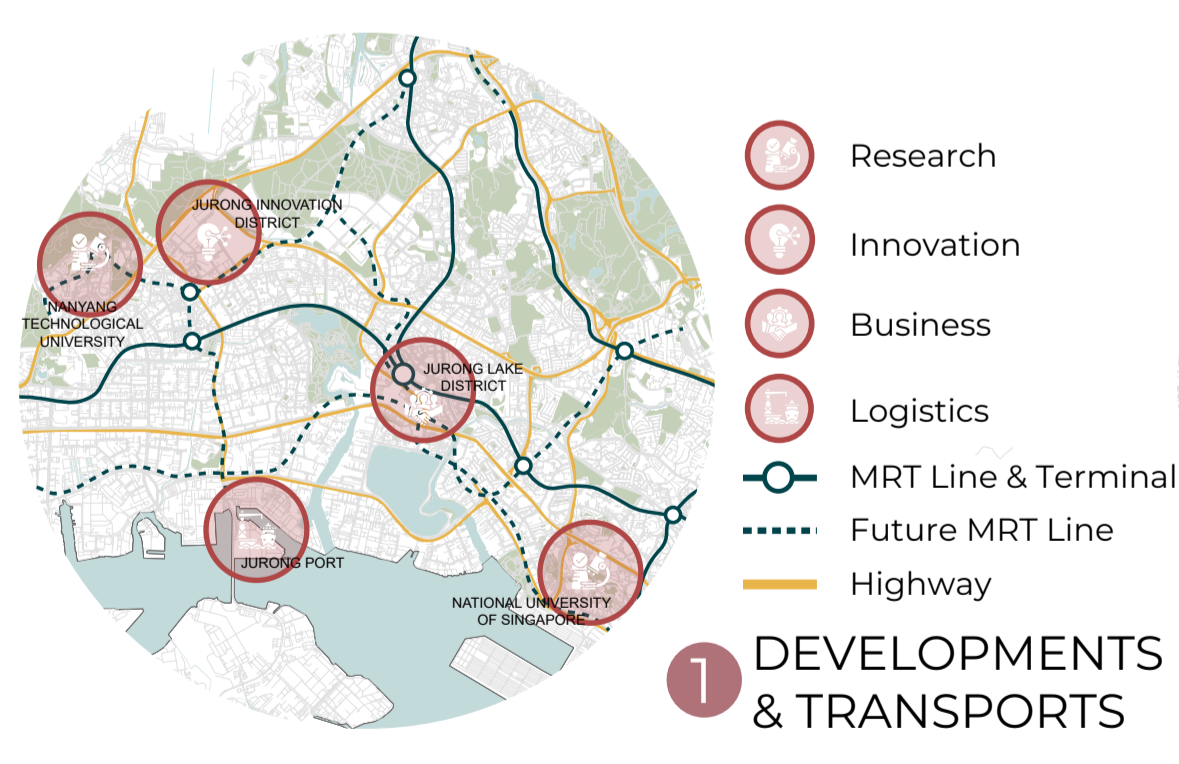
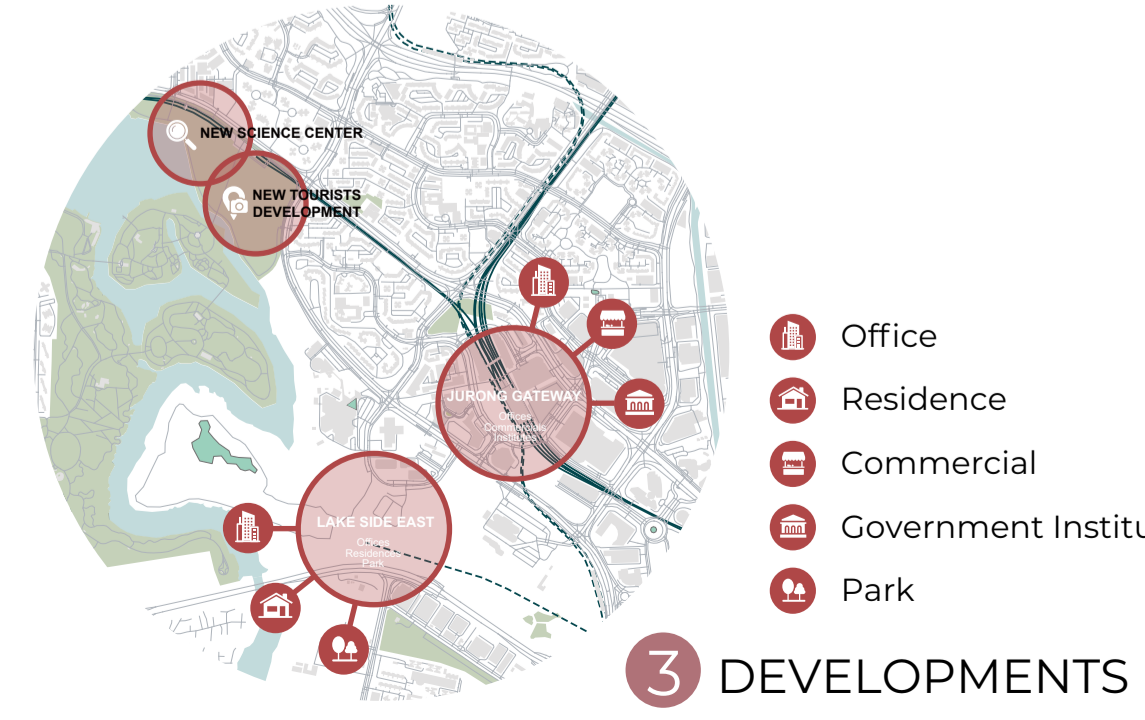
UHC JURONG URBAN HEALTH CAMPUS

Singapore's rapid urbanization exacerbated its urban health in decades. Environmental problems such as air pollution, urban heat will damages not only human but entire eco-system as well. There are various studies and technologies that improves urban health but still there are lack of understanding among public why and how we need to change.



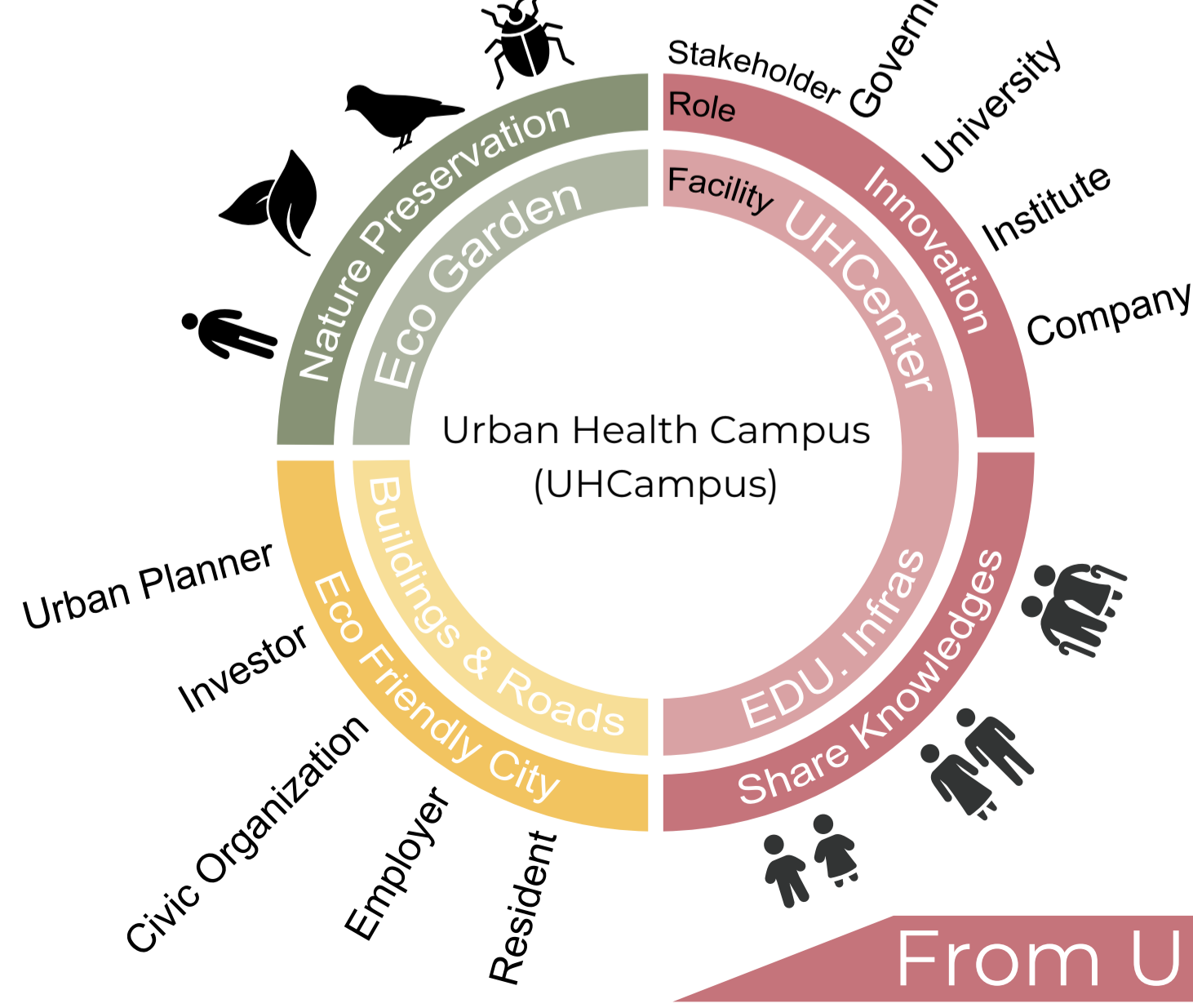
SITE ANALYSIS

- In the western region of Singapore, several hubs are located or being constructed. Those hubs are strongly supported by rich train and highway networks.
- Surrounding the site, a lot of education institutes are located. One of the top institutes are located in the region.
- Jurong east is one of the hot development area in Singapore. The site is in the middle of business district and tourists district.
- New MRT lines and stations will be developed in near future, especially in Jurong Lake District.
- One of the aging society in Singapore, most of residences are HDB houses.



CONCEPT

Urban Health Campus (UHCampus) will be a model of future healthy city and influencer to citizens by gathering, sharing knowledges and technologies that we need to improve urban health.



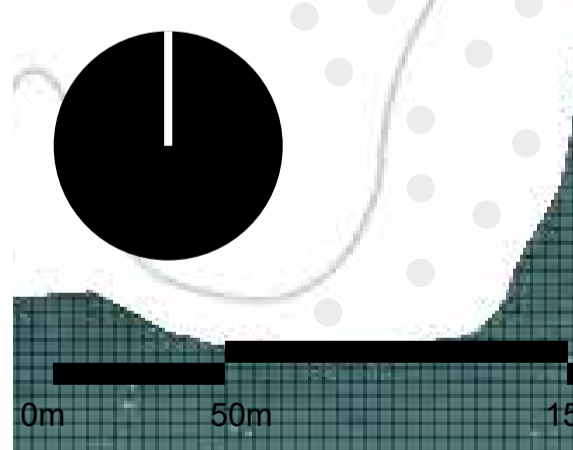
DEVELOPMENT GOALS

Our concept of Urban Health is not only concerning Human health, but also concerning Animal+Plants, and Environmental health. We believe improving these 3 health will totally improves urban health.



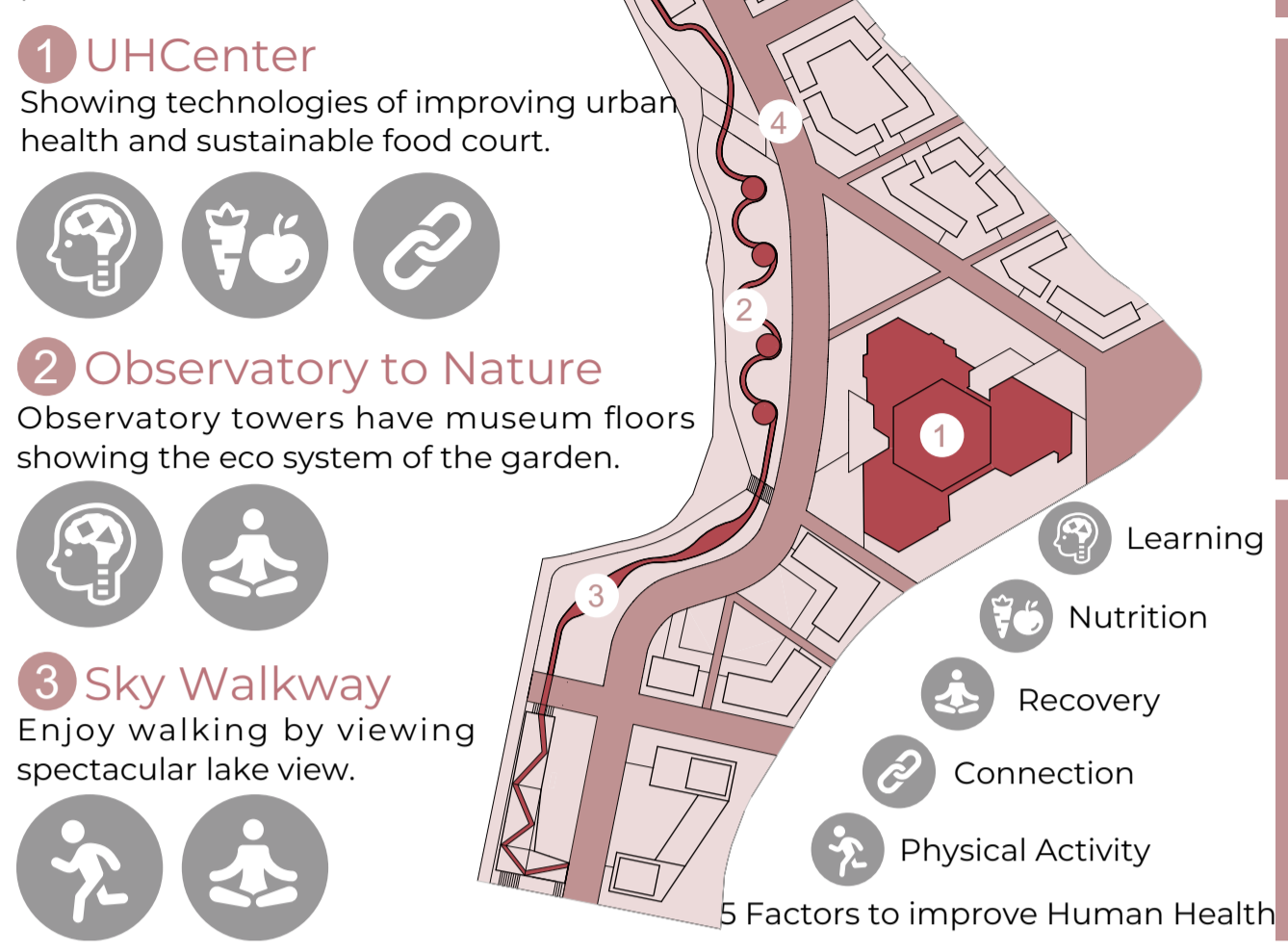
From UHCampus to SINGAPORE

UHCampus Master Plan



Human Health Strategy Education on the Street

We improve Human Health totally by utilizing the full city. The UHCenter works as a core of the system. Mini EDU. Infrastructures placed on the street give people more opportunities of learning.

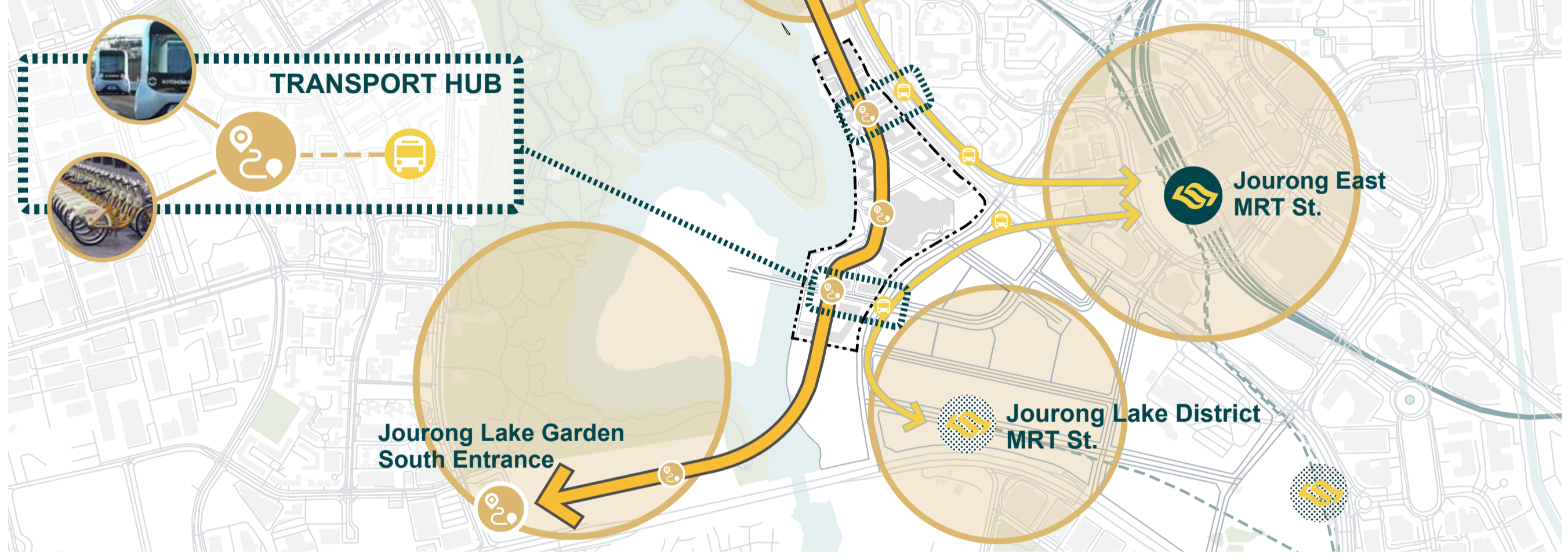


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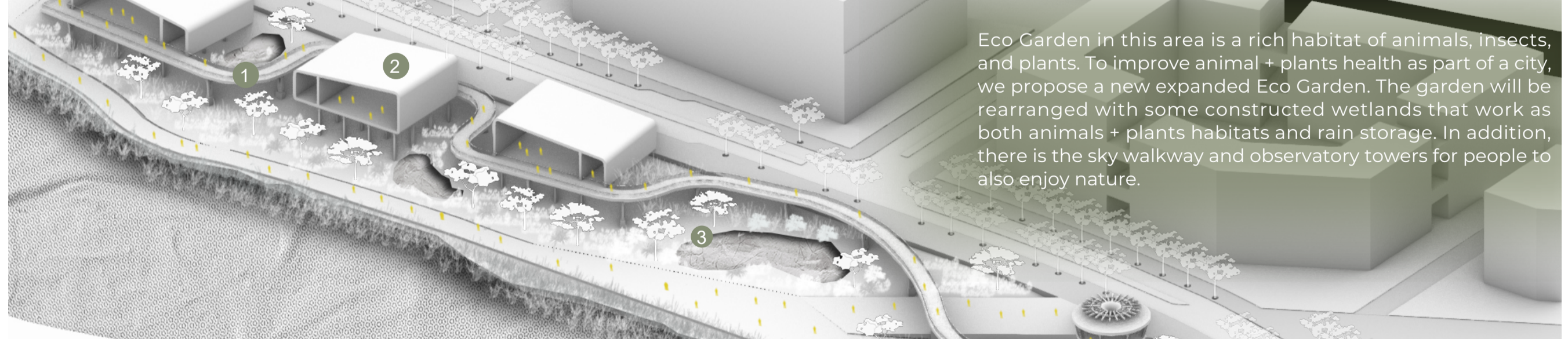
- Mini Library**: Working as small public library, sharing books from institutes.
- Mini Board Space**: Conversation with people become a hint to innovation.
- Mini Class**: Various classes open to everyone.
- Mini Community Garden**: Raising plants with community grows stewardship to the city.
- Mini Study Lounge**: People could enjoy studying with great view to JLC.
- Mini Expo**: Sharing new discovery and technology advancements.

Environmental Strategy Carbon Neutral Transport System

UHCampus is adjacent to 2 famous tourist sites; Jurong Lake Gardens and tourists development zone near Chinese Garden St. To enhance the convenience, we propose a street that connect these 2 sites via UHCampus. People can easily access each site by using Carbon Neutral Transport System; electric shuttle buses and e-bikes. By allowing only pedestrians and these 2 transports on the street, a pedestrian and eco friendly city is developed.



Animals + Plants Strategy New Eco Garden with Constructed Wetlands



Eco Garden in this area is a rich habitat of animals, insects, and plants. To improve animal + plants health as part of a city, we propose a new expanded Eco Garden. The garden will be rearranged with some constructed wetlands that work as both animals + plants habitats and rain storage. In addition, there is the sky walkway and observatory towers for people to also enjoy nature.

- 1 Sky Walkway**: View to Eco Garden, Jurong Lake and Jurong Lake Garden.
- 2 Convention Center (Hotel)**: Discussing future urban health in business conference surrounded by nature.
- 3 Constructed Wetlands**: To preserve animals + plants habitats and work as rainwater storage.
- 4 Observatory Towers**: Nature museums, indoor gardens are located inside with great view to the lake. Towers also contains rainwater catchment system so the water could be reused to other buildings.

THE NATURE

The current Eco Garden will be preserved and expanded creating a rich habitat for animals / plants. The area also works as a rainwater storage.

THE AXES

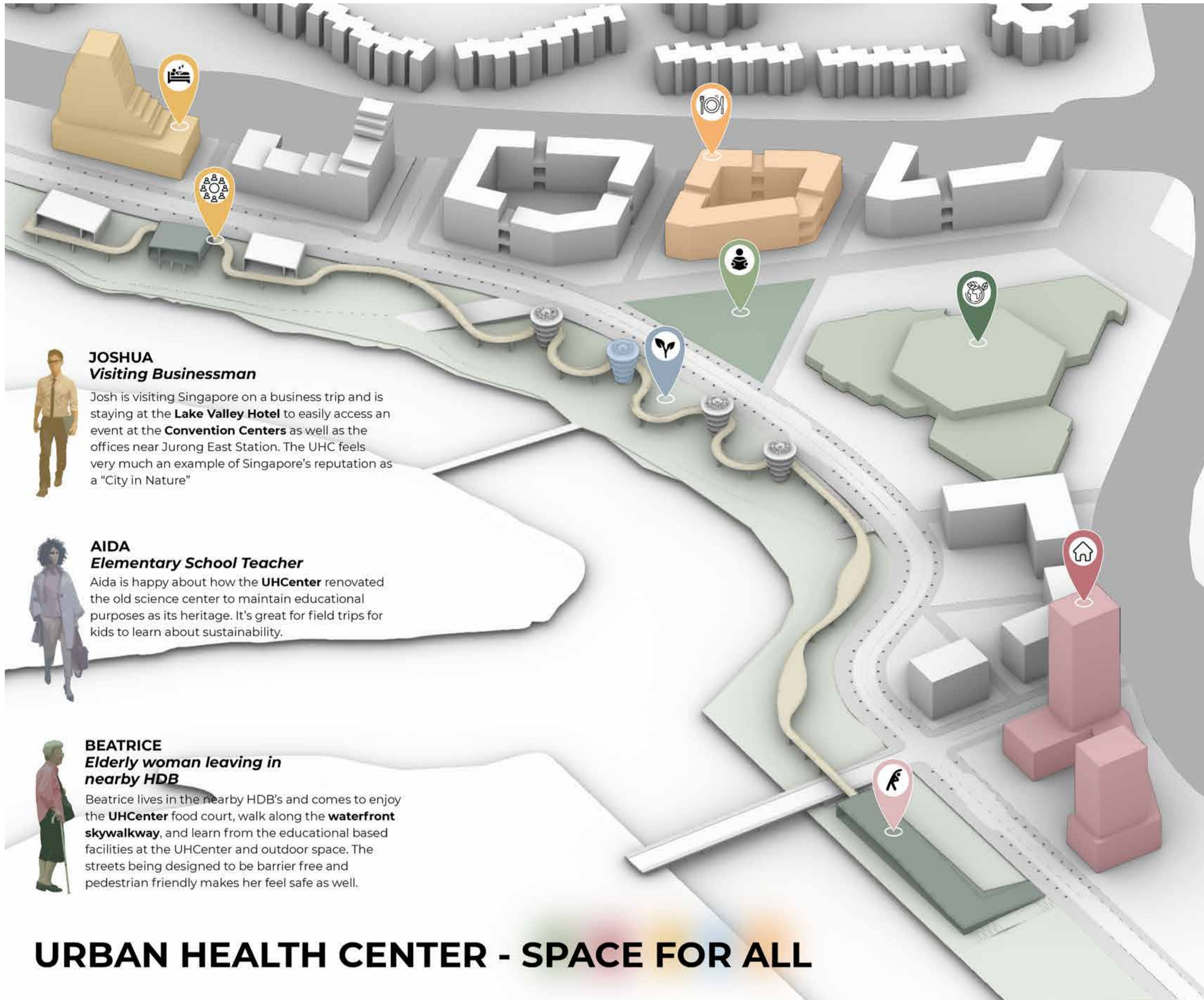
The vertical axes work as a "connector" to adjacent cities. The horizontal axes work as a "view corridor" to the lake, garden and island.

THE PLAZAS

The plazas will be placed in the main intersections. People can stay and enjoy the view of Jurong Lake Gardens.

THE CORE

Science center will be renewed as Urban Health Center, the core of the site improving the urban health and expanding knowledges to cities.



JOSHUA
Visiting Businessman

Josh is visiting Singapore on a business trip and is staying at the **Lake Valley Hotel** to easily access an event at the **Convention Centers** as well as the offices near Jurong East Station. The UHC feels very much an example of Singapore's reputation as a "City in Nature"

AIDA
Elementary School Teacher

Aida is happy about how the **UHC** renovated the old science center to maintain educational purposes as its heritage. It's great for field trips for kids to learn about sustainability.

BEATRICE
Elderly woman leaving in nearby HDB

Beatrice lives in the nearby HDB's and comes to enjoy the **UHC** food court, walk along the **waterfront skywalkway**, and learn from the educational based facilities at the UHC and outdoor space. The streets being designed to be barrier free and pedestrian friendly makes her feel safe as well.

URBAN HEALTH CENTER - SPACE FOR ALL

a day at the URBAN HEALTH CAMPUS

TENG & SARAH NUS University Students

- Teng & Sarah never had a reason to go to Jurong Lake District, but the UHC redevelopment is now a great place to go after class.
- 15:00 Coming to see **Innovation/Research Labs** at the UHC
- 16:20 Having Coffee at a cafe under the residential towers
- 17:00 Use the **outdoor study rooms**
- 19:00 Eat dinner at **UHC** Food Court
- 20:00 Enjoy outdoor **Central Plaza** before heading home

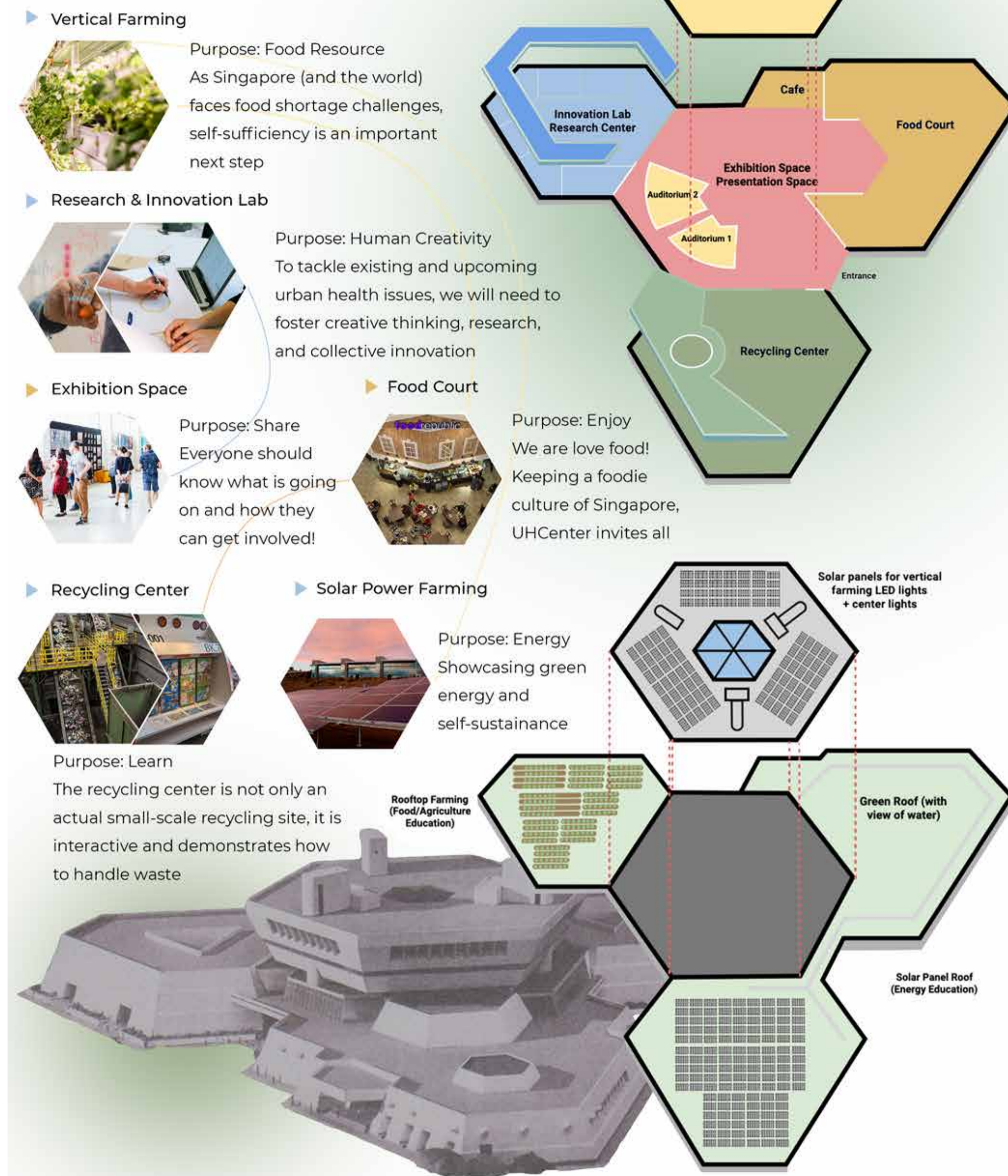
THE LIM FAMILY Residents at UHC

- The Lim family are pleased with having bought an apartment at the UHC. They enjoy the safety, convenience, and walking in the outdoor space or visiting the UHC with their child who they want to grow to be someone who will care for the environment.
- Weekend 10:00**
- 10:00 Walk along **waterfront** and see different plants
- 10:30 Go to **Sports Center** with family
- 12:00 Have lunch at the **UHC** Food Court
- 13:30 See new exhibits at the **UHC** and the UHC indoor farming
- 15:00 **Home** (by walking or E-shuttle running along main road)

UHC

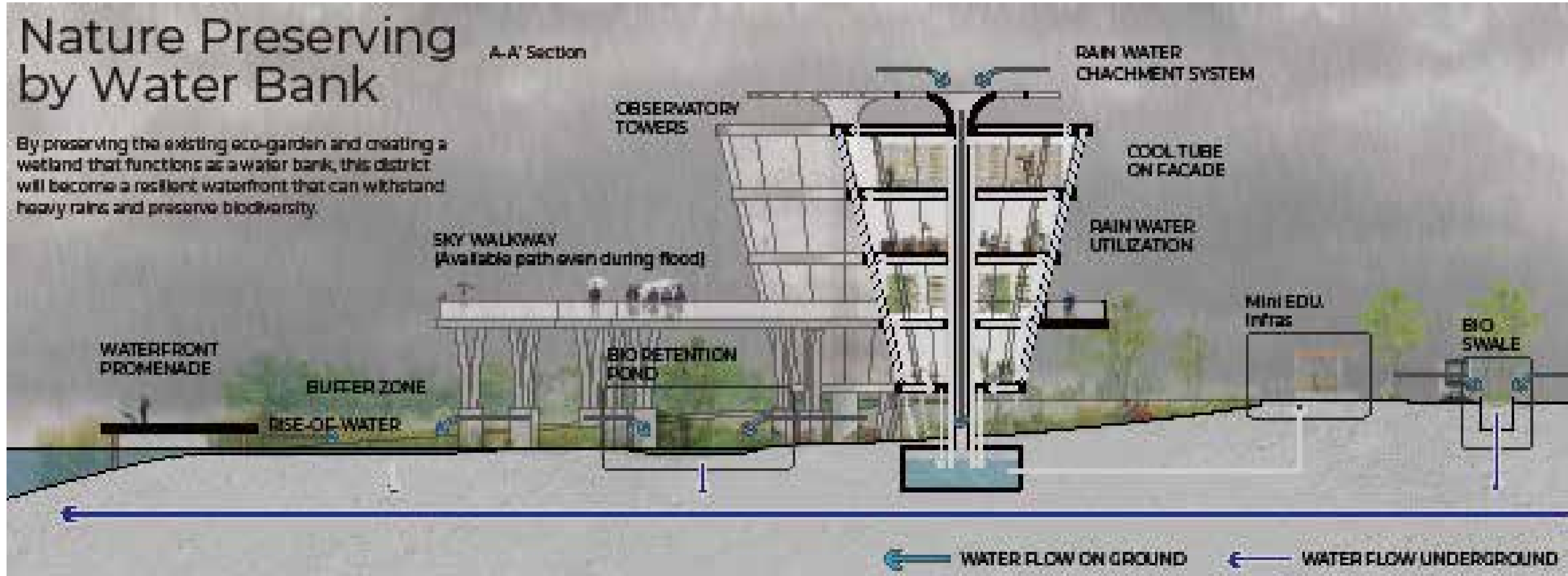
Renovating the inside, keeping the outside
Changing the focus, maintaining the education

5 MAIN FOCUSES & THEIR EDUCATIONAL PURPOSE



Nature Preserving by Water Bank

By preserving the existing eco-garden and creating a wetland that functions as a water bank, this district will become a resilient waterfront that can withstand heavy rains and preserve biodiversity.



Flood prevention by water bank

The non-paved lands and Bio-swales enhance the infiltration of rainwater and prevent flooding in heavy rains in waterfront area. The wetlands in this area work as a retention pond to prevent flooding of residences, offices, and hotels from Jurong Lake. A fly deck connected to the observatory towers allows people to move safely along the lake even during heavy rain

Utilization system of rainwater

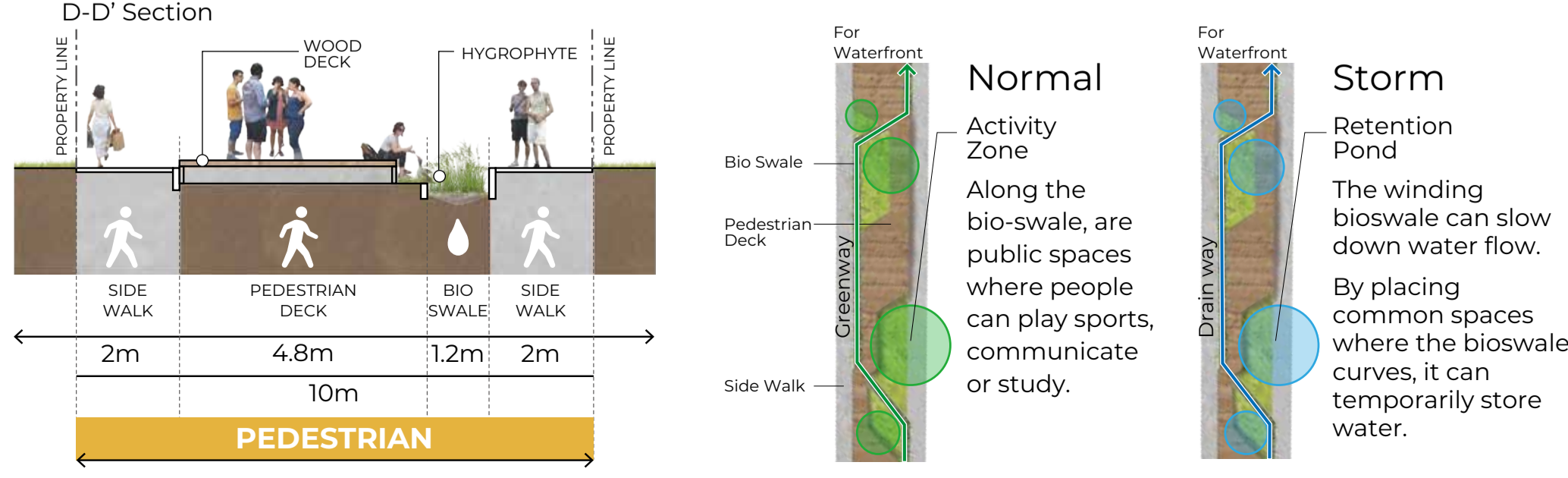
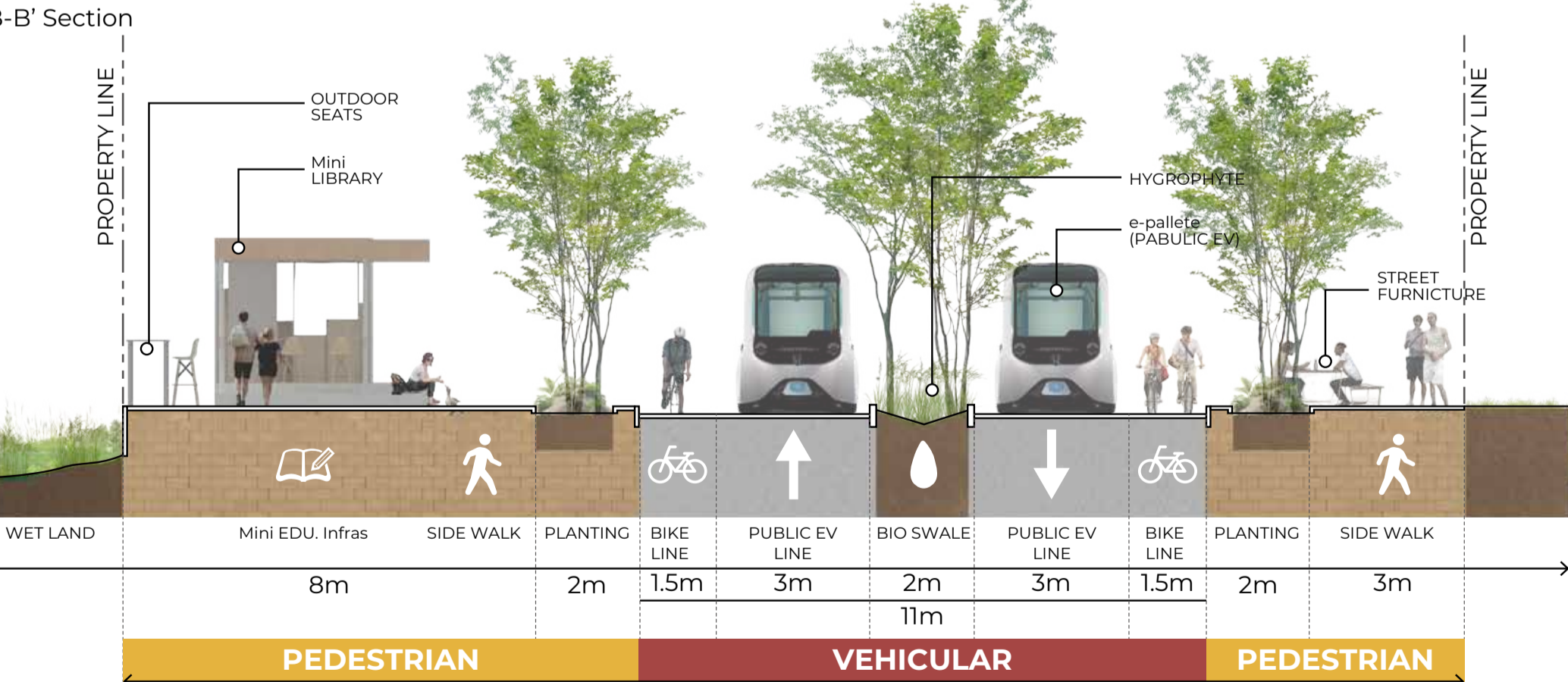
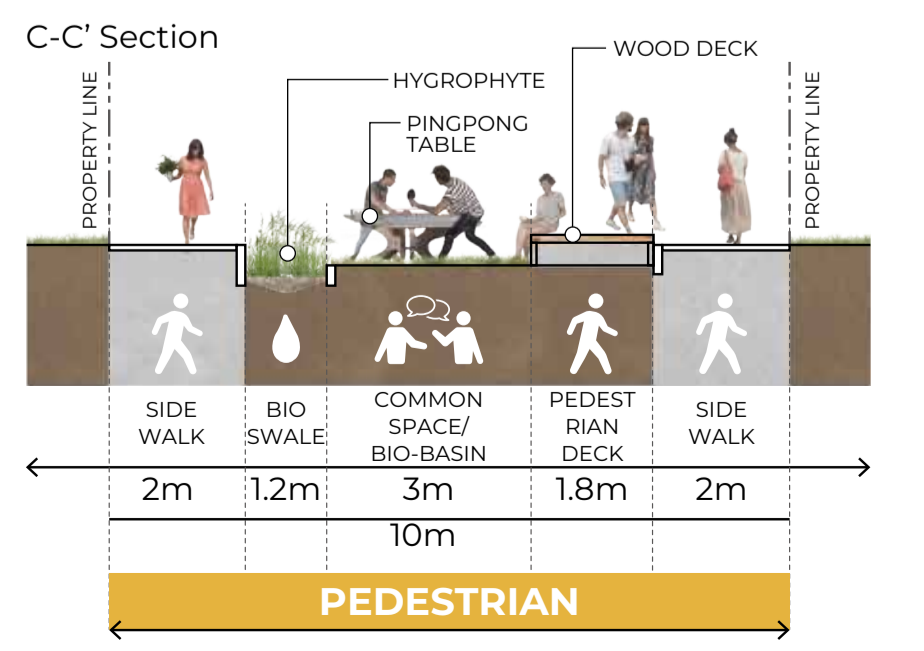
Rainwater caught on the roof of the observatory tower is stored in underground water tanks through a center tube. The water stored there is used to grow plants in plant beds and to supply water to the rainwater educational infrastructure. The used water passes through tubes on the facade, cools the building, and prevents the heat island.

Road Section Plan

pedestrian network with two types of Roads

The Main Street is equipped with public EV lanes and bike lanes, making it easy to move without private cars. Mini educational infrastructures are placed along the street, creating an environment where anyone can easily access education.

On the Lakeview Promenade, straight paths and bioswales with short plants create lake views, and winding decks and plants create various landscape and serve a disaster-prevention function.



ARCHITECTURE & CITY VIEW



As the site is located between Jurong Lake (one of the most important green areas of Singapore) and Jurong East (a transportation and upcoming CBD center), the primary concept to the architectural design is to achieve a smooth transition from the natural to the urban environment. Therefore, the buildings in the site are proposed to have a landscape that visually suggests a series of mountains. On the one hand, this creates retreating balcony layers making space for sunlight and plants. On the other, the design also represents a biophilic and traditional Eastern-Asian concept called Fengshui which harmonizes with the Chinese and Japanese gardens in the Jurong Lake Gardens. Hence, the architecture enhances a sense of cultural belonging within the site which is considered particularly significant in this multicultural country.

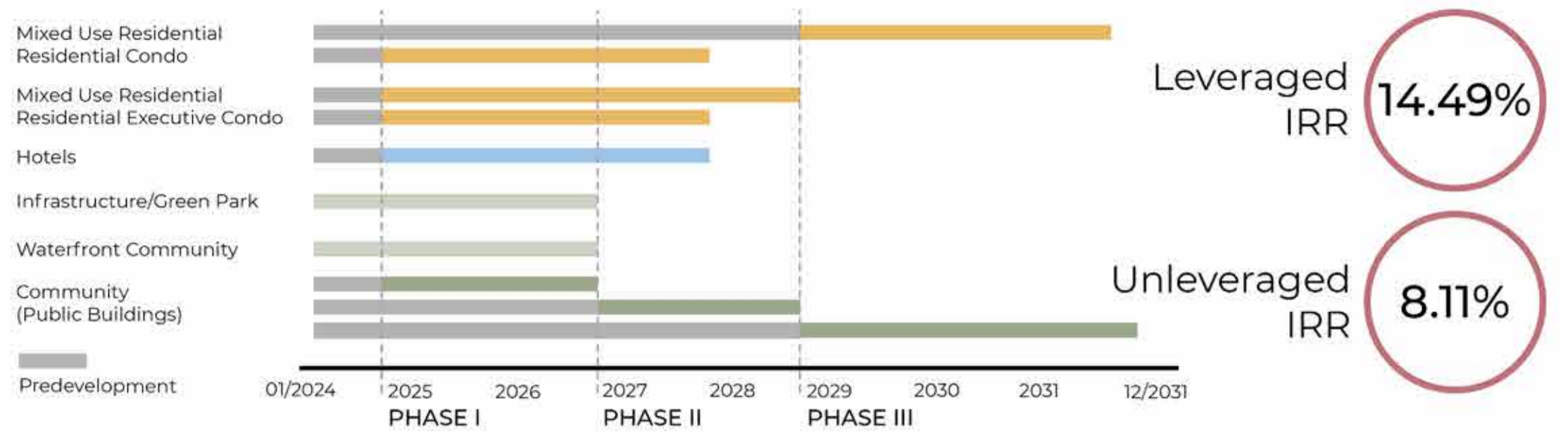
Green Building Strategy

100% Solar Energy
All buildings have 100% solar energy (investment included) to power all units

Green Roofs and Green Walls
All buildings are designed with green roofs and green walls that will help reduce the heat island effect

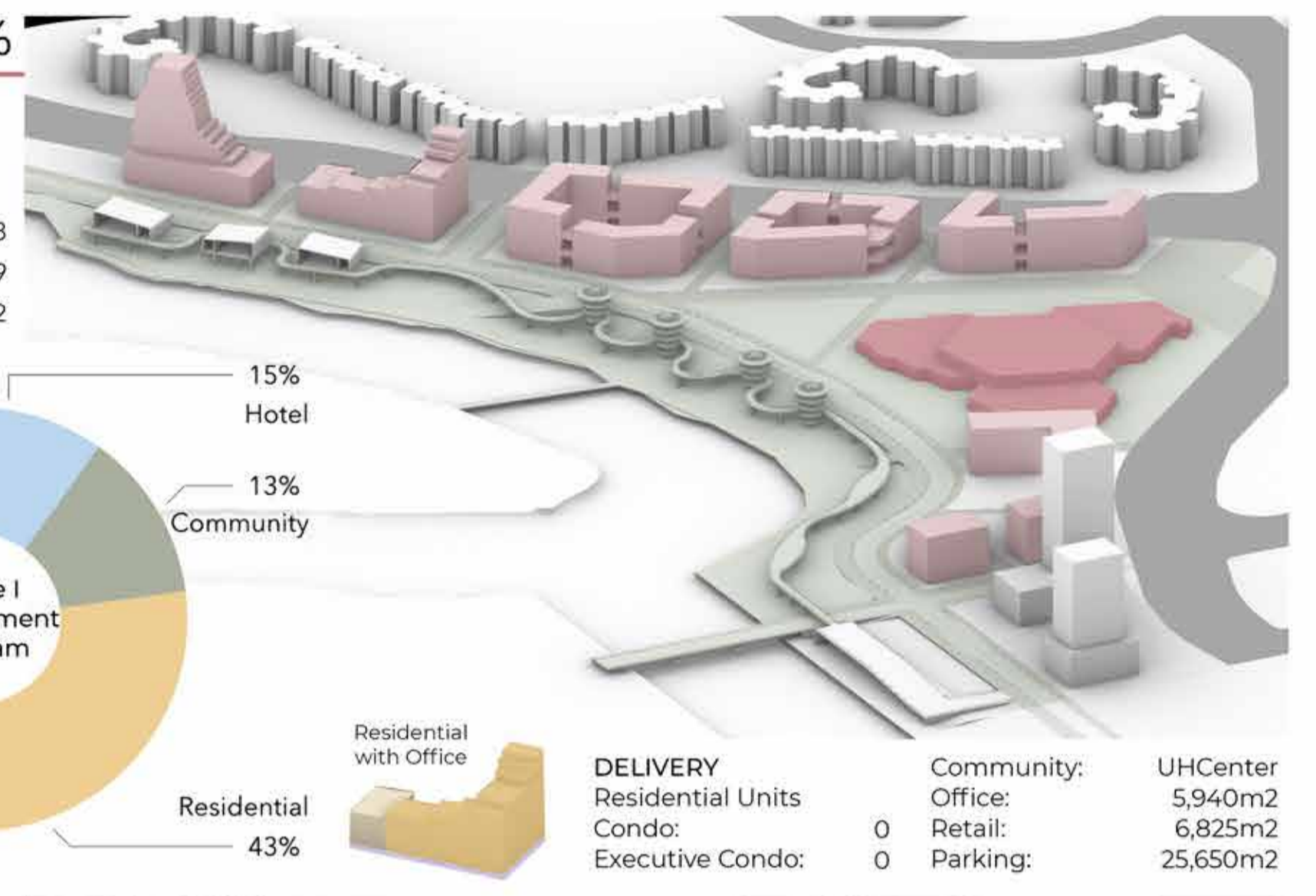
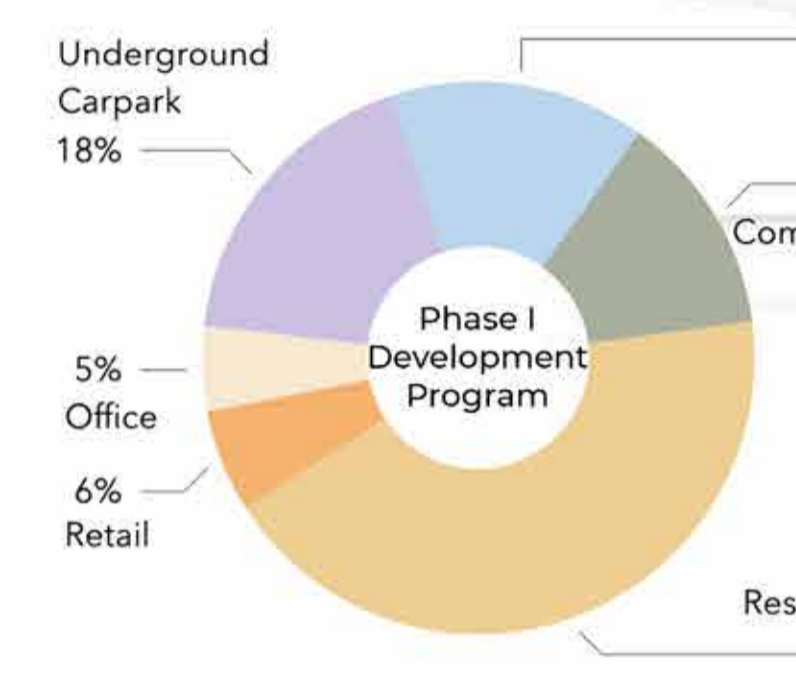
Ventilation pathways through airways
As Singapore has a warm climate, not only does the greenery help for ventilation, the buildings are proposed to have airways

TIMELINE OF CONSTRUCTION



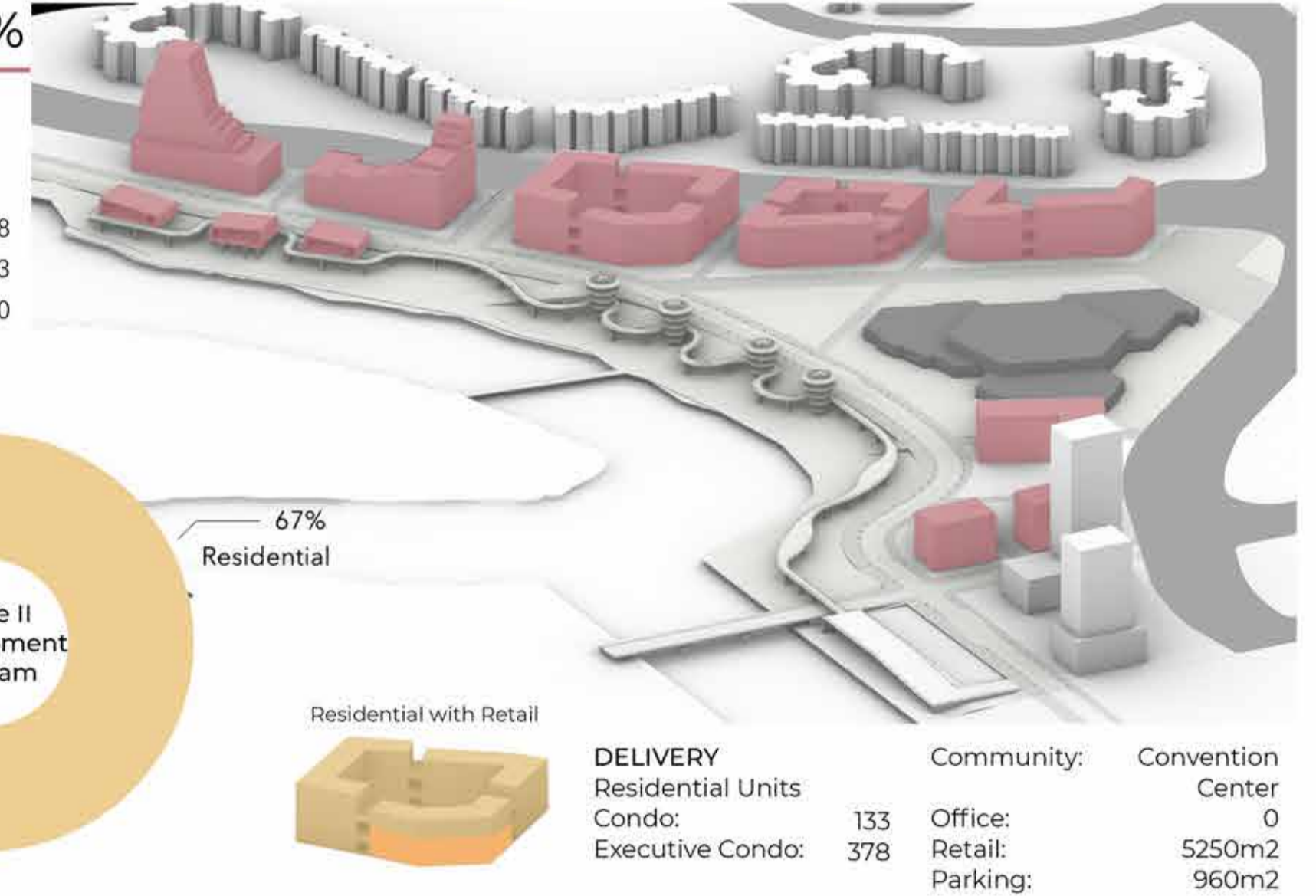
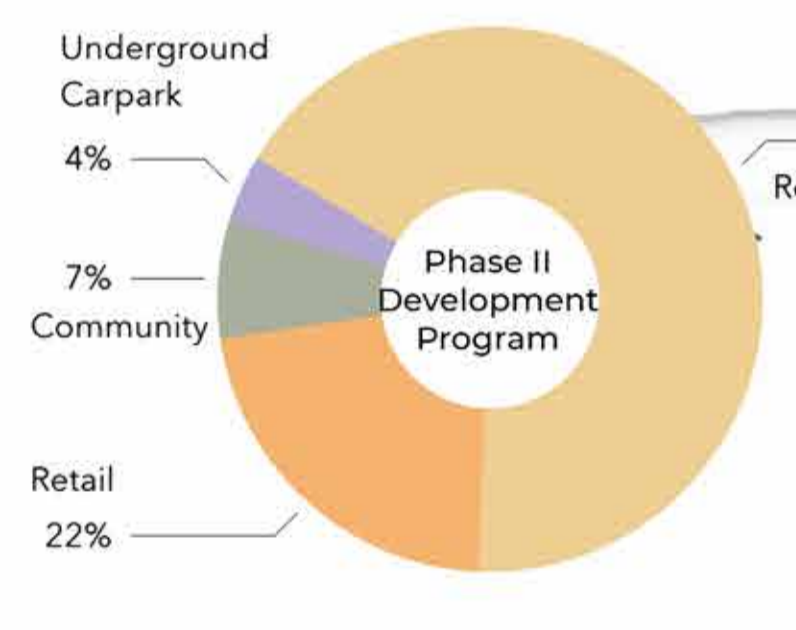
PHASE I 68%

GFA: 111,529 m²
 COSTS (in millions SGD)
 Total project costs: 986.3
 Total hard costs: 420.9
 Total infrastructure costs: 32



PHASE II 14.3%

GFA: 23503 m²
 COSTS (in millions SGD)
 Total project costs: 137.8
 Total hard costs: 95.3
 Total infrastructure costs: 0



PHASE III 17.7%

GFA: 28926 m²
 COSTS (in millions SGD)
 Total project costs: 261.8
 Total hard costs: 109.6
 Total infrastructure costs: 2

