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# Shanghai Water front Terminus

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## Design Statement

In the 21st century, our society has not only sought to embrace our history and culture, but also to engage with nature, urban park is the best medium to demonstrate this. This project will be exciting and challenging because of the scope of this project. It is situated in the most busy area the Yan'an Road and the intersection of the Huangpu River, a precious piece of land and one of most beautiful places in Shanghai. It has huge potential to increase its own value.

In a social context, this public park can achieve the greatest possible link between nature with human, past, present and future, while meeting the needs of different groups and aesthetic. In an ecological context, the rain garden can filter the stormwater, reduce surface runoff, and conserve rainfall. In a functionality context, the park can meet people's overwhelming expectation (because it is located in Shanghai's busiest heart and a famous tourist attraction). Not only can it hold events of all sizes to attract tourists, but also can serve the surrounding residents and will not com-

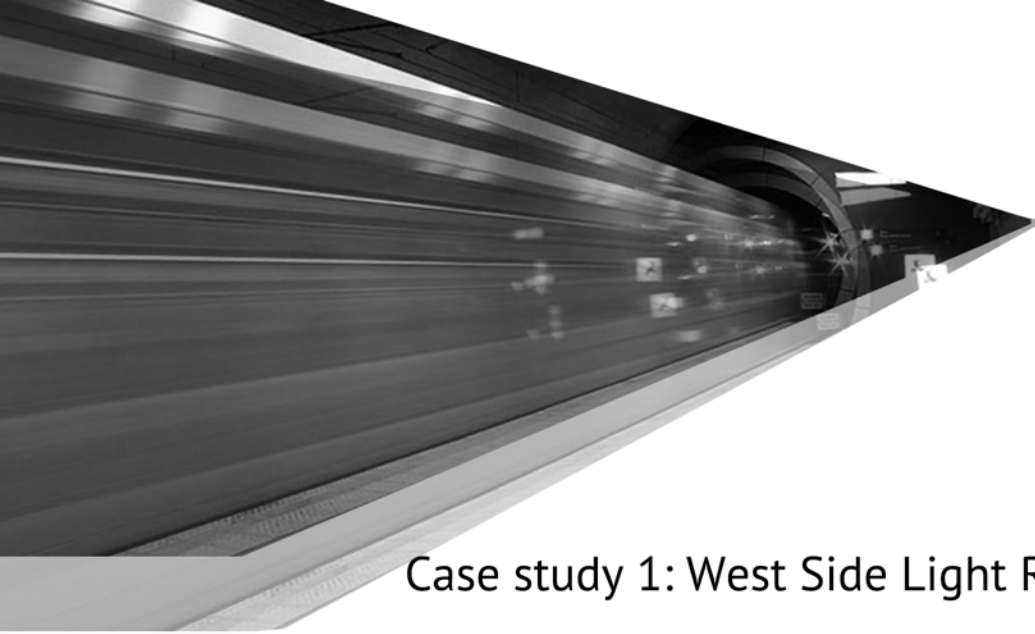


## Introduction

Population explosion makes traffic issue become more and more serious every day and one of the major causes is the overflow of private vehicle on the road. Therefore, public transit system will play a very important role in human future. How do we encourage people to use public transit system? One solution is integrating landscape architecture into the system. Let's imagine that public transit stations become the landmarks for the city. Instead of spending time sitting in the car in the middle of the traffic jam, people can enjoy the aesthetically pleasing stations while waiting. In the meantime, people can interact with other people, physically or through online community. It would be a big revolution in human's life. Thus adding more function and landscape architecture design in public transit stations will be the future trend. The city of Portland is a forerunner of this area.

Our Transportation Art Program is a unique way to enhance the usage of the sustainable transportation system. The whole project fuses art into public transit system and draws more public interests in using the transportation. Art has significant impact on our perception of the environment and has the ability to give individuals a sense of belonging. It's not just a station with art work installations, but also a place with vast inspiration and sharable information. Most of them are relevant to people's life and community.

In this study, we aim to find out in what ways the city of Portland has employed to enhance the usage of the sustainable transportation system, and find out the possibility to adapt the system to the city of Shanghai China. We are going to do case study of two representative stations in Max blue line in city of Portland, from concept to goals to analyze the possibility for adapting the ideas to the city of Shanghai. For each site we will collect specific physical attributes and descriptions, the surrounding and background. Also the functions and purposes of the stations will be analyzed and how it affects the community. In addition, the integration between art and physical landscape will be analyzed. The opinion of the public toward the site will be considered.



## Case study 1: West Side Light Rail Transit System, Portland, OR.

PROJECT NAME West Side Light Rail Transit System

LOCATION Portland, OR

DATE DESIGNED/PLANNED landscape design 1992-1997,

CONSTRUCTION COMPLETED August 1997

SIZE 33-mile (53 km), over 20 stations

LANDSCAPE ARCHITECT(S) Murase Associates

CLIENT/DEVELOPER TriMet

CONSULTANTS/ARCHITECTS Murase Associates

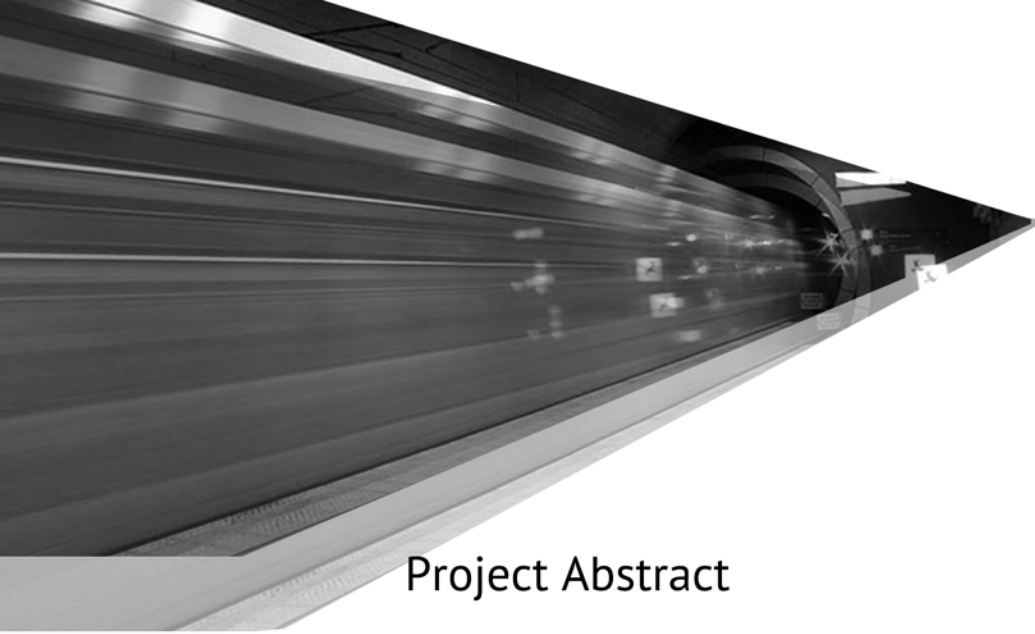
MANAGED BY TriMet



## Proposal questions

### Proposal questions

1. What have the city of Portland done to enhance the usage of the sustainable transportation system?
2. Specific projects have been created through the Westside Max in Portland, Oregon, US ?
3. What specific projects were done by Murase Associates?
4. Is the possibility for adapting the ideas of light rail system and screen technology to the city of Shanghai, China?



## Project Abstract

If a city is considered to be a working organism, the transportation system will definitely be the nervous system, connecting different parts and ensuring flows within the city. Portland light rail is an essential part in this system, providing the convenience and quick transport through urban and rural Portland landscape from the bustling metropolitan downtown to peaceful residential area to vast crop fields and back. Serving large number of commuters, the light rail art project can encourage more people to use the rail and improve their overall experience with traffic. It's a difference between a grumpy Monday morning and a pleasant Friday afternoon. The stations are designed not only with functions in mind, but also with flow in art and visual connection throughout the various Oregon landscape.



## Site-Analysis: ( Data from TriMet)

Photo from TriMet

### Facilities

Length 18 miles (MAX Blue Line: 33 miles total)

Stations 20

Surface Park & Rides 7 with 2,733 total spaces

Parking Garages 2 with 880 total spaces

New Maintenance Facility Elmonica

### Frequency

Approximately every 15 minutes during peak hours; approximately every 35 minutes during early morning and nighttime service.

### Travel times

Downtown Portland (Pioneer Square) to Beaverton Transit Center 23 minutes  
 Beaverton Transit Center to Hillsboro end of line 28 minutes  
 Downtown to Hillsboro end of line 51 minutes

### Bus connections

Includes 37 connections with TriMet bus lines along the Westside alignment and numerous bus lines downtown.



Some Representative Station Designs by Murase Associates  
Washington Park Station:



Washington Park Station is the only underground station among all the stations in the Blue Line. It's one of the deepest transit stations in the world at 260-ft underground. Along the platform walls, there is a geological timeline, created from a drilling core sample during the excavation of the tunnel. The station along with its surrounding area including the Oregon Zoo, World Forestry Center, Portland Children's Museum and the Vietnam Veterans Memorial forms one of Portland's landmark areas.

At this station, Murase Associates used different colorful native flowers, trees, grass to create a terrace to capture the seasonal change and tell the story of Portland area. Many directional walkways sprout from the entrance of the station, like sun ray radiated outwards from the sun. The concrete paths woven with the planting beds represent the blend of modern transit system and Oregon's agricultural past.



## Project Background and History



From the year of 1979 to 1983, many studies were conducted to explore the alternative options to connect downtown Portland to Beaverton, and they decided to choose to build light rail along the Sunset Highway corridor. The Westside light rail project had been put on hold until the Eastside project completed. The Eastside Blue Line project was started in 1986; it is a 15-mile light rail project, which connects many essential places from downtown Portland to Gresham.

The Westside of Blue light rail construction started in 1993. In August 1997, Southwest 10th Avenue and Kings opened to the public. The construction for the rest of part was finished in October 1997 and service to the people on September 12, 1998. The Westside Blue Line was the first light rail line had budget for landscape architecture design and public art. Twenty stations had their unique station designs, reflecting the local cultures and history for different communities. Murase Associates were involved in the design and planning process for all 20 stations and landscape along the ride area. They also designed and coordinated wetland mitigation projects for Westside Max system. Inspired by Oregon's volcanic past, Murase Associates used stones in many of their designs to imitate nature landscape. In Washington Park Station, the stonework provided a wonderful area for children and chaperones to wait for the bus to load and unload during their trip to the nearby Oregon Zoo. Murase Associates tried to tell the relationship between the stone terraces in the station and the tunnel underground by using stones found from the tunnel. The stone terraces are represents the birth of the tunnel.

## Timeline (Data from TriMet)

1979 Alignment and environmental studies begin, to be postponed in 1983

1988 Preliminary engineering and environmental studies begin again

1990 Voters overwhelmingly approve a bond measure for the Westside extension

1993–1997 Tunnel construction

1994–1998 Alignment construction

July 1996 First low-floor car arrives

September 1998 Opened

## Role of Landscape Architect

Just as the light rail is the connection between different landscape of Portland, the landscape architect is the connection between different disciplines such as art, geology, engineering, architecture, and public works. The Murase Associates leaded the design teams and created a concept plan that integrated art into the public transit system. The system was designed with a goal in mind, a functional physical connection serving the people and an emotional connection among the people and the environment. Each of the light rail station would be aesthetically functional with its own meaning based on its individual characteristic.

## Significant & Uniqueness of Project

The West Side Light Rail Transit system is a successful example of the integration of art, environment , and transit system. Collins Circle is considered by Randy Gragg, editor at large of Portland Monthly, to be "one of the boldest pieces of public art since [Lawrence Halprin's] Lovejoy Fountain." The transit system with a blend of metropolitan architecture and nature-inspired greenscape serves a board sets of commuters every day travelling between urban, suburban and rural settings. With that huge volume of people, there will always be different changing views about the stations, but it is undeniable that they play a significant role in connecting people to people and people to the environment, physically or spirituality.

## Awards

- Merit Awards, National ASLA
- Merit Awards, ASLA Oregon Chapter
- Honor Award, American Institute of Architects
- Portland Chapter for Collins Circle/ Washington Park/ Sunset Light Rail Stations



## Case study 2: Collins Circle roundabout station, at 18th & Jefferson, Portland.

PROJECT NAME Collins Circle

LOCATION 18th & Jefferson, Portland

DATE DESIGNED/PLANNED Original design completed in 1997

CONSTRUCTION COMPLETED Built in 1997

SIZE 160 foot diameter area

LANDSCAPE ARCHITECT(S) Robert Murase, Landscape Architects

CLIENT/DEVELOPER City of Portland TriMet

CONSULTANTS/ARCHITECTS Murase Associates

MANAGED BY City of Portland TriMet

## Context

The light rail station was designed by Murase Associates in 1997, serving as a gateway to downtown Portland. The installation is a circle of basalt stones and oak trees which is dissected on one side with straight lines. The 160 foot diameter area is scattered with pieces of fractured rocks forming a tilted plane from four-feet height and gradually lower toward the road. This art was inspired by the historic Oregon Pacific Northwest volcanic landscape and Japanese brush painting of the enso symbol meaning of infinity. The Collins Circle is a Portland landmark, a light rail station, a roundabout, and also a place for reflection. This station met the requirement for being practical transit hub and a landmark with integration of art to better serve the public.

## Site Analysis

Collins circle is a round bound in the intersection of SW Jefferson St, and SW 18th Ave, it is also is the hub of two bus station ( SW 18th & Columbia, NO. 6 bus) , (SW Columbia & 18th) and one light rail station Goose Hollow/SW Jefferson St MAX Station). The circle is situated in a busy community, including church, preschool, restaurants and café.

## Literary Research

One of the most promising, arguably, is digital screen technology. Our stations can be equipped with digital screen or, an even better way, built by using a combination of new transparent and translucent materials, digital lights, and transmission technology. The screen can be a hub for different purposes: advertisement board, decoration, information, traffic signaling, live video streaming, visual landscape, cultural connection projects, etc. We are at the time where the technology can be integrated into the architecture and create a new immersive experience for the user that is informative, decorative, and transformative, helping reducing the distance between the users and artwork.

Imagine a transit station with the screen technology, instead of countless stationary advertisement, we can reach for something that is much deeper and more culturally appreciative with video broadcasting. One of the countless possibilities includes dual-city-ship. In a Portland transit station, the screen can broadcast the street view of a city in the Far East, the city of Suzhou in China. And vice versa, the stations in Suzhou can show the life of people in Portland, USA. We think that with the street view, people can have a glimpse into the daily life of people in Suzhou, a place that is half the globe away, on the other side of the Pacific Ocean. Maybe, a young Chinese schoolchild hurried along to get to school in the morning, or the bustling scene of blue-collar workers going to work. With the same reason as why social media are so popular nowadays, people are always curious about the life of people, especially people from such a different cultural background. Human are social animals and also an art form ourselves.

Human behavior is a performance art, especially within such a specific closed-up area. Seeing other people's lives on the street can be an entertainment, and people have to choice to participate in this phenomenon. How exciting it would be to do this across the globe! Through the screen, it seems like the two stations triumph the distance and merge into one single entity. Screen can evolve into an audiovisual performance form and become a portal culturally connect the two cities.

This example gives a glimpse into how technology works and fits into our physical infrastructure. The landscape architecture and media technology are melting into each other creating an opportunity and playground for creativity to blossom. This is not a completely new concept. Buildings are getting "smarter" everyday. Homes are getting smarter. Lights can be turn on or off with sound of clapping hands or voice commands. Fridges can remind people of what they need to do today or what food are running out and they need to shop for more. With an Android app and a special programmed lock, it is possible to lock or unlock your house with a single tap on your phone, and for the forgetfulness ones, easily double-checked if they remember to lock it or not. It's not uncommon to be able to control your house from thousands of miles away, which is unthinkable before this technology age. "Smart" is an undeniable concept, and things are getting smarter around us. We are currently in the culture of "smart." We aim to create a "smart" station, where art, architecture and technology collide; they work together to create a more immersive experience for users. This is the convergence of architecture and technology.

## Literary Research

Utilizing the smart digital screens, we can communicate artistic ideas in a more direct and no less intricate way than before. Digital screens have strong capabilities to simulate a more immersive experience for commuters, creating a sense of being lost in space without direction. With this new powerful weapon, artists and architects can better connect and communicate their ideas to commuters and general public. The digital screens provide many possibilities made possible by new technology in various materials. They can change themselves, being transparent one moment, colorful in the second, and displaying moving frames in the third. We can use this screen technology to create "landscape," challenging the border between "natural" and "electronic."

An example of this would be David Hockney's exhibition "Seven Yorkshire Landscape Videos" in 2011 displaying by Los Angeles County Museum of Art (LACMA). Considering to be one of the most innovative artists in recent time, David Hockney has embraced new technology to explore different ways to capture movement. The videos in the exhibition were displayed in a multi-screen grid (3x6) moving image, in which each part was captured by a camera. From a viewer's perspective, each part was disconnected, but together, they combined to form a beautiful green natural rural Yorkshire landscape. In this setting, the image gave the viewers different perspectives of a singular event, making them scanning the image for details. With his choice of natural landscape and greenery, Hockney helped bring nature closer to people in urban setting while blurring the line between "natural" and "electronic."

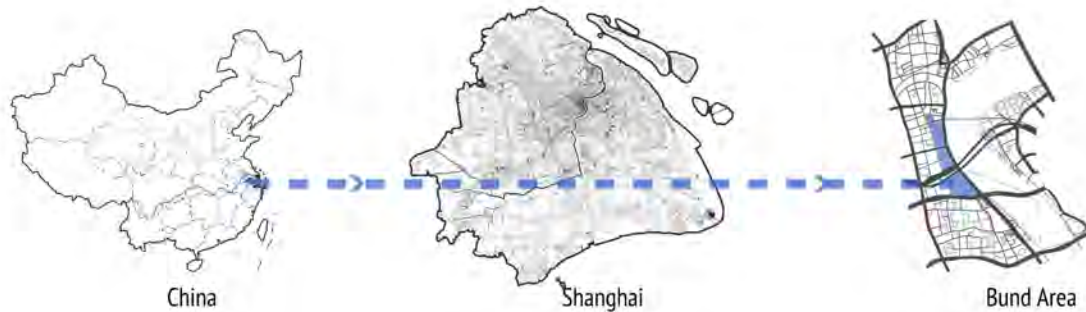
Through similar blurring process, we can create transit stations that blend technology, architecture, and nature. Stations nowadays are no longer built to only function as a waiting place; they can become "visual impacts," such as landmarks, or signature building in urban settings, given that most of their locations would be in central areas. Other functions included projection screens, entertainment, and art displays can greatly increase user interactions and might in turn encourage more of the general public to use the public transportation. With the digital screen using new materials, we can simulate a seamless integration between screen and environment unlike other separate physical transmission like television or cell phone. One moment, the screen can disappear and become a window/wall/building facade, melting into the environment. Another moment, it can stand out, capture people's attention, seek out for connections, ask for your involvement and interactivity. The screen can imitate nature and blend in with the architecture around it by becoming transparent, reflecting or imitate its surrounding. Media becomes landscape. The digital screen technology provides many possibilities for visual art and architecture to increase end-user interactivity, giving renew meaning to spaces and creating more values out of them. Fusing art, technology and architecture, we can create a new and improved transit system.

## Conclusion

In order to tackle of the traffic issue that troubles all metropolitans nowadays, we set out to create this Transportation Art Project, an integration of art, technology and architecture. First we looked at a case study of Portland Westside Light Rail System, a transit system that fused art into architecture, and a sub case study of Collins Circle, one of the featured transit stations. This Portland project was one of the earlier light rail system with a large investment budget for art. The Blue Line successfully combined landscape design and art, attracting many visitors and commuters to use the public transportation. Each station featured different art background and concept, creating a unique experience every time. However, art at some stations drew criticism for being too abstract, creating distance between the station and the users. Therefore, we decide to include technology as an improvement to the system. Digital screen technology can propel the project to the next level. Inspired from the Portland system, the public art are used to imitate nature, creating a connection between the rural, suburban, and urban area, just like the light rail itself. Our screen technology fusion, where media becomes landscape, is well-suited with the urban settings, and can also bring nature to metropolitans. We believe the digital screen is the key to change the local culture and history of the city, while technology is the key to push landscape architecture to the next level.



## LOCATION ANALYSIS / CITY OF SHANGHAI. CHINA

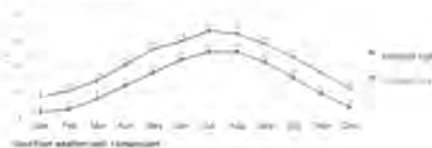


Shanghai is the most populous city proper in the world. It is one of the four direct-controlled municipalities of the People's Republic of China, with a population of more than 24 million as of 2014. It is a global financial centre

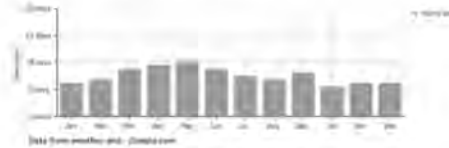
The site is situated in the most busy area the Yan'an Road and the intersection of the Huangpu River, a precious piece of land and one of most beautiful places in Shanghai. It has huge potential to increase its own value.

## CLIMATE & POLLUTION ANALYSIS

Avg temperature



Avg Raindays (Rain/Snow)



Shanghai is in the southeastern area of the North China Plain. It exhibits a humid subtropical climate, influenced by monsoon. Its winters are cool and dry with average low temperature around 26-29°F, and its summers are hot and humid with average high temperature around 86-89°F. Shanghai's monthly average temperature is ranging from 32.7°F in January to 80.8°F in July. In winter, there might be some light snow and precipitation while summer has a majority of the city's annual precipitation of 32.8in. Shanghai has an average of 84.5 days of precipitation, 68.8% of relative humidity, and 50.2% of possible sunshine.

# MANY URBAN ENVIRONMENTAL ISLANDS IN SHANGHAI

Heat island in Shanghai  
on 23/ July/2007(2:00PM)

Data from "Urban Climate Processes, Trends, and Projections"



Mean Annual Relative Humidity  
in Shanghai

Data from "Urban Climate Processes, Trends, and Projections"



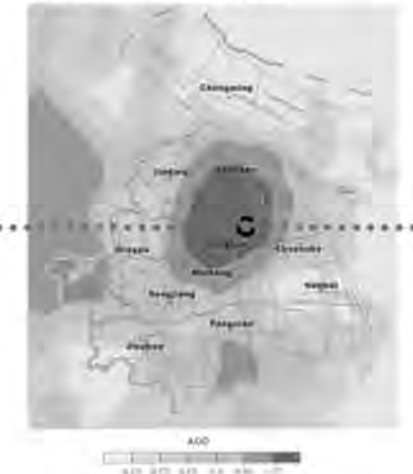
Mean Annual Precipitation  
in Shanghai

Data from "Urban Climate Processes, Trends, and Projections"



Aerosol optical depth(AOD)  
retrieved by MODIS image  
in Shanghai in Nov. from 2001-2003

Data from "Urban Climate Processes, Trends, and Projections"



Due to its land use patterns and high densities of population and buildings, Shanghai experiences perhaps five interrelated microclimatic impacts, which we frame as metaphorical "islands" in analogy with the heat island: the heat island, dry island, moisture island, air pollution island, and rain island.

This graphic map shows dry and moisture island effects. The elevated inner city temperatures and greater soil moisture availability in rural areas should result in lower urban relative humidity. Annual average data from Shanghai confirm this effect. However, the daily cycle of urban-rural humidity can be more complex due to differences in dewfall, atmospheric stability, and freezing, which can dry out rural air overnight and lead to greater urban humidity at night (Oke, 1987). This can lead to a cycle of relative dry and moisture islands that al-

Shanghai urban island is termed the urban rainfall effect. According to ground observation records in the flooding season (May-September) and non-flooding season (October-April in the following year) over the period 1960-2002, the central city experiences greater precipitation than the outlying regions (urban rainfall effect), with an average precipitation that is 5-9 percent higher than in the surrounding regions.

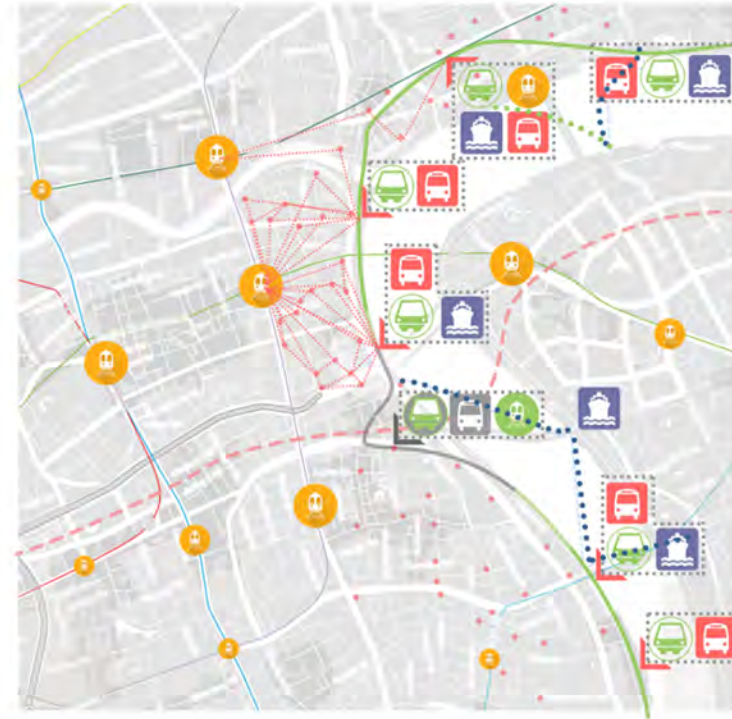
This map shows the pollution island, since urban air quality is poorer than that of suburban and rural areas. The inversion layer over the urban heat island holds back the diffusion of atmospheric pollutants, increasing pollution levels locally. This in turn leads to acid rain. In 2003, the average pH value of precipitation in Shanghai was 5.21, with a percentage of acid rain of 16.7 percent. In the downtown area, where industry, commerce, traffic, and residents interact closely, air pollution is severe, as shown

## GREEN SPACE ANALYSIS



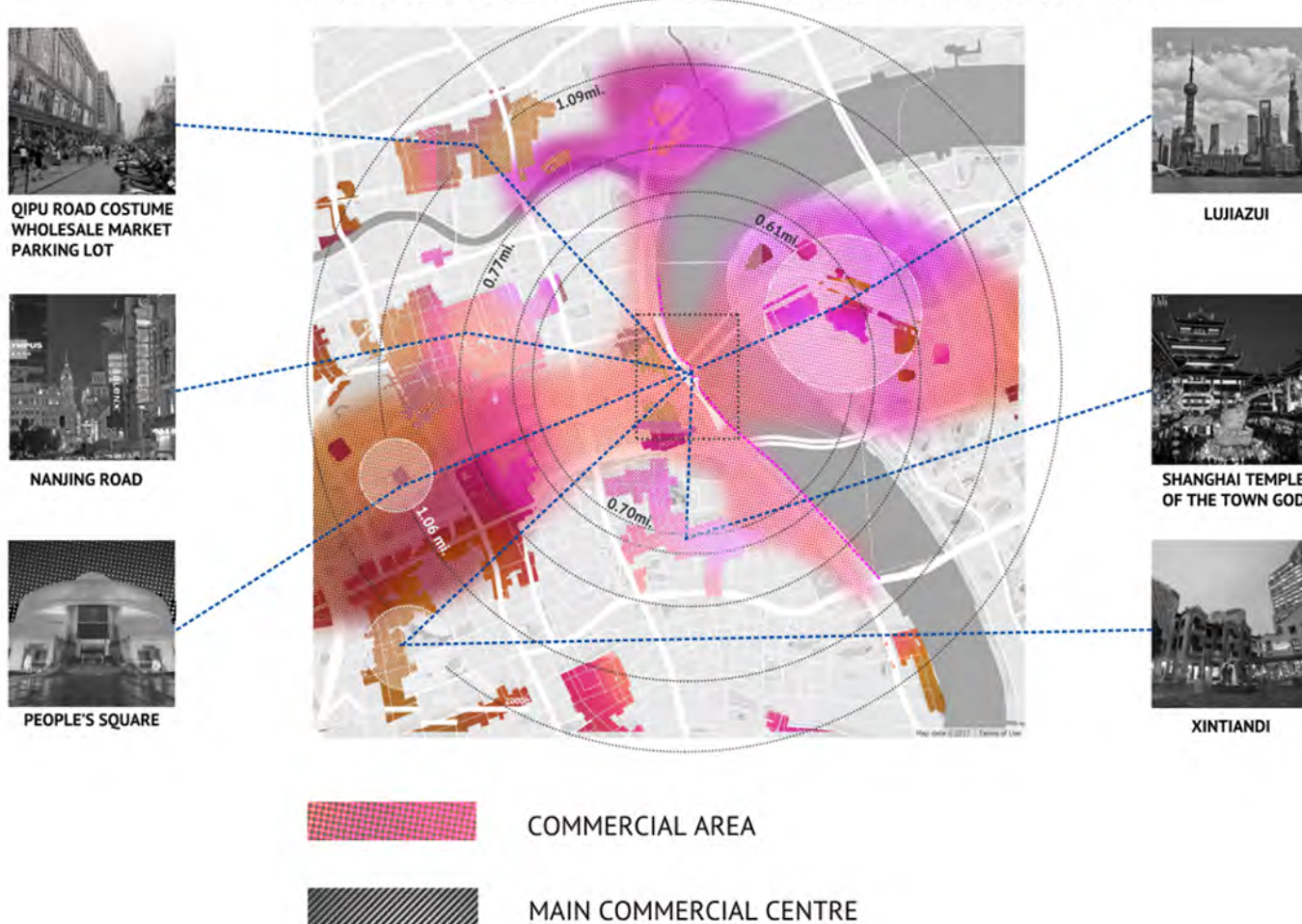
In the east side of the Huangpu River, Lujiazui, there are many connected green areas and walkways, but in the west side of the Huangpu River, the Bund, there is only one large green space within one mile from the Huangpu River. In addition, the green space is fragmented along the river. The residential living area in the west of the Huangpu River per capita green area is much smaller than the residential living area in the eastern part of the Huang-

## TRAFFIC ANALYSIS



Subway stations are at least 0.5 mile away from the bund, which is not convenient for pedestrians traveling by public transport to the Huangpu River. The green line is a proposed above-ground railway line along the Huangpu River. If this railway line is completed, it will connect the subway station and water traffic creating a more convenient traffic system.

## COMMERCIAL AND RESIDENTIAL AREA ANALYSIS



The park will be situated in the heart of Shanghai, spanning over two busiest central areas, the People's Square and Lujiazui. Every day, tens of thousands people flow through the park area. In addition, several important business districts are all within 2miles of the park, so it is a good place to build a large city park.

**CONCEPT**



The existing city centers are located on both sides of the Huangpu River



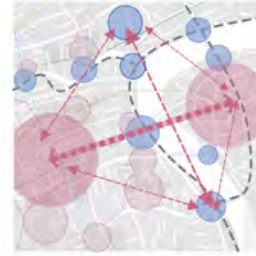
Water traffic lines connect to the each shoreline



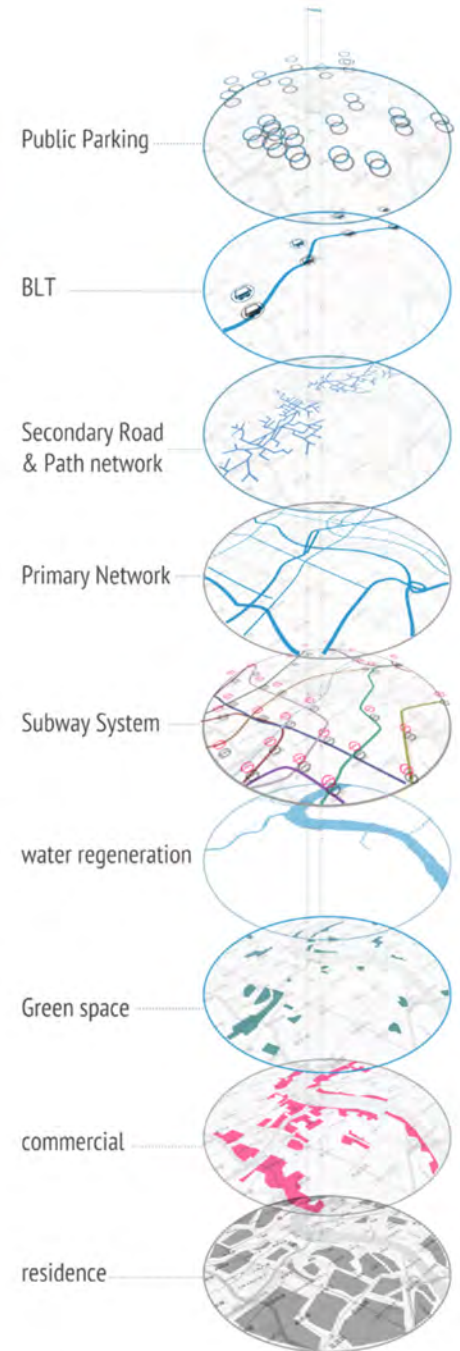
Parks and green paths connect to the north and south part of city and each commercial center



Parks and green paths connect to the north and south part of city and each commercial center



The formation of new urban centers in the south and north of the city





## DESIGN CONCEPT

The modern lifestyle is driving concept behind the design of Shanghai Waterfront Terminus project. Our process begins with a thorough understanding of various user groups and extends to the places within the proposed park that can accommodate a diverse set of outdoor programs such as sitting, watching events or strolling through a garden.

## ELECTRONIC COMMUNITY AREA

This area consists of two parts: the reality and the virtual community. The reality area is a geometric shape of the lawn and concrete sitting wall with a LED light. The slope of the lawn is suitable for people lying on top using electronic equipment. The virtual part is composed of a local area network community of information sharing and a free Wi-Fi component. The main goal of this area is to encourage people who entice with technology and not willing to go out to come close to nature, but also to provide a place let them to make friends in reality not only online. The lighting and the network will be available 24 hours a day only in this area, which is also convenient for residents to use in special circumstances.

## OVER PASS

The Overpass is located at the end of Yan'an East Road, which intersects two other roads, Sichuan Road and Zhongsan First Road. The Overpass connects with the BLT underground bus station and the Bund rail transit station. The bridge allows bike riding which facilitates people to choose a variety of travel modes. While the bridge is divided into two layers to connect the second and third floors of the Bund Museum. The overpass offers people from the Sichuan Road and Yan'an West Road a safer shortcut to the Bund, passing over the two crossings, and encourages people to go outdoor and take the time to relax when they are changing from BLT to Bund rail system or vice versa. The bridge also connects to the roof garden, where people can enjoy the performance from a wide view in a lovely environment.

## DESIGN PRINCIPLE

Our design principle is based on aesthetics and functionality. In terms of aesthetics, it will be able to exhibit a good mix of architectural significant buildings on both sides of the Huangpu River in the past and the present, turning into a new landmark along the Huangpu River landscape. Second, it will also connect the present and the future leading people to a new way of life and attitude. Through the modern technology and human-computer interaction technology applied to the dynamic landscape, people can enjoy the best of both worlds, nature and urbanscape. At the same time it will create a harmonious relationship between the human society and the ecological environment through reducing pollution, saving energy, and creating animal habitats.

## “SMART”+ MODERN LIFESTYLE= NEW URBAN LIFE

“smart “ model life style, This is not a completely new concept. Buildings are getting “smarter” everyday. Homes are getting smarter. Lights can be turn on or off with sound of clapping hands or voice commands. Fridges can remind people of what they need to do today or what food are running out and they need to shop for more. With an Android app and a special programmed lock, it is possible to lock or unlock your house with a single tap on your phone, and for the forgetfulness ones, easily double-checked if they remember to lock it or not. It's not uncommon to be able to control your house from thousands of miles away, which is unthinkable before this technology age. “Smart” is an undeniable concept, and things are getting smarter around us. We are currently in the culture of “smart.” We aim to create a “smart” project, where art, architecture and technology collide; they work together to create a more immersive experience for users. This is the convergence of architecture and technology.

## LAWNS

The park has five different lawn areas suitable for different people to use. Because of the first and second lawn's proximity to the road and containment of various green plants, it is suitable for tourists and local residents. Third lawn, which has free Internet and local area network for sharing information, is suitable for younger people and people who are interested in the network. Fourth lawn can be used for large concerts or events. Workers from surrounding building can take a short break in the fifth lawn because of the plentiful shade and quiet environment.

## NATIVE GARDEN

The native plant garden situates at the most prominent location at the north and south entrance. In China, the thinking of planting native plants in the garden is still lacking, so this garden area can educate people about the beauty of native plants and encourage people to appreciate and plant more native plants.

## PARK FOR EVERYDAY

Every day in the park is an interesting day. At different times, the park is in her different form. Early morning residents begin to do Tai Chi in the central square. During the morning peak, people are walking on the overpass to transfer from BLT station to Bund Train station. People in the roof garden can enjoy the Oriental Pearl in the dawn light. The park is quiet and peaceful. At noon, visitors became the main group people in the park. Workers from surrounding building rest in the shade of the trees, eating lunch and enjoying their break. In the afternoon, people lie on the bench of the overpass to get tan. The children play with water in fountain. At night, every corner of the park are full of people, variety of colors led lights are shining, people are taking photos with the beautiful night view of the skyline on other side of the Huangpu River. Every day people can enjoy a new experience in the park.

## CENTER LAWN

Center lawn is the core area of the park consisting of three parts. The first part is a huge crescent sloping lawn. The middle of the oval lawn is a historic building. People can lie on the slope of lawn leisurely and enjoy the performance presenting on the stage. The third part at the top of the lawn is a circle of columnar, steel structure. It can hang loudspeaker, spotlights, and metal mesh (Fabricoil). The Fabricoil not only can create nice shadows in the summer for a cool environment, but also create a beautiful night lighting effect.

## RAIN GARDEN

The Rain Garden is conceived to emulate natural ecosystem integrating sustainable design into managing stormwater in public gardens in urban space. Untreated stormwater is carried through the steel scuppers by gravity from the roof's drainage system to the outlets into the garden of native wetland plants. Also, the plants are drought tolerant, minimized the needs for water during the dry season.

For the wet season from October to May, the spillways channel the stormwater into the seven terraced basins that can be used for retaining sediments, controlling water levels, rate of flow and aeration. The polluted sediments will be trapped by the plants and soaked into the ground to be processed by micro-organisms. The plants' root system will also help in absorbing unwanted metals and oils.

The excess water that is filtered by the Rain Garden but not absorbed by the basins will be released into the Huangpu River, relieving the load on the city's stormwater and sewer system.

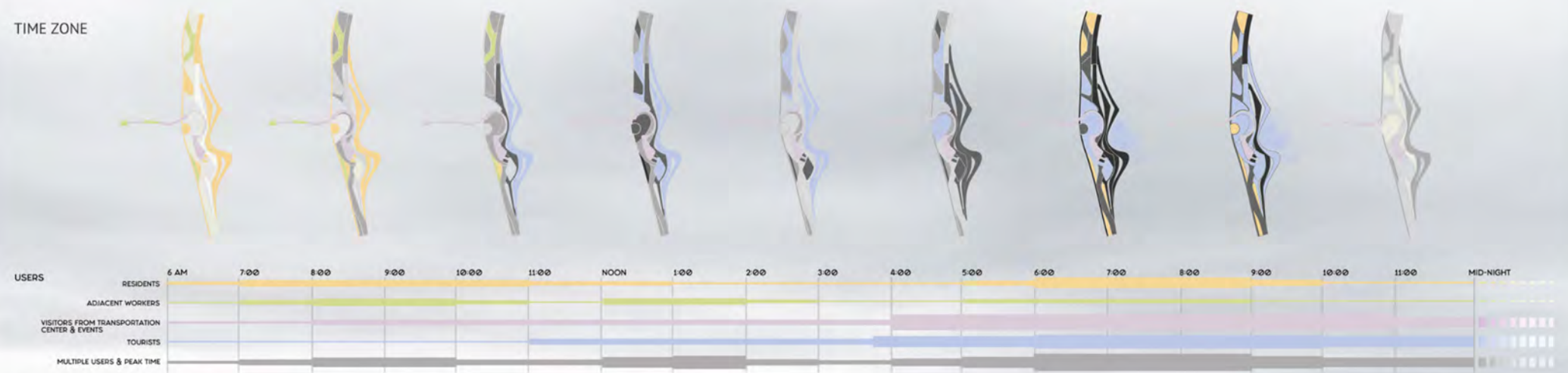
## UNDERGROUND AREA

Underground area is located in the park's closest area to the Huangpu River, because it is lower than the surface and separate by wetland and steps, creating a relatively private space. In addition, it has a very good view, plus closing to the boat decking area. It is a good place to hold private yacht party when the north path is closed temporarily. Rent can be used to maintain the park.



# A PARK FOR EVERYONE

TIME ZONE



# SECTION OF BLT BUS STATION A-A'



PERSPECTIVE B



The park has a three-layer structure creating up to eight scenic viewpoints that greatly increases the viewing experience of the Bund's famous night skyline. Each of viewpoints will have a different viewing experience, which also conforms to the traditional Chinese garden focus points theory. At the same time because there are many viewpoints, the park can diverge streams of people and let people feel less crowded when people are experiencing the beautiful scenery.

## PERSPECTIVE C



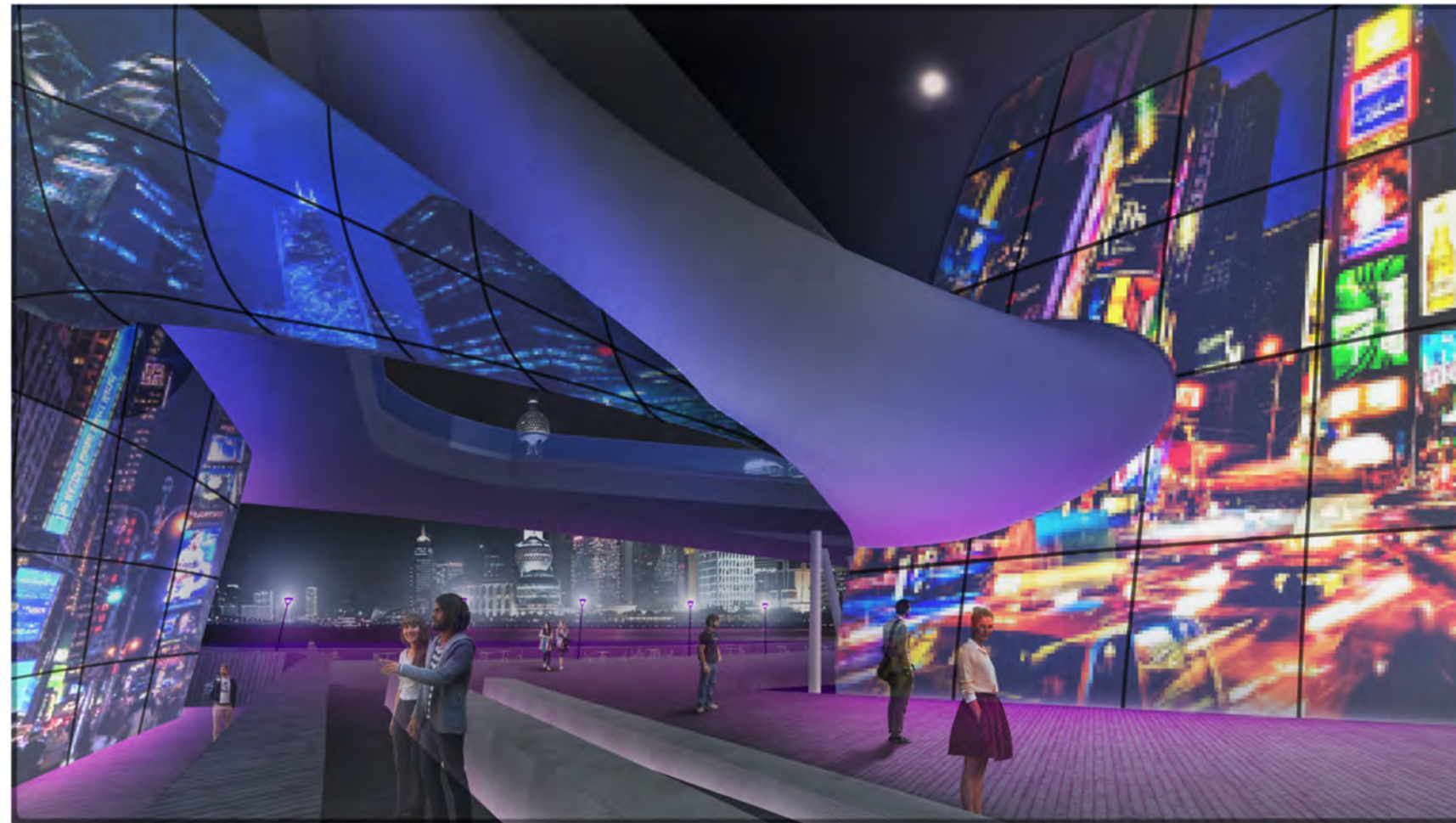
A major feature of the park is the ability to accommodate different user groups. The division of functional areas reduces the contradiction between the different groups. At the same time, the stagger of the functional areas in space and time makes the groups do not feel too crowded so that each group in the park to get the most out of the experience.



PERSPECTIVE B

The park will host many different sizes of events. In order to not disturbing the users from other function zones, the park is designed with a lot of visual and audio buffer in the park to ensure that events are limited just to specific spaces. At the same time there are open spaces around the exit and fire lanes to ensure the safety of events.

## PERSPECTIVE D



This area can be integrated into the architecture and create a new immersive experience for the user that is informative, decorative, and transformative, helping reducing the distance between the users and artwork. The screen can broadcast the street view of a city in the Far west, the city of New York, USA And vice versa, the stations in New York can show the life of people in Shanghai, China. We think that with the street view, people can have a glimpse into the daily life of people in New York, a place that is half the globe away, on the other side of the Pacific Ocean.