A PARK BELOW:

RE-ENVISIONING ALBANY'S UNDERPASS WATERFRONT GATEWAY

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RE-ENVISIONING ALBANY'S WATERFRONT GATEWAY

Presented to the faculty of the Landscape Architecture Department of the University of California, Davis, in partial fulfillment of the requirements for the Degree of Bachelors of Science in Landscape Architecture

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ABSTRACT

Metropolitan cities consist of extensive transportation infrastructure—the road, highway, and rail networks. This infrastructure improves the efficiency of mass transportation and helps guide people to their destination. However, they also bring dramatic change to urban physical landscapes, and impact the landuse of surrounding contexts.

This project studies an underpass under an Interstate Highway in the Cit of Albany, California. The underpass is the entry to Albany from the highway, and is also the gateway to the city's waterfront. The goal of this project is to analyze the underpass for issues assoiated with highways such as urban disconnection, pedestrain safety, and stormwater, etc. In addition, this project will propose a master plan as a possible solution to the problem, as well as an example for other underpasses with similar conditions.

DEDICATION

I would like to thank my family, for all the unconditional supports in the past years.

I would also like to thank all my LDA classmates who we shared three memorable years and been throught toughest time together

In addition, a special mention to Jihwan and Keith. We are always the last people to leave studio everyday.

ACKNOWLEDGEMENTS

Through out the entire project, I have encountered many difficulties, and was struggled to move on. However, there were many UC Davis faculties who helped guided me through the challenges.

I want to thank my commottee members : Claire Napawan, Steve Greco, and Sahoko Yui for the motivation and advices Also, thanks to professor Heath Schenker, Kevin Perry, and TA Gayle Totton for the useful advices during different states of my project.

Last, thanks to all the UC Davis professors and LDA staffs.

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1 INTRODUCTION

INTRODUCTION

Fig. *1.01 Intersection 105 & 110, Los Angeles, California*

As a car oriented country, the US has massive intestate highway system spanning most cities of the nation. It provides a strong transportation network for the ease vehicle traveling. Indeed, it is also the back bone of the economic as it transports workers and goods to their destinations. However, these highway networks have dramatically altered the physical landscape and the relationships between communities.

ISSUES

LInear and continous Interstate highways have dissected and separated a cohesive city into different communities and neighborhoods. Consequently they would form physical and visual barriers for local residents trying to travel to the other side of highway. The connectivity between the separated communities becomes weak. Lack of connectivity can bring major changes to the site use pattern. In some area, the site condition on both sides of the highway can be very different. A landscape that has opportunities to be multifunctioned become uninviting, underused, and depreciated in land value. In addition to bringing impacts to the local communities, the hIghway itself contain great landuse issues. Typically owned by public agency, the area under highway struture often left vacant, and with hard surface pavement or minimum vegetation. In fact, these underpass conditions appear under thouands of miles of highway in each state. Aesthestically, this creates a gap to a astrech of land that has unifed theme and appearance. Ecologically, it also create water quality issues related to run-off.

From left tot right: ***Fig. 1.02*** *Freeway Cutting Through Los Angeles Urban Sprawl*
Fig. 1.03 *A Highway underpass covered by grafitti Sprawl*
Fig. 1.04 *Houston Highway Underpass*

THE SITE

The studied area of this research project is located at the waterfront of the City of Albany, California. The focus area is a piece of vacant property owned the California Department of Transportation (Caltrans) and under the Interstate Highways 80 and 580 at Buchanan Street. The site contains problems pertained to higway that are similar to other underpass through out the conuntry.

The site has complex conditions in terms of land use, circulation, connectivity and elevations of surrounding features. It is bounded by highway off ramps, regional bike trails, a major city street, a railroad track, and the shoreline of the San Francisco Bay. One of the city's creeks is running in an underground culvert along the edge of the site, and outfalls to the adjacent shoreline. All these surrounding features have intersected and overlapped with each other at different elevation

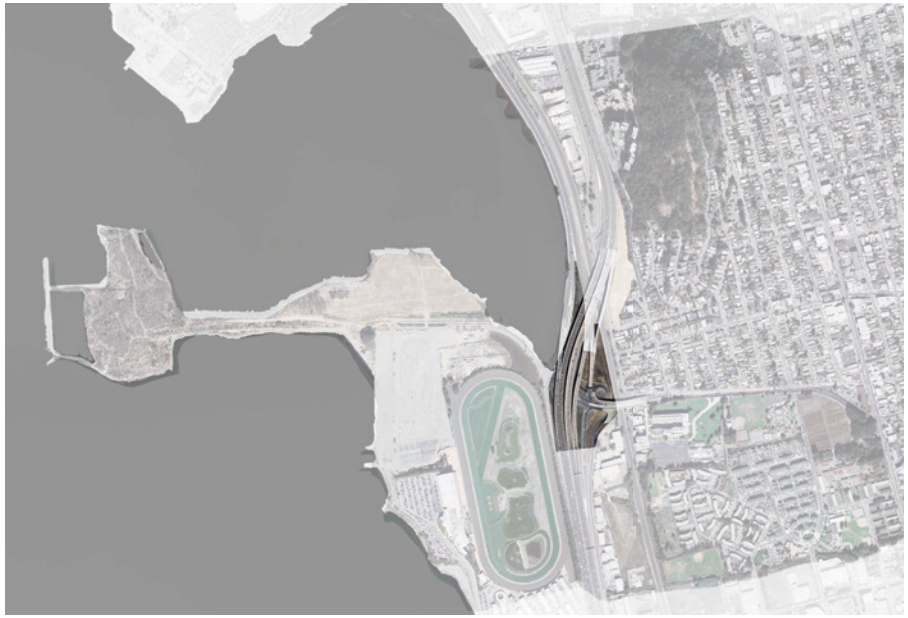


Fig. 1.05 *The studied area and the City of Albany*

THE PROJECT

\ TO ANALYZE THE THE STUDIED AREA FOR ISSUES PERTAINED TO HIGHWAY INFRASTRUCTURE

\ TO PROPOSE A DESIGN AS AN EXAMPLE SOLUTION TO OTHER LOCATIONS CONTAINING SIMILAR CONDITIONS.

SECTION

BACKG2OUND

THE CITY

From left to right:

Fig.2.01 *Overview of Albany and Albany hill*

Fig.2.02 *Solano Avenue in Albany, CA*

City of Albany is a 1.7 mile city located on the eastern shore of San Francisco Bay. It is surrounded by the Bay to the west, the City of Berkeley to the East and South, and City of El Cerrito to the North. Albany is a small California city with a population a less than 19,000 (2010). The City has preserved its small-town character with largely single family homes and small businesses.

Albany was first named as the City of Ocean View when it was established in1908. The city's name then changed to Albany in 1909, in honor of the

birthplace of the City's first mayor, Mayor Frank Roberts. Albany has since become strongly independence and established its own school district, governance.

Albany provides a safe, community-oriented city to the local resident with high ranked school district and different programs for youth, adult and elderly. Located near a state park and the University of California Berkeley, Albany has offered many recreational and student housing opportunities. (albanyca.org, 2010).

From left to right:

Fig.2.03 *Albany shoreline panorama*

Fig.2.04 *Albany Cinema*

WATERFRONT

The west of Alabny disected by highways is the city's waterfront . It has a unique shoreline that extend out to the pennisula with a narrow stirp of land. The waterfront provides a overview of the gateway to San Francisco Bay, City of San Francisco, Bay Bridge, Alcartraz, and Angel Island.

The waterfront has diverse conditions and usages. It is a product of many years of infill from 1930s to 1980s. The southern portion is the home to the Golden Gate Field horse racetrack. The northern is called "the Plateau", with protected tidal marsh along the shoreline, providing habitats for different speceis. The "Plateau" features a small beach known to have dog owners let their dogs run unleashed. It is connected to the pennisula with a strip of land called "the neck". At the west end of the "neck" lies the "Bulb", a pennisula infilled from a former landfill site for construction debris in the 1960s'. Besides the Golden Gate Field and main roads, majority of the waterfornt is now consisted in the East Shore State Park. Albany's waterfront provide many opportunities for recreation and ecological conservation. (albanyca. org, 2010)

Fig.2.05 *Overview of Albany Bulb*

EAST SHORE STATE PARK

East Shore State Park stretchs 8.5 mile long from Bay Bridge in Oakland to RIchmond. It is a result of decedes of local resident efforts to protect the San Francisco Bay as public open space. After recently acquisition of the “Bulb”, Albany’s portion of the state park consists of the entire shore line except the property of Godlen Gate Field Located along a tidal marsh shoreline It provides mudflat habitat for different wildlife species. On the other side of the “Neck “ feature a ridal beach--an informal dog park where people often run their dog off-leashed. The addition of the “Bulb” to the East Shore State Park property would vision increases of recreational, preservation, and conservation opportunities of in future. (East Bay Regional Park District)

From top to bottom

Fig.2.06 *Tidal muflat near the underpass*

Fig.2.07 *Dogs playing at Albany Beach*

THE BULB

Fig.2.08 *Construction debris covered with grafitti*

Fig.2.09 *Concrete structure covered with grafitti*

Fig.2.10 *"Water Lady" sculpture made of junks from the landfill*

THE "Bulb" is a pennisula with large open space infilled from a former landfill site, which mostly made from construction debris like concrete and rebar. The operation

of the landfill began in 1960s and halted by large group of conservationlists in the 1980s. SInce, the landfill became a large open space fused with different actvities and changes. (albanyca.org, 2010)

Through times, the Bulb has developed its characteristic from different influences. It has been graduallly taking back back by nature with vegetation, and beccame an informal park . Also, the site is filled by many artworks with strong cultural and politica influences, such as graffittis, sculptures, and even structures. Some of the famous pieces are the Water Lady sculpture by Osha Neumann and the Landfillian Library by Jimbow the Hobow. In addition, the Bulb has been squattered with numerous homeless with extensive temporary structures. The city has long been in battlle to evict the squatters. Besides the homeless issues, the Bulb is a popular place for hikers, dog owenrs, free-lance artists, and photographers. (Waters, 2013)

Accquired by the East Bay Regional Park recently, the Bulb will be incorporated in the existing East Shore State Park. If developed, many notable free-lance art works throught out the site would face threats of reloaction or removal. There is opportunities to preserve or relocated some of the influential art pieces. (Karim, 2002)

Fig.2.11 *Dragon sculpture from junks*

Fig.2.12 *The "Library"--a temporary structure built by landfill residents*

GOLDEN GATE FIELD

Located diagonally across the stuided area at the Albany's waterfront, the Goldn Gate Fiels is a major horse race track in the San Francisco Bay Area. It spans across the city limits of Albany and Berkeley. The tract is adjacents to the "Plateau" and the Albany Beach. The race track first opened right before the World War II, and became a naval landing base during the war.. The Golden Gate Fields has produced many history marking races and famed winning horse. The race track has gone through several ownership and a bankruptcy. Accquired in 2011, the Golden Gate Field is now owned by the Stronach Group. (Golden Gate Fields, 2013)

Fig.2.13 *Golden Gate Fields*

Fig.2.14 *Overview of Golden Gate Fields and "Plateau"*

PIERCE STREET PARK

Pierece Street park is a proposed recreational park located just on the side of the railroad track next to studied area of this project. The 4.5 acre parcel will offer diffrent recreational opportunities for the local resident. The site is several hundreds feet away from the waterfront, but there is no visual and physical between two features. (albanyca.org, 2012)

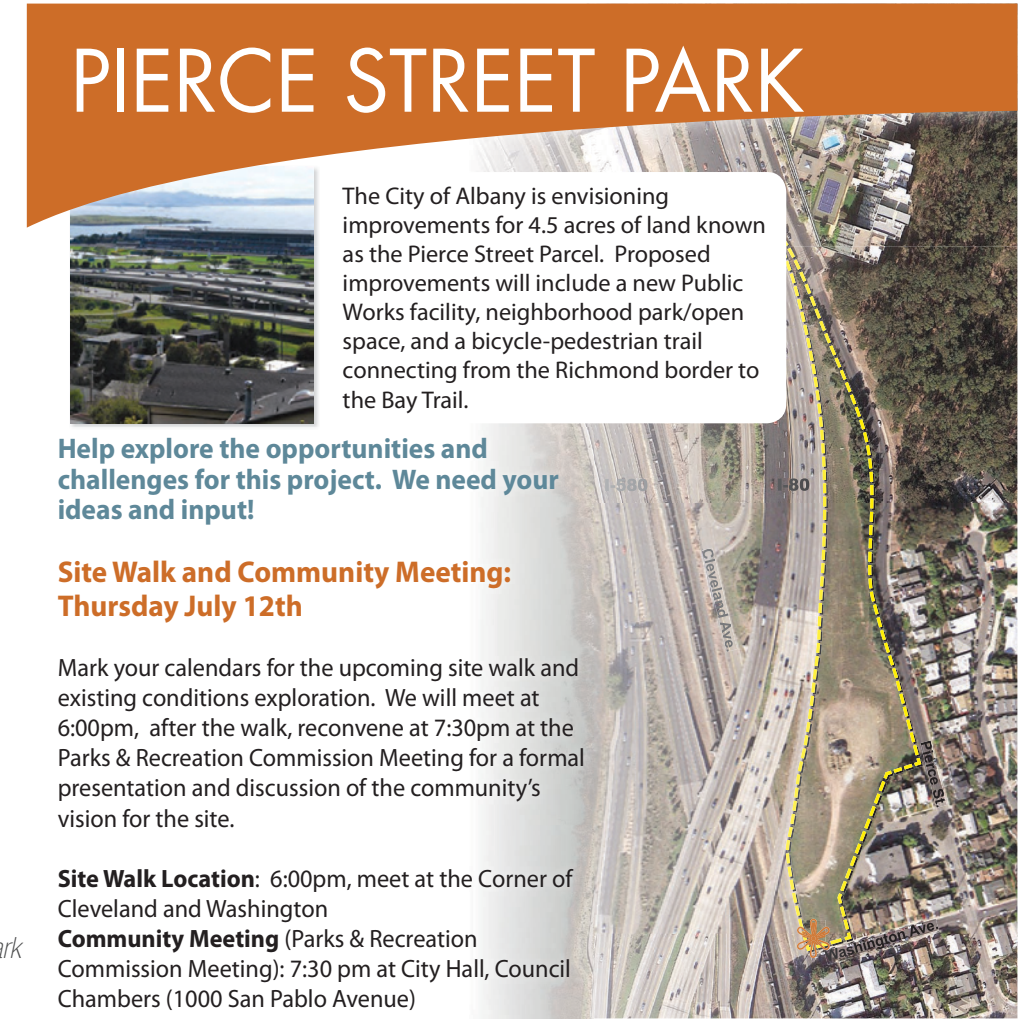


Fig.2.15 *Flyers of Piece Street Park site walk and community meeting*

CITY BICYCLE MASTER PLAN

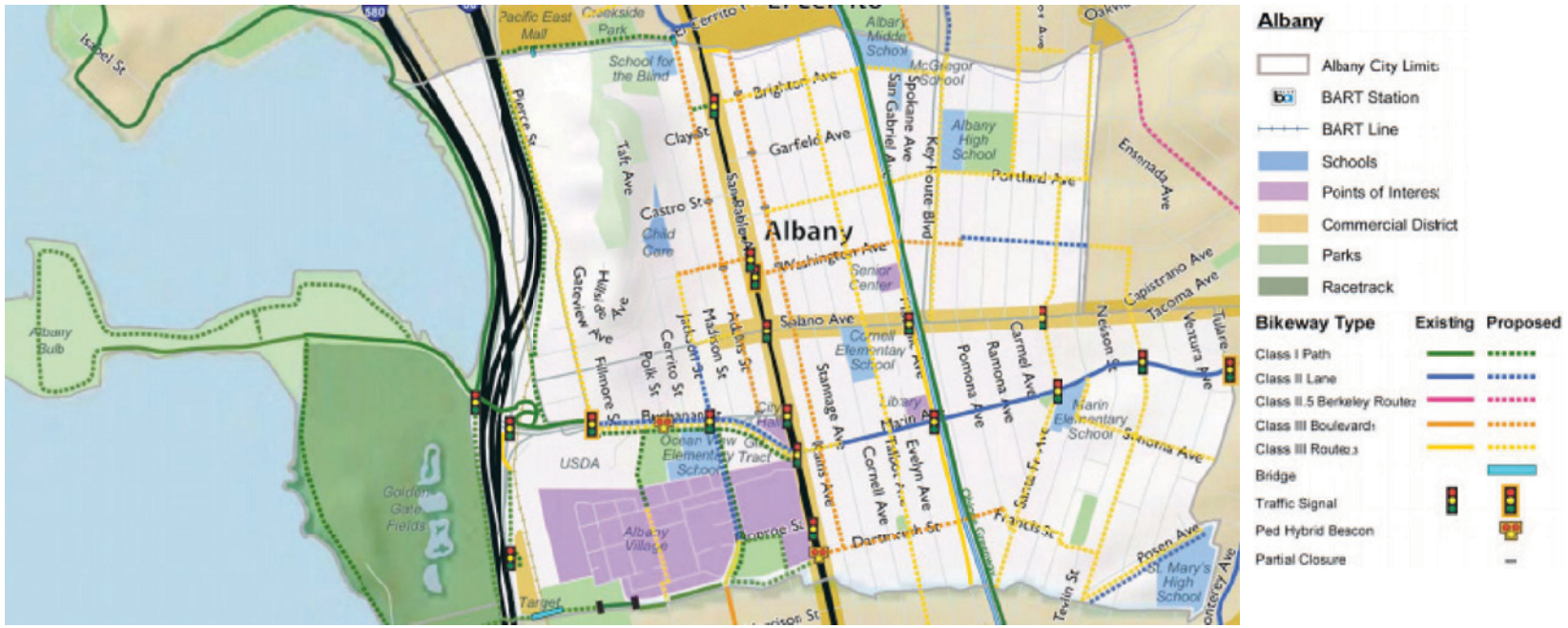


Fig.2.16 *Albany's master plan for bicycle*

In an effort to support City's greenhouse emmission reduction policy (March 2007), Albany implemented a Active Transportation Plan to update the existing Pedestrain and Bicycle Master Plan. Albany regonizes the importance of cycyling and walking by making the city a better place for bike and pedestrain use. The City has proposed new bikeways to enhance the connectifity of existings bikeways. Under the plan, the city's waterfront will be connected to the East Bay Trail, a regional bike trail that runs through multiple cities along the San Francisco East Bay. (albanypedbikeplan.fehrandpeers.net, 2013)

SECTION

CASE STUDI**3**S

UNDERPASS PARK
TORONTO, CANADA

Fig.3.01 *Before/After rendering of Underpass Park*

Underpass Park is a 2.5 acre urban park built mostly under series of overpasses in downtown Toronto, Canada. It is located under and around the Eastern Avenue and Richmond/ Adelaide overpasses, between Cherry Street and Bayview Avenue. The park is designed by landscape architects Phillips Farevaag Smallenberg(PFS) with The Planning Partnership in 2010, and was opened in 2012.

Formerly, the site of the Underpass Park was inaccessible to public and surrounded by concrete walls. In times, all concrete walls were covered with graffiti. The elevated Eastern Avenue has become physical and visual obstacles to both neighborhoods of north side and south of the overpasses. At night, the dark underpass had insufficient lighting, which made the streetscape feel unsafe and not inviting to pedestrians. Through collaborative works, the design team has transformed the underused and derelict underpass into a welcoming community space. (Waterfrontoronto, 2013)

design features:

\ multifunctional **GATHERING SPACE**

\ **PLAYGROUND** w/ artistic climbing structures

\ covered area designated for **RECREATIONAL ACTIVITIES**

\ **LIGHT DECORATION** at bridge columns

\ open space defined by **VEGETATION**

\ insteractive **CEILING DECORATION**

Fig.3.02 *Climbing structure*

Fig.3.03 *Under[pass lights up at night*

GARSCUBE LANDSCAPE LINK

GLASGOW, SCOTLAND

The Garscube landscape link is a joint intervention project located at Garscube Road in Glasgow, Scotland. It is below one of the major roadway of the city, and is a major underpass for pedestrians and bikes traveling between the city centre. Designed by 7N Architects and RankinFraser Landscape Architecture, the project costs £1.2 million and was completed in 2010. The Link is part of the City's project to regenerate the Glasgow Canal by improving the connections between the city's center and focused regeneration area. The existing condition of the site was poorly lit, unsafe, and lacks of maintenance. (Rankinfraser Landscape Architecture, 2010) The 7N Architects described this underpass as dark, noisy, and

Fig.3.04 *Pedestrain/bike pathway with colored texture and terrace planters*

intimidating. (7narchitects, 2013)

The Garscube landscape Link has provide a good example of transforming an unwelcoming underpass into an innovative and significant connection for the Glasgow's city centre. However, the design has emphasis on human usage and overlooked the environmental needs. The design has increased impermeable surface for pedestrains, and incorporated terrace planters to slow down runoff, This might increase even more surface runoff compared to the existing condition.

Fig.3.05 *Art installations light up the pathway at night*

design features:

\ walkablle surface **WIDENING** with **COLOR TEXTURED**

\ Illuminated **SCULPTURE** along the pathway

\ **TERRACE PLANTERS** to slowdown runoff

JOSE MARTI PARK

MIAMI

Jose Marti Park is a riverfront park located at SW South River Drive and SW 4th Street by the Miami River Miami, Florida. The park features baseball field, basketball courts, swimming pool, playground, and racquetball courts. Portion of the park is covered by highways, but the area is well-litted at night for activities. (FilMiami.org, 2002)

design features (underpass):

\ underpass **ILLUMINATION**

\ covered area designated for **RECREATIONAL ACTIVITIES**

\ **DECORATED** bridge columns surface

Fig.3.06 *Bike polo game at the underpass basketball court*

Fig.3.07 *Decorated highway bridge columns*

SECTION

SITE AN4LYSIS

CONDITIONS

Fig.4.01

Fig.4.02
Out-fall of culverted creek and sewage

Fig.4.03
Intersection of highway off-ramp, bike trail, and street cross

Fig.4.04
Highway on-ramp

Fig.4.05
Underpass streetscape

Fig.4.06
Underpass area fenced off from public

Fig.4.07
Creek channel along the highway on-ramp

Fig.4.08
Bike path runs under highway

Fig.4.09
Storm drain located between road and sidewalk

Fig.4.10
Large open space under highway

Fig.4.11
Shrap turn at the bike path

Fig.4.12
Broken fence often used as illegal railroad crossing

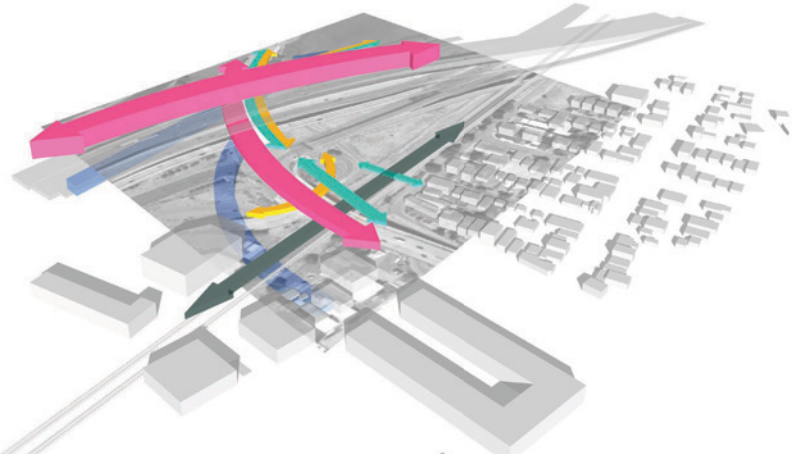
Fig.4.13
Crosswalk at highway entrance

Fig.4.14
Underpass under Buchanan Street

Fig.4.15
Future site of Pierce Street Park lookdown to the underpass

Fig.4.16
Near bustop

CIRCULATION



VEHICLE

PEDESTRAIN

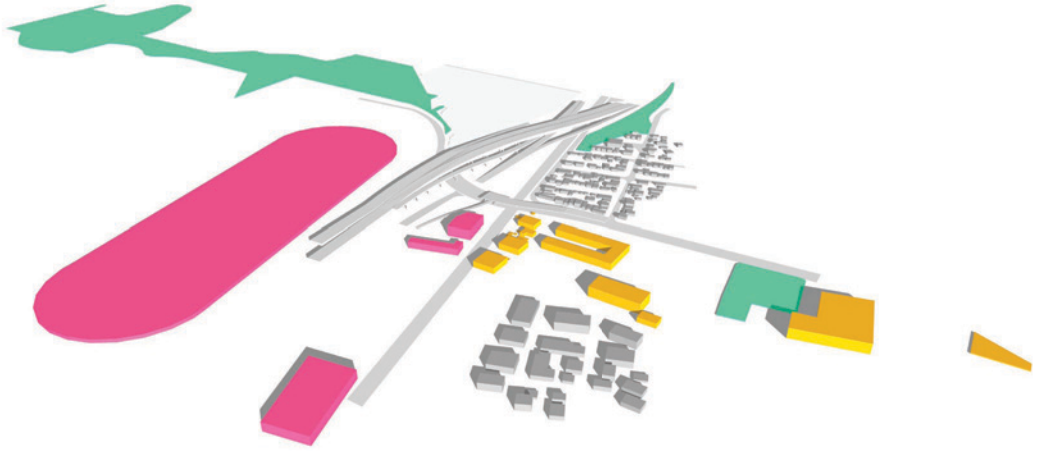
BICYCLE

STORMWATER

RAIL

Fig.4.17

CONTEXT



COMMERCIAL

PUBLIC FACILITY

PUBLIC PARK

RESIDENTIAL

Fig.4.18

ANALYSIS

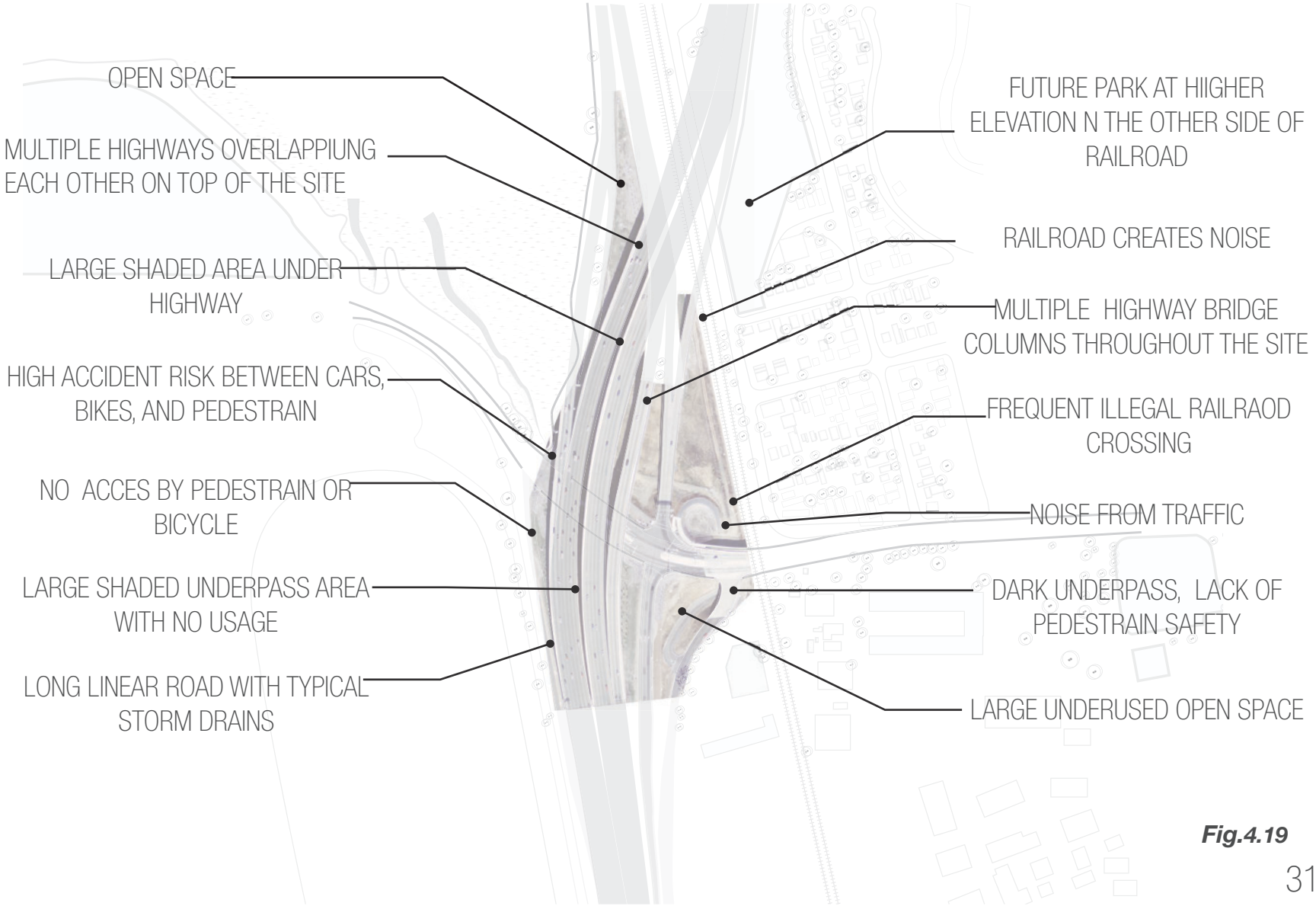


Fig.4.19

OPPORTUNITIES

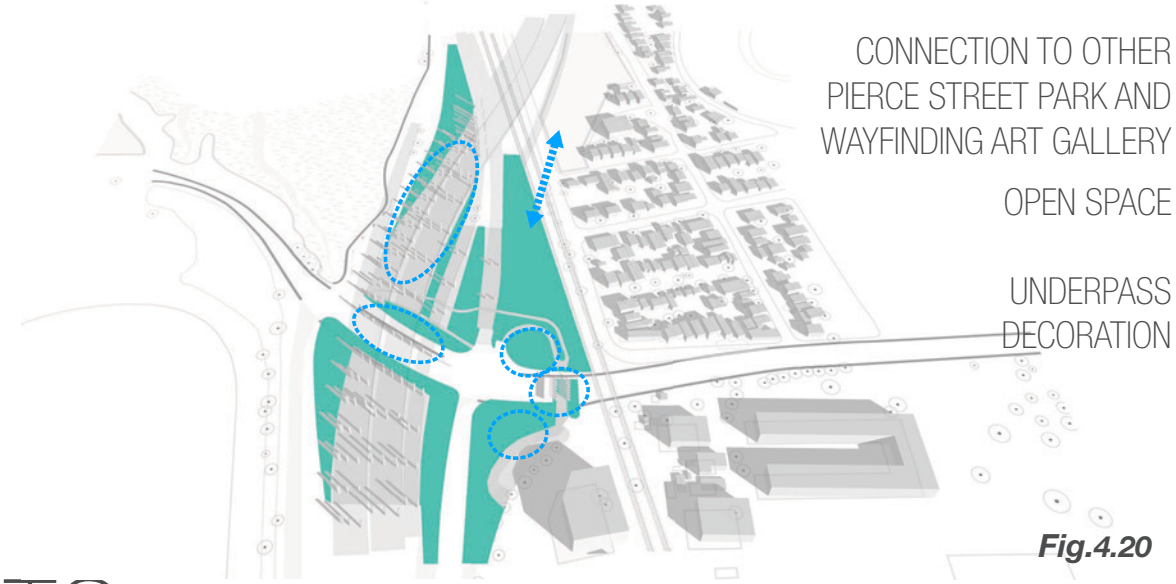
OPEN SPACE FOR SUN ACTIVITIES

SHADED ACTIVITIES, ART EXITIBITION & GATHERING SPACE

STORMWATER TREATMENT

IDENTITY ENHANCEMENT

STORMWATER TREATMENT



CONNECTION TO OTHER PIERCE STREET PARK AND WAYFINDING ART GALLERY

OPEN SPACE

UNDERPASS DECORATION

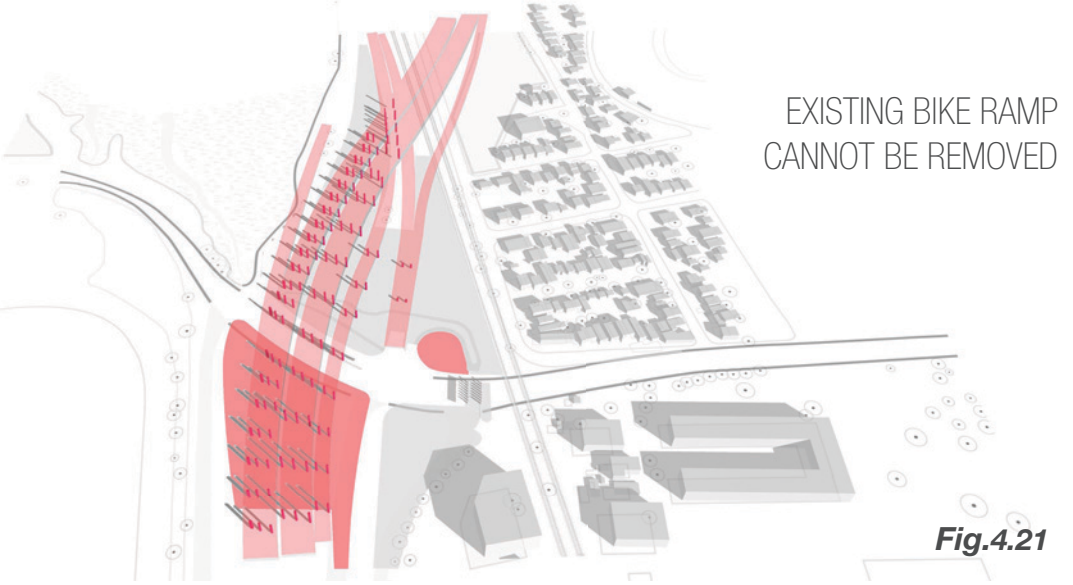
Fig.4.20

CONSTRAINTS

MULTIPLE HIGHWAY STRUCTURES RESTRICT PLANTING AND ACTIVITIES

HIGHWAY STRUCTURE COLUMNS AS OBSTACLE RESTRICTING ACTIVITIES AND MOVEMENTS

TRAFFICE LAYOUT PREVENTS PUBLIC ACCESS TO THE AREA



EXISTING BIKE RAMP CANNOT BE REMOVED

Fig.4.21

SECTION
DE**5**IGN

DESIGN STRATEGIES

.The design stratagies used in this project are:

\ provide a design solution to the problem without impact the current use of the site

\ take account of the constraints and many obstacles that would affect the functionally of the design

\ take advantage of opportunities from surrounding context and incorporate them into the design

MASTER PLAN

1 \ GATHERING SPACE
\ SUN ACTIVITIES

2 \ GATHERING SPACE
\ CHILDREN PLAYGROUND
\ SHADE ACTIVITIES
\ ART GALLERY
\ DECORATIVE ILLUMINATION
\ COLOED. TEXTURED BRIDGE COLUMN
\ STORMWATER TREATMENT FACILITIES

3 \ MULTIFUNCTIONAL SPORT COURT
\ OPEN SPACE DEFINED BY VEGETATION
\ PUBLIC RESTROOM

4 \ PEDESTRAIN/BIKE OVERPASS TO UPPER PUBLIC PARK
\ ART INSTALLATION ALONG THE BRIDGE

5 \ GATHERING SPACE
\ SUN ACTIVITIES

6 \ COLORED, TEXTURED CROSSING FOR PEDESTRAIN SAFETY ENHANCEMENT

7 \ DECORATIVE ILLUMINATION
\ COLORED, TEXTURED ON BRIDGE COLUMN
\ ART GALLERY

8 \ STORMWATER TREATMENT FACILITIES

Fig.5.01

FEATURES

ART
INSTALLATION

RECREATION

CIRCULATION

STORMWATER
TREATMENT

BOUNDARY

Fig.5.02

ACTIVITIES & TEXTURES

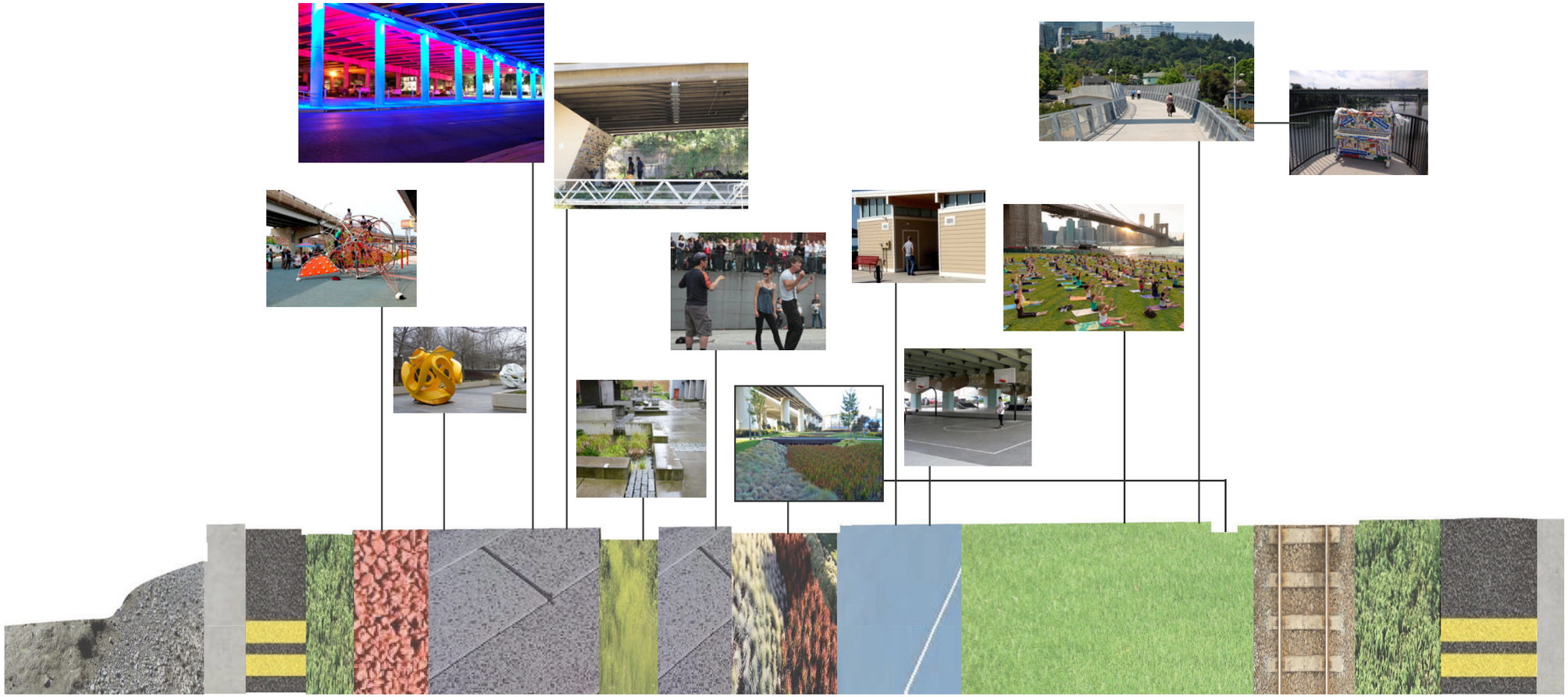


Fig.5.03
The diagram show example of activities at appropriate location of the site

Fig.5.04-5.15
Activities example

SECTION

A SECTION CUT OF THE SITE VIEWING FROM SOUTH TO NORTH

SECTION A-A
SCALE: 1” = 45’ - 0”

Fig.5.16

OVERVIEW

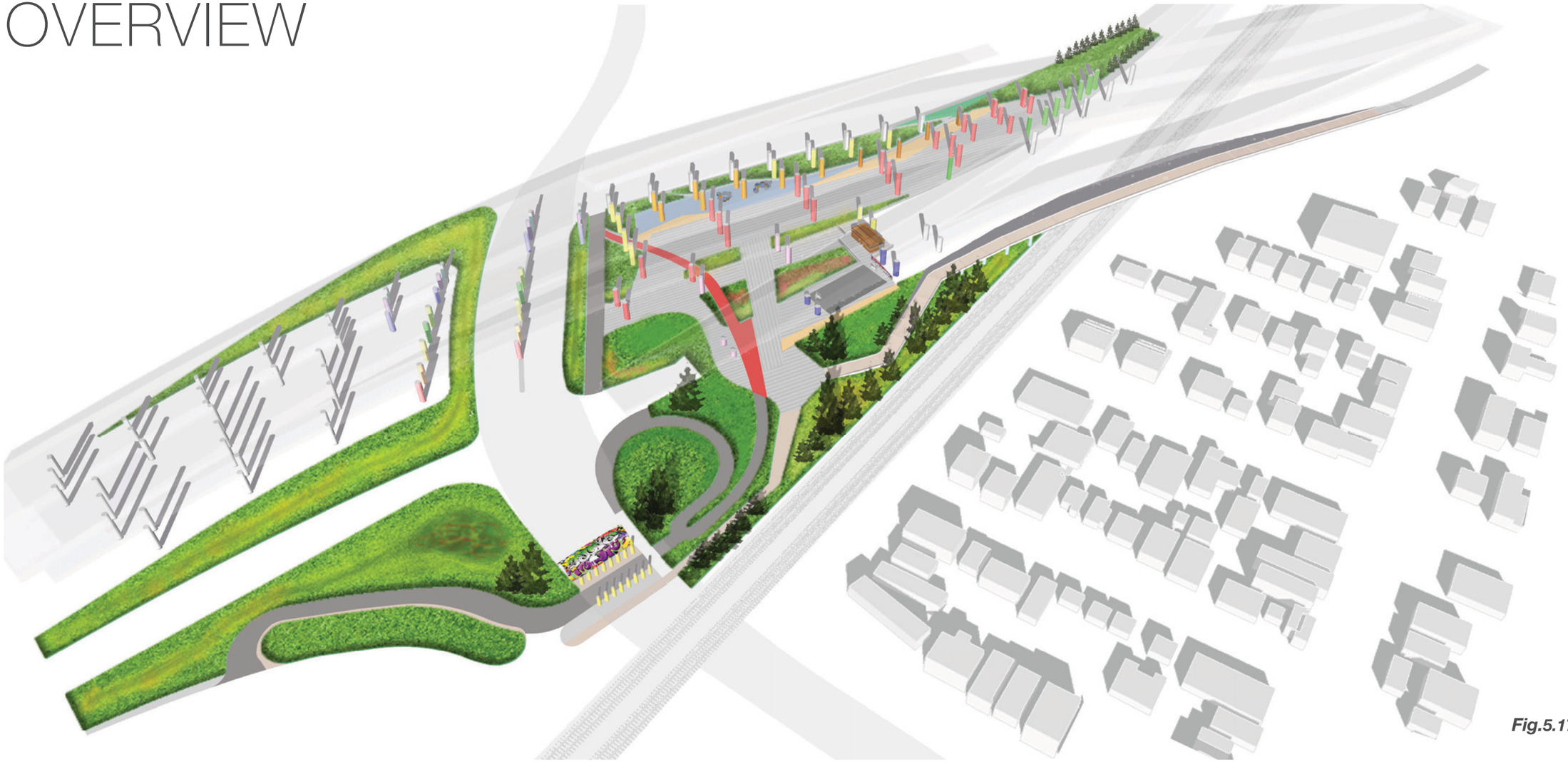


Fig.5.17

PERSPECTIVE

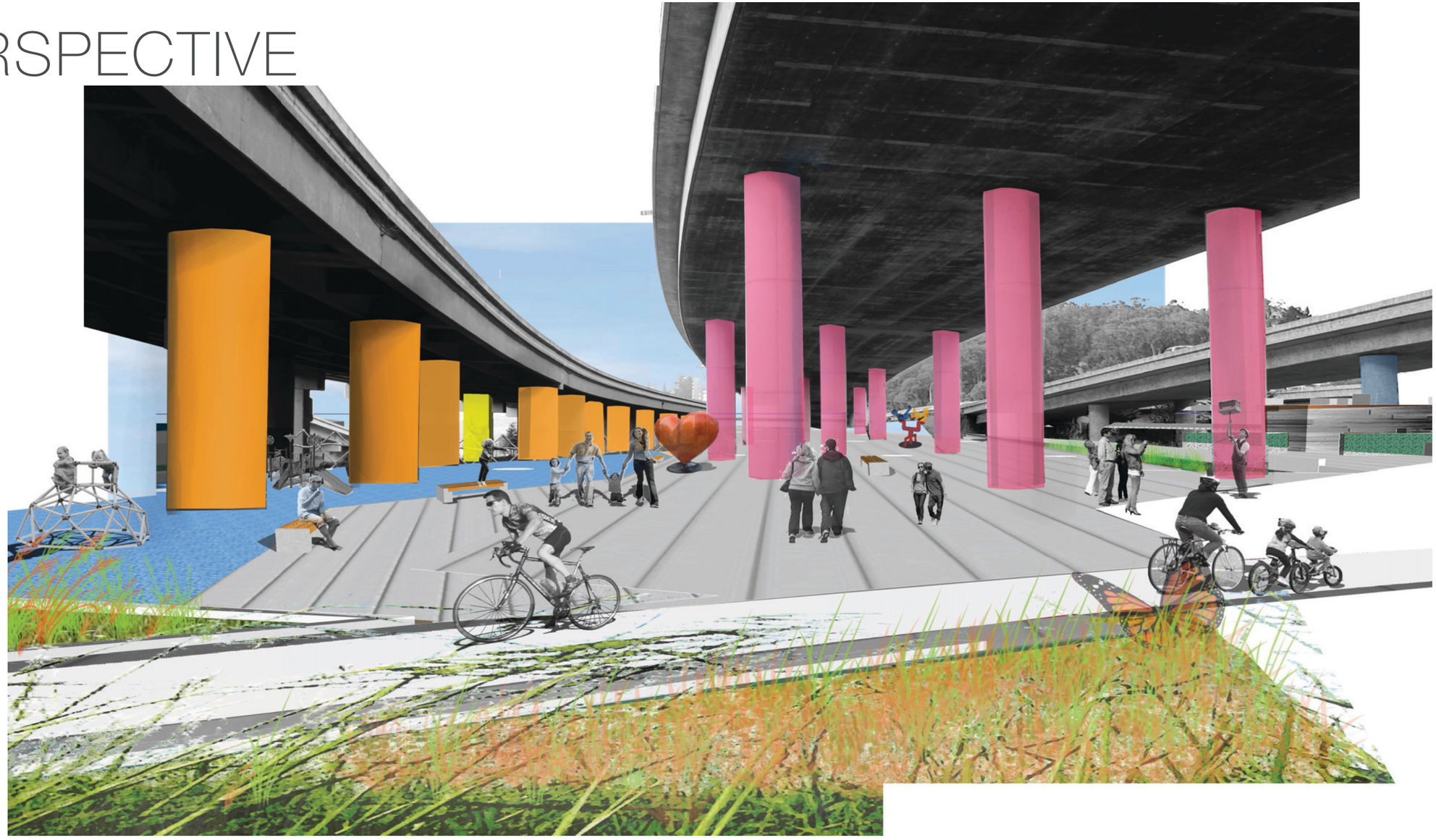


Fig.5.18

THANK YOU

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