SOUNDWALK IN CITY OF LONDON

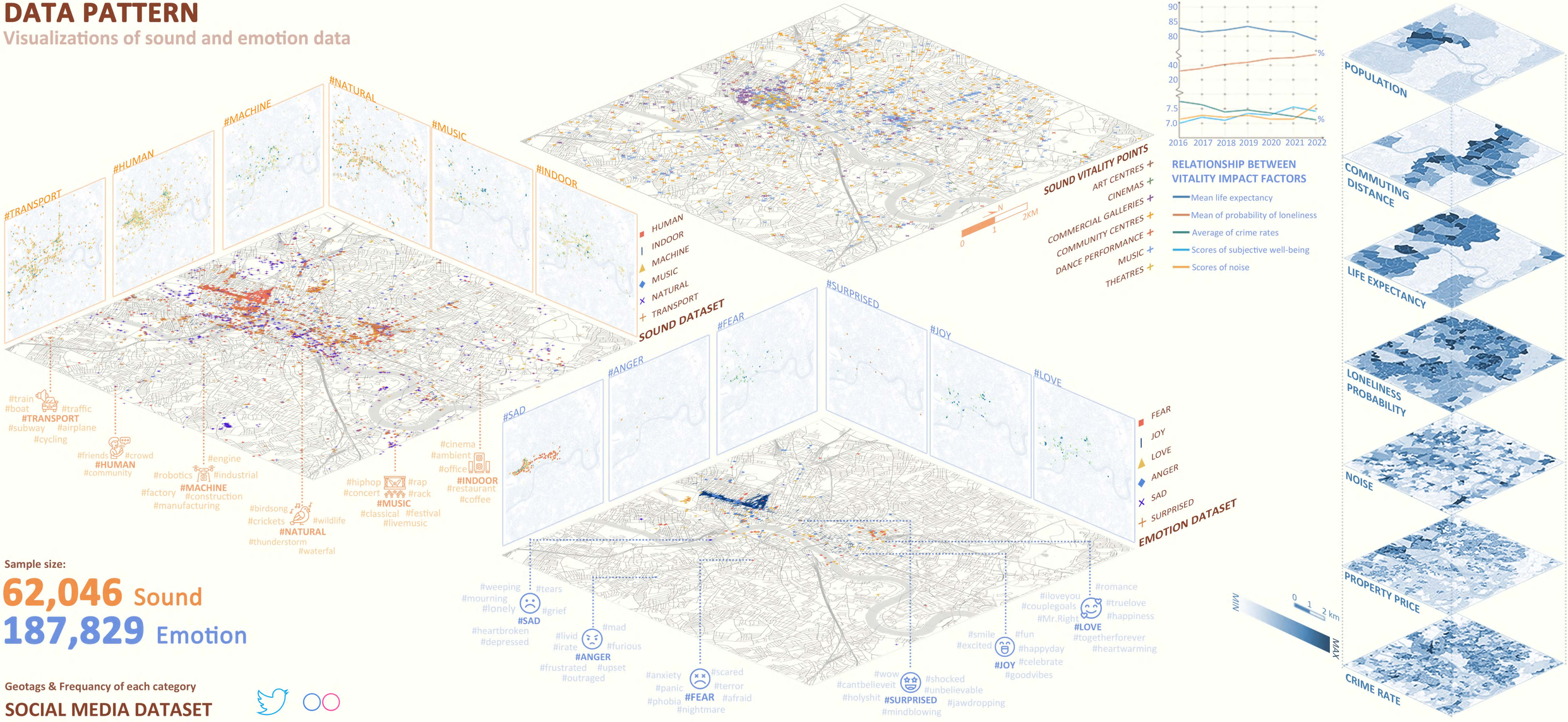
Huge differences between the North and South

LONDON SOUNDSCAPE HISTORY



DATA PATTERN

Visualizations of sound and emotion data



RELATIONSHIP BETWEEN VITALITY IMPACT FACTORS

- Mean life expectancy
- Mean of probability of loneliness
- Average of crime rates
- Scores of subjective well-being
- Scores of noise

Sample size:

62,046 Sound

187,829 Emotion

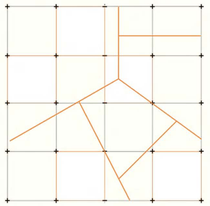
Geotags & Frequancy of each category

SOCIAL MEDIA DATASET

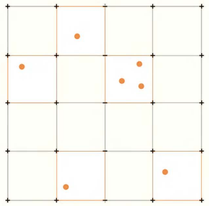
THE CHOICE OF SOUND

Site selection through machine learning

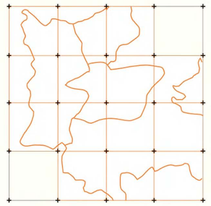
In order to feed the different kind of datasets to machine,data resampling method is used here. Whether the data is point data,line data or polygon data,it can be recalculated and assigned to a grid.The grid used is 50m x 50m. To understand the characteristics of different areas of the city through the data and to study the correlation of the data. We resampled the data and applied PCA and kmeans to reduce the dimensionality of the data. From the results of kmeans clustering, we finally targeted several problematic regions and selected three of them.



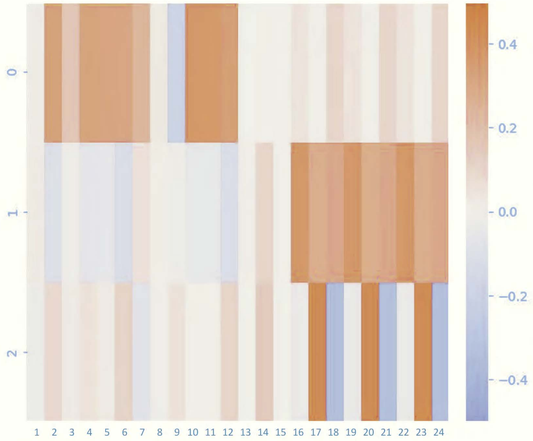
RESAMPLE LINES



RESAMPLE POINTS



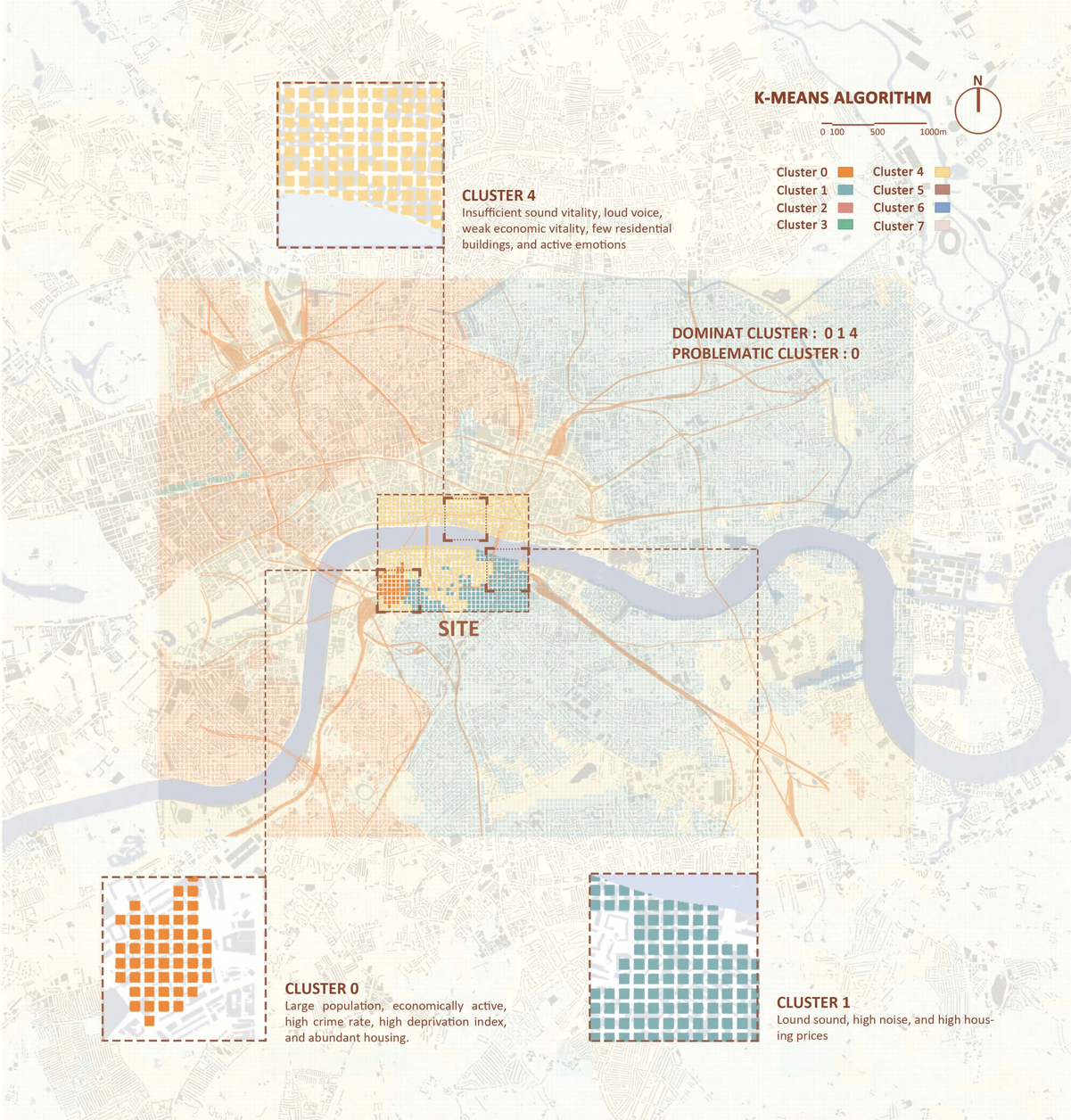
RESAMPLE POLYGONS



PRINCIPAL COMPONENT ANALYSIS

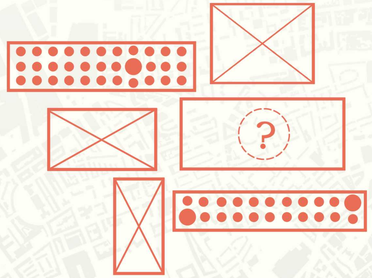
1 Noise	5 Loneliness index	9 Commuting distance	13 Joy	17 Ranger	21 Natural
2 Income	6 Economics	10 Life expectancy	14 Love	18 Sad	22 Indoor
3 Crime	7 Population	11 Subjective well-being	15 Surprise	19 Human	23 Machine
4 Housing price	8 Vocal vitality point	12 Number of houses	16 Fear	20 Music	24 Transport

URBAN FABRIC	NOISE	CRIME	SELF WELL-BEING	SOUND VITALITY	LOVE & JOY	SAD & FEAR
CLUSTER 0	393.03	148.64	1.75	0.05	0.03	0.00
CLUSTER 4	363.86	106.33	0.32	0.03	2.00	29.50
CLUSTER 1	540.5	182.98	0.29	0.50	0.01	0.06



DESIGN STRATEGIES

Spatial , social and time responses



SPATIAL POLITICS

USE BOTTOM-UP DATA TO REFLECT SPATIAL INEQUALITY



SOCIAL RELATION

ANALYSIS SHOWS THE DIVERSITY OF PEOPLE'S EMOTIONAL EXPRESSION



TIME EFFECT

THE TIME EFFECT IS IN EMOTIONAL FEEDBACK AND DANGER INDEX



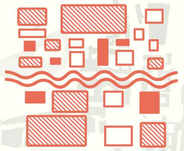
BRIDGE GREY SPACE

Enhance B/G space sound and educe unwanted sound.



BUILDING GREY SPCAE

Reduce building grey space and add vibrant sound.



BUILDING DENSITY VARIANCE

Enhance the integrity of the acoustic environment.



CONSTRUCTION NOISE

Abate building noise.



POPULATION MIX

Increase the variety of acoustic environments enrich social activities



MANAGEMENT LACKOING

Improve management measures so as to ensure the contin-uity of the sound chain



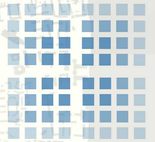
TIDAL PHENOMENON

Relieving urban tidal phenomena



DIURNAL ACTIVITY DIFFERENCE

Increase the variety of acoustic environments enrich social activities



COLOR CONTROL LACKING

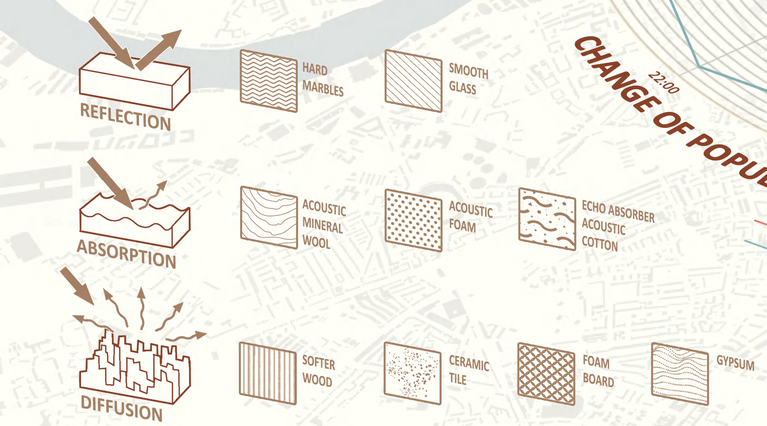
Optimize architectural color enhanced visual perception

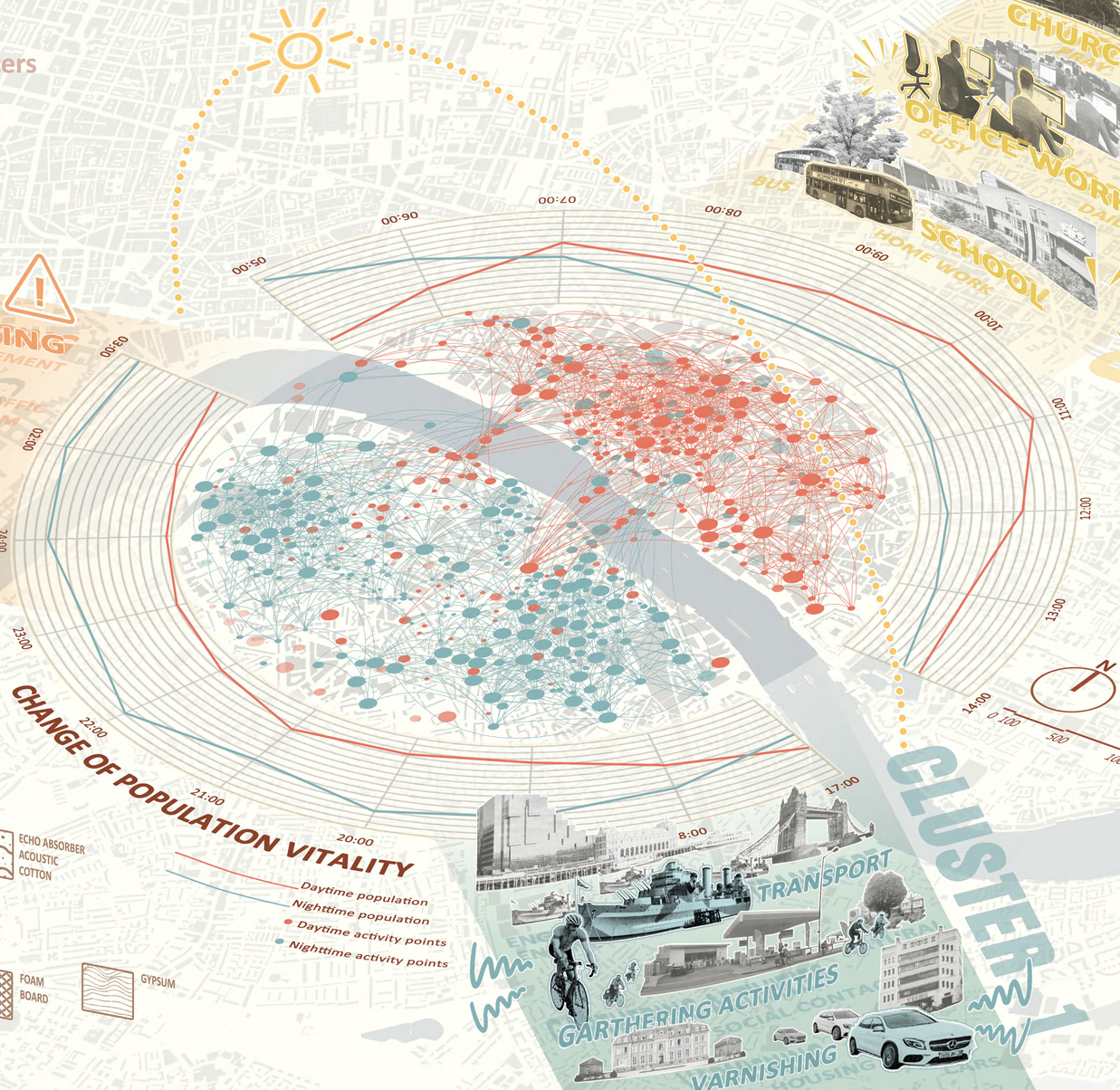
CLUSTER INTERVENTION

Different policy for the dominant clusters



CLUSTER 0





CLUSTER 1

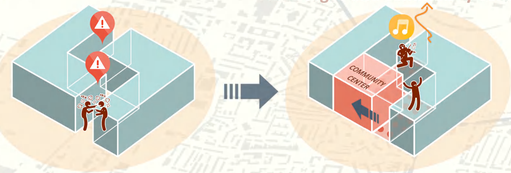


CLUSTER 4

NARROW SPACE UPDATE STRATEGY

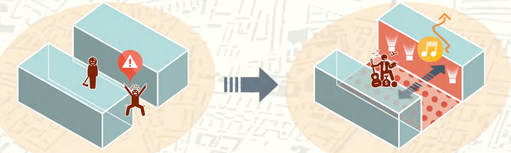
CLUSTER 0 - NARROW ROADS

Add stages and community center



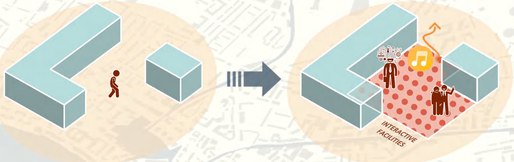
CLUSTER 4 - HORRIBLE NIGHT ROADS

Add lighting and night bands



CLUSTER 1 - IDLE LAND

Add interactive facilities and music rooms



RAILWAY LINE

Add sound absorption devices and facilities



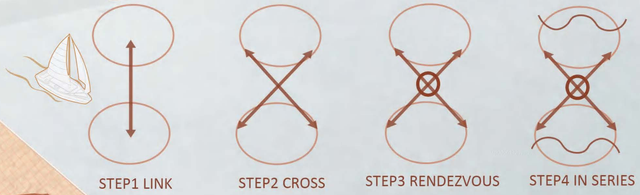
MÖBIUS RING

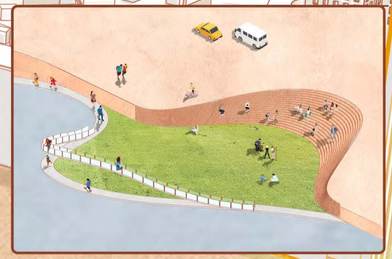
Circular soundwalk construction



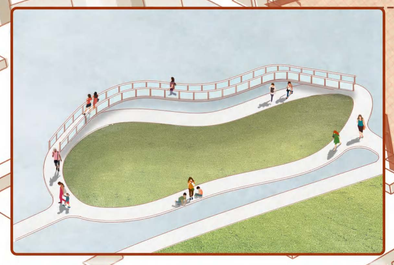
BRIDGE RENOVATION

Multifunctional interpretation space





Waterfront steps and lawns provide amphi-theater for open-air performances



The waterfront plate provides space for people to rest and play in the water

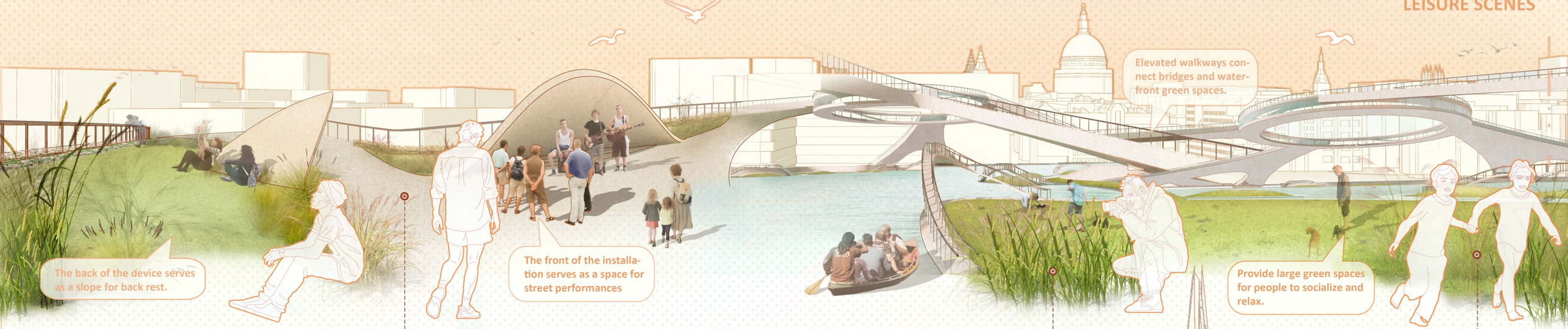


Increase performance space in the green space on the bridge deck, provide perfor-mance space for street artists, and guide passers-by to stop and watch.

WATERFRONT REMODELING

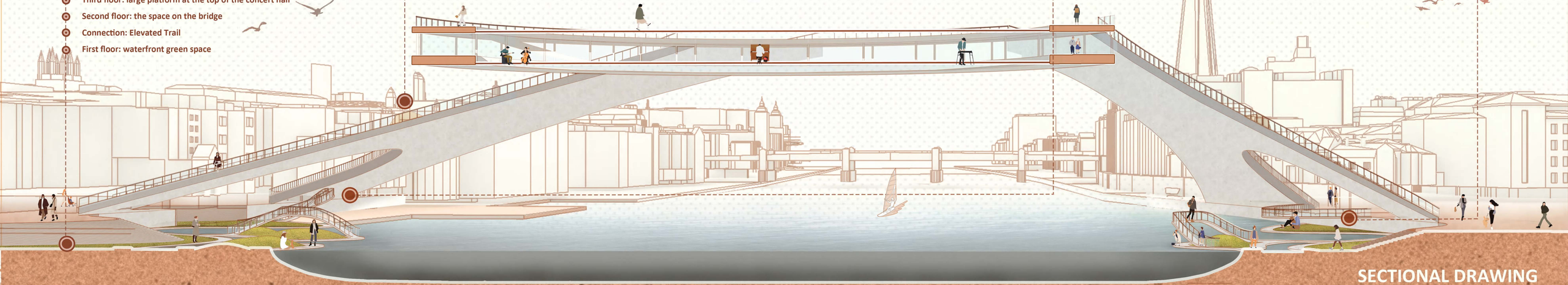
Multi-dimensional sound interactive space creation

LEISURE SCENES



MULTI LEVEL ACTIVITY SPACE

- Third floor: large platform at the top of the concert hall
- Second floor: the space on the bridge
- Connection: Elevated Trail
- First floor: waterfront green space



SECTIONAL DRAWING

LONG LINE STAGE

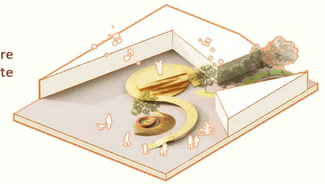
Community renovation for the old and children

For Cluster 0

The first renovated public space is designed to create a pedestrian-friendly street space with a focus on enhancing the social interaction of the elderly and children during the daytime.

A OPEN STAGE

It is a completely open stage where artists can unleash their delicate dance moves.



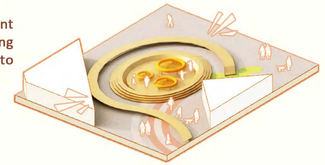
B SEMI-OPEN STAGE

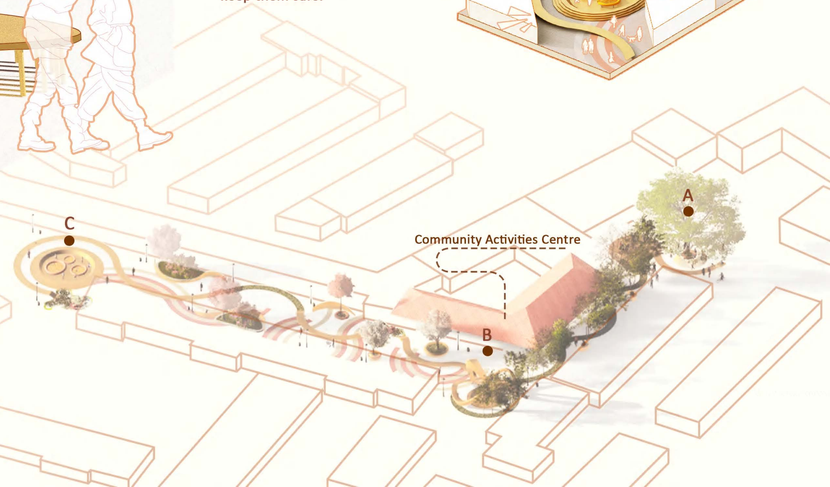
It is a semi-open stage with a focus on beautiful voices and limited physical activity.



C ENTERTAINMENT AREA

This is a climbing and entertainment area for children, with low climbing nets set into the sunken platform to keep them safe.





NIGHTTIME BAND

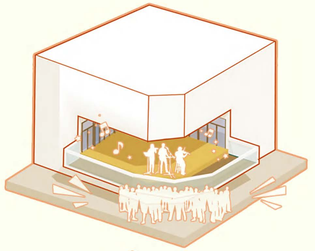
Open external performance space for night vitality

For Cluster 4

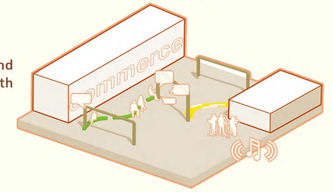
The second renovated public space focuses on enhancing nighttime vitality and nighttime commerce to create a vibrant nighttime activity space.



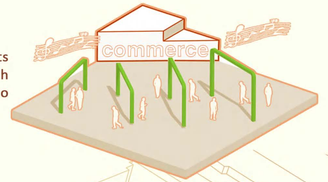
A PLATFORM
It is a semi-open platform on the first floor where the band can sing.

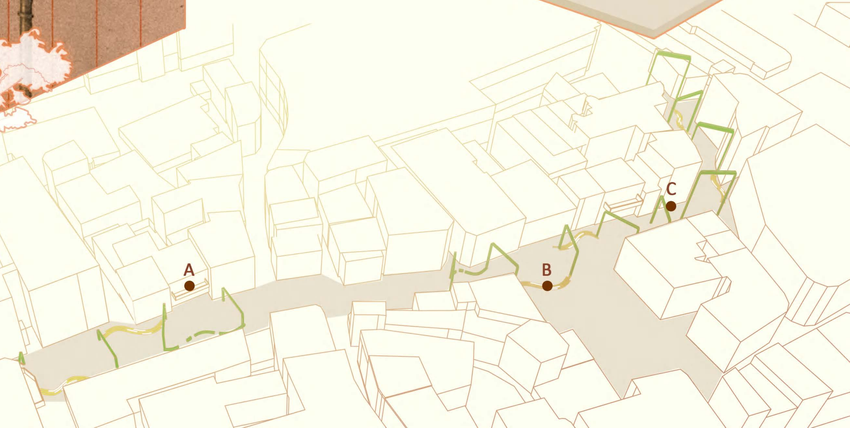


B SEAT
It is a seat for the crowd to rest and enjoy the show,and together with the flooring it enhances the space.



C DEVICE
It is a luminous device that reflects the rhythm of the music through changes in height and is accessible to people.





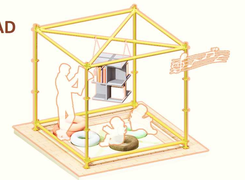
CREATIVE CONVERGENCE

Diversified movable installation for creation

For Cluster 1

Movable and transformable simple installations are arranged in the public space, and a music creation room is added to encourage residents to visit for vocal music creation.

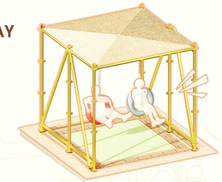
READ



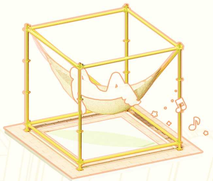
CREATE



PLAY



REST



SIT



PAINT







SOCIAL INTEGRATION

Comprehensive cross-design for multiple social issues

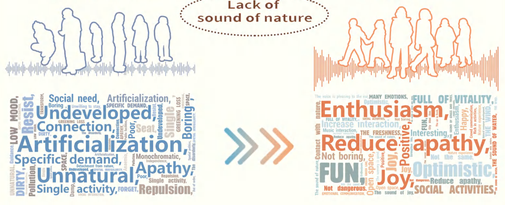
Waterfront Renovation

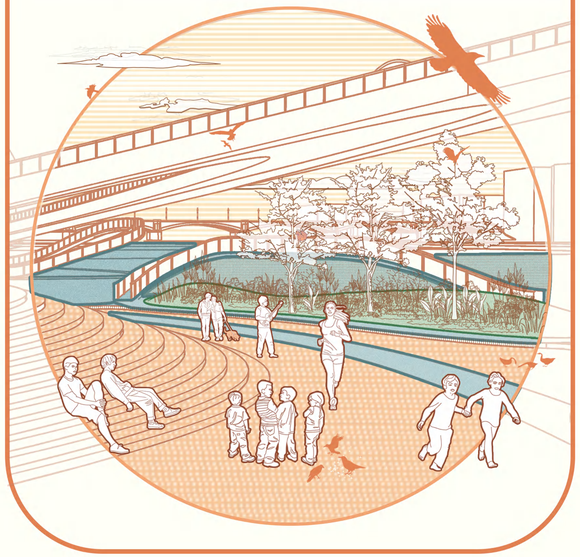
BEFORE | AFTER

UNCONNECTED

Lack of sound of nature

INTERACTIVE





Social - friendly Space

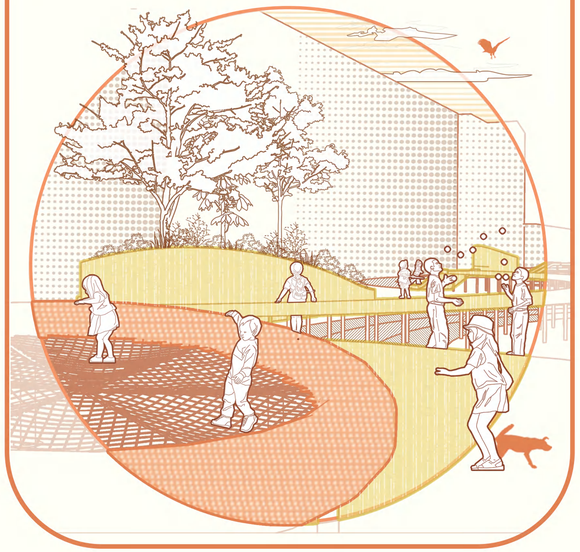
BEFORE | AFTER

UNCONNECTED

The negative impact of crime rate

INTERACTIVE





Increase Nighttime Energy

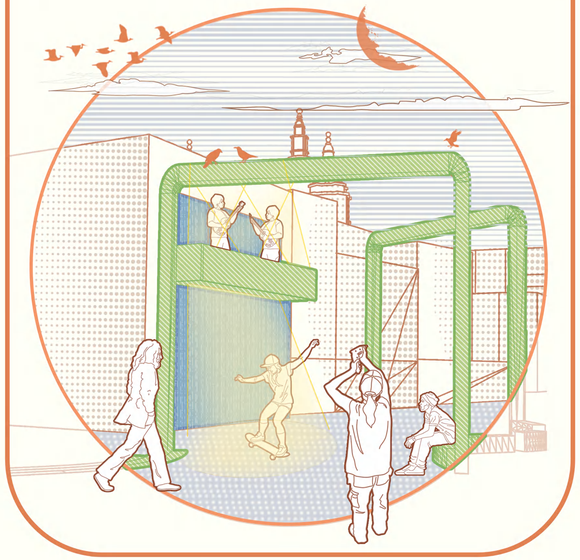
BEFORE | AFTER

UNCONNECTED

Urban tidal phenomenon

INTERACTIVE





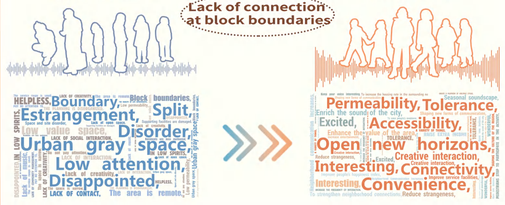
Creative Space Construction

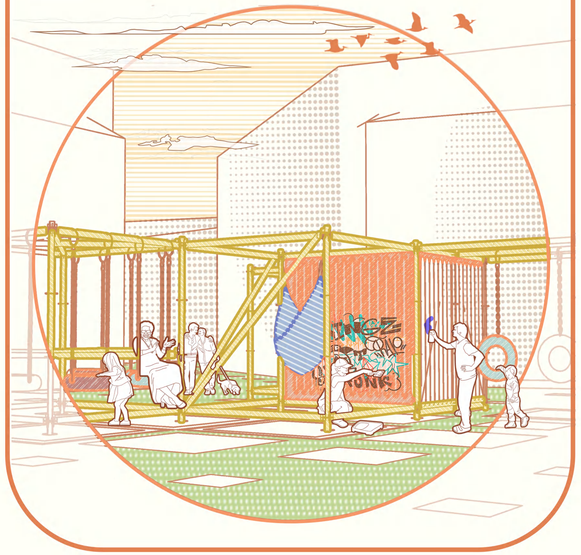
BEFORE | AFTER

UNCONNECTED

Lack of connection at block boundaries

INTERACTIVE



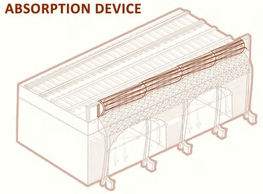


NOISE REDUCTION

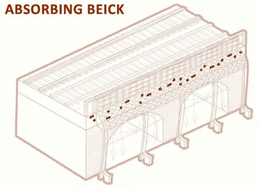
Noise treatment along the railway line

In order to feed the different kind of datasets to machine,data resampling method is used

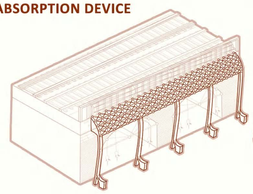
PYRAMID TYPE SOUND ABSORPTION DEVICE



PERFORATED SOUND ABSORBING BEICK

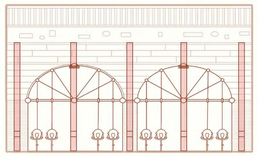


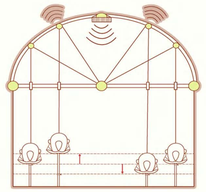
BRAIDED SOUND ABSORPTION DEVICE



ACOUSTO-OPTIC LINKAGE

Turns on the acousto-optic switch as the seat moves.







RHYTHM EVOLUTION

Riverfront space

10:00 A.M.
1
NATURAL

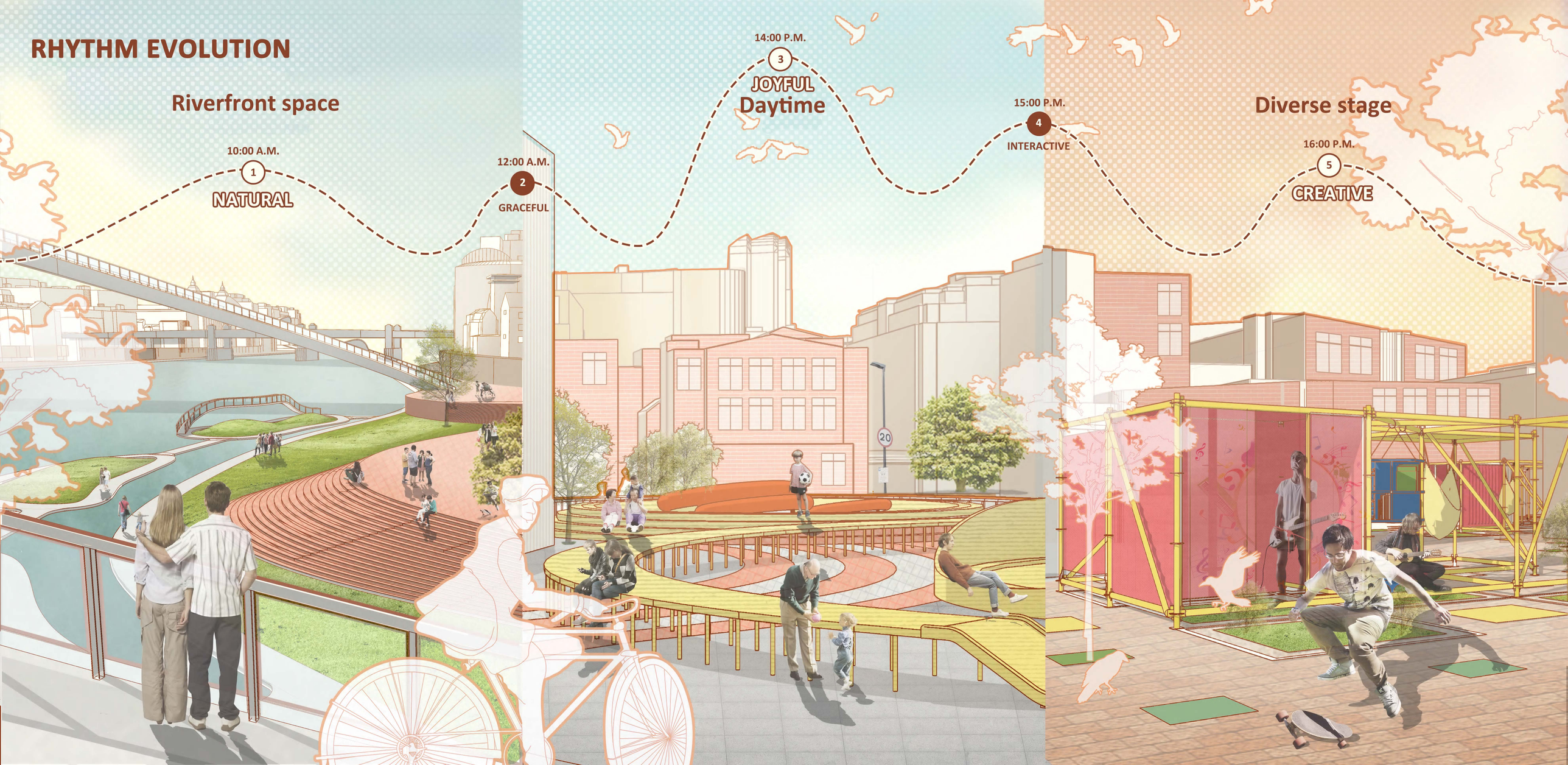
12:00 A.M.
2
GRACEFUL

14:00 P.M.
3
JOYFUL
Daytime

15:00 P.M.
4
INTERACTIVE

Diverse stage

16:00 P.M.
5
CREATIVE



RHYTHM EVOLUTION

Bridge

18:00 P.M.

6

RELAX

20:00 P.M.

7

FESTIVAL

Nighttime

Church area

6:00 A.M.

8

ETHEREAL

8:00 A.M.

9

CULTURAL

