

ARCHITECTURE DEPARTMENT

CHINESE UNIVERSITY OF HONG KONG

MASTER OF ARCHITECTURE PROGRAMME 2000-2001

DESIGN REPORT

**STREETCORNERS, UNDER THE FLYOVER –
DEVELOPMENT OF A CIVIC PROMENADE**

CHOY Pui Cheung Edman

June 2001





Department of Architecture The Chinese University of Hong Kong
Master of Architecture Program 2000-2001 GRADUATE THESIS DESIGN REPORT
Streetcorners, under the flyover : Development of a civic promenade by Choy Pui Cheung Edman 99207860 Jun 2001

table of content

prologue	p. 1	design concepts	p. 35-38
initiation	p. 2	design strategies for environmental improvement	p. 39
short study	p. 3-15	design record on conceptual design	p. 40-41
issue	p. 16-17	design record on design development	p. 42-63
hypothesis	p. 18	design record on final design	p. 64-84
project goal	p. 19	precedents	p. 85-93
user profile	p. 20	epilogue	p. 94
justification of the site	p. 21-22	bibliography	p. 95
site history	p. 23		
site analysis	p. 24-30		
program	p. 31-34		

acknowledgement

Many thanks to my teachers, colleagues and friends for their continuous support on my research project. In particular to Professor Steve Houghton, Professor Essy Baniassad and Mr Martin Fung for their guidance, inspiration and criticism. I would also like to thank Professor Wallace Chang and Professor Jeff Cody for their insight and encouragement of all kinds. To Lucia Cheung, Christina Hau, Hogan Wong, Rapture, Hoi, Tat, my gratitude for their friendship and support.

Most of all, I would like to thank my dearest friend Meiling and my family - my dad and mom, my aunt Wah, my sister and her Terence, for their wonderful support in doing the final presentation, for their sincere care and encouragement. Especially many thanks to my dad, without his endless effort and passion in working out the real-scale model with me, I probably would not be able to finish the project.

There was a book published around July 2000 called *Chairman Tung*¹. It was a comedy, but made out of tragedies. It was a cry for help that no more tragedies caused by the misconduct of the Hong Kong government in dealing with many social affairs would happen again. It symbolized the general public's dislike of and angry with the government had reached the climax. It also expressed the feeling of helplessness of the general public in trying to influence the government policies. Ironically, there was nothing people could do but take this ironic approach as an alarm to the government. This was the political atmosphere in Hong Kong at the time I started my thesis. As an ordinary Hong Kong citizen, I was deeply astonished by what was going on in the society. The situation was like keep blowing air into a balloon even if it was already very close to the threshold of bursting out.

But luckily, however worse is the political atmosphere, Hong Kong is still a relatively stable and peaceful society. Hong Kong people were mostly taking actions like petition & demonstration to express their opinions, violent action like riot did not seem to be likely to happen. Therefore I would tend to interpret the situation more positively that it was also signifying the civic sense of the society had reached a new stage of development. Hong Kong, who unprecedentedly changed from a solely commercial force driven British colony to an autonomous special administrative regional government of Chinese sovereignty, is going to witness the increasing concern of her citizens in social policies and willingness in social participation.

As a response to this unique social scenario in Hong Kong history, this project is trying to enhance the development of the civic sense in the society and open up new possibilities for public dialogue between citizens in the urban context.



¹ see figure for cover of the book with a distorted comic portrait to make fun of the HKSAR Chief Executive Tung Chee Hwa. English name of the book stated here is not an official translation from the Chinese title.

The project was initiated by looking at the existing pattern of political expressions in Hong Kong.

Since the sovereignty return, the society was mainly trapped in the economic downturn. The general public was dissatisfied with the social reforms proposed by the government including economy, housing policy, health care, education system, political election, social welfare, etc. Almost every aspects of the society was under vigorous discussion and argument. People who would like to express their opposition mostly took petitions, demonstrations and strikes as the most effective channel to bring the widest public attention and to signal their demand to the government. Some 6000 demonstrations/processions² have been held since sovereignty return in 1997, an astonishing number indicating tremendous increase in these few years. Public procession and assembly became events that appeared in the news almost every week. Hong Kong was even once described by the foreign media as *A City of Demonstrations*. This social scenario has the following implications:

(1) The existing channel for communication between the government and the general public was not adequate. The request from the public was not fully understood and fulfilled. The grievance was not properly released. The cause was the limitations in the current political system which constrained the level of formal political participation like direct election.

(2) Following the above point is the continual increase in the informal political participation which is developing into a form of mass ritual or culture, where in this particular scenario is taking the form of mass demonstrations. The general public is now accepting this as the most legitimate and usual happenings in this city, which is not understandable in previous years.

The following pages will be several short studies trying to reveal different issues relating to this developing culture or phenomenon in terms of who, what, how and where to express political opinions.



² data from HKSAR government press release, *Government response to frequently asked questions on Public Order Ordinance*, 14 Dec 2000

short study

01. RECORD OF A DEMONSTRATION EVENT

This event illustrated the interesting transformation between individual and mass. The process of gather, match, dissolve, disappear, re-config and reinforce showed the fascinating potential of collective power of individuals. Having a definite goal, transformation from an ordinary ferry passenger to a powerful mass of thousands is only in 15 minutes.

The demonstrators are usually "powerless" (powerless in the sense that they did not enjoy any privileges within the circle of authority) individuals grouped together to create a "powerful" entity. They feel the power by seeing each other's presence and reinforce the power by shouting out together.

However, demonstration is also the situation that most effectively suppressed the sense of self and cancelled out the individual mind. Therefore demonstration is also a dangerous tool to control and utilise mass for a particular political purpose and even worse is loss of control that would result in barbarian action like riot.

streetcorners, under the flyover : development of a civic promenade



4. mass completely dissolved, individual passengers



3. mass diluted, getting on ferry



2. mass approaching Star Ferry Pier



1. mass demonstration across Legco



B. ending point, public assembly outside New World Centre, TST



维多利亚港

VICTORIA HAR



8. mass stretching along the waterfront promenade



7. mass demonstration started again



6. mass re-organised and re-configured, no. of people increased



5. individuals getting off ferry



A. starting point, public assembly in Charter Garden, Central

02. IMPACT AND CONSTRAINT OF DEMONSTRATION

Demonstration can happen in anytime, anywhere & with anybody. As long as there is an issue that touches either the interest of a particular social group or the society as a whole, there will be a strong bonding force pushing people to perform demonstration. This bonding force is strong like a diesel train head that once it is started there is no easy way to stop and brake it but to give way to it. It can sometimes be regarded as a constructive social adhesive force (especially in an event of national level) but at the same time can be rather destructive, like the two figures on the right commonly seen on TV or in the press. As explained previously, mass demonstration can easily tend to be irrational and radical. It can be a train leaping forward even there is no more tracks in front. If the police for some reason has to stop or divert the demonstration route and without proper negotiation with the demonstrators, conflict and even violence is very likely to happen, especially under the circumstances in losing control of manner for both parties.

Demonstration not only needs to fulfill the purpose to demonstrate the public demand, to express political opinions openly, publicly but also to bring the widest public attention. Therefore when the mass marched across the busy district in the city, it catches the attention of everyone in the street, both concerned, unconcerned. But at the same time, within this dense urban fabric, a mass demonstration usually will have quite serious impact on the road traffic, making inconvenience to the general public.

To conclude, demonstration is an effective means to quickly bring an issue on the table. But on the other hand, it conveys very strong sense of confrontation, opposition and destruction to the existing polity which would induce social instability (especially from the eyes of the authority). This is mainly the reason why the government insists on amending the *Public Order Ordinance*, for more efficient control of public assembly. For a healthier civic society, we cannot too much rely on just this kind of political expression. We are to find a supplement which does not emphasize confrontation, and thus can gain wider acceptance both from the government and from the public. And as a result, open up an alternative channel for communication between the government and the citizens.



up: conflict between citizens and police in a mass demonstration event

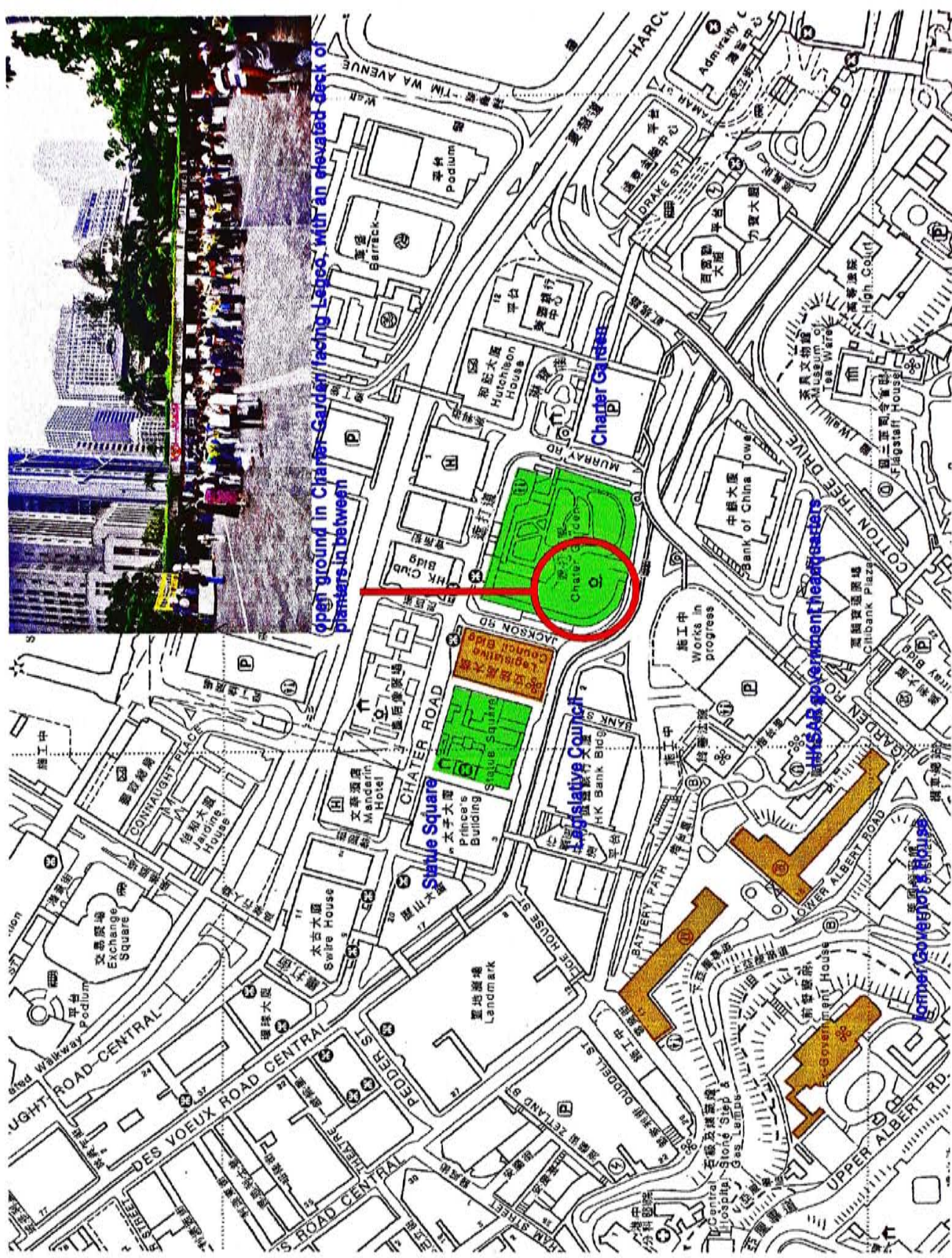
down: mass demonstration blocking the road traffic in the busy commercial district of Central

03. VENUE FOR PUBLIC ASSEMBLY

Charter Garden has long been a venue for public assembly in history and getting more widely used in recent years. People usually gather there before marching up to the government headquarters or to other destination as shown in the previous example. The garden is also daily used by different groups of people such as the office workers, philipinos, tourists, etc. The site was chosen to be a hot spot for public assembly probably because of its adjacency to the government headquarters and the site is the only little piece of empty open ground left in this commercial heart of the city.

However, the garden is no longer able to cope with the increasing number of users and the more variety of usages. A pavilion design charette was held as an attempt to convert the garden for different uses in different time frame.

Two main gesture, addition of a public media screen to enhance a visual focus of the place & extension of elevated deck along the existing planter for a second storey of resting and gathering.



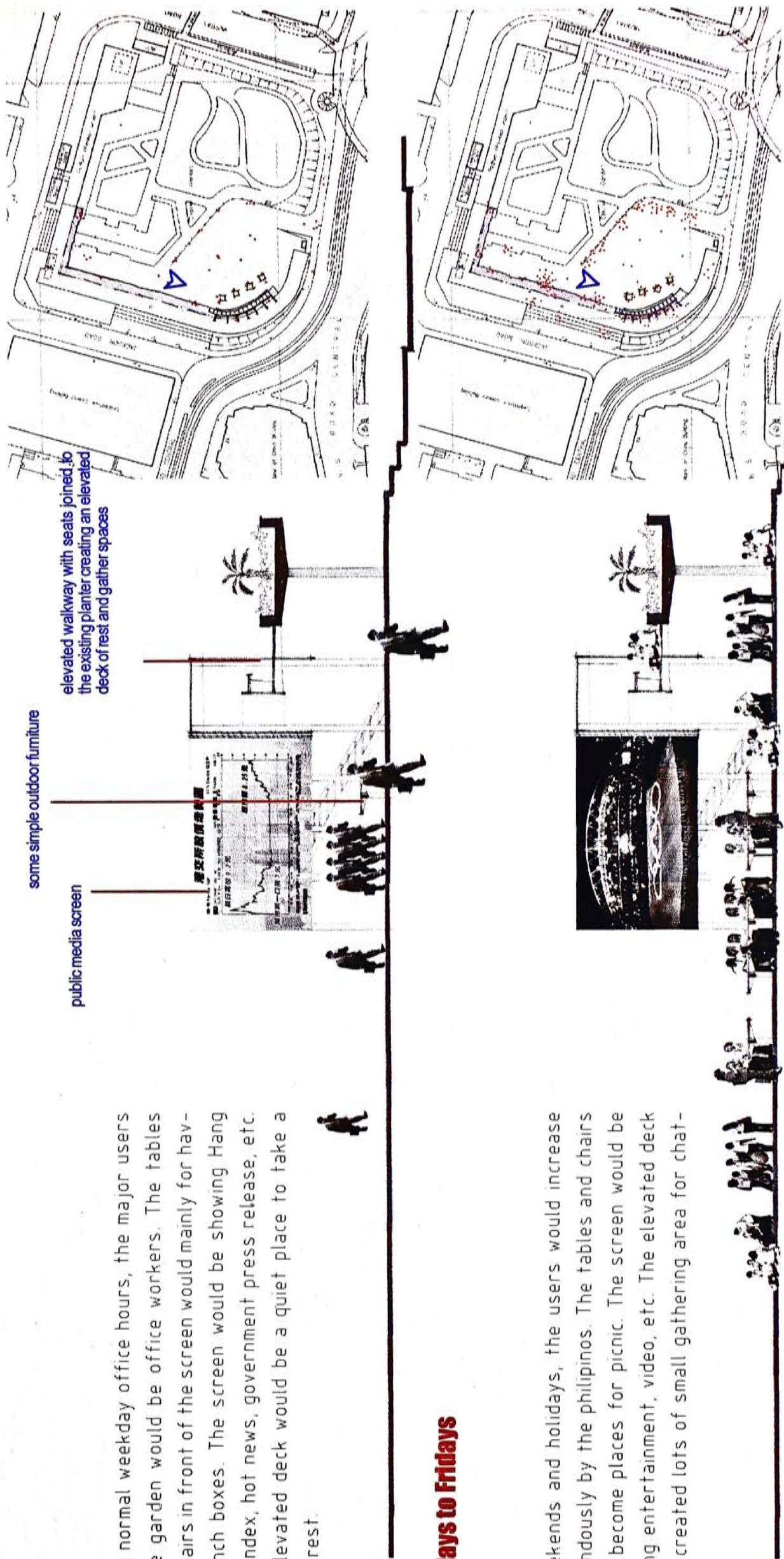
03. VENUE FOR PUBLIC ASSEMBLY - PAVILION DESIGN CHARETTE AT CHARTER GARDEN

during normal weekday office hours, the major users of the garden would be office workers. The tables and chairs in front of the screen would mainly for having lunch boxes. The screen would be showing Hang Seng Index, hot news, government press release, etc. The elevated deck would be a quiet place to take a short rest.

some simple outdoor furniture

public media screen

elevated walkway with seats joined to the existing planter creating an elevated deck of rest and gather spaces



Mondays to Fridays

in weekends and holidays, the users would increase tremendously by the philipinos. The tables and chairs would become places for picnic. The screen would be showing entertainment, video, etc. The elevated deck would created lots of small gathering area for chatting

Sundays and Public holidays

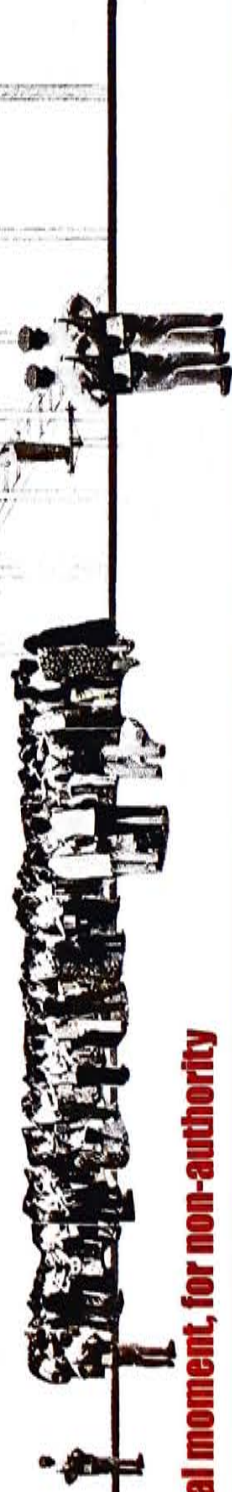
03. VENUE FOR PUBLIC ASSEMBLY - PAVILION DESIGN CHARETTE AT CHARTER GARDEN

the place could also be dedicated solely for an event in special moment, like the time of election. The simple outdoor furniture would support the set up of registration booth, then following the stairs to the upper deck would be individual voting cubicles set up behind the screen used for propaganda, voters then follow the elevated walkway to exit, completing the circulation.

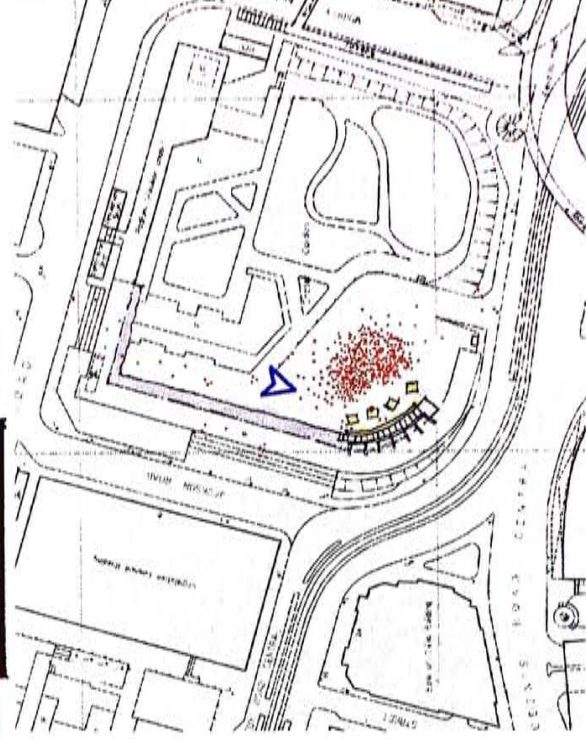
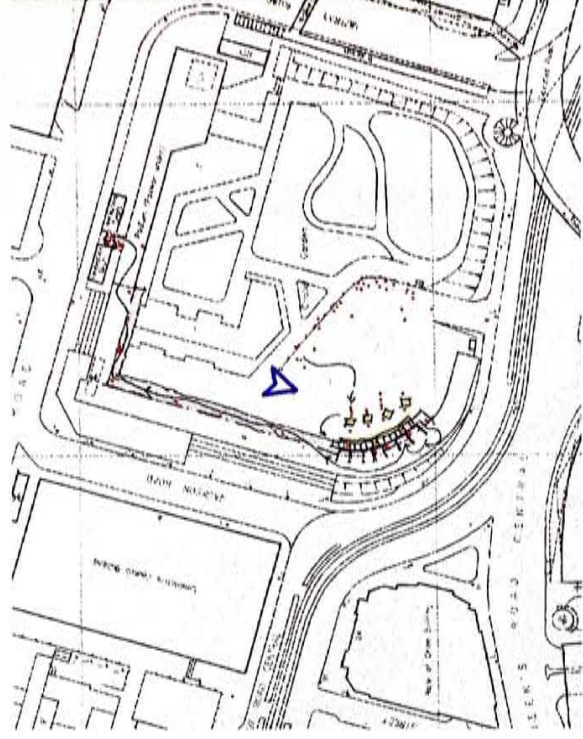


Special moment, for authority

public assembly is also enhanced by using the big screen for propaganda, projection, etc. The furniture converted to temporary stage. The upper deck would be good location for the news reporters to take snapshots of the event.



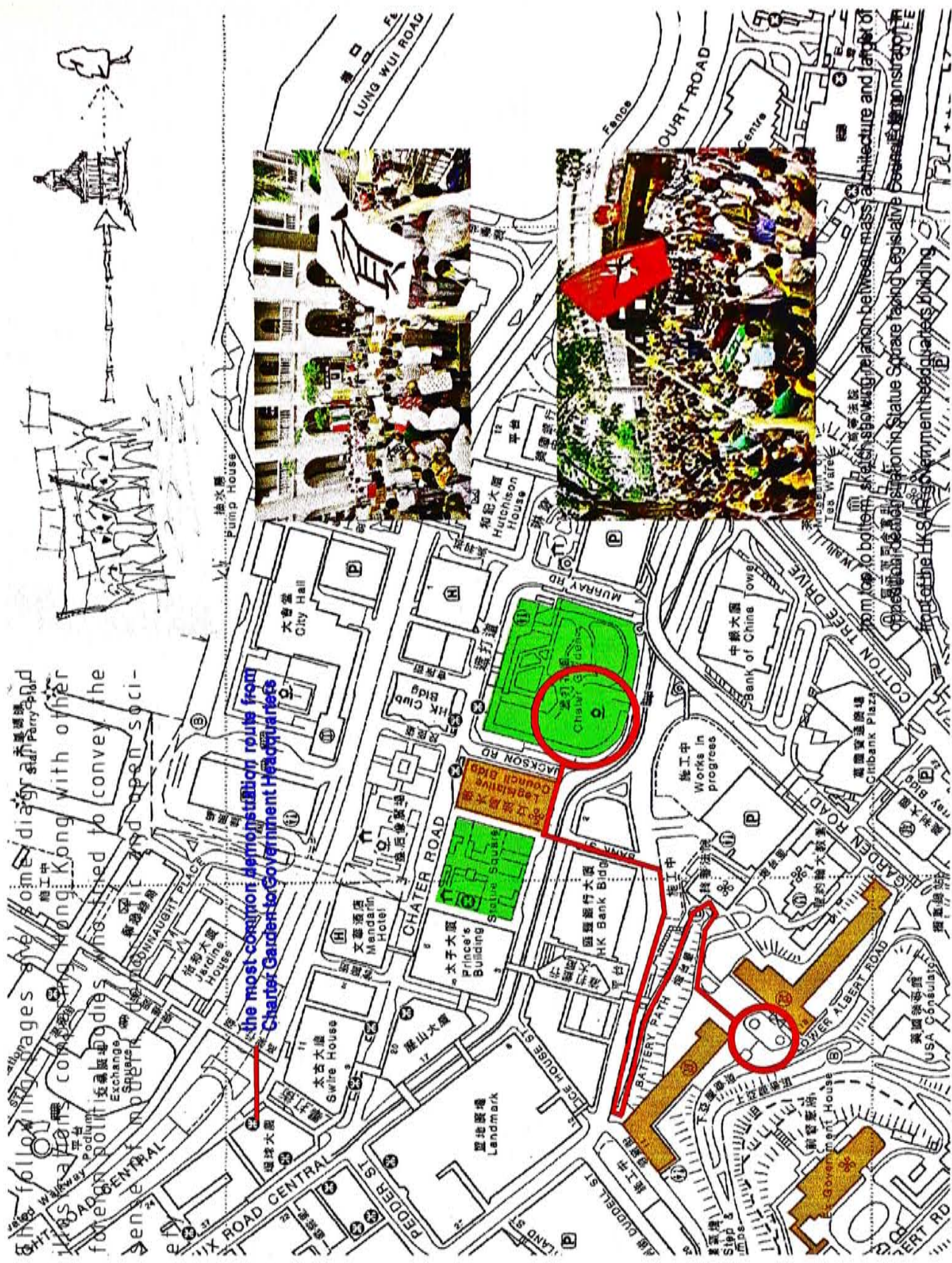
Special moment, for non-authority



04. ARCHITECTURAL REPRESENTATION OF A POLITICAL BODY

The destination for demonstration is usually a physical structure which represents or symbolises the authority. In some cases, a building would become destination for demonstration solely because of the presence of the concerned officials, like the example mentioned previously, the hotel itself is not political at all, it just functions as a shield for the person whom they try to oppose to. Therefore the type of occupancy in a building is an important factor to signify the meaning of the building and to represent the authority.

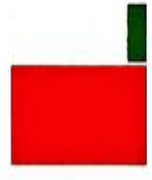
The most common type of occupancy for political structures of course would be buildings like government headquarters, legislative council, parliament, etc. And there are certain architectonic strategies used in many built examples in history that tried to give people different perception of the political power and ideology. From the ancient pyramid that used solid pure geometry of vast scale to suggest eternal absolute power to the contemporary new parliament in Berlin that used transparency to suggest an open democratic government, the sense of power and authority is solidified and expressed through architectural manipulations like scale, proportion, geometry, symmetry, axis, use of material, etc.



04. ARCHITECTURAL REPRESENTATION OF A POLITICAL BODY

The 60's design of the existing government headquarters did not seem to reveal the British sovereignty (maybe this was intended for the laissez-faire colonial government at that time). In front of the building is just a vehicle roundabout with no support for public gathering.

adjacency



HKSAR Government Headquarters



The planning of D.C. was based on axis and symmetry with the Mall as the main focus. This formal order of hierarchy and vast horizontal scale gives clear sense of importance visually and the fully lawn area becomes recreation ground for the citizens

surround, hierarchy, formal order



Mall, Washington D. C. USA

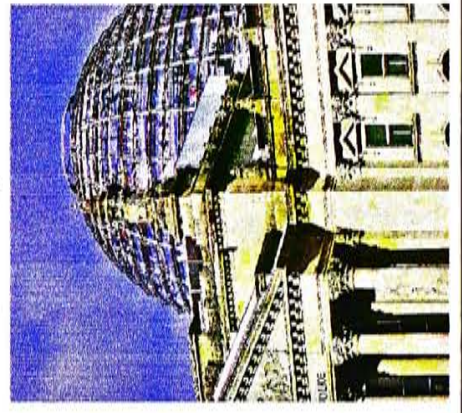


This new parliament tried to represent a new Germany. The public is allowed to get inside and to the top of the building and view down to the politicians meeting in the assembly hall very transparently.

penetration, transparency

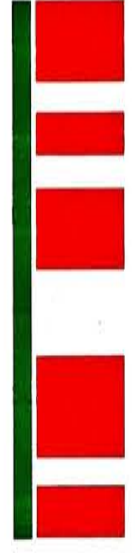


Reichstag Parliament House, Berlin, Germany

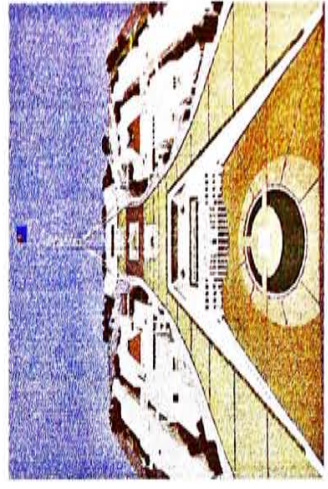


The new parliament house for Australia has everything underneath and give way of the whole upper deck to be public open ground. The only uplifted item is the national flag which stands like a sculpture to make a prominent statement of the nation.

underneath, subversion



New Parliament House, Canberra, Australia



04. ARCHITECTURAL REPRESENTATION OF A POLITICAL BODY

The government proposed to build the new gov't headquarters on the Tamar open ground in Admiralty. From the image of the scheme, we can see clear gesture to make symbolic importance of the place, by exaggerating the horizontal scale to a big plaza and vertically to huge towers. Located prominently at the waterfront will further signify the centralised power of the gov't. Is such powerful expression of authority the most suitable for Hong Kong, a place well-known for its vitality from minimal government interference? Is this too much like the classical monarchy? Is it better to break down to more humane scale and approachable for the general public?



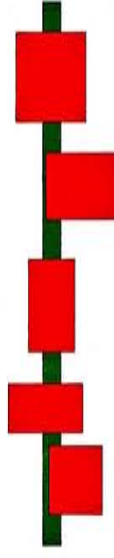
exaggeration



Proposed New HKSAR Government Headquarters



POSSIBILITY:
dispersed, adjacency, fluidity



Re-interpretation of the new government headquarters

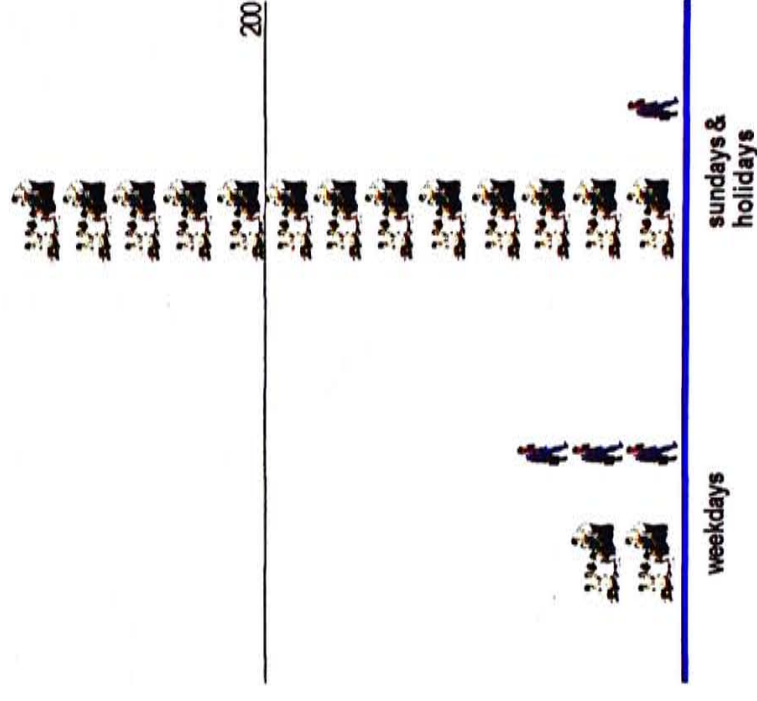
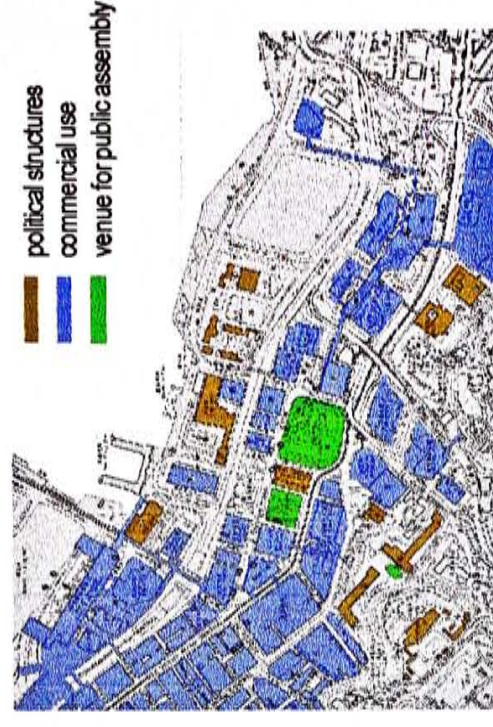


05. CONTEXT IN WHICH THE POLITICAL BODY IS SITUATED

The major political structures in Hong Kong are situated within the core business district in Central, surrounded mainly by commercial highrises (see location map). This implied a very clear pedestrian pattern of the surrounding area. In weekdays and office hours, the area will be packed with office workers, whereas in weekends and holidays, very few Hong Kong people will be present. But instead, the area is packed with Philipinos (see figure for comparison in number of pedestrians)³.

As mentioned before, Charter Garden is developed to be a hot spot for political activities like public assembly. Getting wider public attention of course is one of the main goals. However, this kind of activities most often will be held on Sundays and public holidays, when all the nearby commercial towers are almost empty. That is why our knowledge of political activities like public assembly is often limited to several video shots appeared on TV only. To draw public attention and encourage public participation, just views on the screen is not enough, face to face communication is far more important. From this point of view, Charter Garden is not a very successful place for political gatherings (but of course on the other hand would be an ideal place for the Philipinos, as they sometimes do have the large-scale meetings concerning the migrant workers' social benefits).

Therefore we are to find alternative places in the city that can merge with the daily lives of the people, in order to encourage the general public to get in touch with the real happenings.



³ data drawn from my records on site visits, the figure is showing the rough proportion of the number of Philipinos to Hong Kong people appeared in Charter Garden on a Monday afternoon and a Sunday afternoon respectively.

06. SHOPPING MALL IS PSEUDO-PUBLIC SPACE

Story : daily routine of a typical Hong Kong bourgeois life

Mr. To is a computer engineer working in 30/F, IFC, central. He lives with his beloved wife and little boy in 30/F, Tierra Verde, Tsing Yi. The daily routine for Mr. To is really convenient. He just gets the lift right down from home to Tsing Yi MTR station, takes the Tung Chung line and gets off at Hong Kong MTR station to his workplace. The whole journey takes no more than 30 minutes and he need not get out to any exterior indeed. He does not even have to carry an umbrella while raining. In sundays and holidays, the huge shopping mall is wonderful for his family. Children's playground, foodcourt, fashion, supermarket, home accessories, everything they need is there, in a comfortable, air-conditioned space. No external nuisance at all.



~~INTERCHANGE~~

Story : a political propaganda event

Mr. Sze and his friends are a group of Hong Kong citizens who concerned with social issues such as education, labour, etc. They are the few Hong Kong citizens who believe that apart from the big names in the legislative council, individual opinions and expressions are equally important to voice out and address to public in order to have a better future of the society. One Saturday afternoon, there was a carnival by Disneyland held inside the HKCEC. They wanted to hand out pamphlets in order to express their opposition to Disneyland's unfair treatments to their production workers in China. They started at the entrance to HKCEC. "NO!! This is a private property!" said the security guards. Then they went to the footbridge connecting to HKCEC. "NO!! This is still a private property!" Open podium in Great Eagle Centre? "NO!!" Footbridge to Central Plaza? "NO!NO!NO!!" They concluded that along the main pedestrian flow connected by footbridges between all the commercial development in Wanchai, there is not even a spot that allow them to stand. Finally they gave up.



07. EXISTING PATTERN OF POLITICAL PROPAGANDA ON STREET

Summarizing the previous short studies on the location for political activities, it is important to encourage the interaction between citizens in "genuine" public space, where desirable locations would be in the urban context and on the street. At present, there do exist certain kinds of political activities on street, examples are the figures listed on the right. This kind of activities have the following characteristics:

(1) **high mobility.** For best propaganda effect, it is important to reach out to different communities. By simple alternations like sticking banners and adding loudspeakers, an ordinary private car can be effectively converted to a moving stage that brings the politicians to public recognition in different places of the city.

(2) **high flexibility.** A little setback space along the pedestrian sidewalk is also potential venue for political activities like street interview, where it is the most effective place to catch the busy pedestrian flow. In order to fulfill the temporary program, simple and minimal furniture like foldable tables are used in order to be easy install, change layout and dismantle.

(3) **high adaptability.** Political signage is also a common feature we can see in the city. They are most often made of thin plywood board painted and mounted onto existing street railings using plastic strings. This method saved cost when compared with installing a self-standing exterior signage system. This also demonstrated the characteristics to adapt and make full use of already available social resources.

However, there is a lot of constraints given in the dense city fabric that limits the potential for such activities. For example, the traffic problem in the city would make the propaganda vehicle either need to move in high speed or cannot move at all. The sidewalk in the city is so tight and narrow that most of the places would not be suitable for such installations. The full sun and rain exposure would make the signage boards not be able to sustain for longer period of time. Therefore, further attempt to enhance the potential and explore more possibilities for public interaction within the dense urban context is needed.



from top to bottom: two Legco election candidates promoting themselves on a private car, democratic party holding a street interview, notice boards of different political parties mounted on street railings.

CONCLUSIONS

Although the previous short studies do not seem to have any direct relationship with each other, they do indirectly contribute to this project by laying down the foundation and background for it. A number of key points are drawn from each study to give direction and rationale for the choice of client and target user group, site, design strategy, etc. in further development of the project.

01. Political activity cannot be detached from mass gathering. Mass, i.e. collective power of ordinary individuals, can induce fascinating results. Mass can be very constructive as well as very destructive.

02. In the current Hong Kong socio-political situation, mass is often regarded (both by the HKSAR government and the PRC central government) as dangerous and to be avoided. Mass demonstration would induce social instability. For a healthier civic society, we are to find the supplement of non-confrontational political expression to balance the now too much emphasized way of expression.

03. Within the dense urban context, place that is able to hold public functions is very inadequate and limited. Flexible change of use of the same space to accommodate different public activities is often necessary.

04. There is a close relation between our perception of power and its architectural representation. Breaking down the buildings to closer to human scale can lessen the sense of unapproachable authority and feel closer and touchable to the general public.

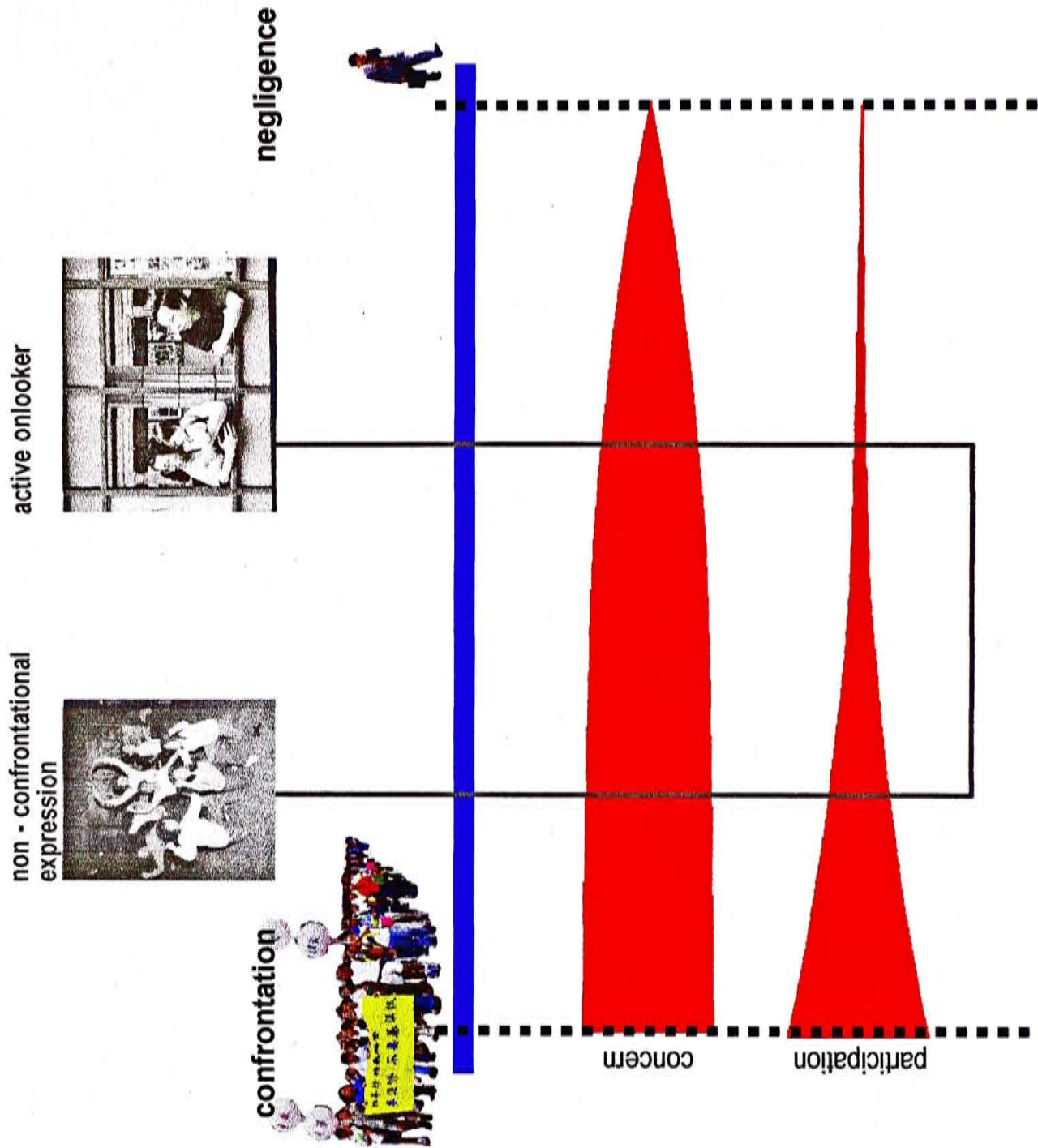
05. To encourage public participation, views on TV is inadequate. Let the public be able to get in touch with the real happenings is very important. Places that can merge with the daily lives of the people, in the dense urban fabric, need to be explored.

06. Although shopping mall is now a place of absolute guarantee that can draw the greatest number of people, the nature of shopping mall is incompatible with free public expressions. It is important to re-emphasize developing genuine public space that is free from private enterprise driven mega property development

07. Existing political propaganda on street has the essential characteristics of high mobility, flexibility and adaptability. However, owing to the limitations given in the dense urban context, the potential for more varied activities is not yet developed and need further explorations.

ALTERNATIVE WAY OF POLITICAL EXPRESSIONS IS EMERGING

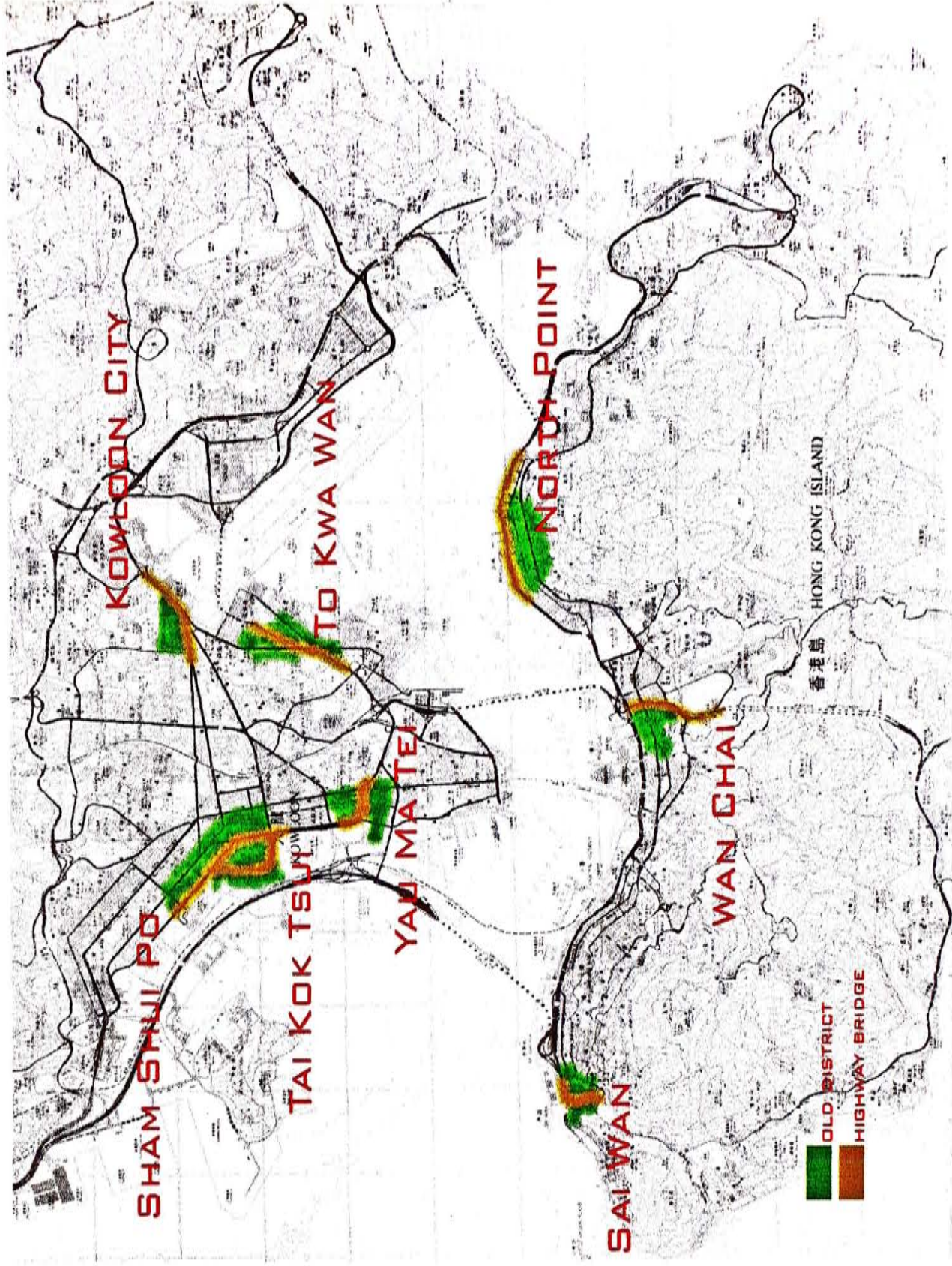
Concluded from the previous short studies is the importance for Hong Kong to develop alternative way of political expressions that is non-confrontational, for example, through cultural activities. This is actually quite common in other, especially third world countries, but it seems very little effort has been put on that in Hong Kong. However, since the sovereignty return in 1997, we started to see the establishment of some charitable organizations (detailed descriptions see later section) who concentrate on developing multi-media like drama, music, video, photo, etc. to help them voice out their political opinions. This I think is a good signal that social movement in Hong Kong is flourishing and getting more mature and multi-directional. The mentioned organisations would be able to encourage public participation more effectively as they fit well with the nature of Hong Kong people that mostly are "active onlookers" who are concerned about what is going on in the society but not accepting the high-profile activities like demonstrations (see chart). As a response to this new direction in social movement, the mentioned organisations would be chosen as the subject users in this thesis study.



RESIDUE SPACES WITHIN THE URBAN FABRIC UNDER DEVELOPED

Also concluded from the previous studies is the importance to re-emphasize public interaction in the urban context and on the street. But the sidewalks in this city are mostly very narrow that constrained the usages. On the other hand, there are lots of residue spaces in the city that are currently ignored and under utilised. The most obvious example is the by-product generated by the vast development of traffic infrastructure going through the city, namely the spaces underneath the flyover (see figure).

Although there are certain environmental problems like traffic pollution associated with this kind of spaces, there are certain potentials for further development. And they are particularly suitable for the subject users in this project because they are spaces of negligence therefore of low land value, they are built structures therefore immediately available shelter for protection from rain and wind, they are extensive networks within the city therefore able to scatter and reach out to different communities, especially in the old district (usu. associated with lower social class). This gives the rationale for taking the spaces underneath flyover as the subject site for study in this thesis.





After a period of dissatisfied performance since the economic downturn, the HKSAR government wants to improve the public image and re-gain support from the general public. The government also wants to understand more about the citizens' social and political opinions in order to help in making more appropriate social policies for the major social reforms to come in the future. But the government is also worrying about the continual tendency to emphasize mass demonstration which would induce social instability. Amending the *Public Order Ordinance* would just increase the general public's misunderstanding that the government is going to control and prohibit this kind of mass gatherings. Therefore the government is to find an alternative but proper way to release the accumulated grievances from the general public, in order to supplement the undesirable effects of mass demonstrations

Political expressions through cultural activities provided good opportunities to fulfill the above demand. As a result, the committee on the promotion of civic education of the HKSAR government will consider granting the under-utilised, residue spaces underneath flyovers in the urban context to the self-organized, charitable & non-government organizations - NGOs (detailed descriptions see later section) upon their request, say, in a premium of \$1 for 50 years.

The missions for such establishment of the designed programs for the mentioned NGOs are:

(1) to enhance the civic sense of the society the proposal will give hand to the NGOs to run the place independently by themselves, therefore creating an atmosphere of citizens' active participation. The program will also more effectively attract and encourage citizens to voice out their opinions, and thus promoting interaction between citizens in public dialogue in the urban context.

(2) to re-define the possible way of political expressions by promoting this alternative ways to more public awareness, it would help to suggest multi-directions in social movement development in Hong Kong.

(3) to bridge the gap between government and the general public

such proposal will definitely help to improve the government's public image and open up new channels for the communication between the two parties, especially the mentioned NGOs are largely associated with the grass-roots of the society who would be influenced the most in social welfare policy.

I, being a Hong Kong citizen, was employed by the mentioned NGOs to make a proposal to the government to suggest feasible executions of this self-help independent establishment run by the citizens.

A GATHERING PLACE, AN ALLIANCE BETWEEN NGOS, A NETWORK FOR PUBLIC COMMUNICATIONS

The subject user chosen for this study is a relatively new NGO entitled "streetcorners" who emerged at the time of sovereignty return, the time at which different social agenda is under vigorous discussion. They are a group of ordinary Hong Kong citizens from diversified disciplines including:

- (1) university students and professors,
- (2) social workers,
- (3) social activists &

(4) volunteers from other charitable organizations who self-helped and self-organized to form this collaboration.

The nature of the organization is non-institutional, non-commercial and non-subsidial. They are concerned with various issues in the society including labour, community welfare, feminism, human rights, environmental protection, education, liberal arts, etc.

From the preface stated in one of their publications (see figure on the right)⁴, we can clearly see their objectives and vision to the society. They are not the highly-media concentrated "street-warriors" or "street-leaders" we saw in front of the camera, they

are in the "streetcorners", listening to the voices from the ordinary citizens, because they think individual opinions are equally important to be heard in the social development process.

They are not trying to seize any sort of power in the authority, they are not trying to ensure high votes in the election.

They just want to unveil the hidden and neglected social agenda concerning the social minorities and the disadvantaged groups, namely the grass roots in the society who are often discriminated or marginalized or even distorted in public's perception.

They aim to bring social justice to the society. They envision that there should exist an alliance of which various social activist groups and NGOs of the same mission can mutually support, criticise and concern about different social issues and future of our society. This project thus provides the opportunity to realise this dream. "Streetcorners" would then take the role of organizer and coordinator in establishing the place.

發刊詞

如果媒介投射出來的街頭運動、街頭戰士算是社會運動，那麼我們不在街「頭」，也不甘心只在街「尾」，成為領袖們的活動佈景板，我們在街角——一個與社會運動既近且遠的地方……。

經歷幾十年的社會發展，香港常自認為一個「安定繁榮」的城市。雖然既有利益者竭力捍衛既有制度，但香港從來不乏解體力量的搖籃；可是，在表面秩序井然的香港裏，社會運動也日漸秩序井然，形成大大小小各自代表不同利益的社運團體：工人、居民、女人、人權、環保、教育……，而且在各自日復一日的遵從自己的軌跡運轉下去。

如果社會運動不是例行公事，而是具反省性的行動與籌謀，那麼，社運團體亦不該是各種山頭的功能組別，也不是輕易接受建策安排，乖乖地反映民意成為官方的諮詢對象。互相支援、批評、共同關心社會改革議題，本就是社運團體夥伴關係的根基。

我們沒有甚麼解決社會運動的出路、方向、大計，但我們相信，街「頭」以外還有天地，讓社會運動的實踐與理論可以互相激盪，另類學術可以漸破象牙塔作出介入，文化及藝術行動得以擴大結盟，與草根社會有機地結合起來。

《街角》不單只是一份刊物，亦是：

- 一個可以駐足與朋友流連的地方；
- 一個開放溝通的角落；
- 一個擴散、連結的網絡……。

「街角」不願廣收弟子、自立山頭，只想與各方朋友建立起形形色色的連結，零星散佈在社運的角落。

不論你是一個、半個、四分之一個職業社運家，還是致力寫文、做研究、發中風的另類學術分子，又或是對文化藝術行數有特別偏好的朋友，都希望可以在「街角」與你碰面。

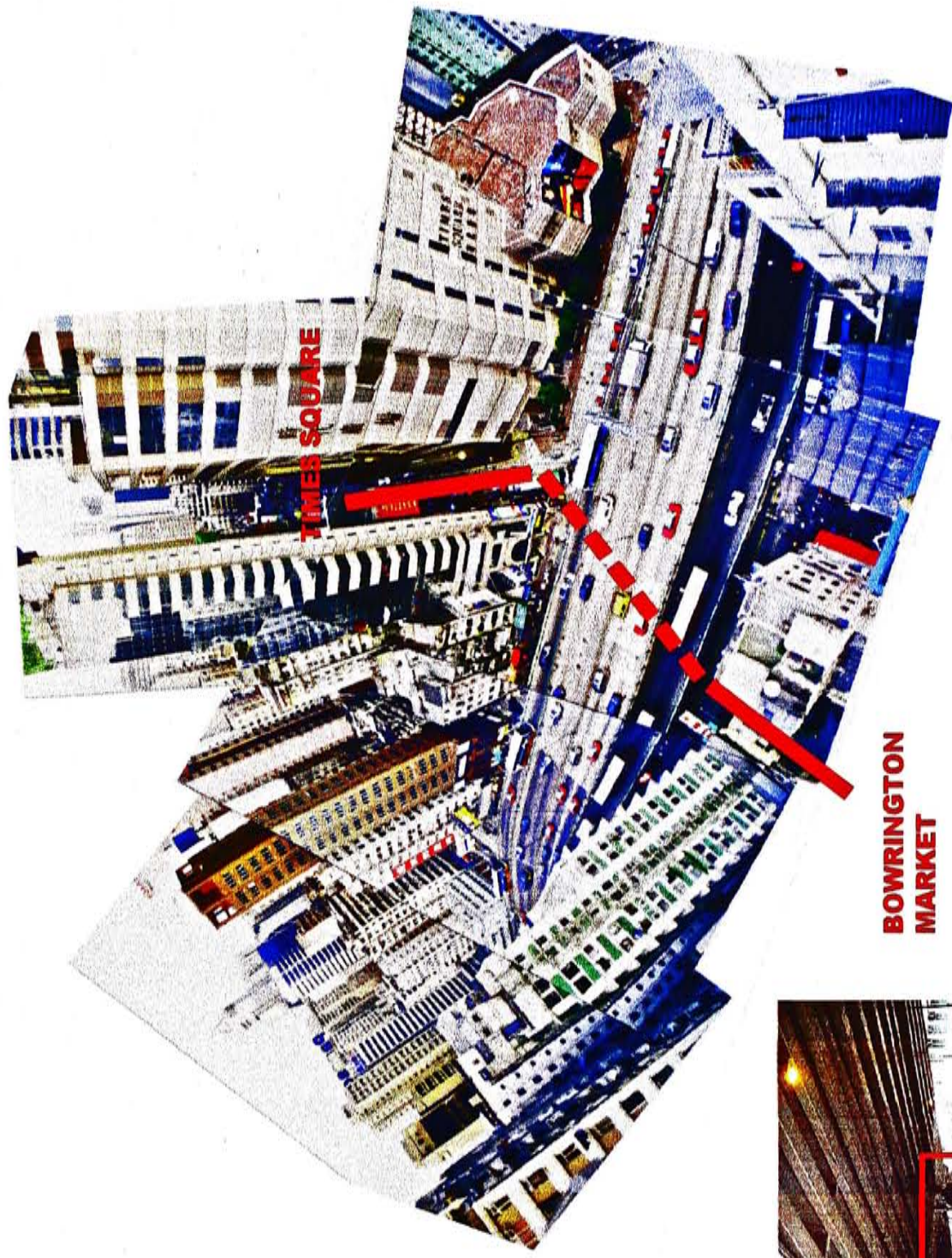
⁴ extracted from 葉蔭聰(主編)，《香港社運文化筆記-街角，窮人係懶人？》，(香港：街角出版，1999)

Justification of the site

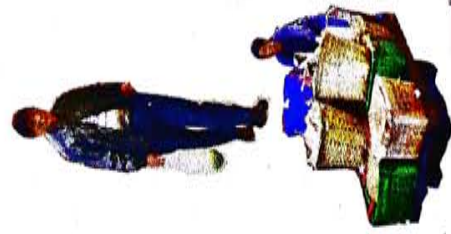
LEFT-OVER SPACE UNDERNEATH CANAL ROAD FLYOVER IN WANCHAI

In recent years, Times Square has been developed as a new hot spot for events and gathering. It draws tremendous amount of people to go shopping, wandering. However, to occupy a space for promotion costs \$40,000 per a weekday and even \$100,000 per a holiday. But interesting enough, just one minute's walk next is the Canal Road flyover in Wanchai which created lots of residue spaces underneath of no usage - \$0 per year. And most importantly, the flyover is also the major connection to the big local market - Bowrington Market on the other side. Therefore the site has the potential to attract a lot of different types of people in terms of age, social class etc.

Moreover, the site already exists a phenomenon of NGO occupancy which further gives the rationale for the site selection.

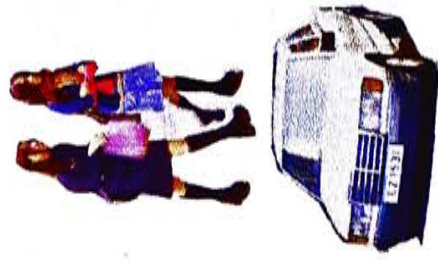


A GOOD SOCIAL MIX OF PEOPLE

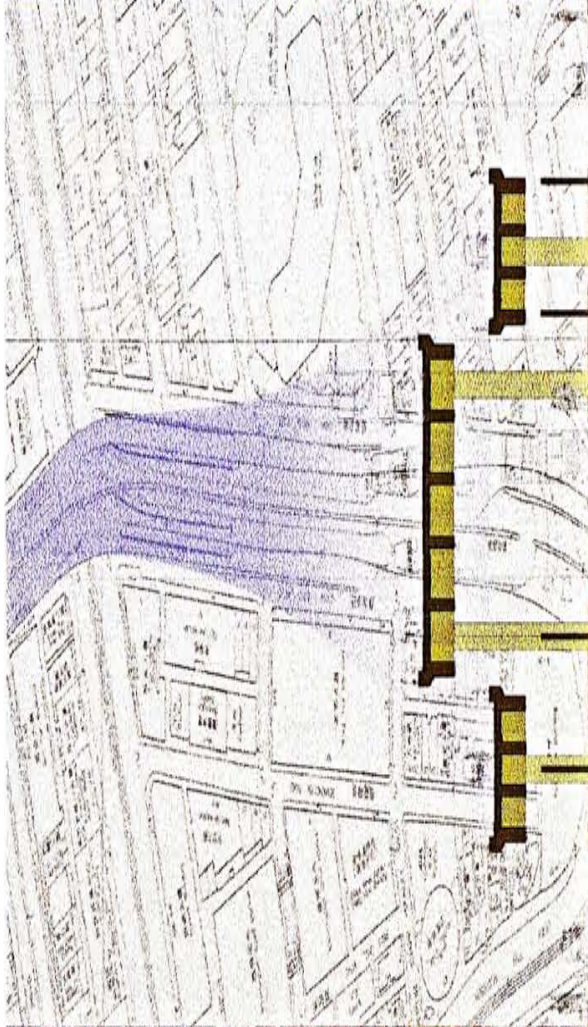


Bowrington Market

local
neighborhood
casual
\$



Times Square
global
fashion / trendy
commercial
\$\$\$\$



Canal Road Flyover in Wanchai cutting across a big local market and Times Square providing great social mix of people

\$0 per year VS \$40,000 per day
residue space
low land value for potential development

site history

streetcorners, under the flyover : development of a civic promenade

Canal Road was geographically a river flowing towards Victoria Harbour. In 1854, due to the rapid increase in population, Governor John Bowring launched a major reclamation around Wong Nai Chung in Causeway Bay. The river was developed as a canal, with walkways on both sides, namely Canal Road East and Canal Road West, connected by the famous Bowrington Bridge. The canal was covered as a hidden nullah in the 1960s and later the flyover was developed to be the major highway connection between Aberdeen Tunnel and Cross Harbour Tunnel.



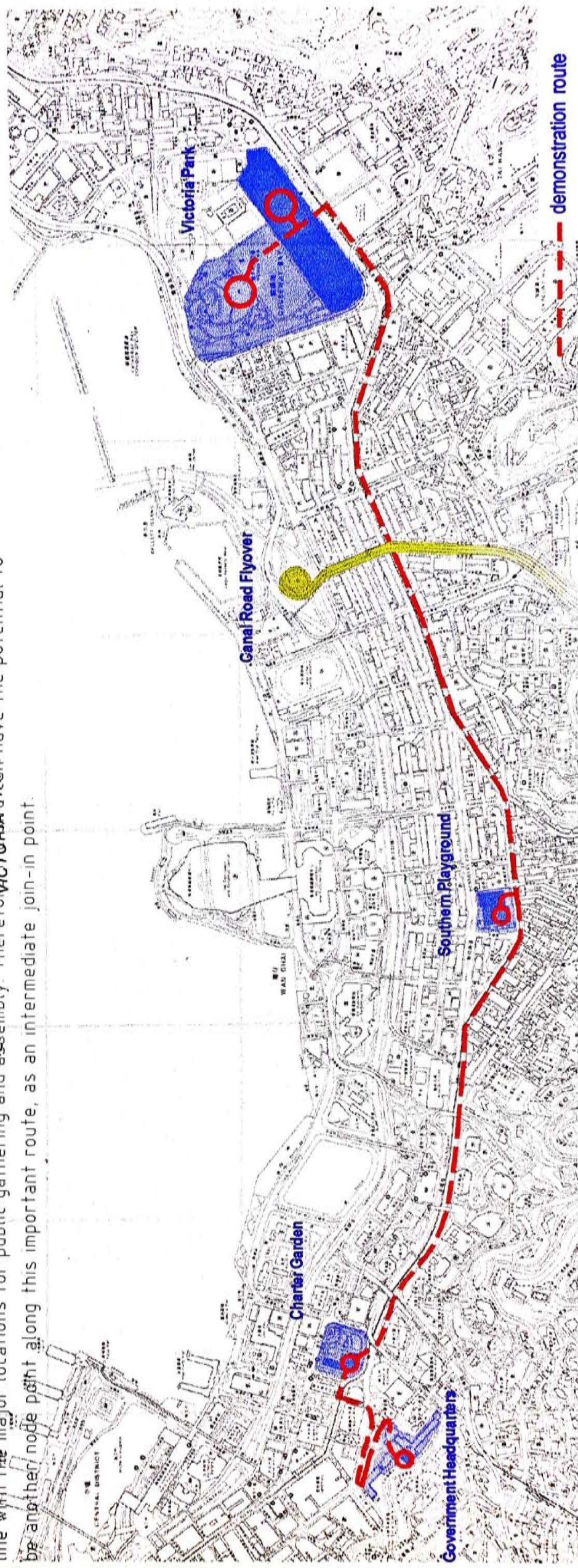
up: Canal Road 1910⁷

down: Canal Road 2000

⁷ figure from Zheng Paohong, *A Century of Hong Kong Roads and Streets*, (Hong Kong: Joint Publishing (HK) Co. Ltd., 2000), p 41

LARGER CONTEXT

Canal Road Flyover runs across various urban zones of very different character longitudinally. Coming out from the Cross Harbour Tunnel is the "inaccessible" waterfront roundabout, passing between Gloucester Road and Lockhart Road is the concentration of restaurants and bars, then Hong Kong Island main spine - the tramway, Hennessy Road, following the connectoin between Times Square and Bowrington Market, leading to the Happy Valley Racing Course before getting into the Aberdeen Tunnel. Latitudinally, Canal Road Flyover is penetrated by the most common demonstration route along the tramway, which makes the site in line with the major locations for public gathering and assembly. Therefore, ~~VICTORIA HARBOUR~~ have the potential to be another node point along this important route, as an intermediate join-in point.



BUILDING TYPOLOGY

The site is dominated by the typical residential and commercial mixed use development. Open space is definitely ignored. The only two so-called "green space" is hardly an enjoyable space for public use.

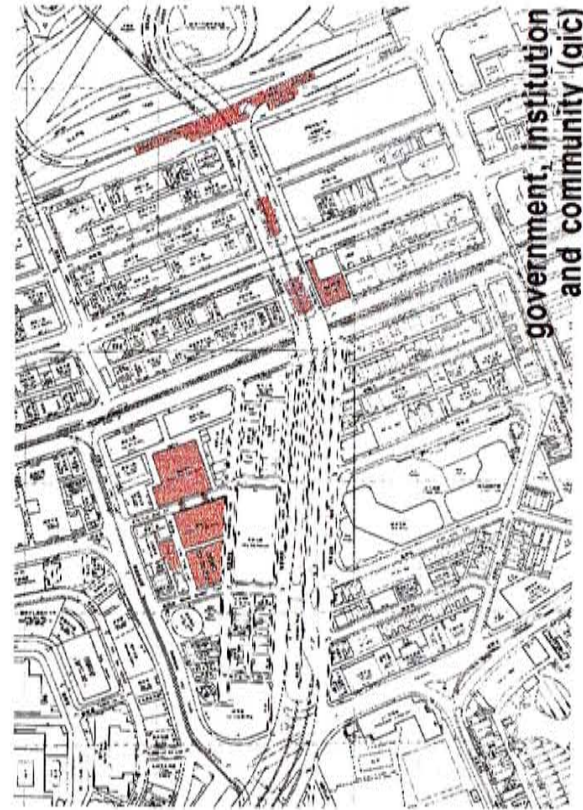
One is underneath the Canal Road Flyover. With poor management and design, the site is only left with dead plants, dark and dirty seating areas, poor ventilation, etc. The other is the "inaccessible" garden before entering the Cross Harbour Tunnel. Although deliberately decorated with landscaping of "traditional chinese character", the site is surrounded by spaghetti of highways, the only one and complicated access is by crossing Gloucester Road, getting up a pedestrian footbridge, passing several highway lanes and then getting down again to the site. The site is thus more of an object for visual appreciation by the vehicular travellers than an open space for public use.



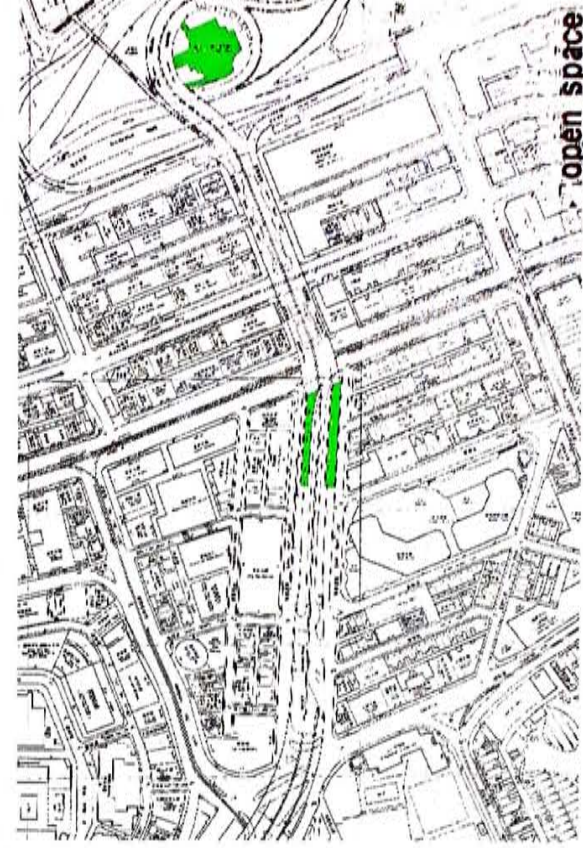
residential



commercial



government, institution and community (gic)

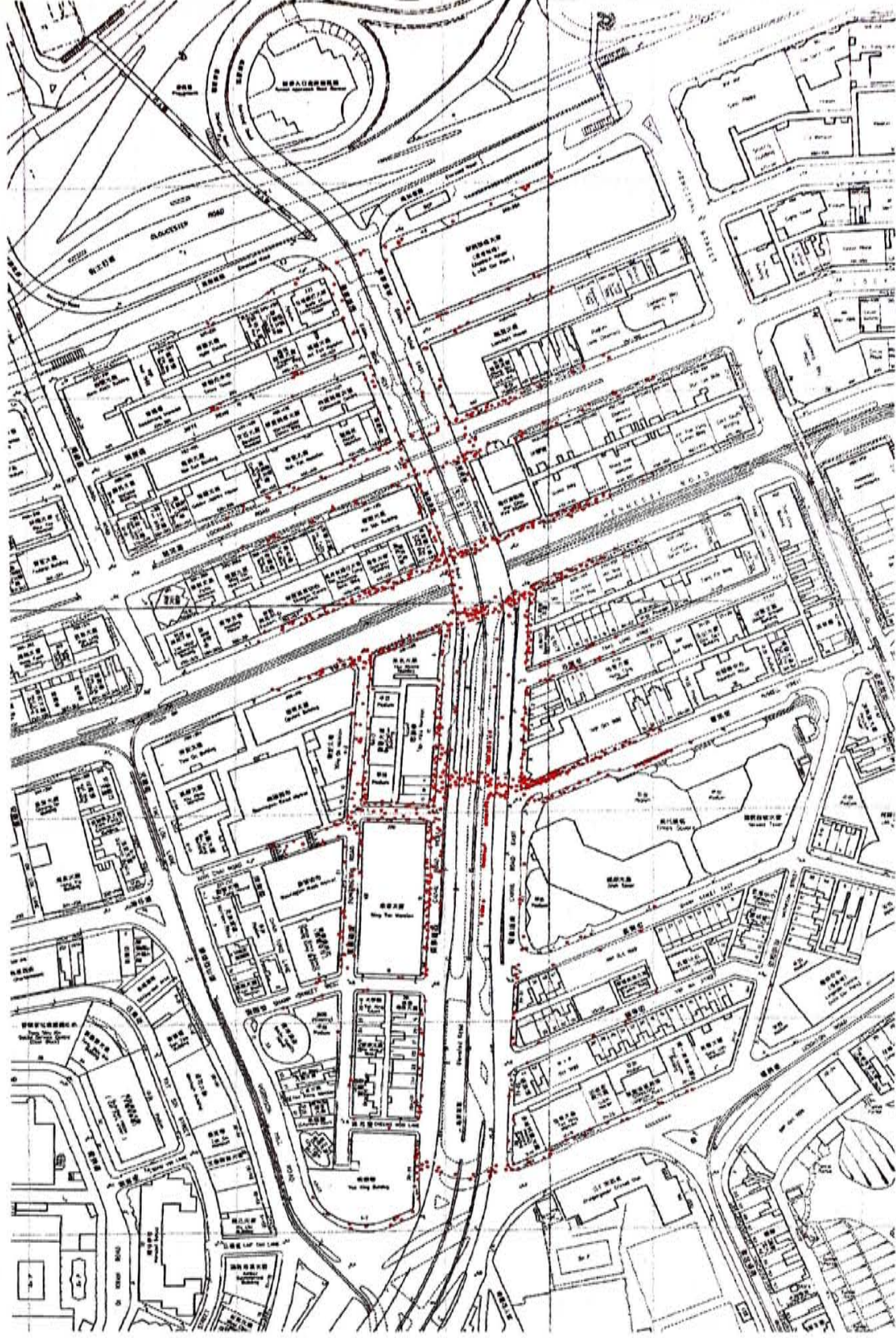


open space

PEDESTRIAN FLOW

The site acquires quite high permeability as it is penetrated by pedestrian flow in a number of crossroad junctions. The highest density of pedestrian flow⁸ being the connection between Times Square and the Bowington Market, for the people taking this as the short cut to market and other parts of Wanchai, or Times Square and other shopping districts in Causeway Bay. The second major pedestrian flow being the tramway - Hennessy Road. At present, the pedestrians just regard the flyover as a short cut, therefore are passing in a relatively high speed. On the contrary, the bus stops underneath induced a constant flow of pedestrians to stay underneath the flyover, at least 10-15 minutes.

Since there are a lot of temporary selling stands along the streets around the market, it induces pretty busy pedestrian life on street. Because of this high density, the pedestrian flow in most of the time would interfere with the vehicular flow, which indicates the saturation of the demand that the narrow width of the street is no longer able to hold the capacity of the pedestrians.

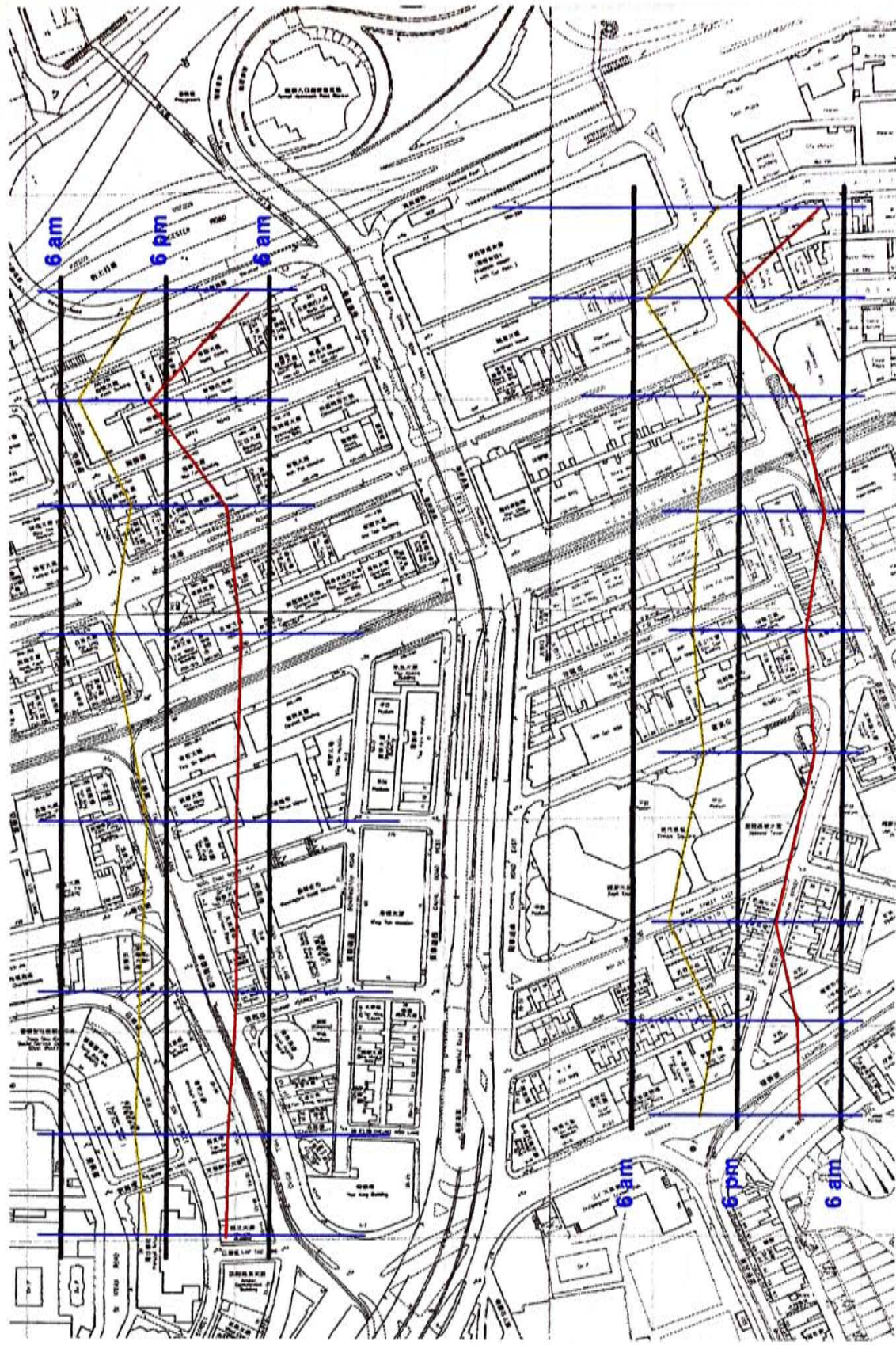


⁸ the record is based on the manipulation of data collected from a site survey on a sunny Sunday afternoon in November, restricted in the area around both sides of the flyover and bounded by Leighton Road and Gloucester Road.

STREET SHOPS OPENING HOURS

Since the area is surrounded by diversified programs of market, restaurants, retails, offices, residential towers, etc, the entire area generally would retain its vitality from early eight in the morning until almost eleven at night. Both sides of the flyover have similar pattern of street shops opening hours (around 9:30am to 10:30pm), except for the following major differences in particular part of the site.

The market closes earlier at around 8pm which induces the significant drop in the number of pedestrians around that area. On the other hand, along Jaffe Road is the concentration of bars and nightclubs, where the shops do not open until in the evening. Streetlife continues until 4-5am in the morning but then in daytime the area is rather quiet.

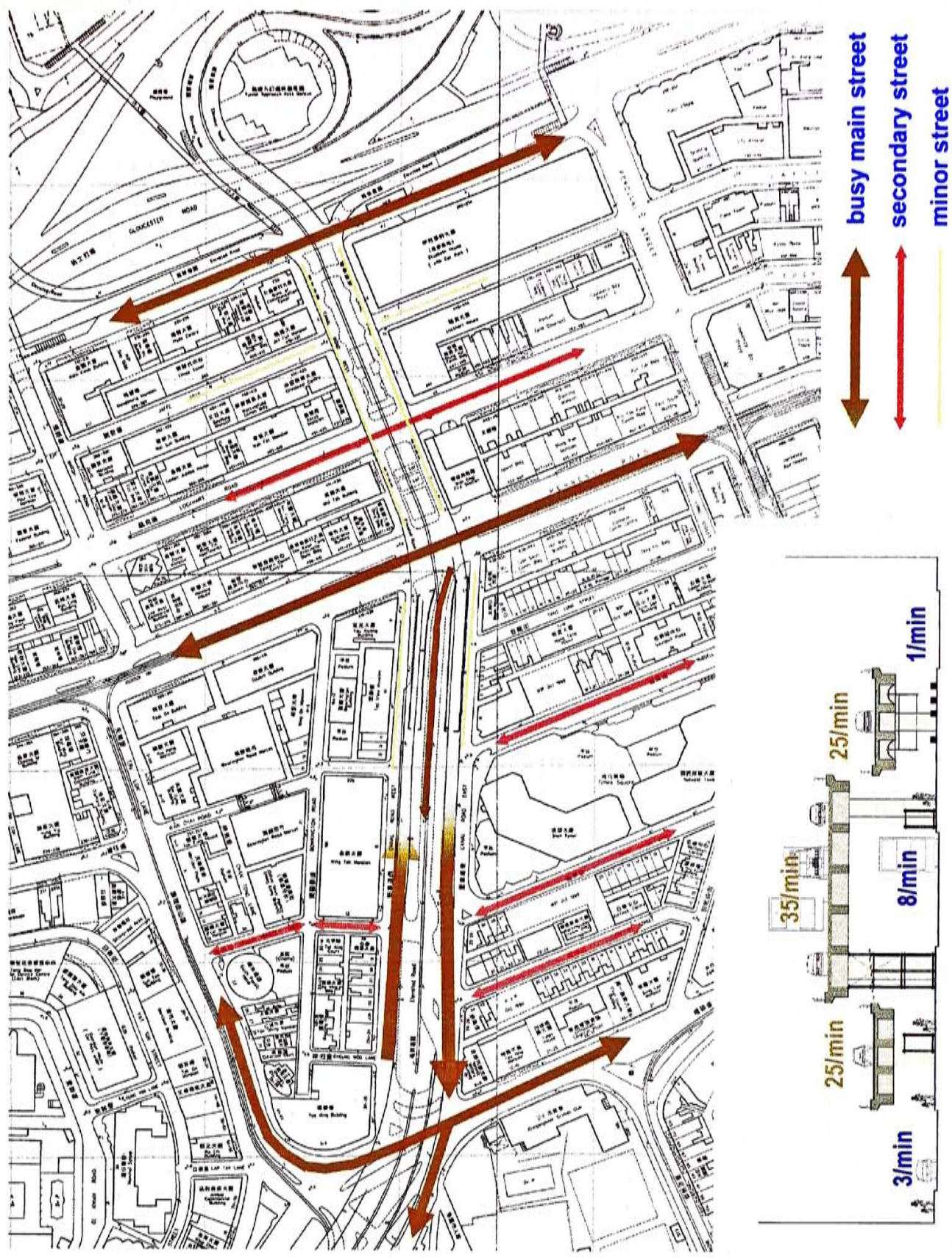


— shop closing
— shop opening

TRAFFIC FLOW

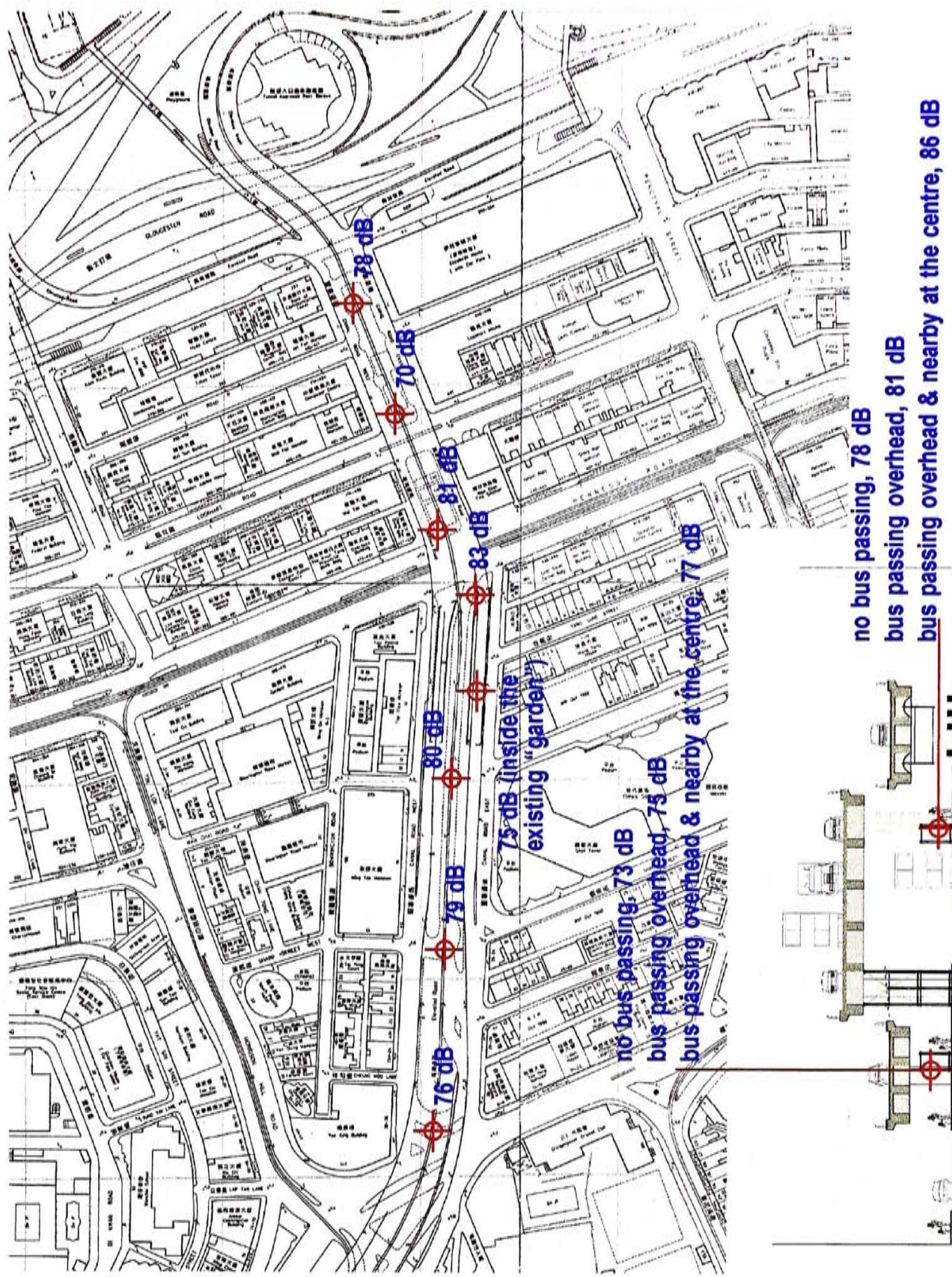
In terms of the vertical layering of traffic, since the Canal Road Flyover is connecting the cross-harbour tunnel to Aberdeen tunnel and the busy district of Wanchai, the density of traffic on the flyover is very high. The speed is also the highest for the non-stop traffic. The bus-only lane cutting through the centre is the only major traffic underneath the flyover, whereas the traffic density on both sides are very low.

In terms of the horizontal zoning, the main branch being the Gloucester Road, Hennessy Road and Leighton Road which are perpendicular to the flyover, with other minor traffic routes leading to both sides of the flyover.



ACOUSTICS CONDITION

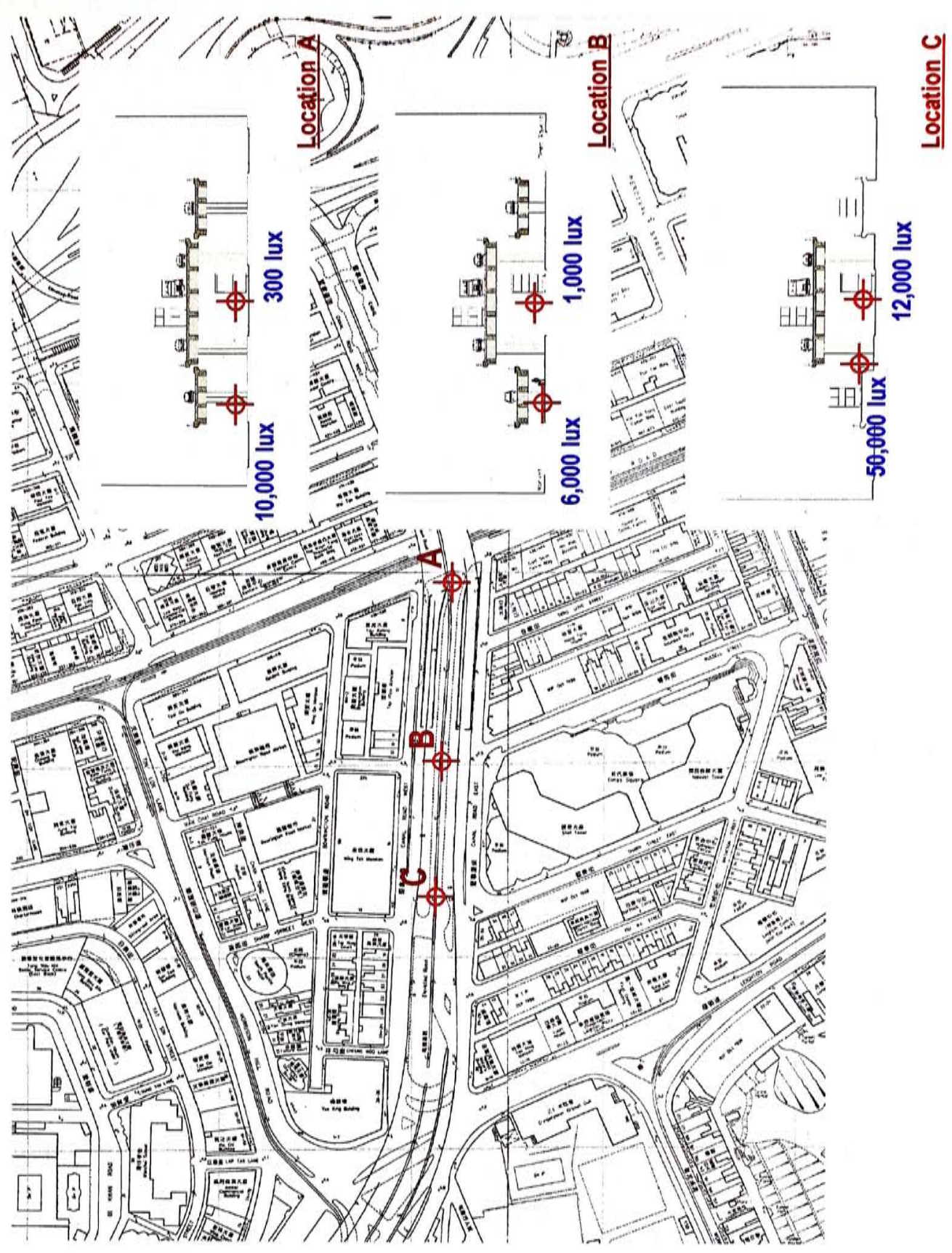
It is obvious that the major noise pollution source is from the engines of the vehicles, in particular the bus combustion engines. The buses passing through the space underneath the flyover being the major factor in determining the quality of the environment. When no bus is passing, the space can maintain a relatively reasonable level of comfort. Even the buses passing up and down the ramps on the flyover of both sides overhead, the noise level only raises a minor 2-3 dB. But when there is a bus passing through the centre, it changes to an unbearable 86 dB. The hard surface of the concrete slab of the flyover further reflects the noise of the engine, thus echoing and amplifying the problem.



LIGHTING CONDITION

Since the part of the Canal Road flyover under study is mainly situated within a very dense urban fabric, especially surrounded by highrises over 20 storeys on all sides, therefore the orientation to the sun has little effect on the lighting condition. The spaces under the flyover in no case can gain direct sunlight. Even in a sunny bright afternoon, The spaces are only washed with indirect sunlight of a higher ambience level.

The two ramps of the flyover on both sides has larger effect on the lighting condition, because it is determining the width of the overhead concrete slab. The part of the flyover near the Hennessy Road can gain more sunlight because of the width of Hennessy Road, allowing more sunlight penetrates between the highrises.



RETAINING EXISTING ACTIVITIES

The project would mainly consider the program in two parts. One is enhancing the existing activities on site by blending the existing program with the new program. Second is to introduce the new program given by the NGOs which would make the major transformation of the spaces underneath the flyover. There are four major types of activities on site:

Existing program	No. of users	User pattern
(1) elderly playing chess	10 - 15	there are constantly at least 3 - 5 elderly playing chess or sitting and resting in the "garden" adjacent to Times Square throughout the day, even as late as mid-night. Maximum no. of users in the afternoon, around 15.
(2) passengers waiting for bus	varies, roughly around 100 in peak hours	Stretching along the carriageway underneath the flyover are bus stops that lead to several major places in Kowloon and in Aberdeen, creating 4 lines of people. Peak hours at 8 - 9 am & 6 - 7pm.
(3) homeless people inhabitation	5 - 8	Several homeless people took over the existing benches and tables in the "garden" adjacent to Bowrington market. They often left their belongings unattended and only present after 9 at night for sleeping.
(4) Chinese ritual	1	At the crossroad junction of Hennessy Road is a woman practicing the famous Chinese ritual of "Dashuiyan". She usually presents from around 10 - 5 everyday.



SAY IT, WRITE IT, DRAW IT, SING IT, PERFORM IT & BUILD IT !!

The new program to be introduced are mainly based on the existing activity pattern of the NGOs, who concentrate on exploring alternative and more diversified ways to communicate with the public such as cultural activities and multi-media applications. Such program have the following significance to the project:

(1) it is a supplement to the current focus of confrontational & high-profile political expression. It opens up an alternative channel for communications of which the nature is non-confrontational, thus easier to gain wider acceptance and encourage public participation.

(2) it is also able to convey visual and audio message other than the common practice of just voice and wording, thus providing more attractive and multi-layer of information.

(3) it is the important and good tools for lower class who are not able to let say, write an essay to the newspaper, give a speech in public, etc., thus making it easier for the lower-class or marginalised people to express their opinions, raise their sense of selves, let say, through singing a song, etc.

The program is classified into five main categories: exhibition, performance, participation, education & welfare. The major program areas (details refer later section) are:

open public ground for transient events	980sq.m
workshops & multi-purpose rooms	200sq.m
offices	110sq.m
homeless inhabitants	50sq.m
supporting facilities	180sq.m

plot ratio = 0.51

site area = 2560 sqm

GFA = 1315 sqm

building height = 6.5m

exhibition



performance



participation



education



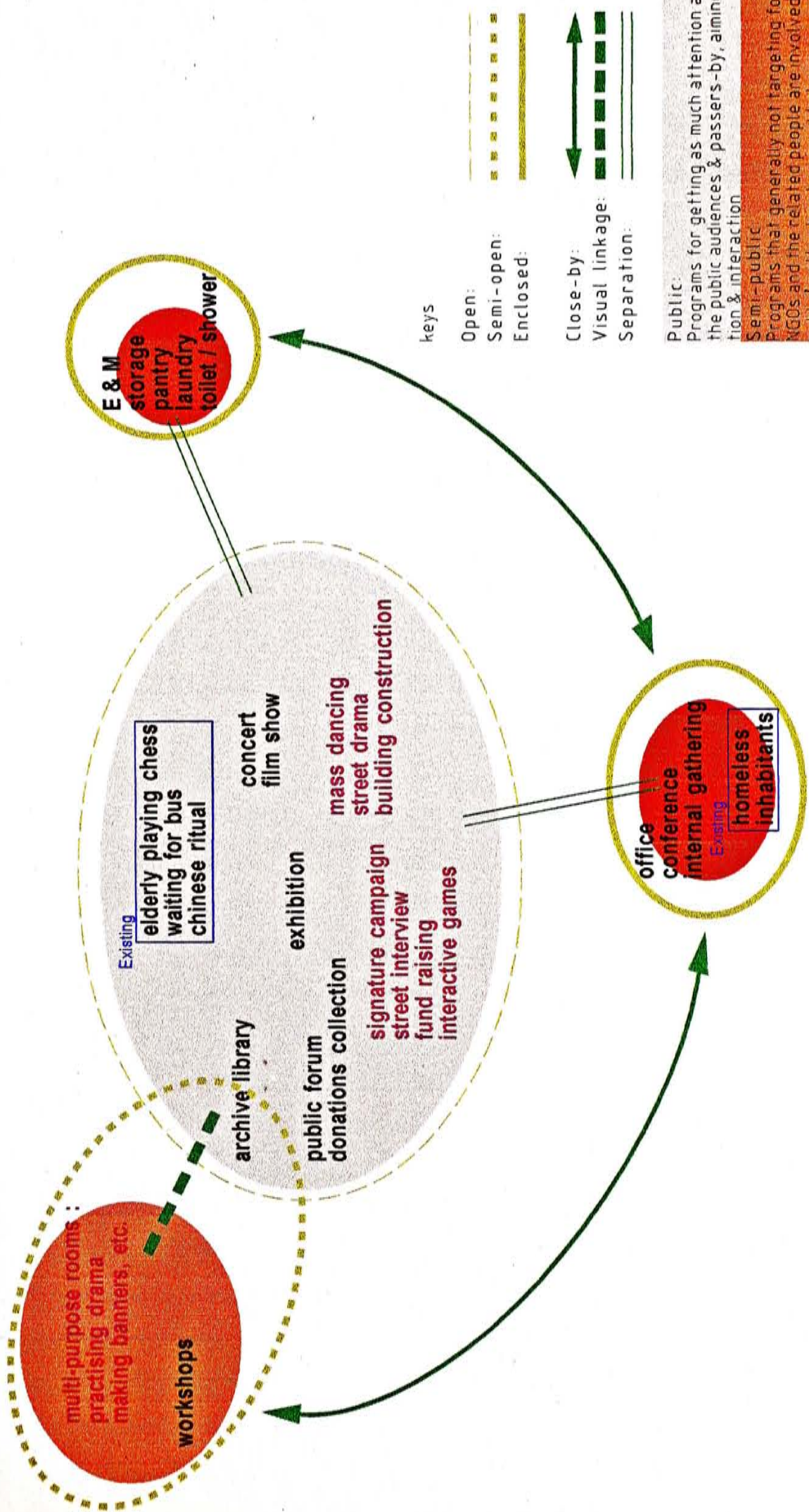
welfare



ORGANIZATION CHART

Category	Program	Target User	Time (frequency / duration)	Space Requirement	No. of users	
Exhibition	2D - caricature / photo / graffiti / mural / writings	Public	Periodic / 1 day to 2 months	Open	n.a.	
	3D - artifact / sculpture					
Performance	Mass dancing	Public	Adhoc / a Sun or public holiday	Open	200 - 300	
	Street drama				50 - 150	
	Concert		Adhoc / a holiday or weekday evening	static	50 - 150	
	Film show		Adhoc / 2-3 days	dynamic	20 - 100	
	Other adhoc street performance such as talk show				10 - 60	
	Building construction process, maintenance, repair & renew				20 - 100	
Participation	Public forum / seminar	Public	Adhoc / a holiday or weekday evening	Open	50 - 150	
	Signature campaign			static	2 - 5	
	Street interview / opinion poll			dynamic	2 - 5	
	Kiosk for fund raising & selling self-made artifacts, products from co-op programs, publications, snacks, little café, etc.		Adhoc / a Sun or public holiday		20 - 100	
	Stall for interactive games in a fun fair					
	Booth for collecting donations of second hand and used materials such as old clothing, etc.		Periodic / once a month		static	20 - 100
	Archive library for sharing references and resources, gathering and discussion, listening to past records & viewing videos		Periodic / Sat, Sun + 2-3 evenings a week	Semi-open		2 - 5
10 - 60						
Education	Workshops such as song & drama composition, band / guitar playing, film editing and production, photo processing in dark room, counselling & career development, etc.	Semi-public	Adhoc / 2 - 3 times a week	Semi-open	5 - 20	
	Multi-purpose activity room convertible for different programs such as practising drama & song, events preparation like making banners, etc.			dynamic	10 - 60	
Welfare	Office	Private	Long term / 3 - 6 months	Enclosed	2 - 5	
	Conference				5 - 20	
	Internal meeting & gathering				5 - 20	
Supporting facilities	E & M equipment	Private	Long term / 3 - 6 months	Enclosed	n.a.	
	Storage & locker				n.a.	
	Pantry				2 - 5	
	Laundry				5 - 10	
	Toilet & Shower				5 - 10	

RELATION DIAGRAM



keys

- Open:
- Semi-open:
- Enclosed:
- Close-by:
- Visual linkage:
- Separation:

Public: Programs for getting as much attention and concern as possible from the public audiences & passers-by, aiming at open public communication & interaction

Semi-public: Programs that generally not targeting for the general public, only the NGOs and the related people are involved, but would like to encourage public's attention by visual linkage

Private: Programs that require restricted access and maintain privacy for the NGOs only

01. FLEXIBLE CHANGE OF USE IN SPACE

Summarized from the program study, the most dominant characteristics of space is the transient quality of it. The project is asking for spaces that would accommodate different events of different scale in different time frame, let say the organisation may be holding a public forum today, and then making a performance tomorrow, and then nothing happen the other day etc.

Therefore the project essentially is not about fitting a set of pre-defined programs within a certain kind of building envelope. This is to develop a design strategy or a building system that is flexible, that can allow variation and growth. The design is thus searching for a kind of building mechanism to quickly transform the space into different uses, resulting in a dynamic and adhoc sense of space.

The retractable kiosks in Lady Street, Mongkok & Temple Street, Yaumatei (detailed descriptions refer to precedents section) are good local examples to refer to. They are both temporary structures that are able to transform a carriageway to a busy retail street, through the assembly process by human manipulations. Although the design of the kiosks are sophisticated and well-developed to successfully perform the function of a selling stall, it is not yet attempted to accommodate other different functions and make enclosures. Also the daily repeated opening and closing process gives the same spatial sense everyday. Therefore the major challenge of this project is to base on this local logic but further bring out the potential to develop a system that would be able to transform the space to accommodate different programs.



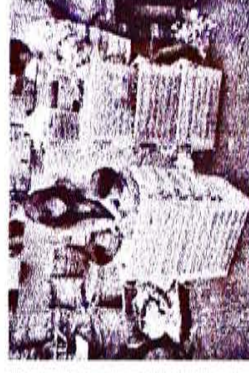
up: kiosk opening, Lady Street, Mongkok

down: kiosk opening, Temple Street, Yaumatei

02. ADAPTABILITY

The abilities of ordinary people to transform the existing condition and adapt it to their own use are very amazing. Especially for people from lower class, since the resources they can get are particularly limited, they are often triggered to develop added values to what was given to them. This can be considered as the intrinsic quality of the subject users in this project. Therefore the design will try to borrow, adapt and transform the already given social resources, in this case the flyover, interpreting it as a roof, a given building structural grid, etc. The following are examples that illustrate the concept of adaptability.

need	tools & original use	tactic	adapted use
a convenient, temporary and re-tractable horizontal surface for laying dried food that would involve minimum extra cost and effort.	cart, load carrier	installing an additional handle on the cart to make a quick and simple balanced support for laying down a flat surface.	multi-functional device: table top, working surface, defined enclosure for storage, etc.
a lady who works long hours & cannot afford the nursery cost has to take care of the babies in work place, requiring a safe and comfortable place for the babies to stay within a reachable distance.	basket, vegetable storage and container	stacking up the big plastic baskets, quickly set up a place for the babies to stay.	a baby's cradle in a comfortable height for the mother, enough enclosure to prevent the babies from climbing over.
an isolated traffic island of no ground pedestrian crossings forced the pedestrians to go up and down the overhead circular bridge. People thus require the shortest distance and time to cross.	chair, sitting bump curb, road safety sign post, direction indicator	placing a chair at the corner of the isolated island to overcome the prohibiting effect of the railings.	bump curb and chair = stepping stone, traffic sign post = vertical handrail, an effective traffic crossing mechanism that required 15 times for crossing is created.



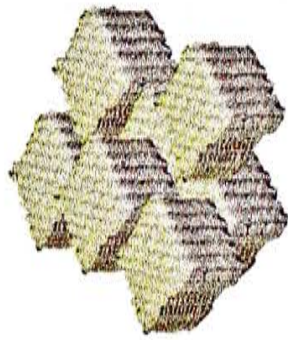
03. COST CONSIDERATION

Inadequate funding is a major concern of the NGOs. Apart from utilising the left-over spaces underneath flyover of low land value, further consideration of building material cost can also help the NGOs to lessen their financial burden. Just adjacent to the site is the Bowrington market and abundant commercial retails including Times Square, where tremendous amount of the most common domestic waste are produced every-day.

This context gives a good opportunity to re-read these everyday wastes. By taking a positive look again at the potential of these left-over stuff, the useless can be transformed to a steady & unlimited supply of useful & recycable building material of zero cost. Thus the design would not only be exploring low cost material options but also let a different angle to view these neglected treasure by expressing the "alternative aesthetics" that brought out. The design would also consider the operation to easily replace the decayed building material for recycling, in order to make it maintenance free and sustainable.



aluminium can



egg container



corrugated cardboard



used fabric from outdated advertisement



平售
寫字樓傢俬文儀

放大縮小影印機, 傳真機
商業電話系統, 冷熱水瓶
大班櫃, 寫字櫃, 會議櫃, 工作櫃
油壓轉椅, 大班椅, 會客椅
支票櫃, 碎紙機, 咕鐘, 屏風
電腦, Printer, 收銀機, 小電腦
文件櫃, 快勞櫃, 四層架
沙發, 茶几, 圓桌, 寫字機什物

乃全新寫字樓傢俬批發價大平售
地址: 灣仔皇后大道中 232 號 匯豐銀行大廈
12 字口樓 (匯豐銀行出口)

電話: 2522 2222
傳真: 2522 2222
營業時間: 星期一至五 10:00am - 6:00pm
星期六 10:00am - 5:00pm
星期日 休息

second - hand market

04. CONSTRUCTION CONCEPT



trimming achieved by hand-saw sanding a cut edge achieved by hand assembly of a kiosk structure achieved by simple handy operation

Although they lack of any commercial or government subsidy, they have an ultimate asset - manpower. With the help from lots of volunteers who are all very willing to take efforts for a common goal, many amazing and extraordinary things can be achieved. It can be destructive as illustrated in the picture below. However, it can be interpreted very positively. Therefore the design is trying to make the building construction process as an event in itself that celebrates MASS as cooperative and constructive power.

In order to get the highest potential of this wonderful labour force, the design targets for a simple and easy construction methodology that even ordinary citizens of no particular knowledge in building construction technology can do the job. They should be able to easily manufacture, assemble, demolish and re-assemble the building components by themselves with only simple tools & machinery manipulation.



MASS as destructive power MASS as constructive power

There are obviously a lot of environmental problems associated with the spaces underneath the flyover that inherently made the spaces disadvantaged and undesirable for inhabitation. Therefore in the design process to achieve the project goals and fulfill the program requirements, possible strategies that can help to lessen the environmental problems should also be considered. The followings are some specific strategies according to the environmental conditions of the Canal Road flyover that although cannot solve the problems perfectly, at least would be useful to be incorporated in the design in order to create a more pleasant and welcoming environment underneath the flyover, thus helping a more successful program operation.

1. **ventilation** - almost no natural ventilation at all since the height and density of the surrounding urban context. Mechanical ventilation system to exhaust the polluted air from underneath flyover. For humna comfort, fan is suggested for the large open outdoor area & temporary program. Air-conditioning only apply to areas of full enclosure.
2. **lessen the noise pollution** from the busy traffic - major source of pollution being the buses running underneath the flyover. Install sound absorption material to prevent engine noise echoed from underside of flyover. Create protected zone by sound insulation material.
3. **better lighting** - although skylight is not very feasible, install adequate architectural lighting fixtures that can better reflect the quality of sunlight (e.g. metal halide), rather than the orange sodium vapour floodlights.
4. **replace the feeling of dull, old & grey** - application of more vivid, joyful, lively colors, such as bright red, green, orange, etc.
5. **life** - permeability, visibility from the busy & lively adjacent streets but set back from the congested and noisy environment.

design record on conceptual design

streetcorners, under the flyover : development of a civic promenade

INITIAL SITE INTERPRETATION

Along the flyover is a clear sense of zoning and pedestrian pattern. From the busy pedestrian crossing between Times Square and Bowrington market to the isolated island of "garden" (but at the same time highly visible) surrounded by spaghetti of highways. The design initially aimed to spread the program along the flyover, according to the interpretation of site characteristics and phenomenon, then to suggest suitable different programs in different zones.



concept model



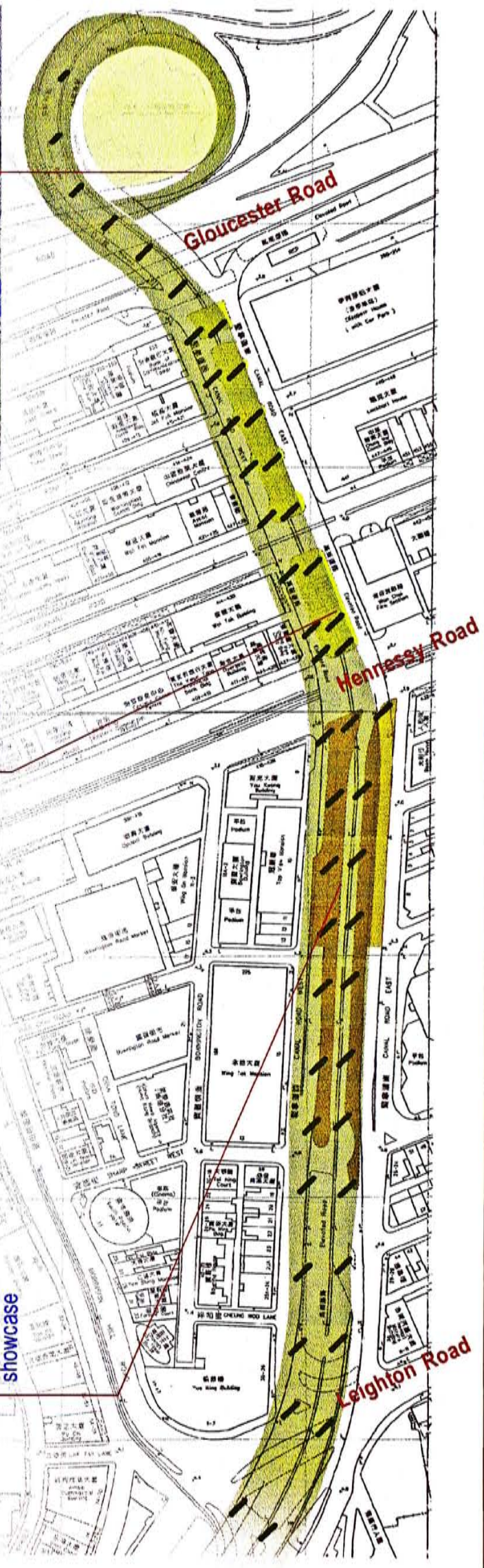
1. between Hennessy Road & Leighton Road
 instant communication, impact, noisy, mobile mass, building as information transmitter, showcase



2. between Gloucester Road & Hennessy Road
 local neighborhood, static mass, people's participation, outdoor room



3. beyond Gloucester Road
 - the void, isolated, individualistic, static, exclusion of external world, unnoticed



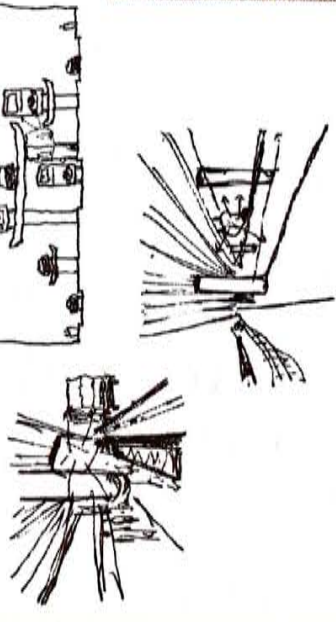
INITIAL PROGRAM EXPLORATION

Program 1 :
connection between Times Square & Market

street survey / interview / questionnaire / signature campaign /
drama / dance / song / band sound
archive / gallery / propaganda - history, policy, activity, images,
photos, artifacts, posters
publications - caricature, comic, video, song, book, pamphlet, T-
shirt

democracy wall

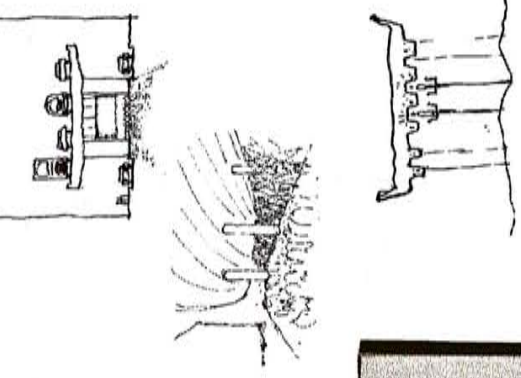
external communications



noticed
enhance self-confidence
courage
publicity

Program 2 :
between Gloucester Road and Hennessy Rd

street film show / forum
workshops
leisure / resting / community gathering
children's playground



community gathering

children's playground



Program 3 :
beyond Gloucester Road - the void

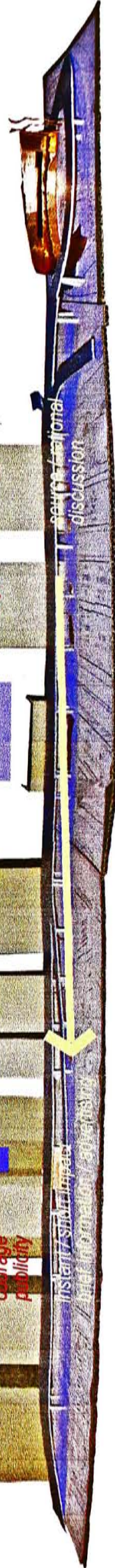
causal / informal gathering / discussion
mass gathering / ritual
classes / tutorials / meetings / workshops
resources archive
film editing and production, sound recording



unknown / unnoticed
disadvantaged / marginalised
lack of self-confidence
privacy



causal / ritual
discussion

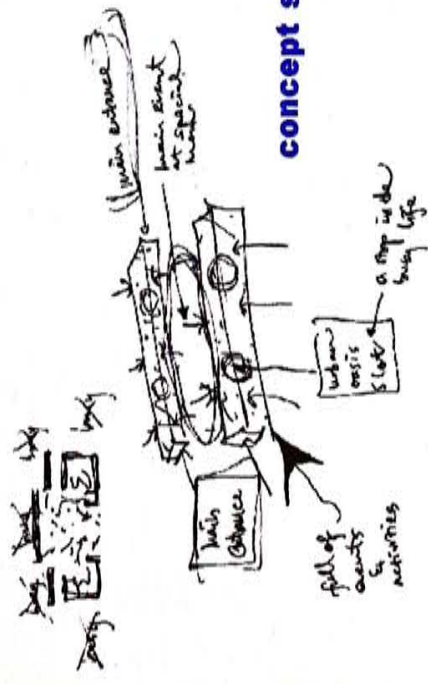


design record on design development

streetcorners, under the flyover : development of a civic promenade

01. MAKING A BUILDING, AN ENTITY

The initial exploration was considered as too out of focus. Therefore the design development would concentrate on the part of the flyover bounded between Hennessy Road and Leighton Road, for its potential of including the connection between Times Square and Bowrington Market.

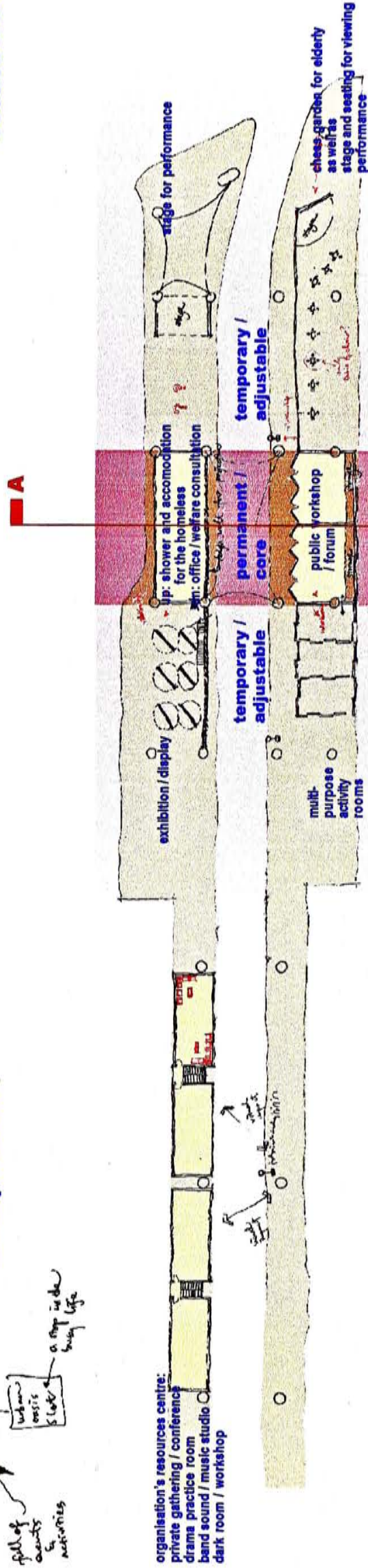


concept sketch

The design was initiated by simply reading the project as making a building entity underneath the flyover and allocate different programs according to the space requirements. Simple response to the site such as orientation, zoning is addressed. The design started to reflect the character of a flexible space by suggesting devices like movable panels.



section A-A 1:400



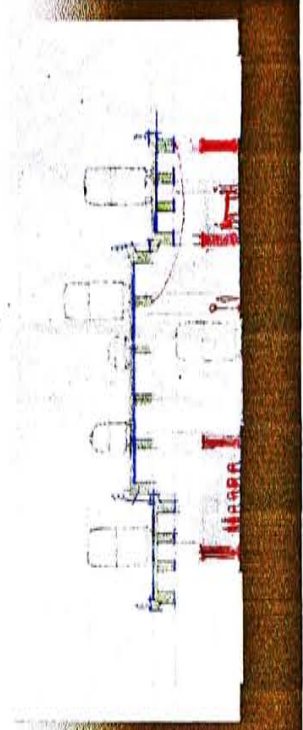
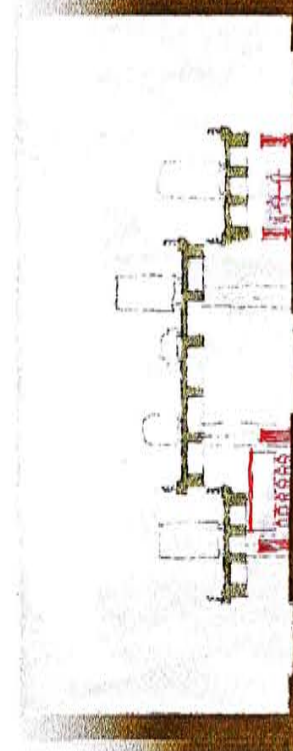
private

public

site plan 1:800

01. MAKING A BUILDING, AN ENTITY

The refined option moved the permanent, core part of the program to the back of the site where at present has no pedestrian using it but on the other hand is a major visual catchment for people waiting for the bus. The building facing the bus stop at the opposite side of the carriage way is therefore treated as a huge signboard in itself.



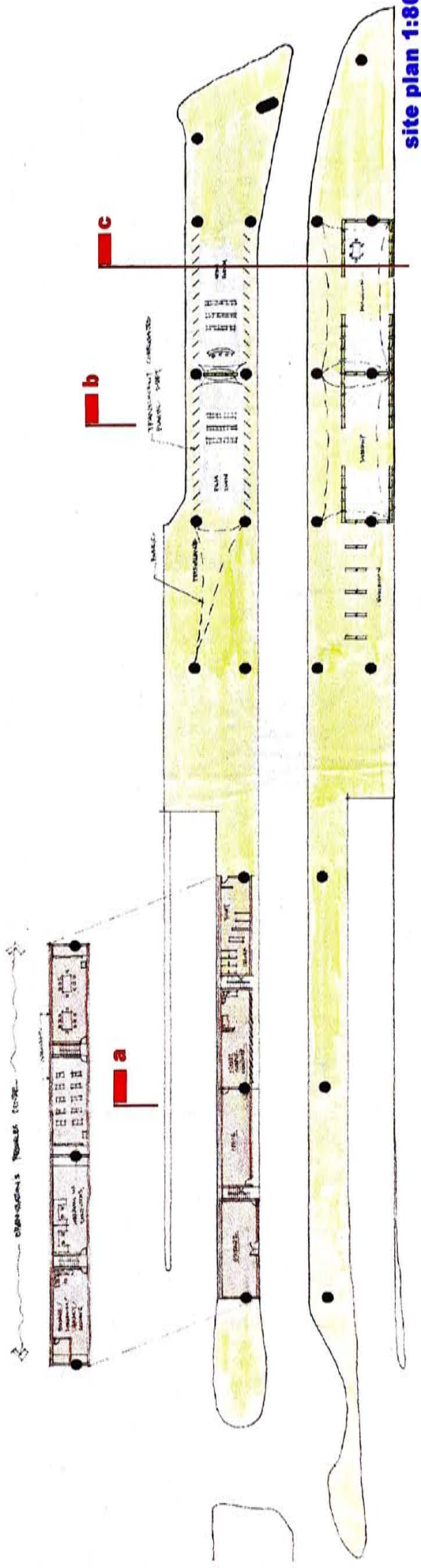
The front part of the site is then remained as a public open ground for different program. Movable partition is used as divider to enclose outdoor rooms, following the dimension set by the existing structural column of the flyover.

The option also brought out the idea of using cheap and recycling materials like re-using the tremendous amount of left-over corrugated cardboard boxes produced by the local market everyday & the translucent corrugated polycarbonate panels for the partitions.

section a-a 1:600

section b-b 1:600

section c-c 1:600

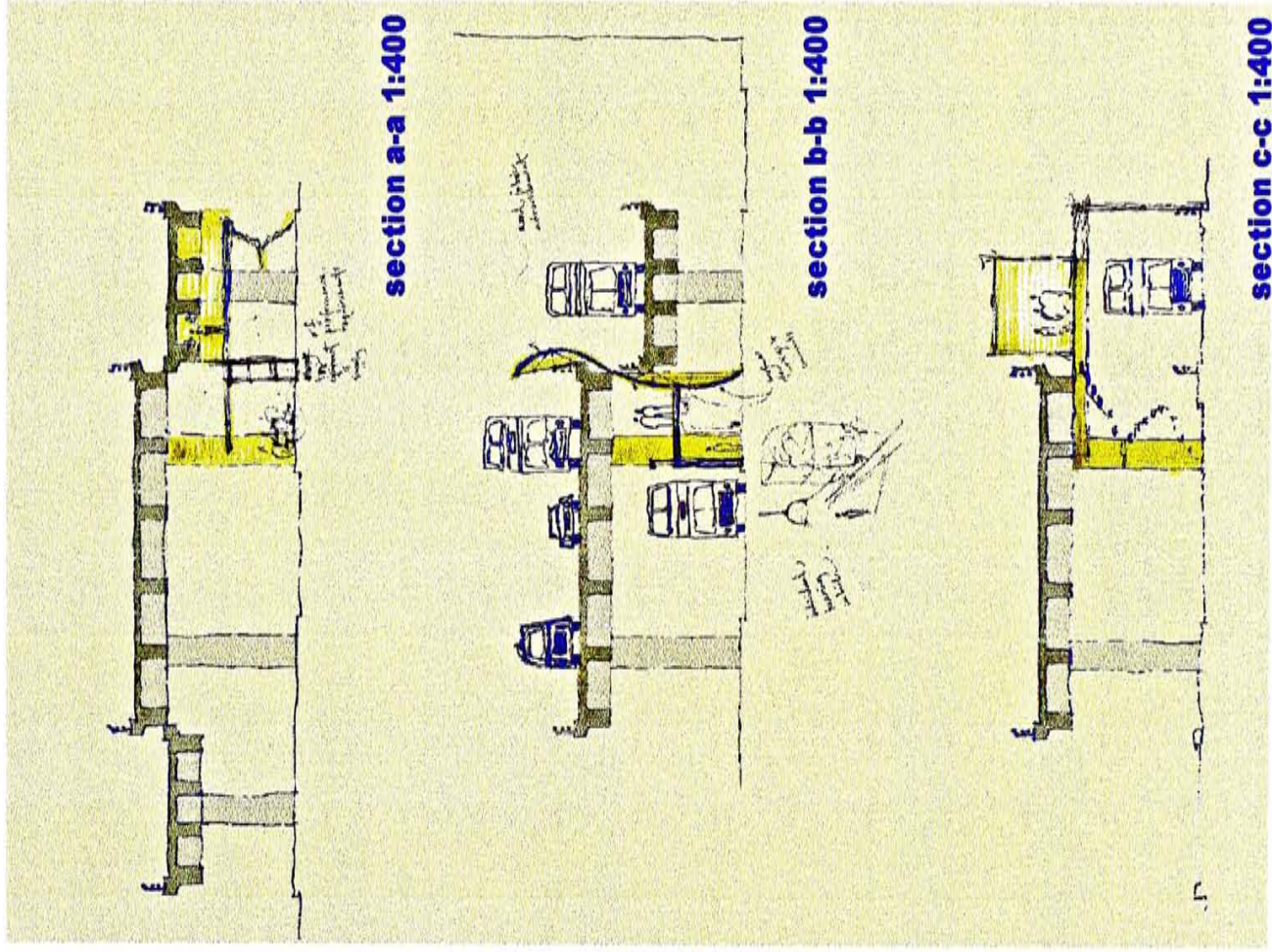


site plan 1:800

02. PLUG-IN UNITS ON A VERTICAL SPINE

Just designing a building entity was not appropriate since that would make no difference of making a building anywhere else. Design reflecting the specific characteristics given by the context of flyover is considered as important to develop in later stages.

Following this logic, the design strategy changed to regard different programs as "boxes" or "plug-in units" that spread along the flyover. A "vertical spine" or "backbone" that performs as a unifiers for the site is suggested. It fulfills the function as structural support for the unit, circulation and corridor, spaces for service routing, etc.



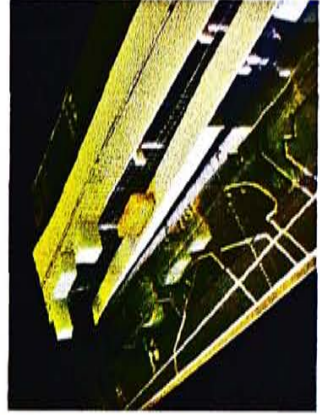
overview of the site



plug-in units underneath flyover



plug-in units suspended from the vertical spine

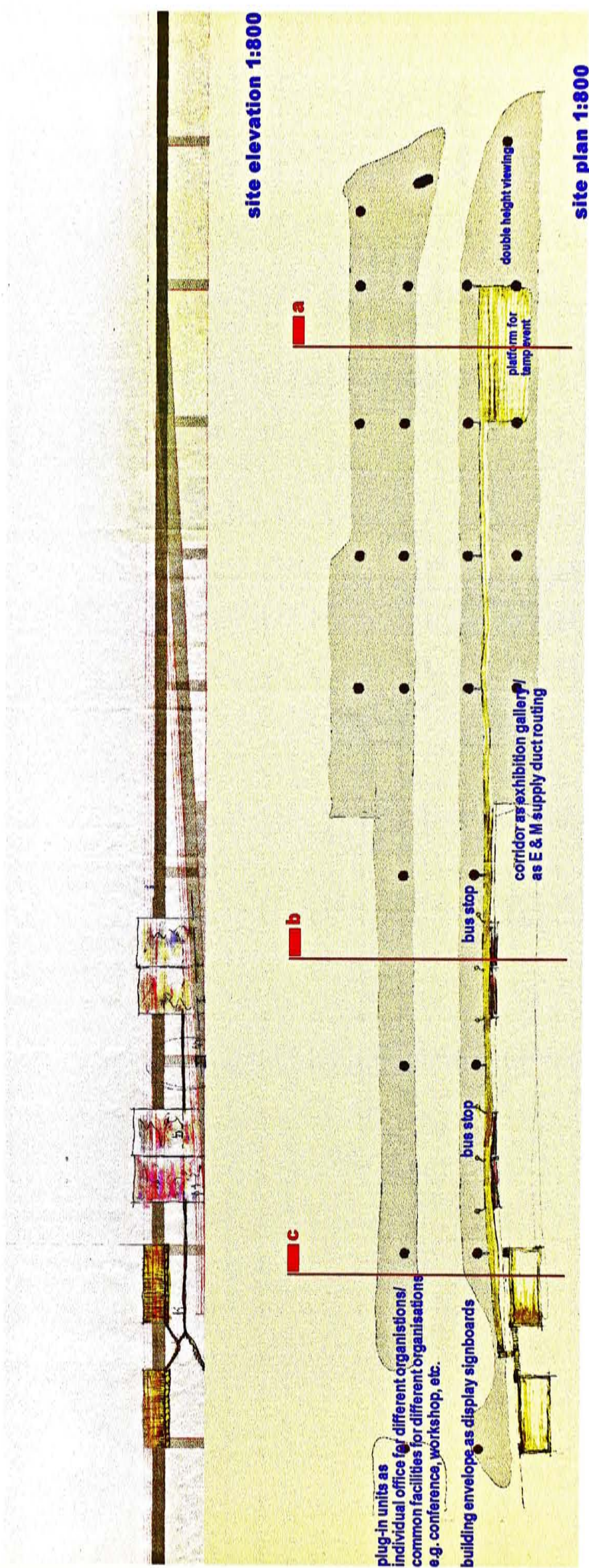


bus passing under the plug-in units

02. PLUG-IN UNITS ON A VERTICAL SPINE

The plug-in units would then be able to extend out from underneath flyover and like signboards hanging down, catching the greatest attention of the vehicular traffic flowing continuously.

This matches the requirement of the organisations to get greatest public attention. And this design strategy is taking the approach to develop a kind of system that responds to the linearity of flyover and shows the potential of adaptability to highway structures.

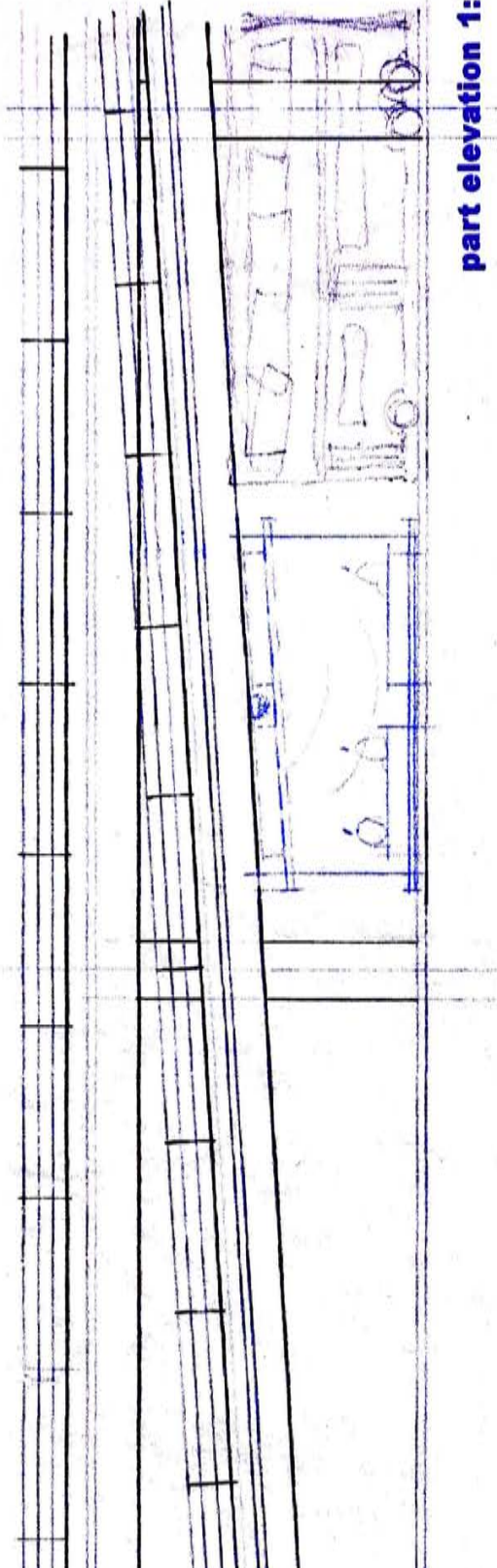


03. READING THE FLYOVER AS THE BUILDING, DESIGNING INDIVIDUAL DEVICES FOR THE PROGRAM

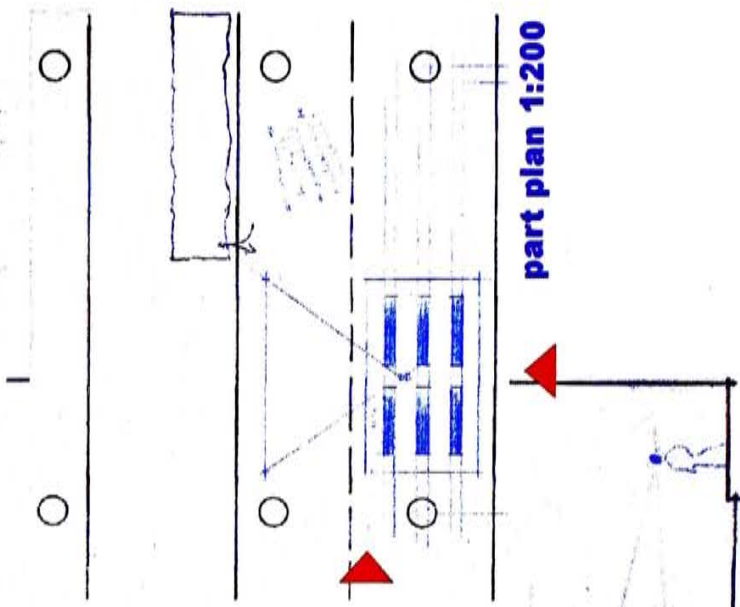
Although the vertical spine ~~running~~ along with the flyover is a good attempt to ~~develop~~ a system in response to the infrastructure, it is considered as too heroic, suggesting a too bold gesture that even wanted to overwhelm the already established structural system. The two systems are considered as competing each other rather than in harmony.

Therefore, this attempt is to ~~try~~ the other extreme. This is to regard the flyover as an already established building structural frame, a shelter, a roof. Contrasting to the heavy structure of the flyover, the design is the individual play of elements that work within this shelter. This is designing more to the human scale, like urban furniture design, which tries to establish stronger relationship with the existing flyover.

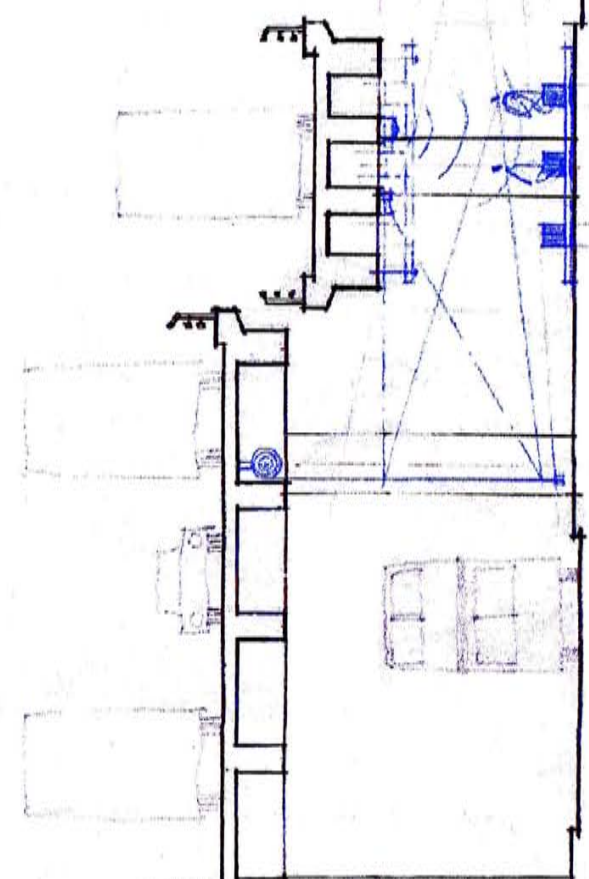
This page illustrated a simple device for film showing while people waiting for the bus. A translucent screen is placed to separate the bus lane but allow even visual access from opposite street. When not in use, both the screen and the seating platform can be pulled up concealing all necessary equipments in between the structural beams.



part elevation 1:200



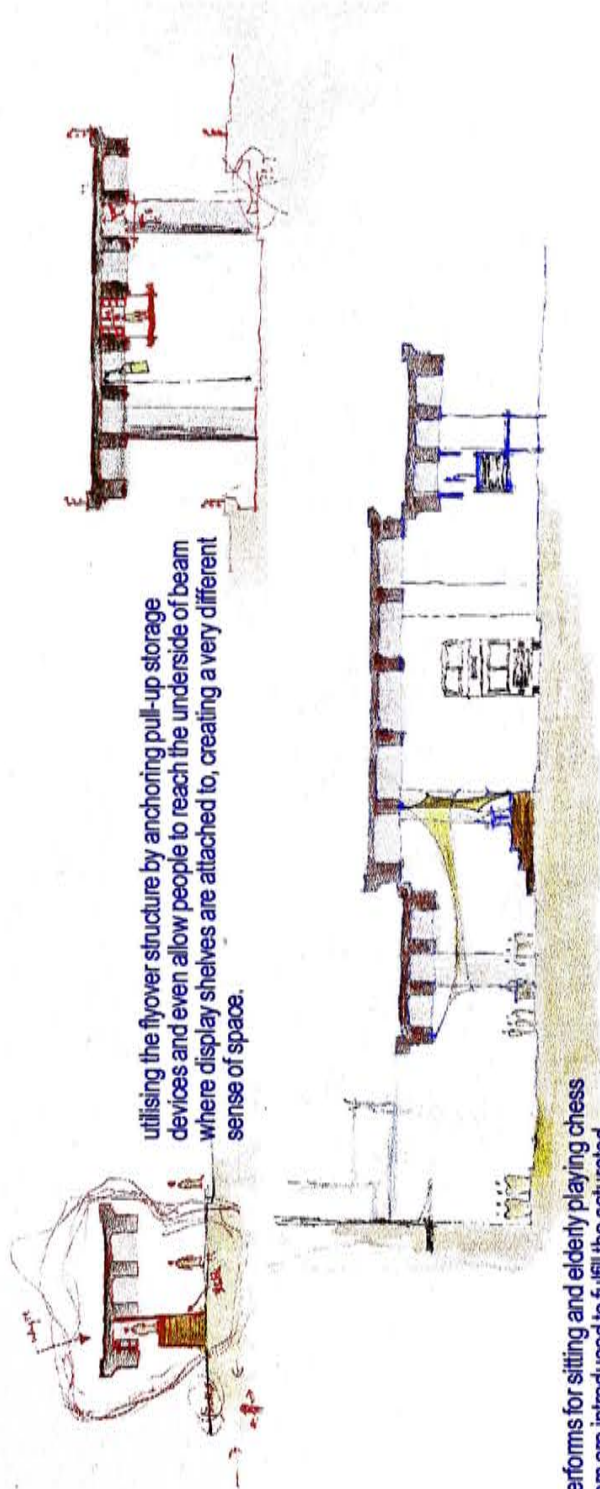
part plan 1:200



part section 1:200

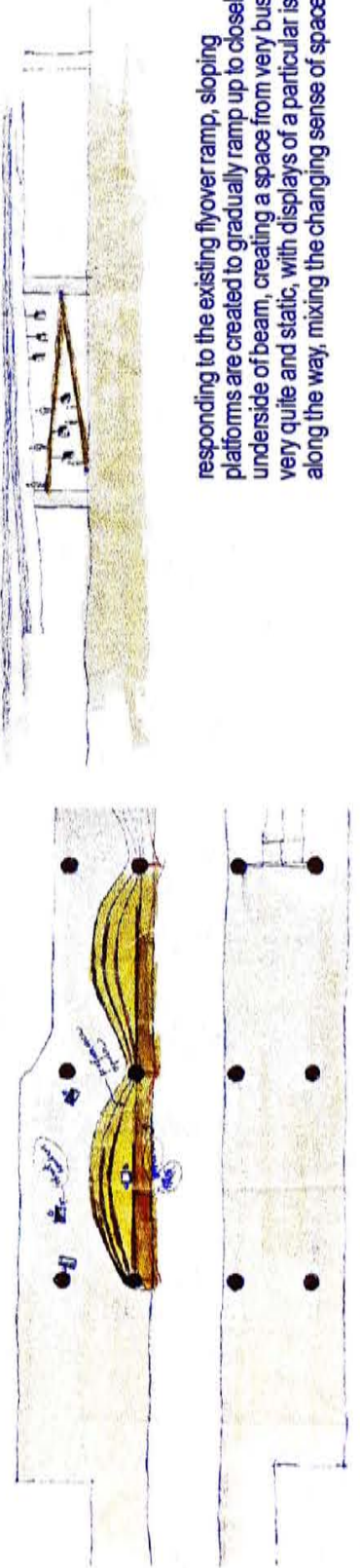
03. READING THE FLYOVER AS THE BUILDING, DESIGNING INDIVIDUAL DEVICES FOR THE PROGRAM

As illustrated in the film show device, this design strategy considers specific characteristics of a program and search a particular location for the program. Therefore the result would be a tactic solution that tries to make the most appropriate response to match the existing factors such site forces, constraints, flyover structure, etc.



utilising the flyover structure by anchoring pull-up storage devices and even allow people to reach the underside of beam where display shelves are attached to, creating a very different sense of space.

steps and performs for sitting and elderly playing chess street hawkers are introduced to fulfill the saturated demand around the market area
steps become viewing platforms in case of performance



responding to the existing flyover ramp, sloping platforms are created to gradually ramp up to closely underside of beam, creating a space from very busy to very quiet and static, with displays of a particular issue along the way, mixing the changing sense of space.

sketch design of individual devices



elements interacting with the flyover context



defining different sense of space between the ground and the underside of flyover



view from Hennessy Road



heavy flyover structure and light elements

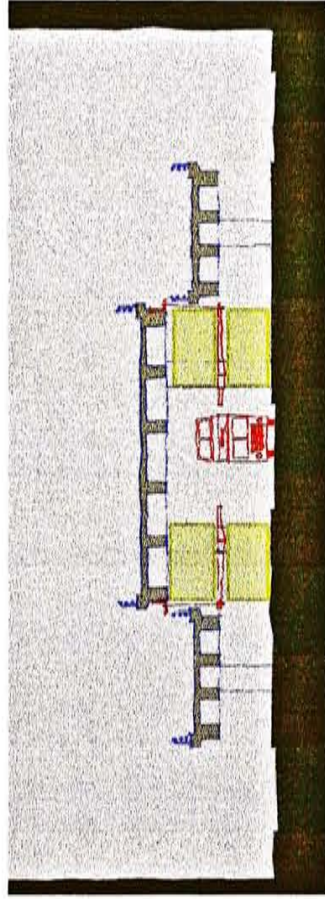
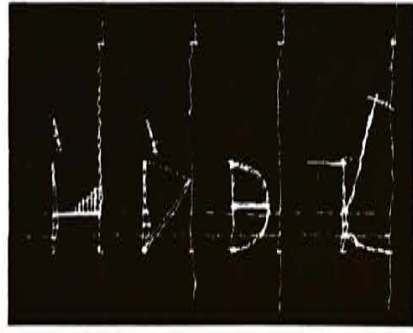


view towards street hawkers & seating platforms



hanging platforms stretch out to catch attention of people from street

04. ARCHITECTURAL HARDWARE



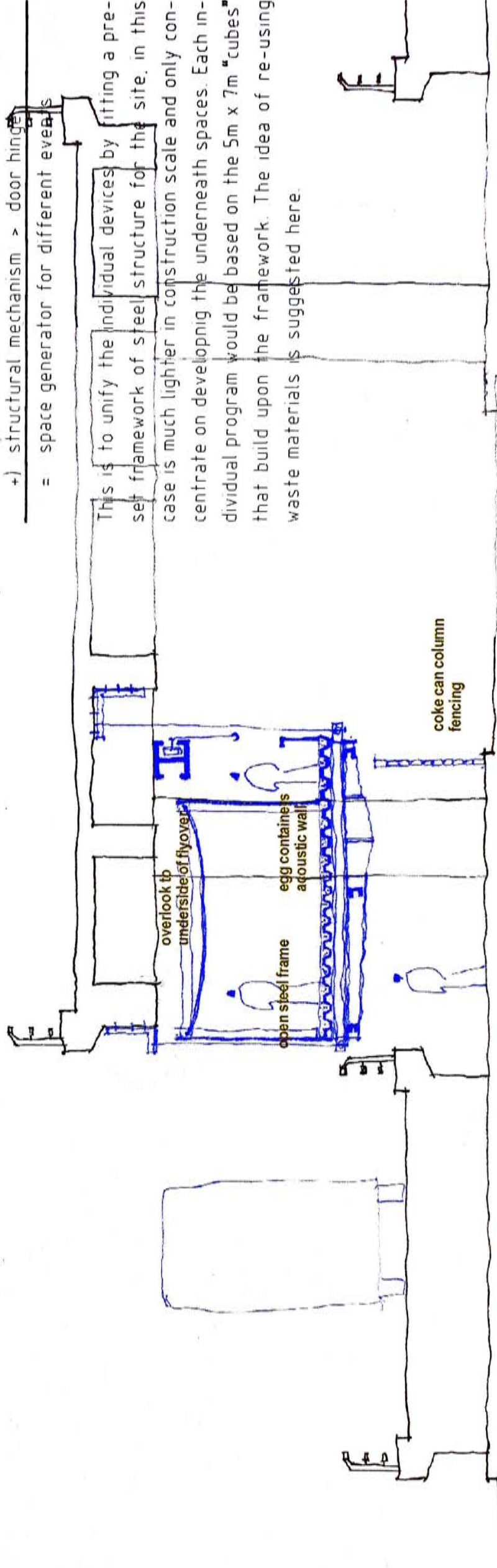
In the previous strategy, each individual element tends to stand on its own and hard to establish an overall order or harmony that each element would sing together. Therefore combining the previous two strategies is

the concept of architectural hardware

concept sketch

conceptual section 1:500

- flyover > door frame
- recycling material > door leaf
- + structural mechanism > door hinge
- = space generator for different events



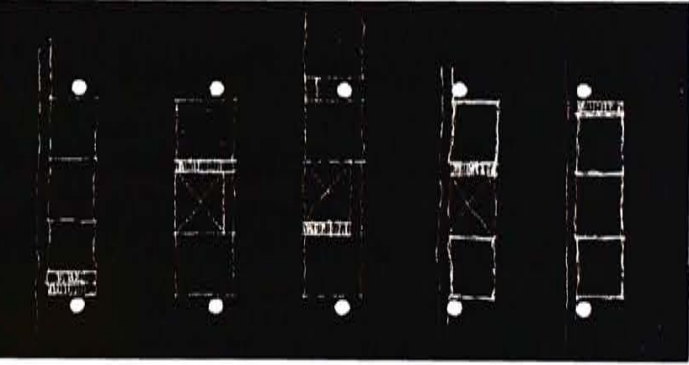
detail section 1:100

04. ARCHITECTURAL HARDWARE

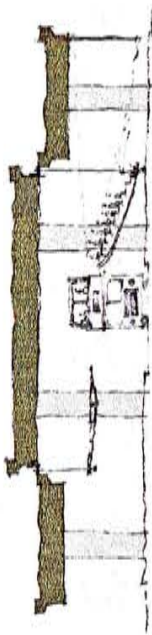
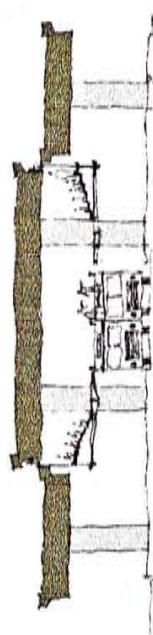
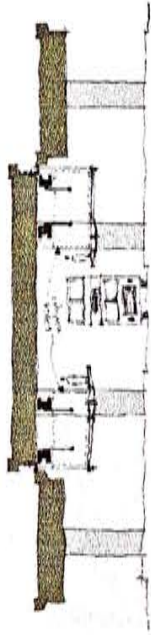
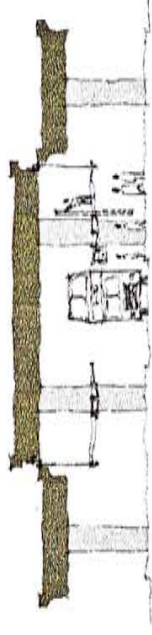
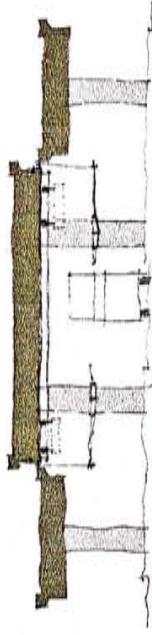
In order to support the varied programs and to create a dynamic space adaptable for change of use, a set of keywords related to building hardware:

- \ folding \ swing \ sliding \ retracting \
- \ compressing \ hanging \ rotating \

are suggested in order to accommodate different possible alternations for the framework, e.g. stage view-ing performance to an open-top double decker bus. (see schematic section).



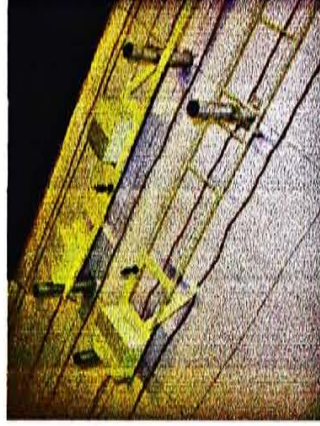
schematic plan 1:800



schematic section 1:500



schematic program planning



04. ARCHITECTURAL HARDWARE

This design strategy also explored the construction methodology. Since the site is dominated by a bus lane cutting across in the middle, the design responded to this major characteristics by suggesting an open-top double decker bus as the transportation for material, labour & tool box for construction. The open frame, set at the same level as the bus, becomes the working platform for assembly. (see figures for sequence description)



open frame



an open-top double decker bus comes with labour and material



making the floor platform



setting up endosure



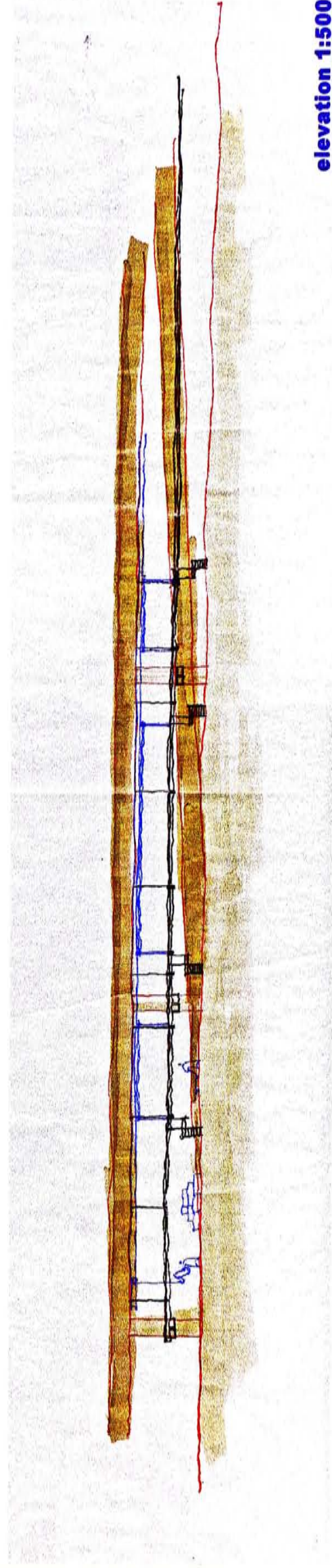
expand to necessary volume



complete and bus goes

concept of construction

Also another attempt is to install sliding tracks running along the underside of the flyover. This allows the assembled components and materials to be easily transferred from one place to another along the flyover. (see elevation for illustration)



elevation 1:500

05. BETWEEN THE SCALE OF BUILDING AND FURNITURE

Although the pre-set framework showed the potential to create dynamic spaces and to transform the system for different functions, a pre-defined open framework that permanently slicing the space into two portions is considered as not very appropriate, especially given the site of tight conditions and low headroom. Again, flyover is an already established order, either the strategies of suppress, ignore, dominate or intrude with the existing order is not appropriate.

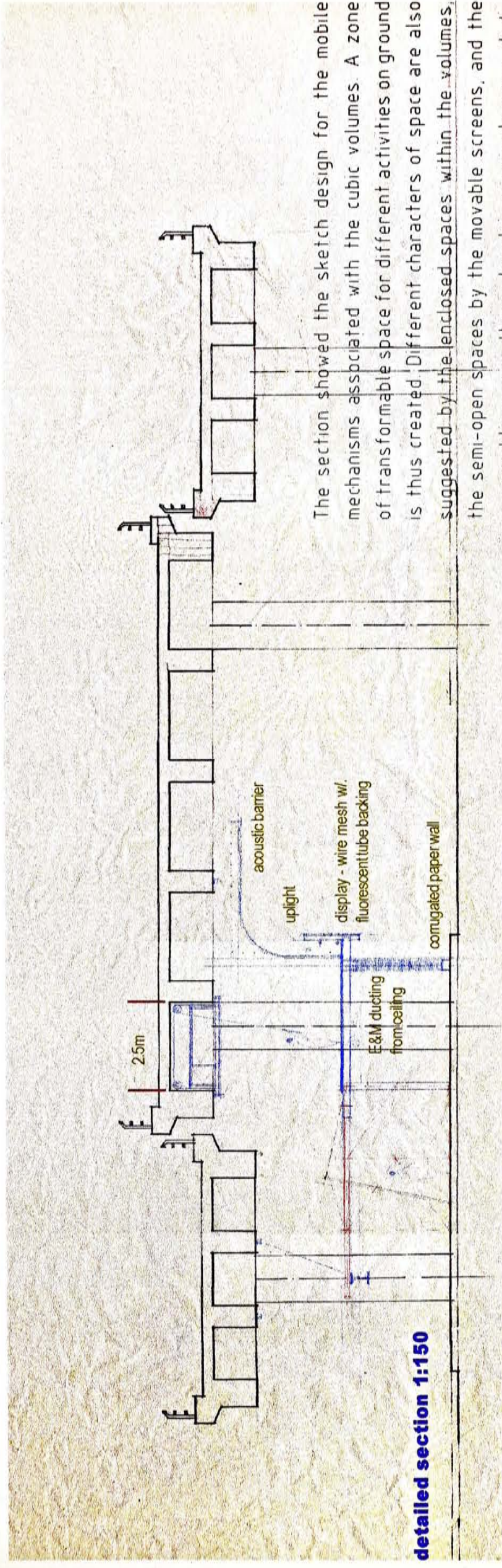
Therefore the next stage is to try not seeing the framework and the content, i.e., the cubes, as two separate elements. Instead of a transformable framework fit in with separate volumes, the cubes are designed as mobile mechanism themselves that transform to facilitate different transient programs.

The result is a series of cubic volumes that best fit with the flyover context by suggesting design gestures between the scale of building and furniture. Different mobile mechanisms are associated with the volumes and reacting to the flyover context to support different functions.



sketch section 1:500

05. BETWEEN THE SCALE OF BUILDING AND FURNITURE



detailed section 1:150

The section showed the sketch design for the mobile mechanisms associated with the cubic volumes. A zone of transformable space for different activities on ground is thus created. Different characters of space are also suggested by the enclosed spaces within the volumes, the semi-open spaces by the movable screens, and the open public space. Upper level is a private zone dedicated for the homeless inhabitants. Retractable sleeping platforms are suggested for them, utilising the leftover spaces between beams for storage and security.

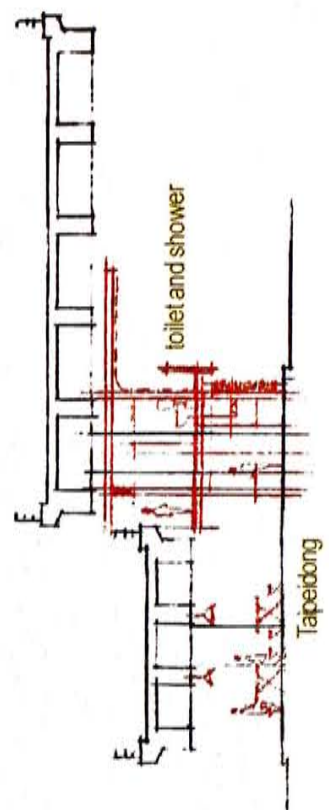
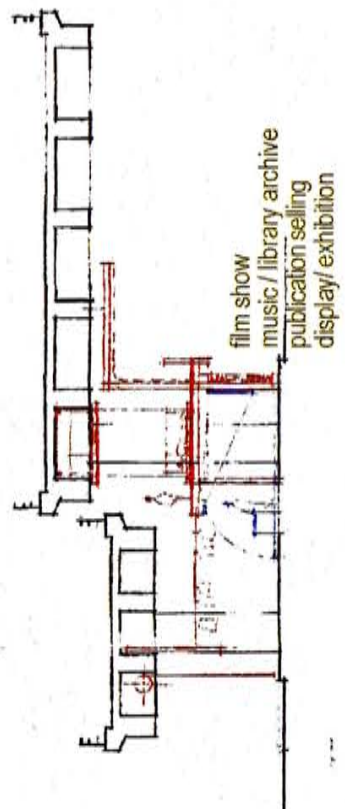
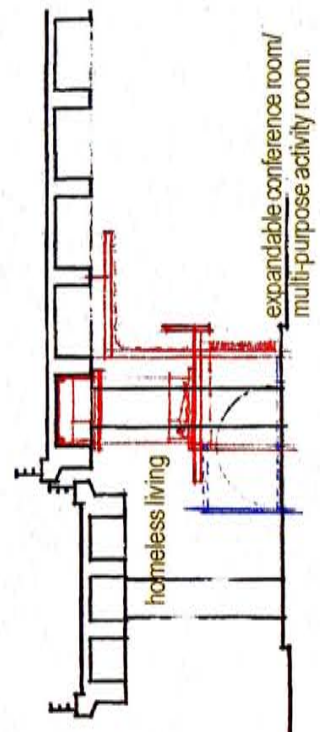
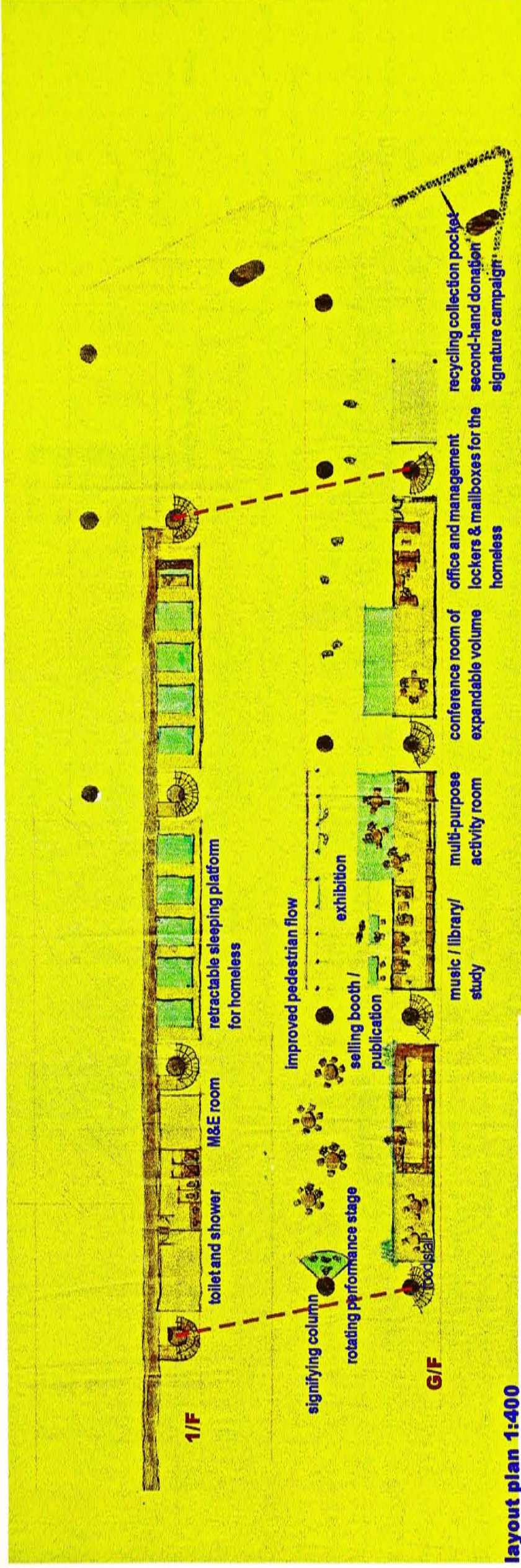
Other site context issues are also taken care of. For example, the acoustic barrier curving down from the ceiling tried to create a better environment and separation from the bus lane, display panels for the attention of pedestrians waiting for buses, etc.



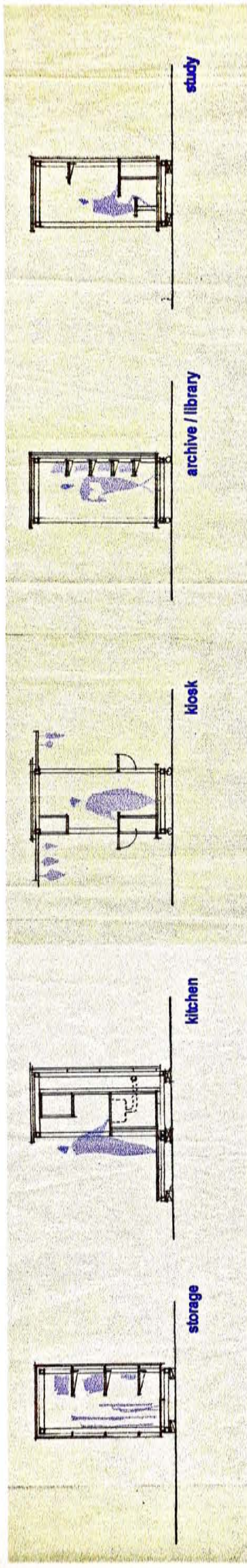
cubic volumes with mobile mechanisms to fit in the flyover context

view from Hennessy Road, coke cans railings for safety to draw drivers and pedestrians attention when crossing. Acoustics barriers curving down from ceiling.

05. BETWEEN THE SCALE OF BUILDING AND FURNITURE



06. DEVELOPMENT OF THE 1.2M X 2.4M X 2.4M UNIT MODULE



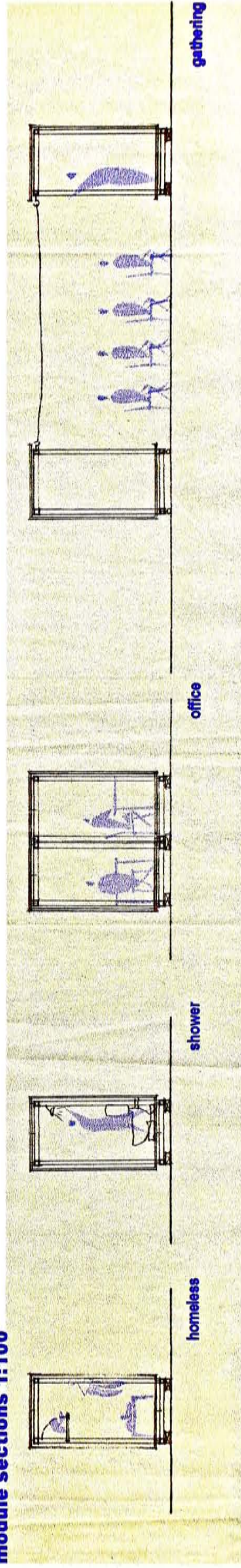
The design further systemise the cubic volume suggested in the previous option. The size of the cubic module was standardised and reduced to 1.2m X 2.4m X 2.4m. This dimension is chosen for its flexibility to accommodate individual programs for one single unit & combination of a number of units (see module sections). This is also a manageable scale for human manipulation in the assembly process, taking reference from the local kiosk design (details refer precedent

section). Also simple technologies and manageable building operations are emphasized here. Therefore the mobile mechanism and transformation process suggested in the previous option that requires complicated joinery and detailing have to be largely simplified. Instead of making a wall folds down, a floor slides out, etc., this design would explore full potential of the one simplest basic functional unit, and the transformation then would base on the combination

of different types of units that joined in different ways, through only simple hand-operated connections.

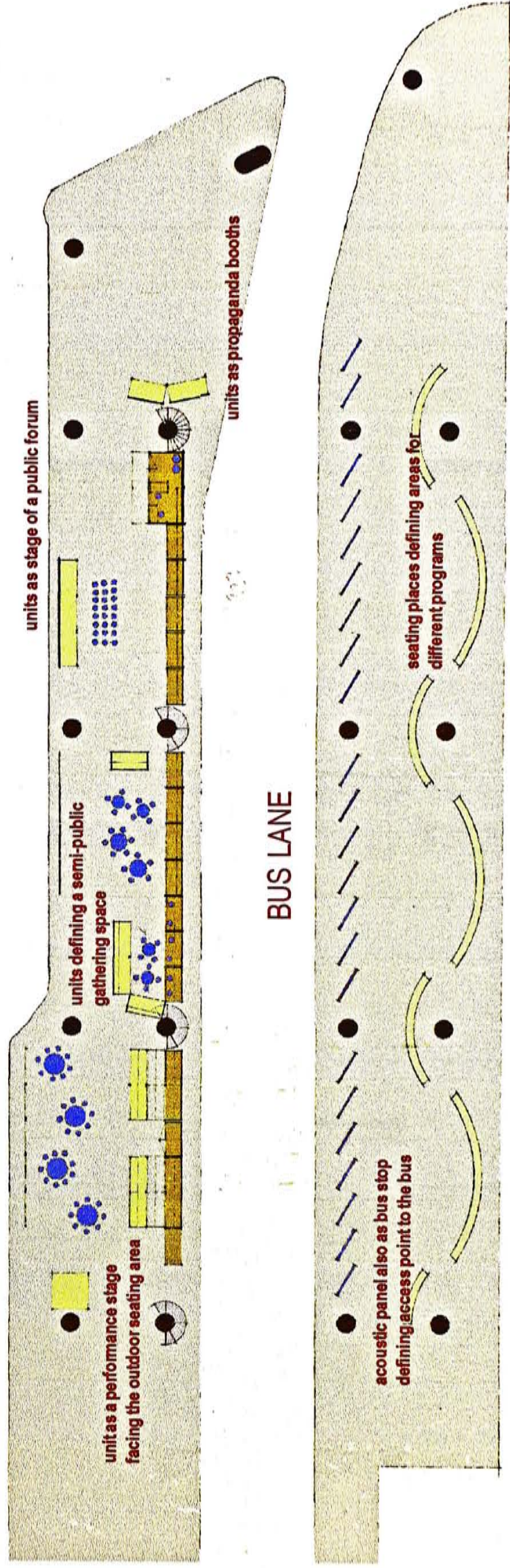
This is considered as the most appropriate design strategy developed so far, for its potential to reveal the design concepts set ahead.

module sections 1:100

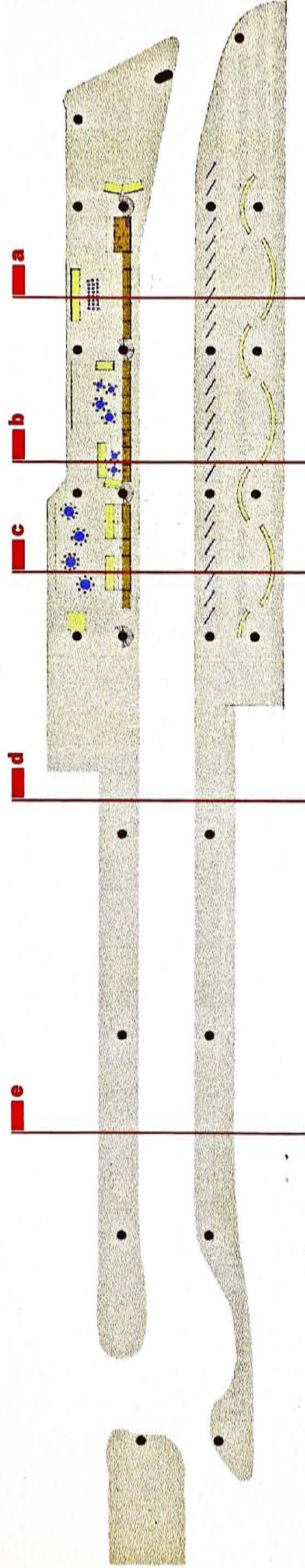


06. DEVELOPMENT OF THE 1.2M X 2.4M X 2.4M UNIT MODULE

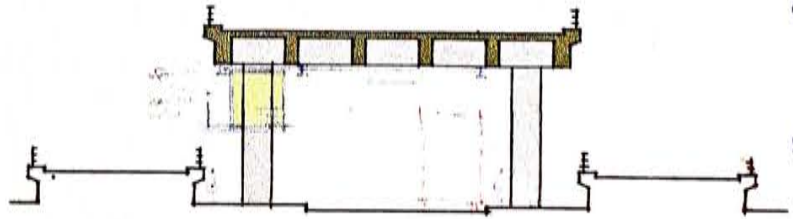
The layout plan is based on the program planning developed in the previous option. But in this case the explorations on layout are based on the development and manipulation of different units. There mainly consisted of two types of units, the stable unit (in orange color) and the mobile unit (in light yellow color). The stable units are for the more permanent part of the program such as storage, offices, etc. The units defined a barrier to separate from the desirable factors from the bus lane. The mobile units are for the transient programs that may change over time in different durations. Therefore when the event is over, the mobile units will also close and "park" adjacent to the stable units. Through this system of units, the spaces underneath the flyover are able to be transformed into different characters of public spaces over time.



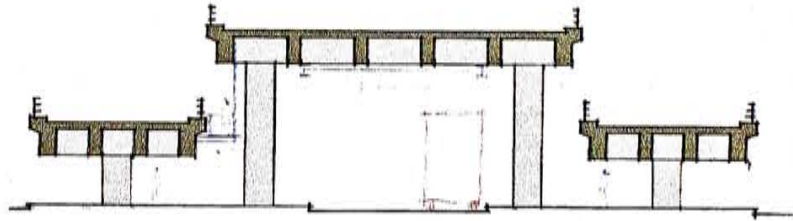
06. DEVELOPMENT OF THE 1.2M X 2.4M X 2.4M UNIT MODULE



layout plan 1:800



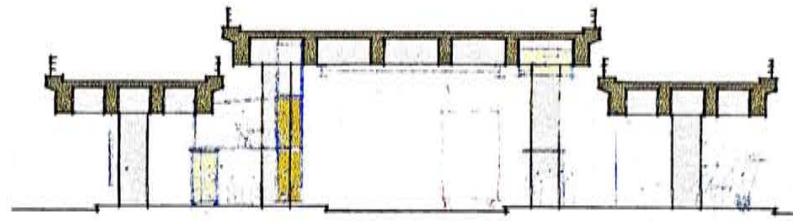
section e-e 1:400



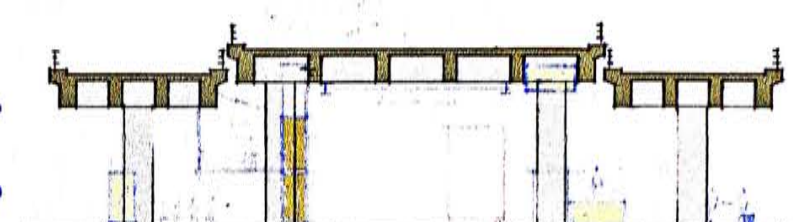
section d-d 1:400



section c-c 1:400



section b-b 1:400



section a-a 1:400

06. DEVELOPMENT OF THE 1.2M X 2.4M X 2.4M UNIT MODULE



look into the second level of homeless inhabitants.

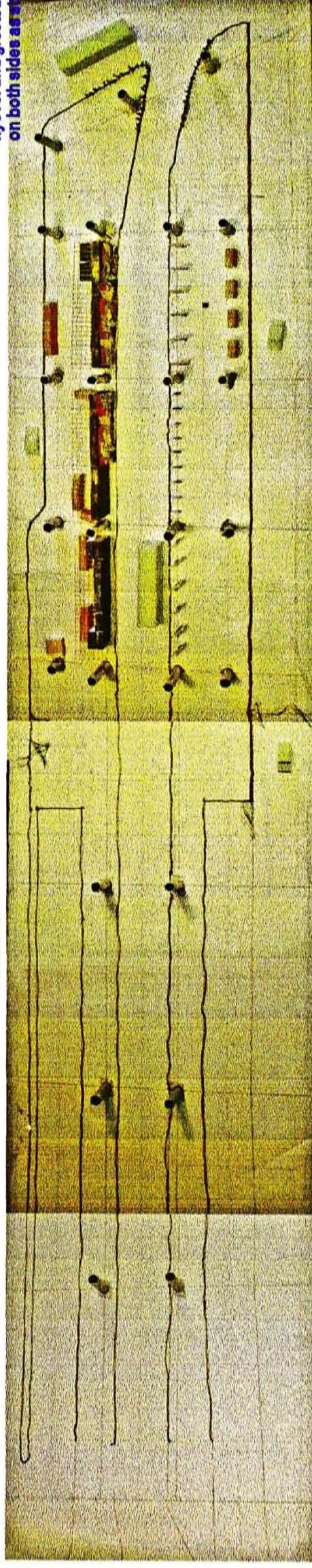


overview to the side facing market



view from Hennessy Road, the bus enters flyover and greeted by coke can columns on both sides as street railings.

1:100 model pics



aerial view



view into the different layer of spaces underneath flyover



movable kiosks catching people's attention while waiting for the bus



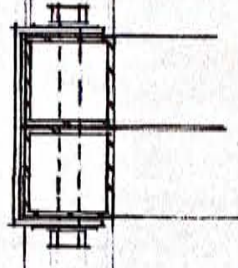
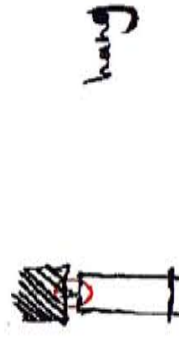
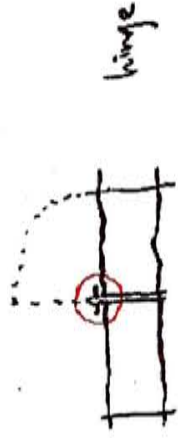
view from opposite street, busy traffic on flyover, another world below



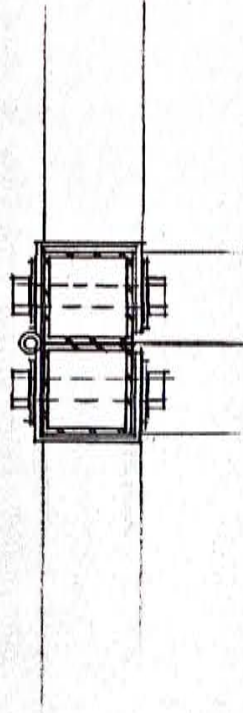
facade facing the bus lane also becomes paint wall for attraction

06. DEVELOPMENT OF THE 1.2M X 2.4M X 2.4M UNIT MODULE

Explorations on the joinery details in this stage of development are tried to achieve the different trans-formations and connections like folding, hinge joint, etc. (see figures on the right) The objective is to simplify the details to just using simple door hinges, bolts and nuts, all available from a usual hardware store. The operation is also tried to be simple and easy and manageable, for example just by clipping, screwing, hanging, etc.



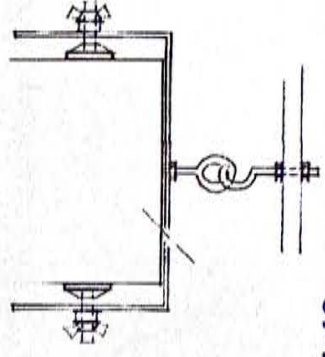
Joinery detail 1:5



Joinery detail 1:5



Joinery detail 1:10


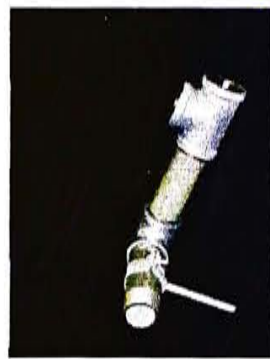




Joinery detail 1:10

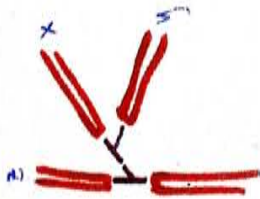
CHOICE OF MATERIAL FOR THE STRUCTURAL FRAME

In the previous design option, the material for the structural frame is assumed to be aluminium square sections. This is chosen mainly for its light weight and easiness for connections of cladding panels because of the perfect right angled frame resulted. However, aluminium is a pretty expensive material. Therefore cheaper alternatives are required. GMS tubular pipe currently used in the drainage services is considered as a good alternative for its equal and even greater structural strength but a lot cheaper in cost. This is also a good choice because there are a lot of associated accessories used together with the GMS pipe in the drainage system. For example, the T-junction for branching the drainage flow, etc. This is significant for the design because this provided good opportunities to utilise these already market available parts for connections between structural elements. This largely enhanced the potential to make simple joinery. However, GMS is too heavy and not durable because of rusting. Therefore PVC is later considered, although the structural strength is a lot less than metal. Two types of PVC drain pipes, the white colored corrosion resistant pipes usually used in the sewage system and the usual grey colored one, which is finally decided to be the material used, after all the above considerations.

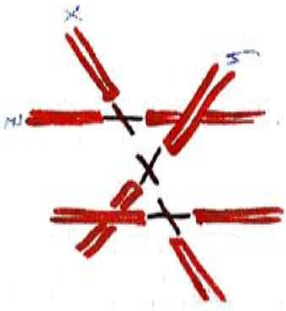
weight cost durability structural strength associated accessories

			
<p>● ● ● ● ●</p> <p>● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p>	<p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p>	<p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p>	<p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p> <p>● ● ● ● ●</p>
Aluminium square tube	GMS pipe	PVC pipe (corrosion resistant)	PVC pipe (regular performance)

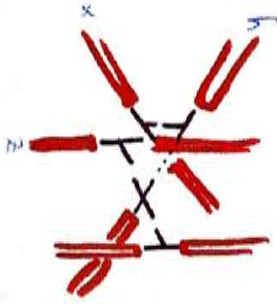
EXPLORATION ON THE STRUCTURAL FRAMING LOGIC



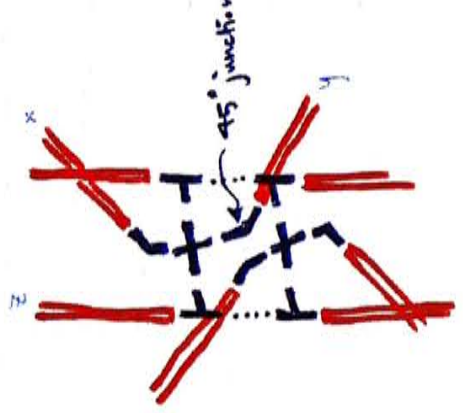
01. start with a corner, use already available "T", continue in z-axis



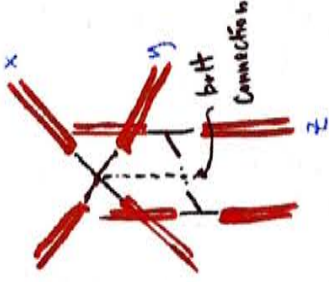
02. double column, then continue in y-axis also



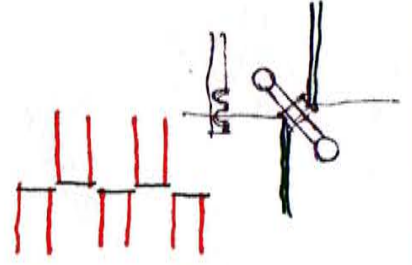
03. substitute "T" by "+", an invented joint adapted from two "T", then continue in both x-axis & y-axis



04. all "T", x-axis & y-axis form a same plane

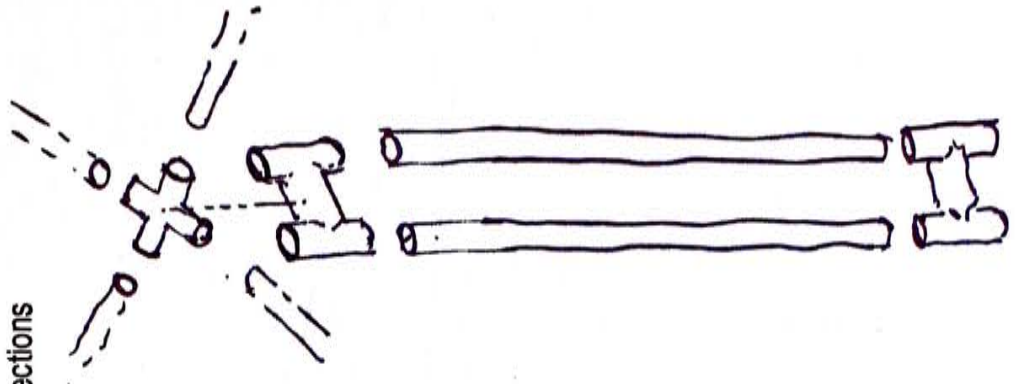


05. use already available joints as much as possible, therefore substitute "+" with "T"



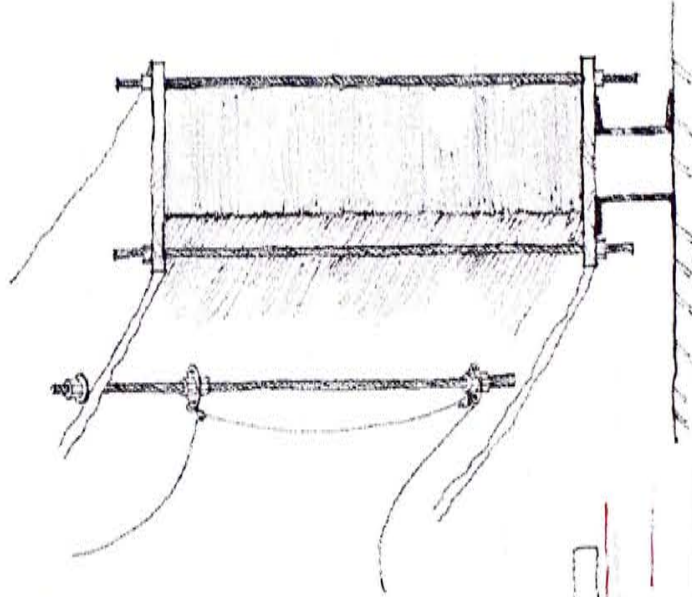
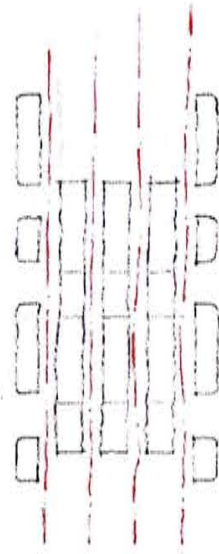
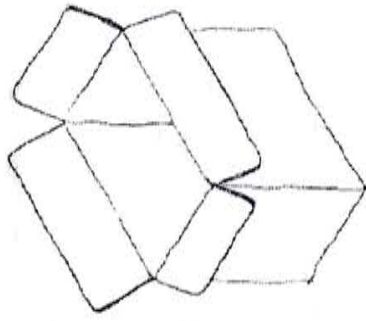
06. x-axis & y-axis form the same plane for a unit, allow flexible unit assembly, using available parts as much as possible

07. final decision - simplify 06. x-axis & y-axis on the same plane for all directions



EXPLORATION ON MATERIAL & ASSEMBLY

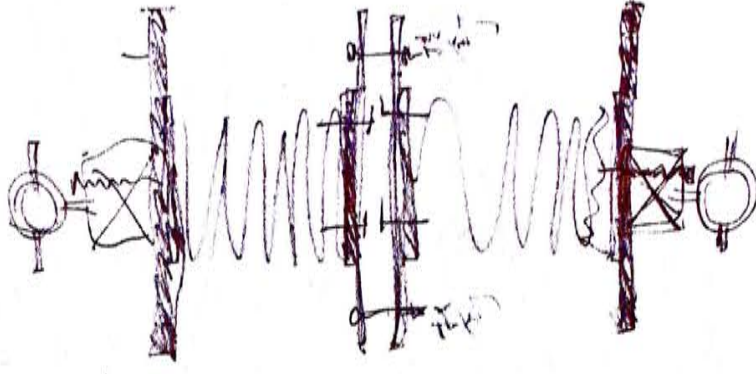
The idea of using cheap, recyclable & waste materials for the project originated from the observations of the workers collecting the used corrugated cardboard boxes thrown out from the market everyday. Strategy of using the material is to think of a cheap and low tech way to quickly transform the wastes to building components. Only by this way of thinking can truly bring out the potential and aesthetics of the material. Therefore the first option is to cut strips and stack up, not waste a lot of glue but just by compression joining the cut pieces together (see figures for option 01 on the right), resulting in a wall component, that acquire interesting translucent effect because of the spaces left between the corrugations inside the cardboard. The later development further simplifies the working process. Instead of using the screw bars for compression member that involves a lot of metal joinery components, packaging ties are used, making the process just like packaging (see mockup & figures for option 02 on the right).



sketch section and diagrams for option 01



mockup 1:1



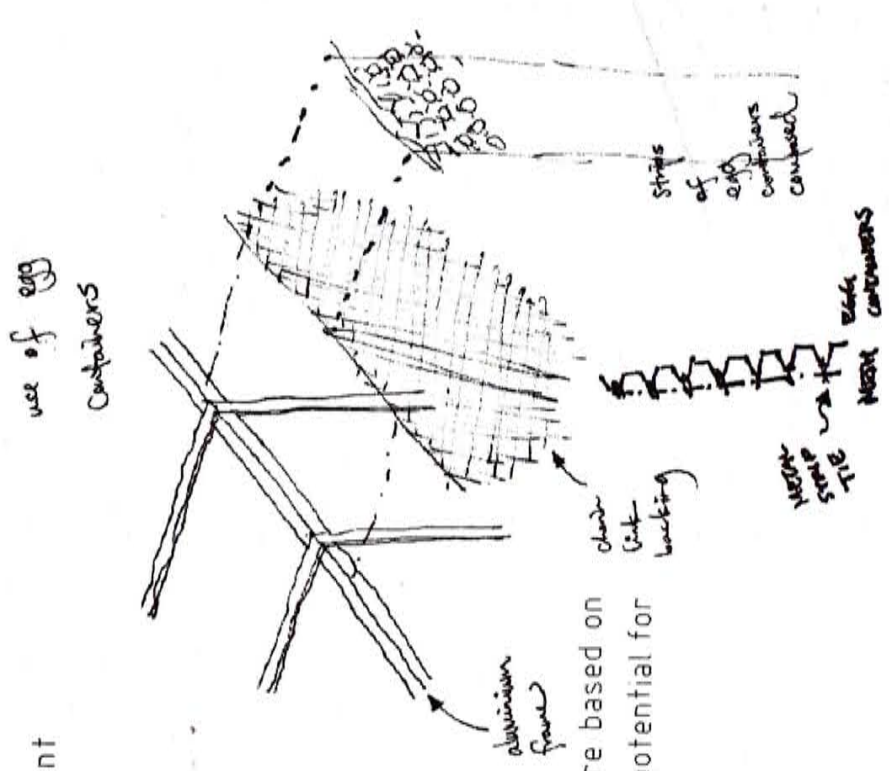
sketch section for option02

EXPLORATION ON MATERIAL & ASSEMBLY

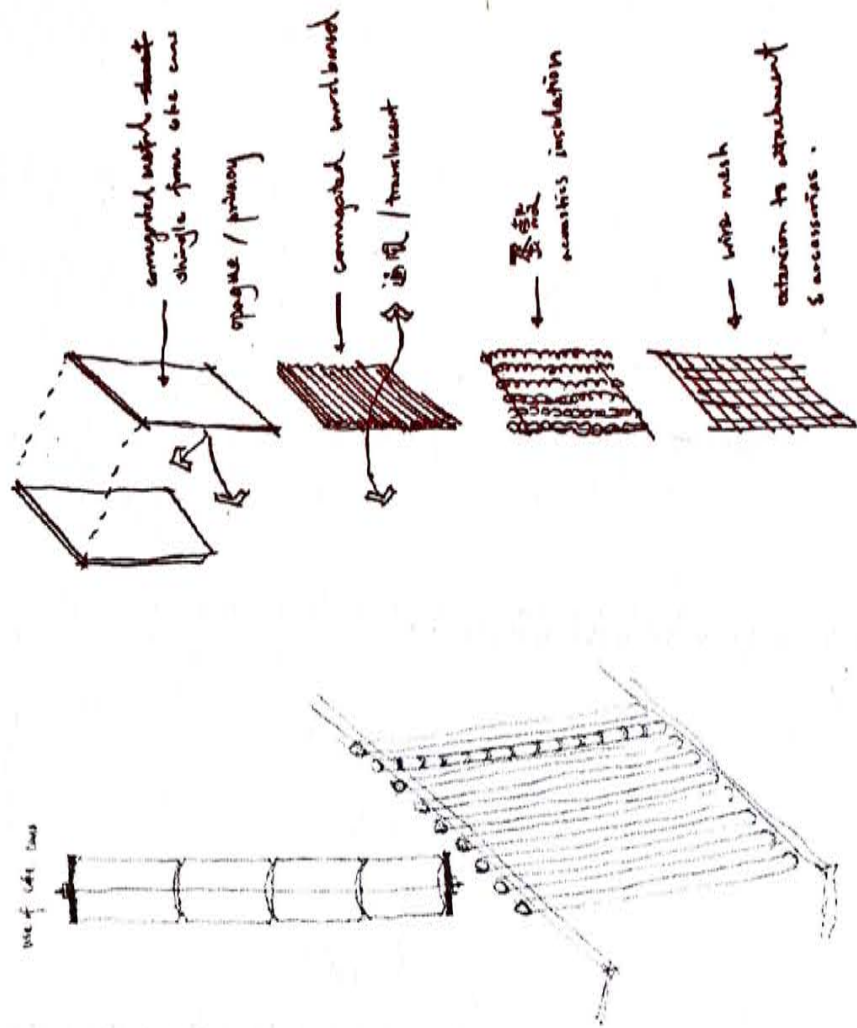
Further to the explorations on using corrugated paperboxes, a lot of other brainstorm ideas about material:

- trash bags
- plastic bags / white, red, translucent
- used aluminium cans
- vegetable baskets
- zinc metal sheet
- GMS corrugated metal sheet
- wire mesh / chain link
- used cloth / clothes
- concrete block / brick
- clay
- mud

The materials that was chosen to use are based on the criteria of cost, material availability, potential for transformation, functional value, etc.



sketch diagram for egg containers assembly

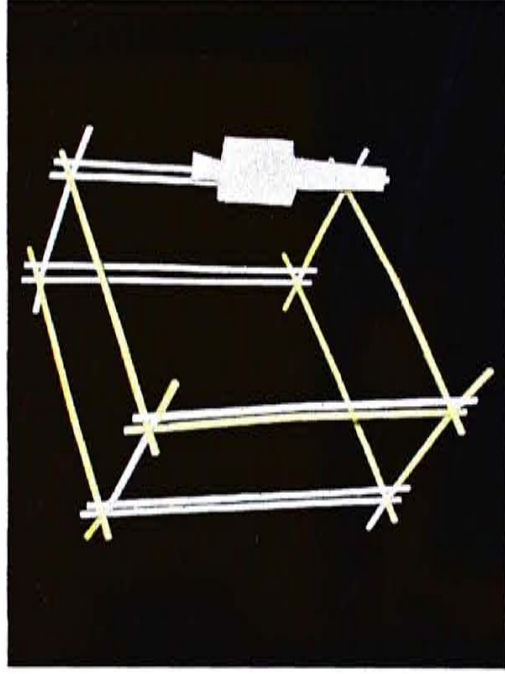


sketch diagram for coke cans assembly

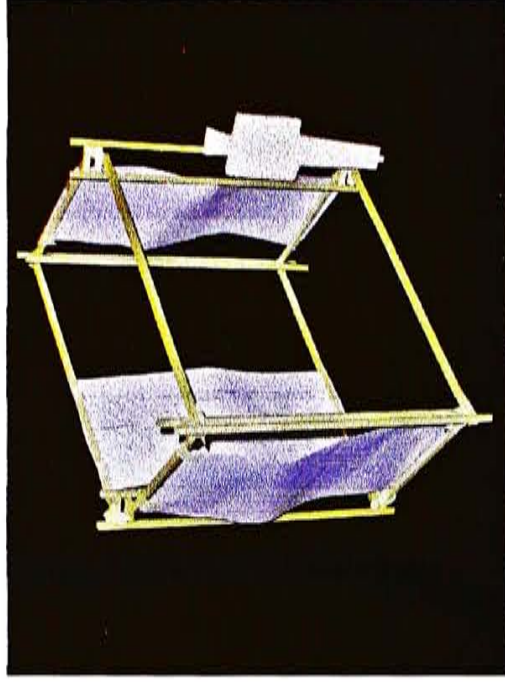
sketch showing other material possibilities

EXPLORATION ON MATERIAL & ASSEMBLY

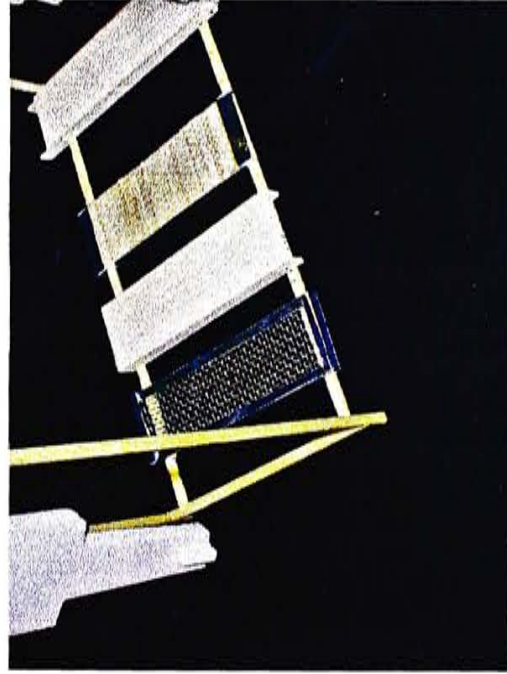
The next stage of development is to combine the previous ideas on material with the structural frame suggested in the design option. The cladding strategy is to develop standardized panels to fit different kinds of materials. The panels aim to be remountable so that the decayed recycling materials can be replaced. Other explorations on the potential of standardised panels such as joining the panels together to form a movable wall components are suggested.



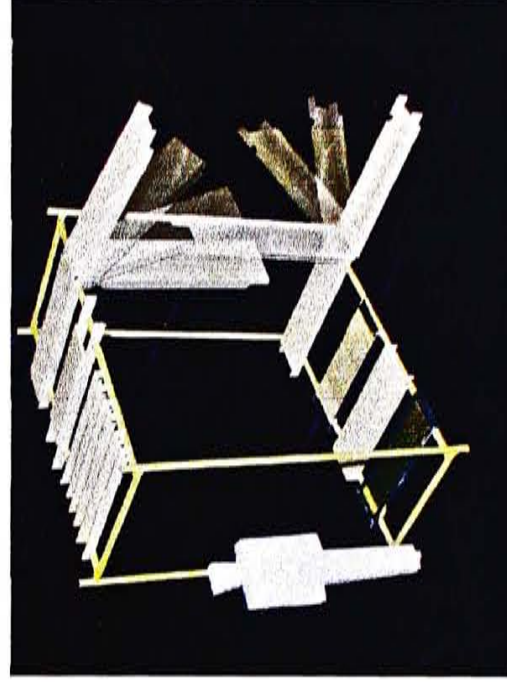
the 1.2m x 2.4m basic module in PVC tubular framing



creating enclosure by used fabric from outdated advertisement



different options for the floor, wire mesh, plywood, corrugated cardboard



standardised panels connected by hinge joints to form movable wall partitions

design record on final design

This project is not about making an **extraordinary, beautiful building**.

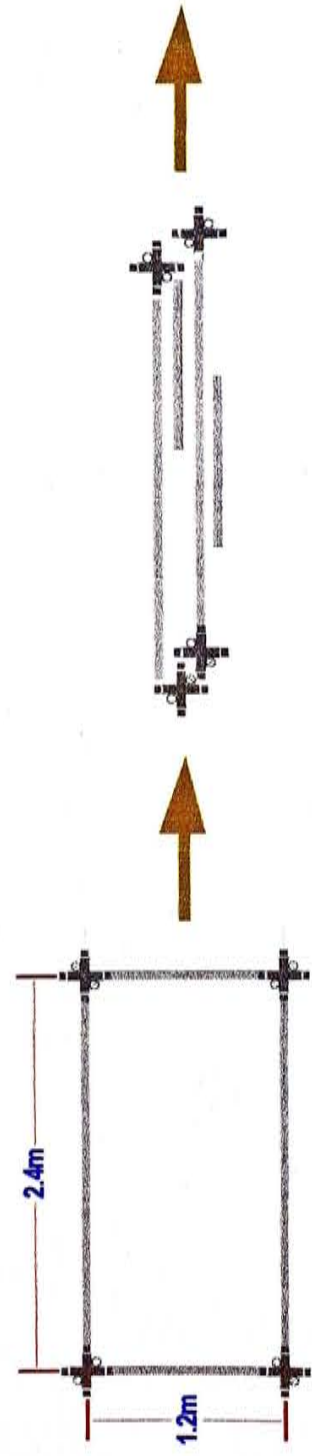
On the contrary,

This is about re-looking at the most **ordinary and usual** stuff around us everyday.

This is to transform the **ugly and residue** spaces in our city.

This is the search for a **simple, inexpensive and easy to operate building assembly system**.

THE FLEXIBLE MODULAR ASSEMBLY SYSTEM



oreven



outreaching to different community, mobility & portability

flexibility, variation, growth

1.2m X 2.4m X 2.4m, a human operable dimension

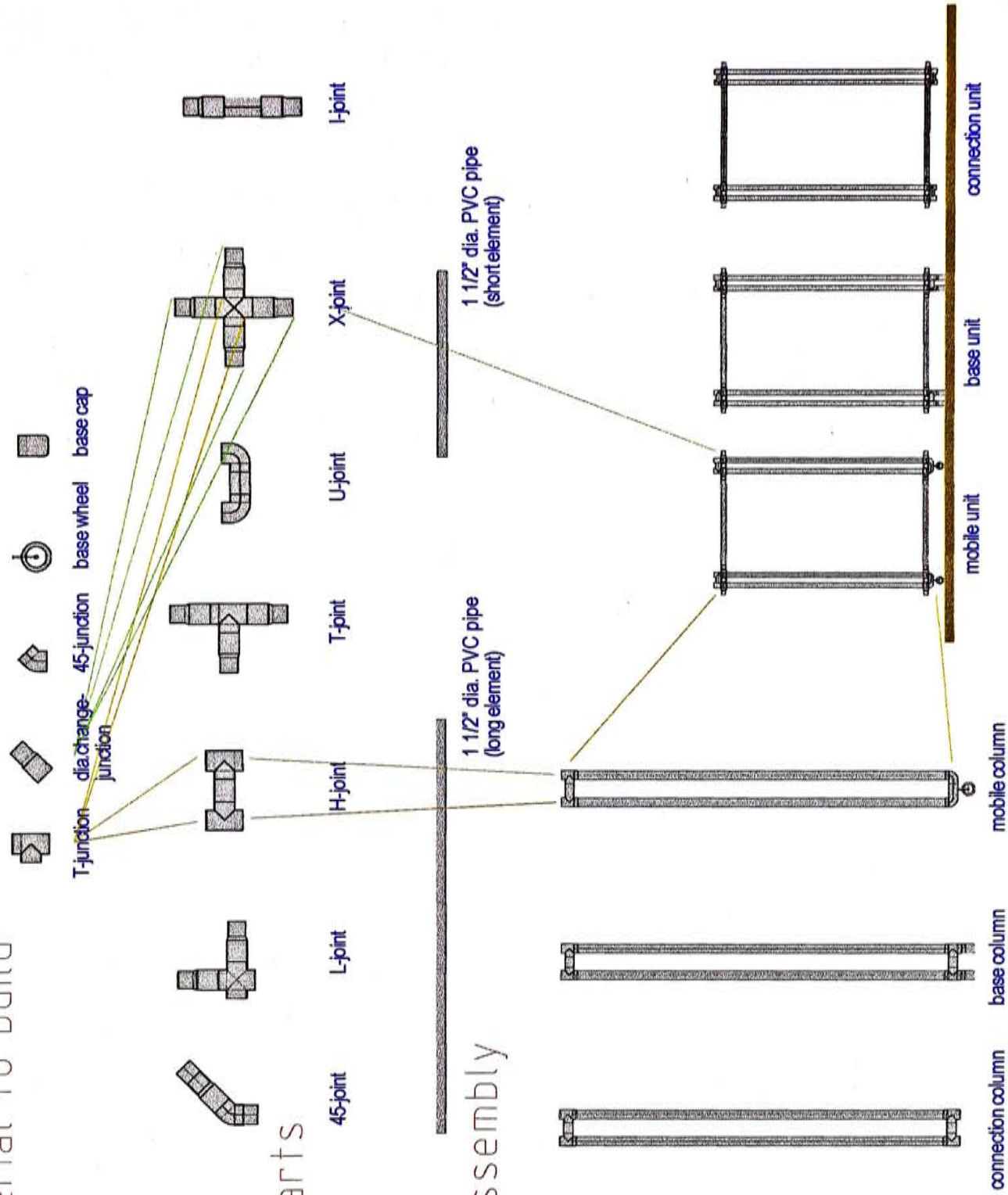
simple tools & machinery manipulation



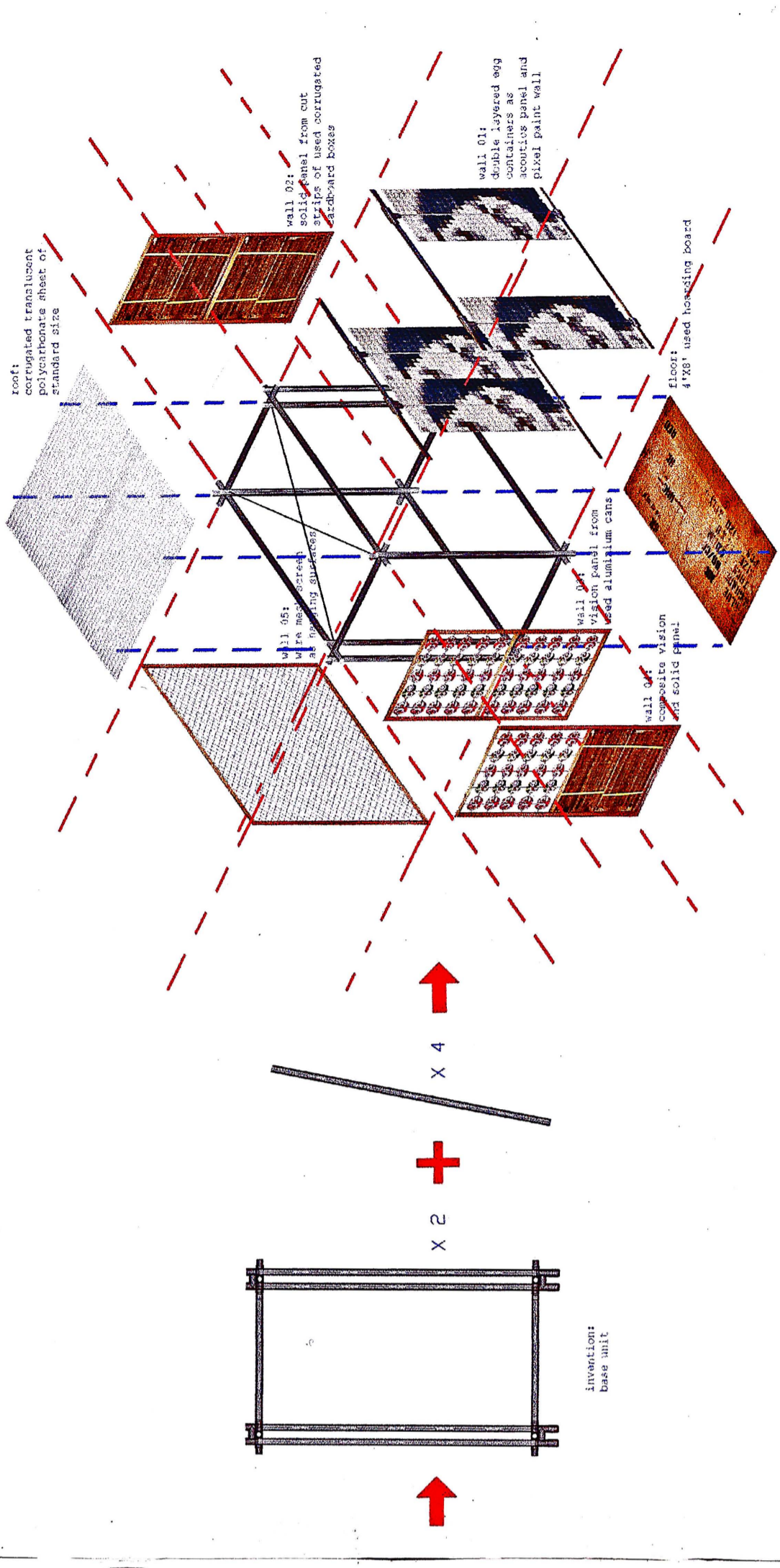
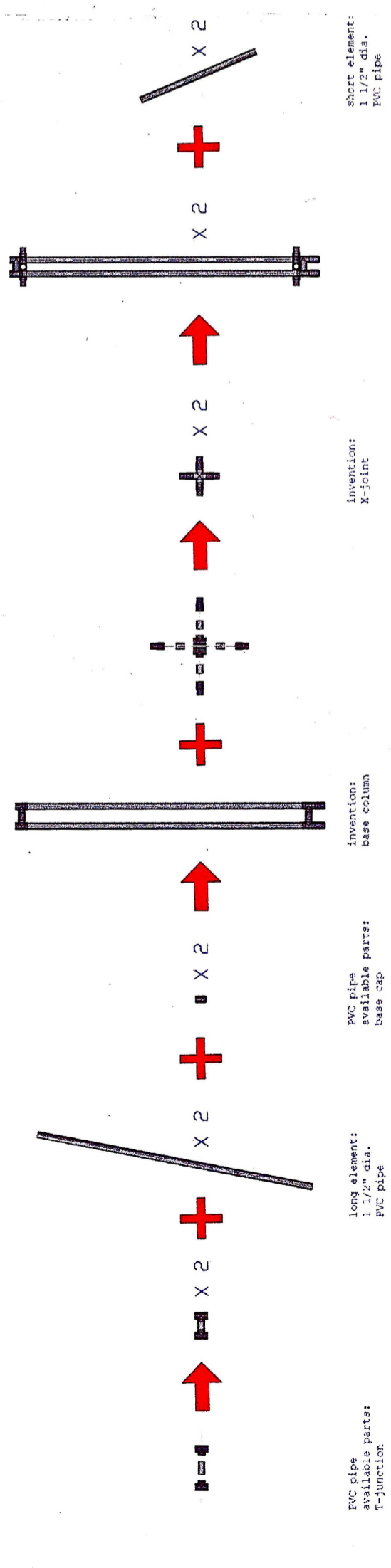
THE FLEXIBLE MODULAR ASSEMBLY SYSTEM - EVOLUTION OF COMPONENTS

PVC pipe is chosen for the material to build the structure for its low cost, light weight, durability and many already available kit of parts that allow flexibility yet

guidance for connections and assembly



THE FLEXIBLE MODULAR ASSEMBLY SYSTEM - BUILDING A UNIT
 from an ordinary PVC drain pipe T-junction
 to a 1.2x2.4x2.4 modular unit
 with cladding panels by waste materials

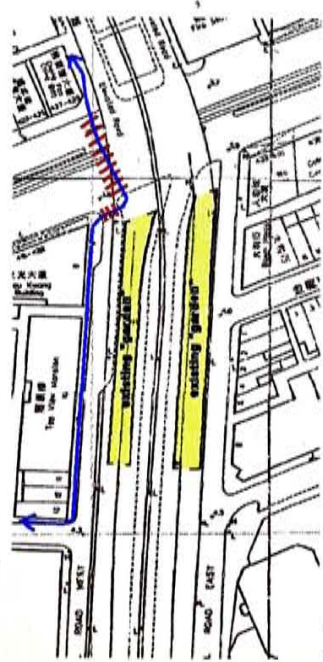


CONSTRUCTION CONCEPT: CELEBRATION OF MASS COOPERATIVE POWER

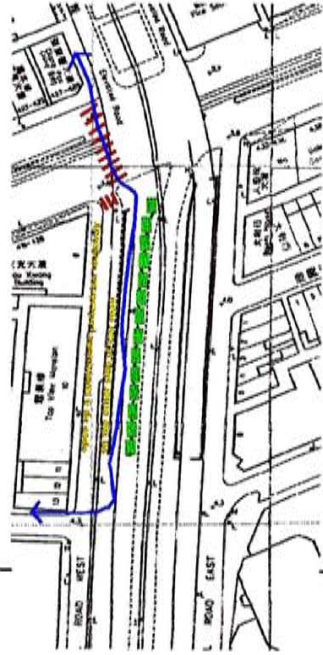
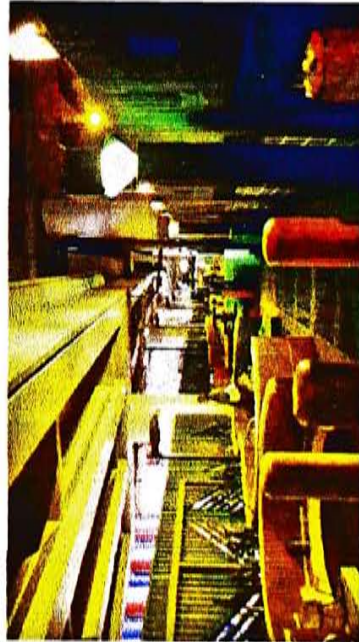


SITE STRATEGY TO IMPLEMENT THE SYSTEM

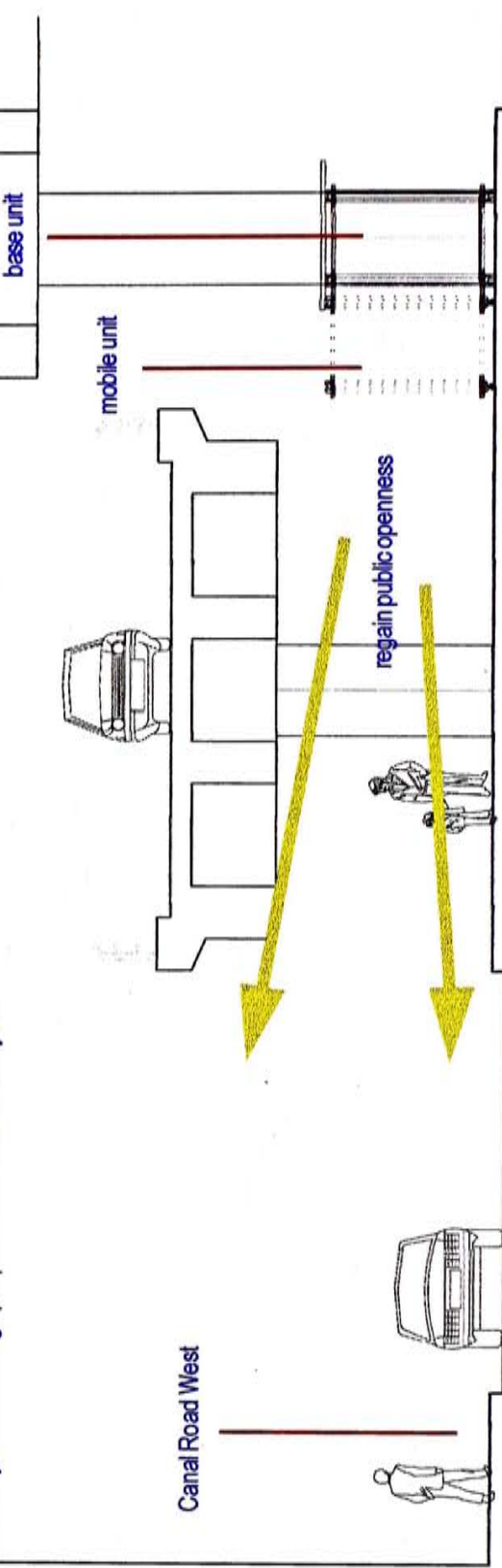
transform the unfriendly dark residue spaces underneath the flyover
regain public openness to Canal Road West & the market
improve the existing pedestrian flow



before:
only one side pedestrian narrow lane and have to make two zebra crossing stop to cross the road

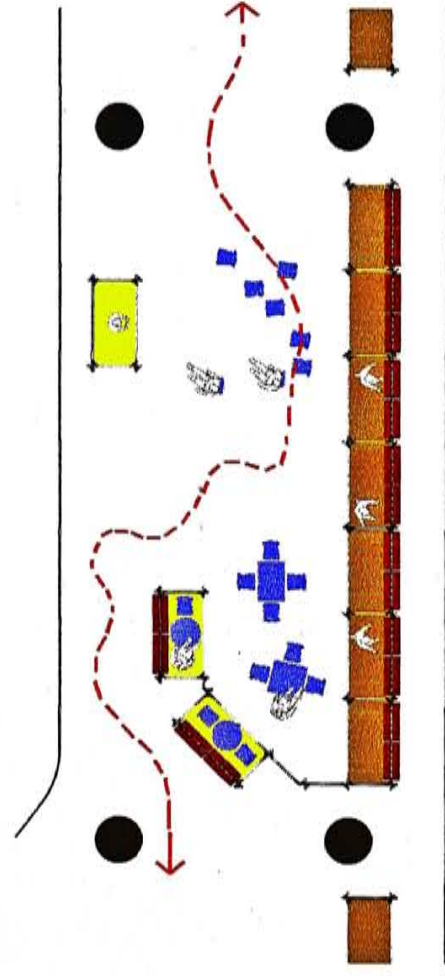


after:
improved walkway and encourage people to walk underneath flyover



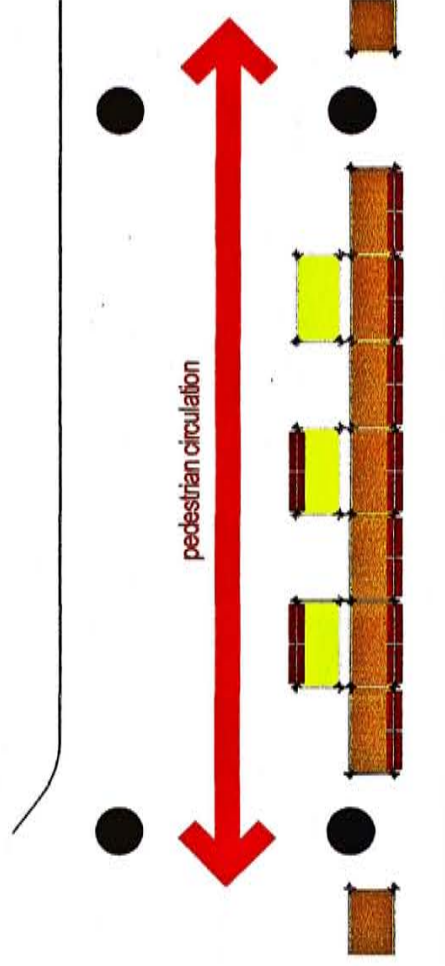
CONCEPT OF OPERATION

transform the space by different configurations of the mobile units in different situations, allowing the flexibility to induce different pedestrian experience and sense of space.

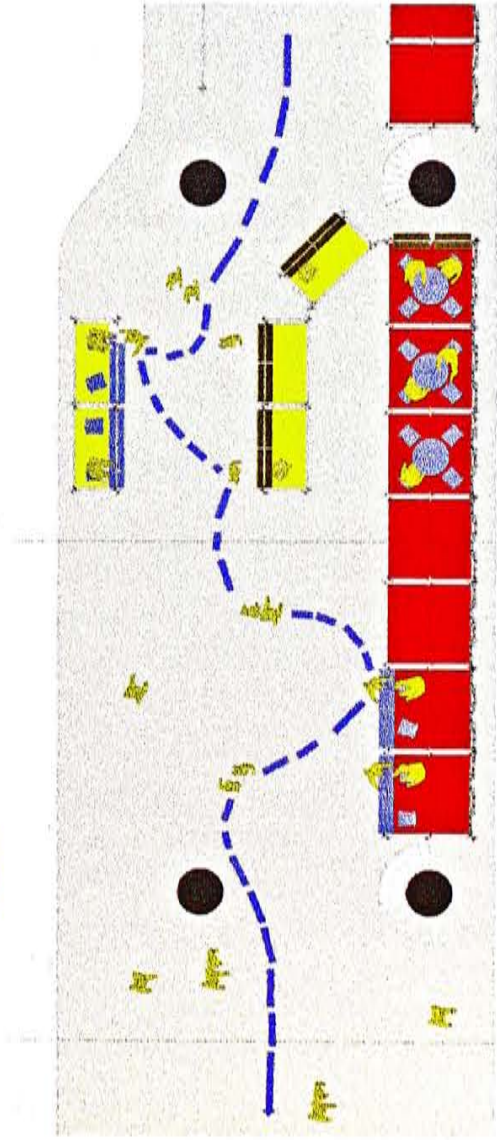


case 1

OPEN

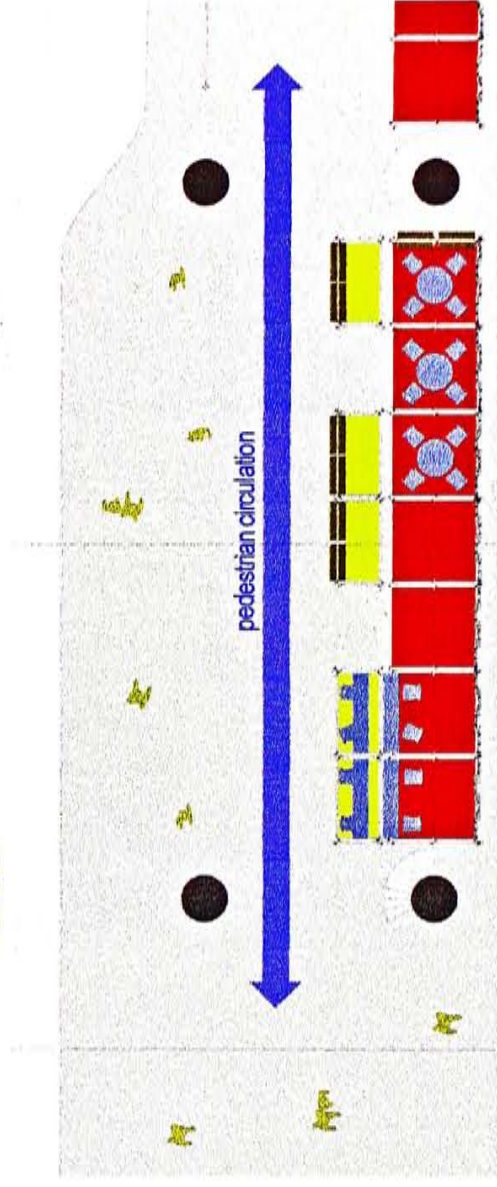


CLOSE



case 2

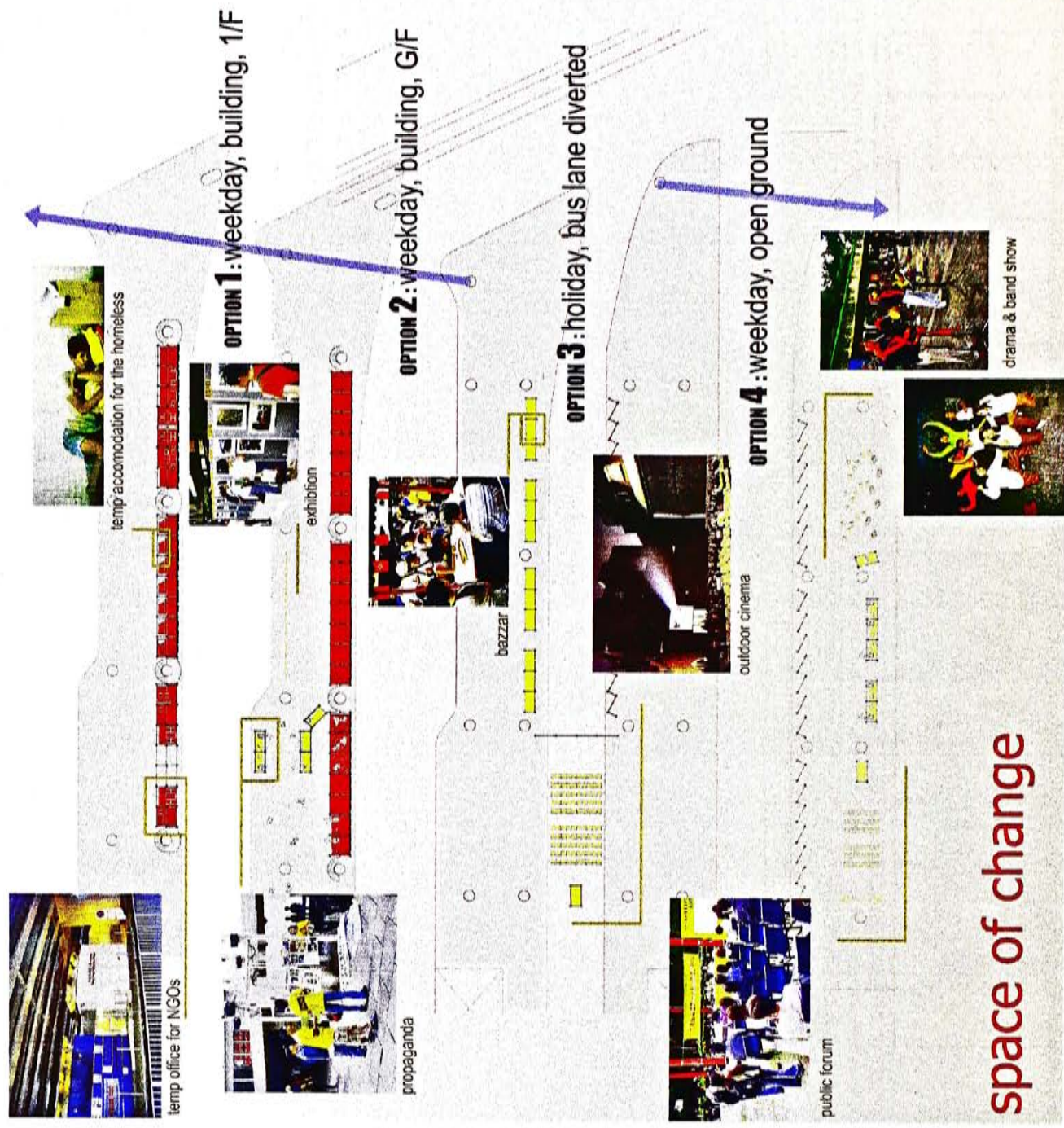
OPEN



CLOSE

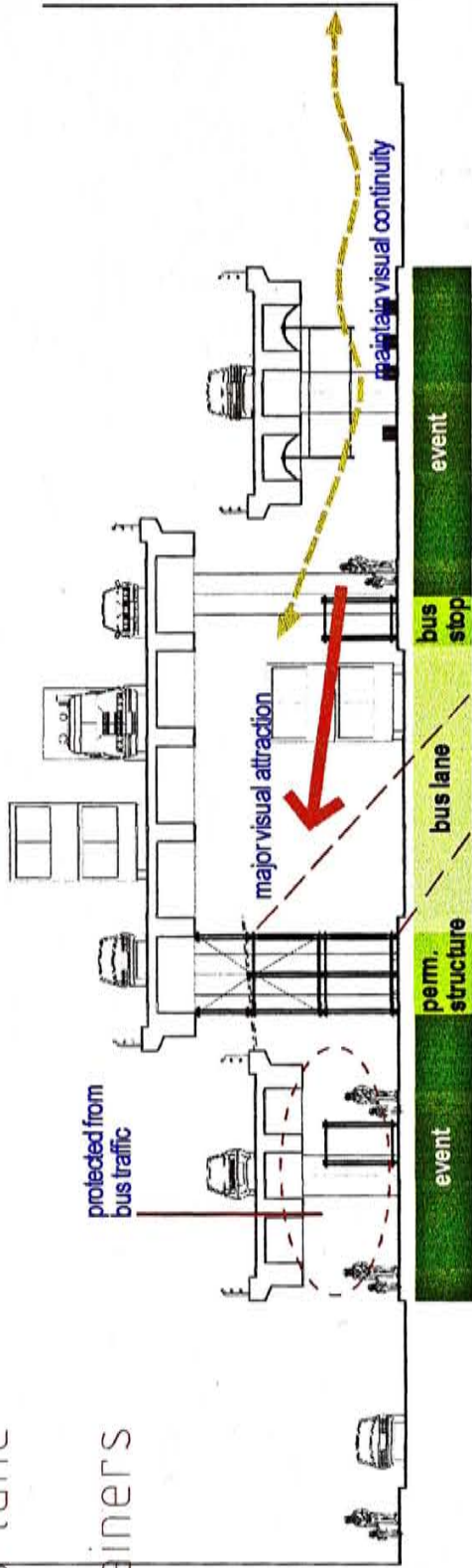
PROGRAMMING

space of change is the core concept for programming, that the space will adapt itself in different situations to support different programs, by manipulation on the developed system.

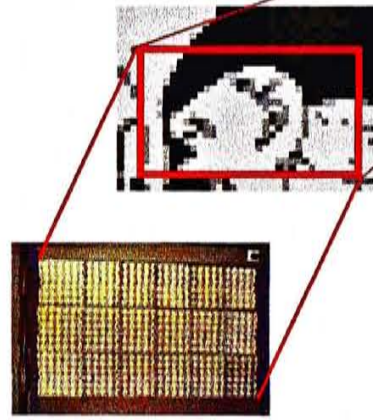


BRINGING OUT THE POTENTIAL OF WASTE MATERIAL

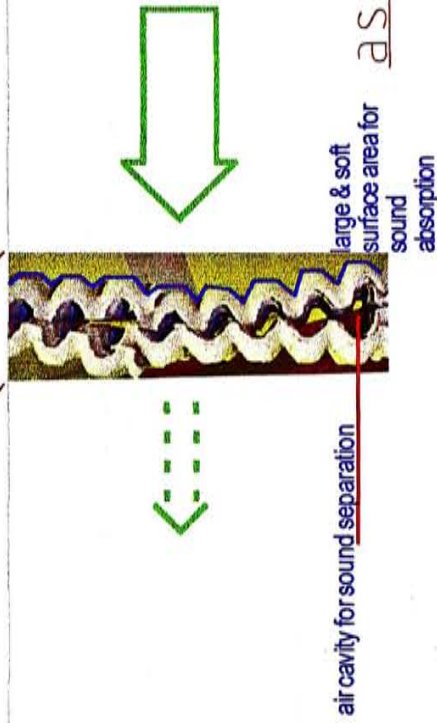
treatment of facade facing bus lane
- multiple use of egg containers



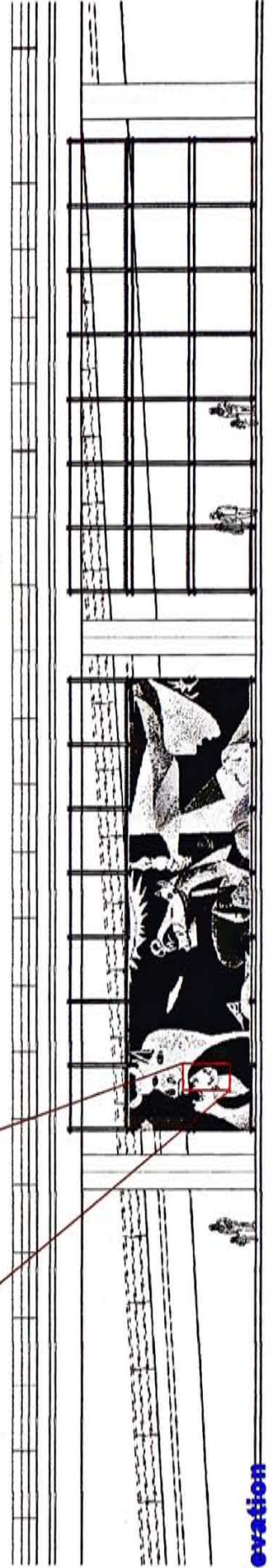
principle section



as pixel paint wall



as acoustic barrier



principle elevation

STRUCTURAL ANALYSIS

PVC pipes are flexible but also easy to sag.

Strategy : to use composite material to strengthen the pipes



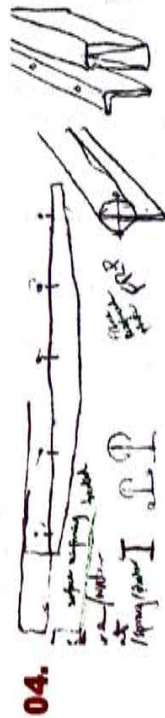
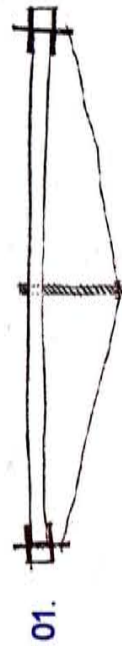
floor



short side



long side



options for strengthening the member

a rigid wood frame distribute load and help on lateral stability

proposed material for wall -
mount on 2" x 2" wood block frame before attaching to the PVC pipe structure

a simple piece of plane to the extent of self rigid helps transfer and distribute the loading

proposed material for flooring -
3/4 inch used hoarding plywood board

simple diagonal bracing take on shear force on long side of unit

proposed bracing -
every 2-3 unit on a long sided wall

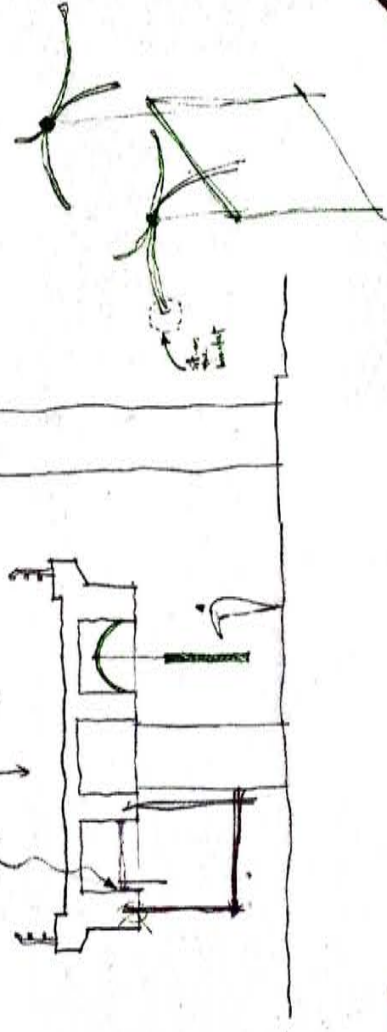
HANGING SYSTEM ADAPTED TO THE FLYOVER

Constraint : permanent alternation to any highway structure not allowed

Potential : slot of space created by parallel beams providing vertical fiction surface



existing condition



durable fabric available from used advertising board



used corrugated cardboard box available from local market



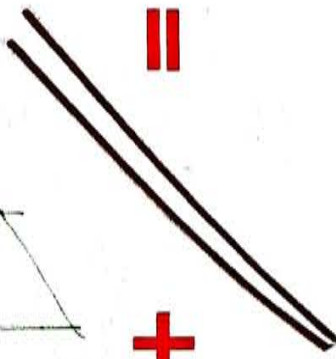
file clip



S - hook



plastic tie



two 1/2" PVC pipe



simple & quick assembly of a cheap, lightweight, recyclable and easy to operate hanging device for display, screen projection, etc.



00 sec



05 sec



08 sec



15 sec



20 sec



30 sec



35 sec



50 sec

MODEL PICTURES

possible spatial arrangement
establishing temporary offices, archives, meeting spaces, etc.

material

PVC pipes for louvres

corrugated board wall

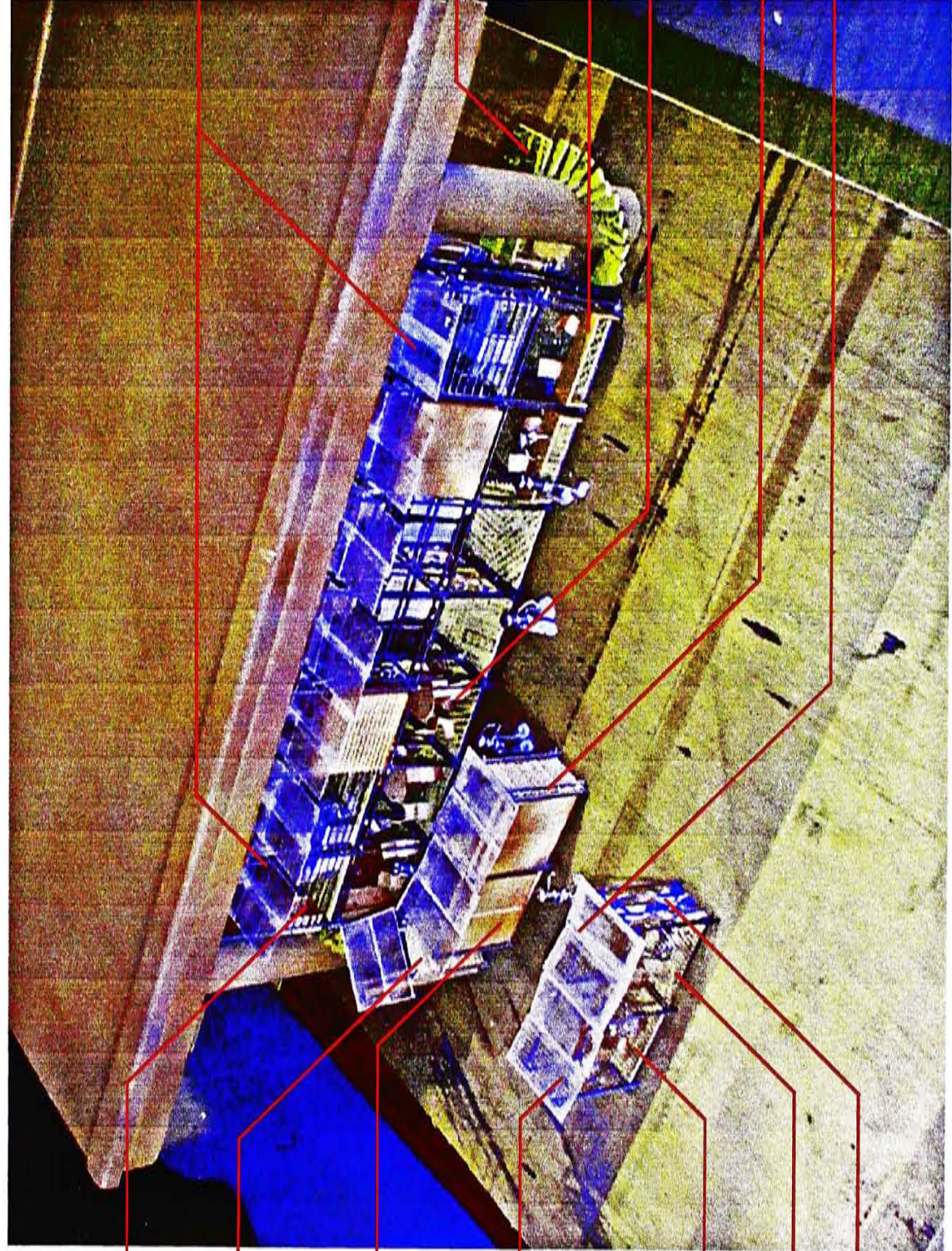
plywood storage set
for security

translucent corrugated plastic
sheet roofing

wire mesh screen

4' x 8' used hoarding board
floor

coke cans screen



program

individual offices for NGOs

steps attached to flyover as spiral staircase of private access from inside

store selling publications for fund raising

gathering / discussion

archive / reading

collecting signatures in a signature campaign

MODEL PICTURES

in 1 to 40 scale



transform bus lane to outdoor film theatre in holidays



movable archive enclosing a public outdoor room



propaganda booth and movable archive dividing public and semi-public space



pedestrians view towards projection while waiting for the bus, elderly play chess on the movable furniture



MODEL PICTURES

in 1 to 40 scale



suspend screen from underside of flyover for projection



view from opposite street



view towards gathering area



view up to temporary offices



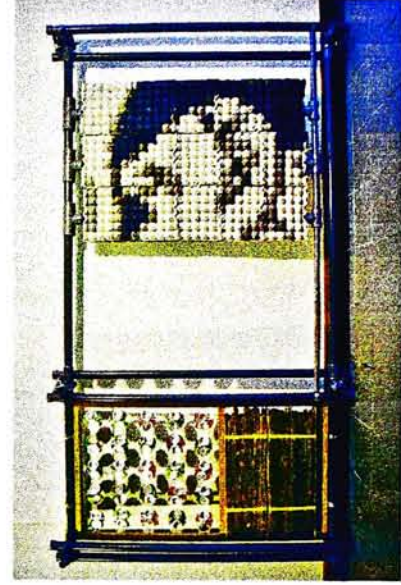
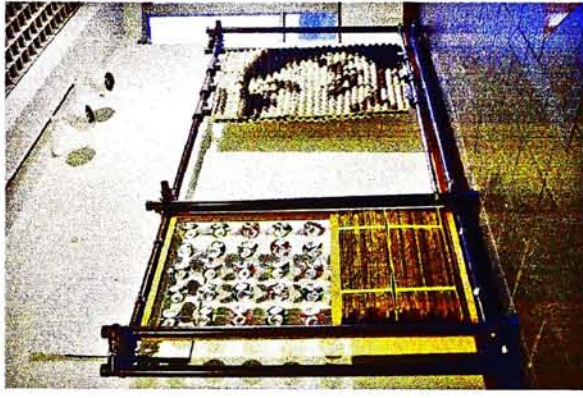
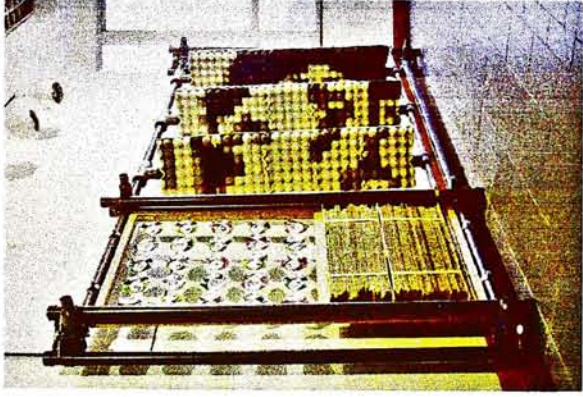
overview of modular layout



overview of event

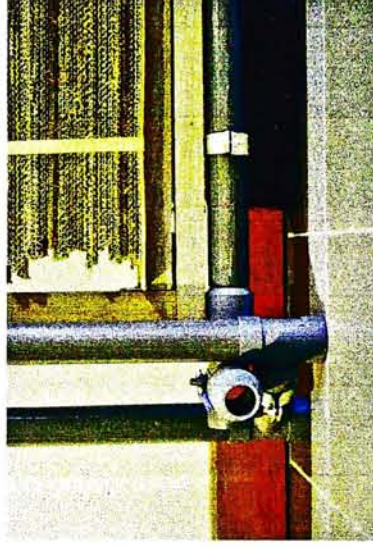
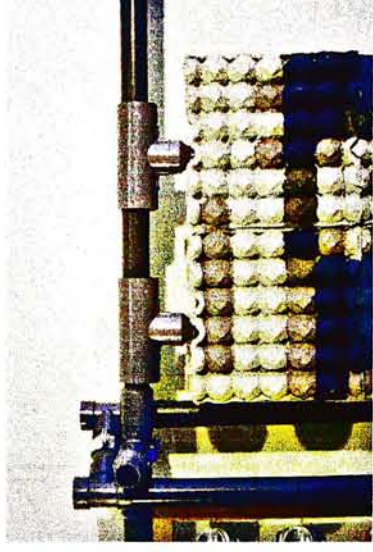
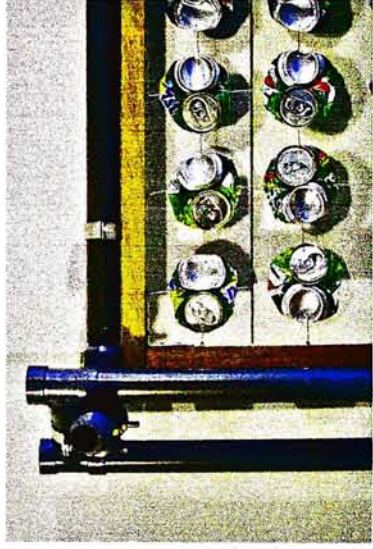
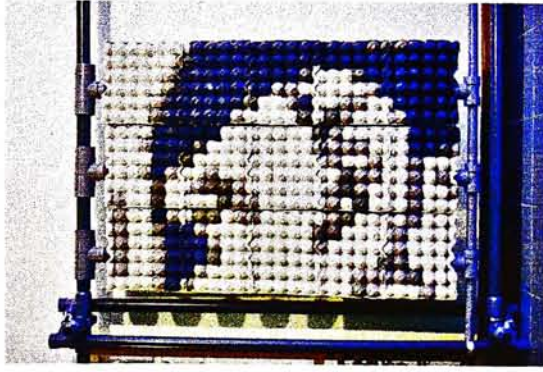
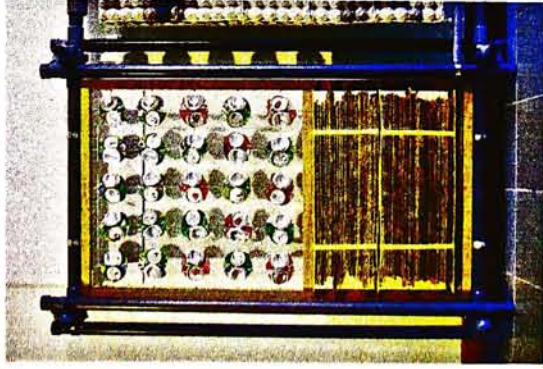
MODEL PICTURES

in 1 to 1 scale mock-up



MODEL PICTURES

in 1 to 1 scale mock-up (DETAILS)



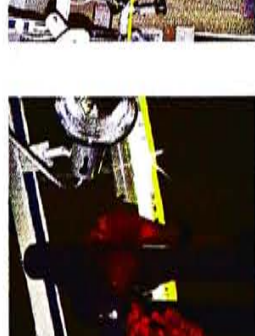
RECORD OF ASSEMBLY PROCESS

A. from a daily available PVC drain pipe connection to a building component (the cross joint)



RECORD OF ASSEMBLY PROCESS

B. from a building component (the column) to a basic 1.2x2.4x2.4 unit frame



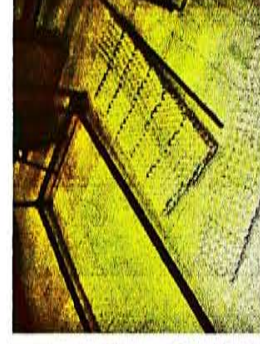
RECORD OF ASSEMBLY PROCESS

C. from residue materials (corrugated cardboard boxes & coke cans) to a wall partition



RECORD OF ASSEMBLY PROCESS

D. from scrap pieces of domestic waste (the egg container) to a cladding unit (the acoustic screen & pixel wall)



RECORD OF ASSEMBLY PROCESS

Evaluation after the building mock-up experience

The building mock-up experience is a very good testing tool for me to evaluate whether the design fulfilled the concept of easy and quick assembly and whether it is truly able to be achieved by ordinary citizens of no particular knowledge in building technology. As all the participants involved in this building exercise were my friends and family, none of them in the discipline related to construction industry, the design is considered as generally in line with what was set ahead in the design concepts. However, a lot of issues were brought out because of this building experience and the following are some drawbacks for future improvement:

1. minimize the number of joints that would involve screw driving on site for joinery fixation.
2. some tasks that require consistency is better to be done by one single person rather than a group of people, e.g. connecting the egg containers together.
3. structural stability still need a lot more explorations. Crossing bracing is a must. Cannot too much rely on the performance of a joint, it would never be as rigid as you thought.
4. the location for assembly process - large free open ground on a single level, under shade, protection from rain and wind
5. some other points above the material, e.g. the egg container walls hard to line up, sliding the panels not smooth enough, egg containers much heavier than was imagined, induce sagging problem, etc.

precedents

streetcorners, under the flyover : development of a civic promenade

OPERATION OF LOCAL STALLS IN HONG KONG

Opening process of a kiosk in Temple Street, Yaumatei, (one man's job)



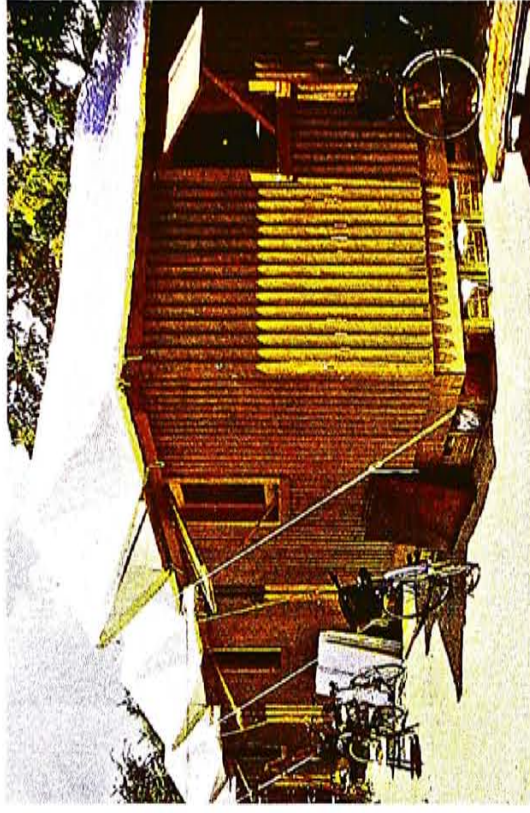
OPERATION OF LOCAL STALLS IN HONG KONG

Opening process of a kiosk in Lady Street, Mongkok, (two men's job)



PAPER LOG HOUSES (SHIGERU BAN)

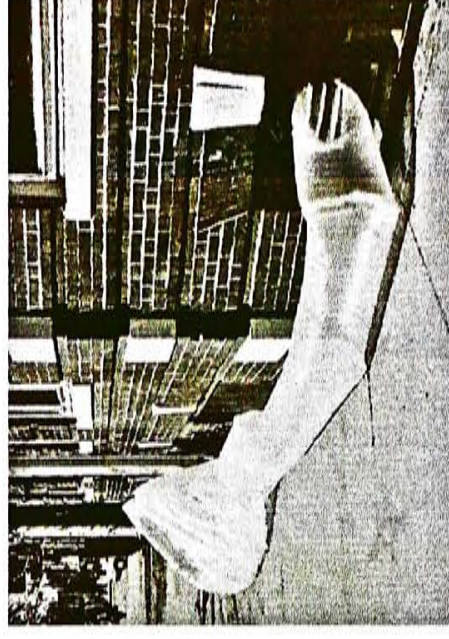
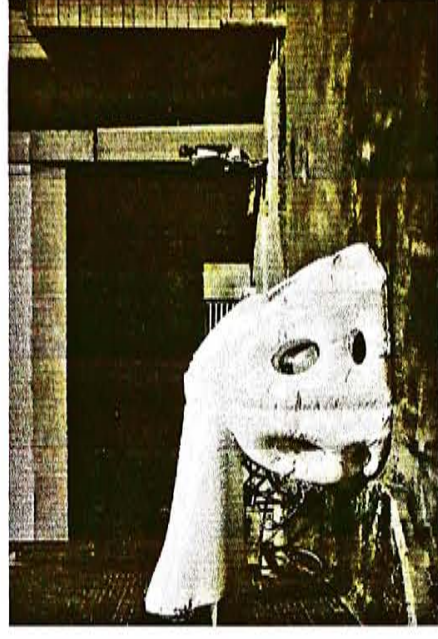
Shigeru Ban first attempted the Paper Log Houses as emergency housing for people who were made homeless in the Kobe earthquake of 1995. They were developed using recycled paper tubes supported off damp ground on plastic beer crates. The design was kept as simple as possible, while in the construction process involved a lot of volunteers and the homeless people. The project not only demonstrated the design intelligence to provide cheap and good housing solutions after the disaster, it is also about community development and citizen participation, through the actions of actually building their own homes. It is also a recall of the architect's social responsibilities, that the architects are obliged to keep an eye on what's happening in the society and to respond to the social needs.



PARASITE (MICHAEL RAKOWITZ)

Around February to April of 1997, the city of Cambridge had made a series of vents in Harvard Square “homeless-proof” by tilting the metal grates, making them virtually impossible to sleep on. The author then proposed a tactical response and suggested seven prototypes of the “paraSITE” shelter to several homeless people in Cambridge. The paraSITE shelters in their idle state exist as small, collapsible packages with handles for transport by hand or on one’s back. In employing this device, the user must locate the intake ducts of a building’s HVAC system. The intake tube of the collapsed structure is then attached to the vent. The warm air leaving the building simultaneously inflates and heats the double membrane structure (figures on the right⁹). The system by which the device attaches or is anchored to the building is designed to allow the structure to be adaptable. The intake tube can be expanded or tightened to fit the aperture of the vent through an adjustable lip made possible by elastic draw-strings. Hooks are attached to the metal louvres for reinforcement. The homeless people worked closely with the author on the design and execution of these units. Most were built using temporary materials that were readily available on streets such as plastic bags, tapes, etc.

The significance of this project was that the paraSITE shelter not only functioned as a temporary place of retreat, but also as a station of dissent and empowerment. They represented a refusal to surrender and made more visible the marginalised lives of the homeless in the city. They presented a symbolic strategy of survival for homeless existence within the city, amplifying the problematic relationship between those who have homes and those who do not have homes.



⁹ Jonathan Huges & Simon Sadler (editor), *Non-plan, Essays on Freedom Participation and Change in Modern Architecture and Urbanism*, (London: The Architectural Press, 2000), p. 232-233

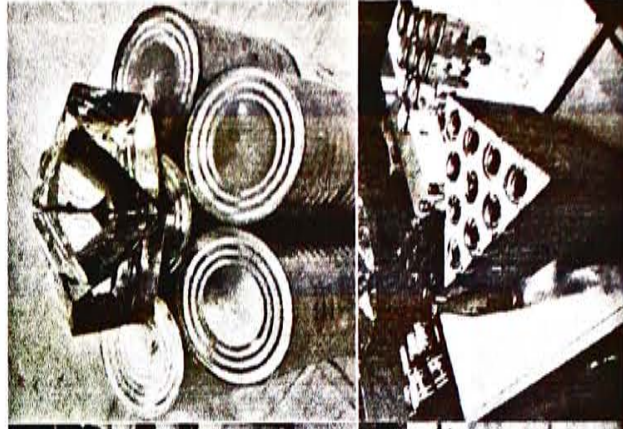
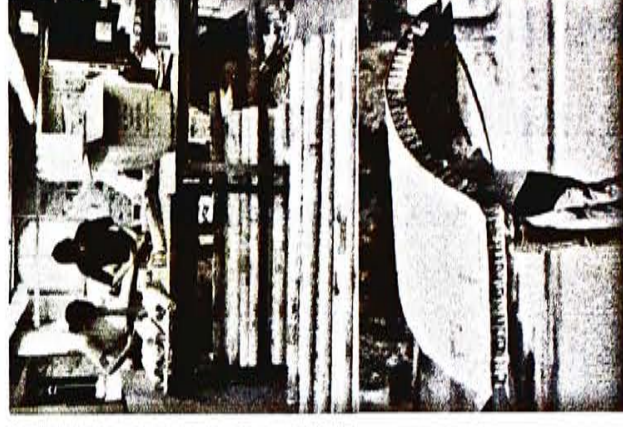
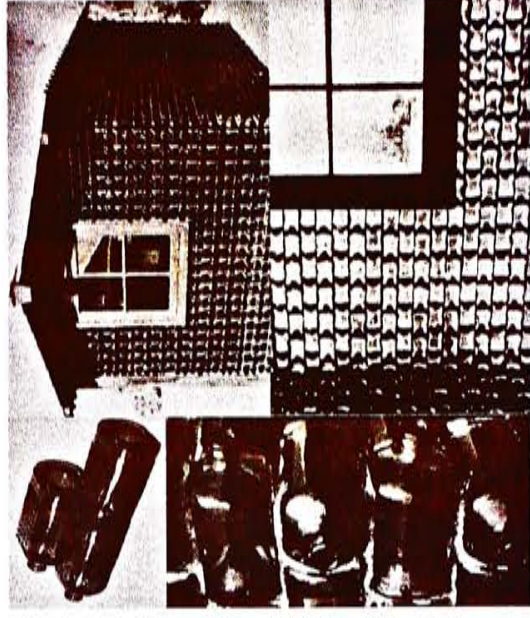
GARBAGE HOUSING

Under the combined threat of resource exhaustion and mass consumption in the 70's, the potential to develop waste material's secondary use, instead of consuming more energy to recycle them, had been widely discussed. A number of experimental projects, in particular attempting to apply this primitive and ancient idea of secondary use to the modern problem of providing low-income housing, had been carried out. Among them the WOB0 (WORLD BOTTLE) project (figure on top right¹⁰), which attempted to reshape the prototype of Heineken's beer bottles so that they can interlock each other and build up a wall using cement and sand mortar with a silicone additive, just like bricks. The idea was to make construction as simple as the people who drank the beer could build a house after reading the instructions tagged on the bottle. Although the project eventually failed because of the cost in changing the production line and other marketing constraints, the WOB0 project demonstrated the huge potential in turning the millions of bottles consumed everyday worldwide into possible building material. How durable and strong a bottle is? How great its pressure resistance has to be simply to withstand the process of pasteurisation and the impact of capping? How many of us know how close that strength comes to the strength of the bricks and concrete blocks? These are the brand new and stimulating questions that we never thought above after the primary function is over, but that could actually give rise to whole new faces in the world.

Another example was the Cornell project which used unmodified waste materials chiefly cardboard packaging and aluminium cans, aiming to construct prototype housing shells for the developing countries in South America. Two experimental housing shells were built as full-size structures (figure on bottom right¹¹). Though hurriedly constructed and lacking in durability, the structures had some interesting attempts such as the structural paper studs rolled around soft drink cans, the barrel vaults constructed using similar cans as voussoirs, the multi-directional metal joint fabricated from steel can walls and the upturned bottle flooring system.

¹⁰ Martin Pawley, *Garbage Housing*, (London: The Architectural Press, 1975), p. 28, 32

¹¹ *ibid.*, p. 94-95



ROLLING HOME

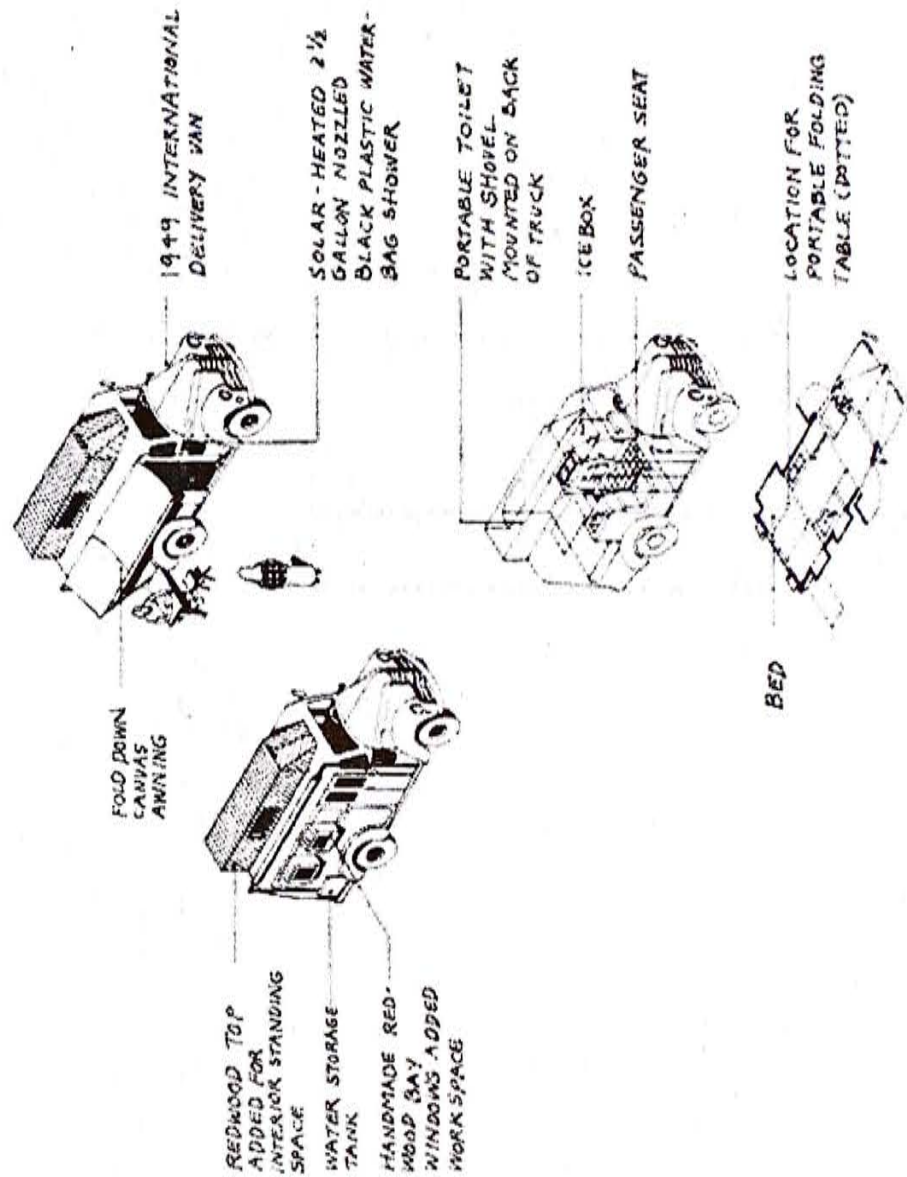
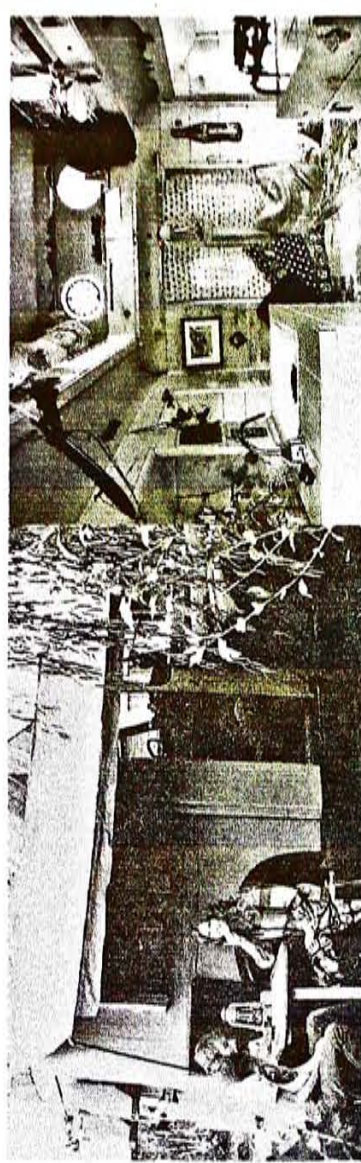
Many attempts in build-it-yourself structures have been tried throughout history. They are usually tiny in sizes, affordable and adaptable to the environment. Here illustrated an interesting example of remodeling a delivery van to a 42 sq.ft living quarters in 1978 at the cost of \$1,500, which is a complete living environment on wheels with sink, shower, toilet, lights, heat, cooking and refrigeration. (figures on top right)¹²

A rooftop, boxlike structure on the exterior of the truck is used to raise the roof level to gain standing room and three small boxes added to the sides of the truck provide more interior work space. (diagrams on the right)¹³

This project demonstrated the potential of converting an environment to support multi-use and amazingly be able to operate well within such a tight space and not by any sophisticated installations but just by the workmanship of a young couple interested in travel and a second mobile home.

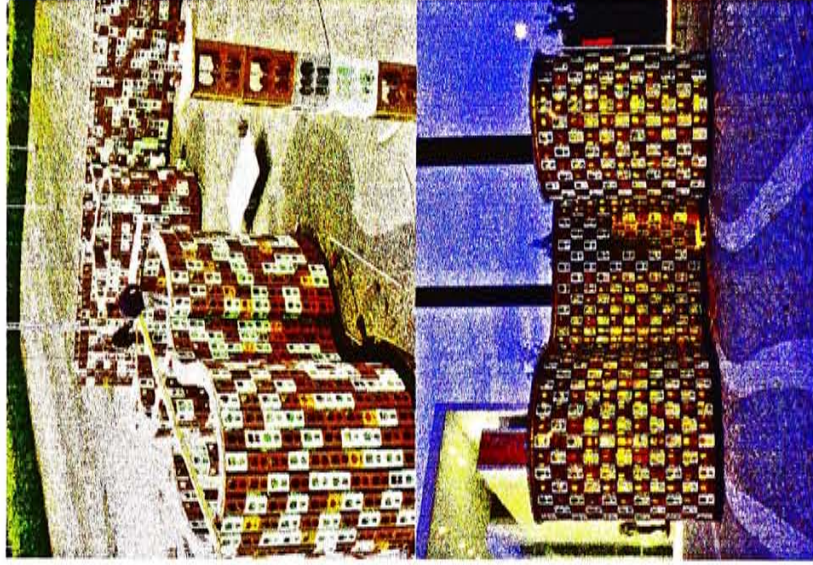
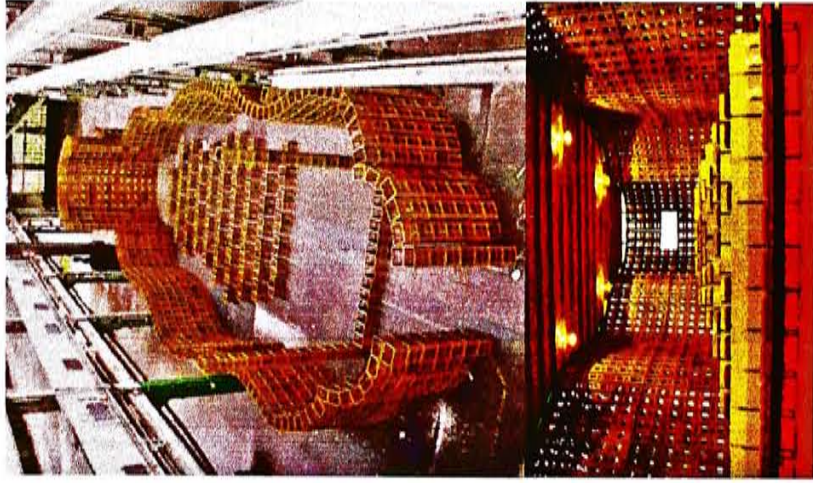
¹² Lester Walker, *The Tiny Book of Tiny Houses*, (New York: The Overlook Press, 1993), p.50, p.53

¹³ *ibid.*, p.52



BEVERAGE-CASE STRUCTURES (WOLFGANG WINTER & BERTHOLD HORBELT)

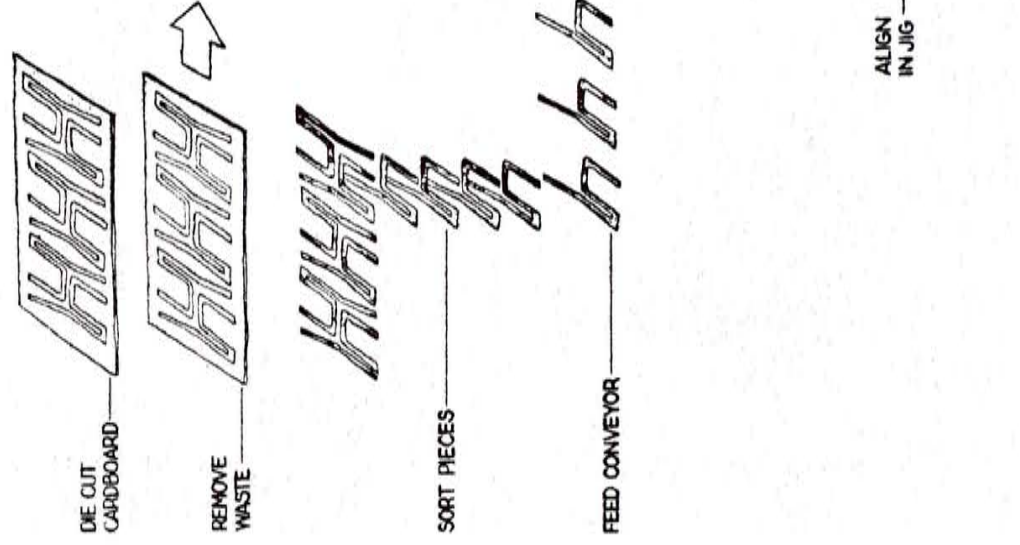
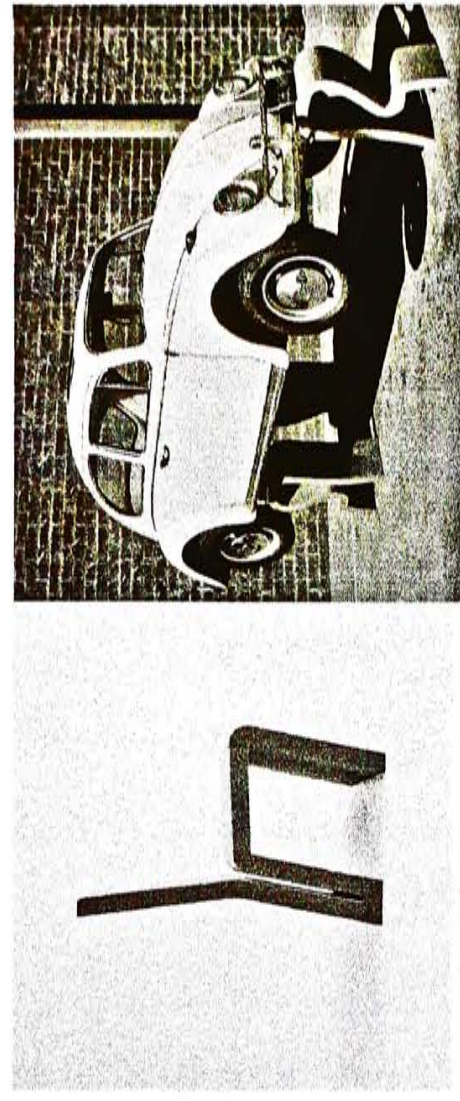
W & B have been building beverage-case structures since 1996, stacking hundreds of beverage cases at different public sites for periods of several days, weeks or months, arranging them in rows to form straight, convex or concave walls whose final configurations define the structure of a pavilion or a kiosk or even a cinema (figures on the right¹⁴). The structures are full of openings by the handgrips built into the cases, which allow interesting lighting effects both day and night, or children climbing up the walls for fun. The significance is that these ordinary items displayed as saleable commodities were extracted from the cycle of commerce and transformed into building material, giving people a fresh look. What goes unnoticed at the beverage market is suddenly the focus of celebration, confronting people with formal-aesthetic aspects and the material properties of such a mass-produced product.



¹⁴ adapted from Florian Matzner (editor), *Wolfgang Winter & Berthold Horbelt*, (Germany: Hatje Cantz Publishers, 1999)

EASY EDGES CARDBOARD FURNITURE (FRANK O. GEHRY)

Architect Frank Gehry explored the use of corrugated cardboard as an inexpensive and versatile alternative to traditional furniture materials in his early career. By stacking individual sheets of die cut Edgeboard (cross-laminating individual sheets of ordinary corrugated fiberboard into stacks) and glued together, a light-weight, durable and structurally sound furniture was resulted (figures on the right for stages of assembly¹⁵). A variety of sculptural shapes was achieved by adjusting the prescribed profile. Hardboard facing was required to protect the relatively fragile smooth surfaces on the sides of the furniture. However, the exposed corrugated surfaces were found to be highly durable. Three bar stools supported a two-thousand-pound Volkswagen (figure on top right¹⁶).



¹⁵ Francesco Dal Co & Kurt W. Forster, *Frank O. Gehry - The Complete Works*, (New York: The Monacelli Press, 1998), p.100

¹⁶ *ibid.*, p.47

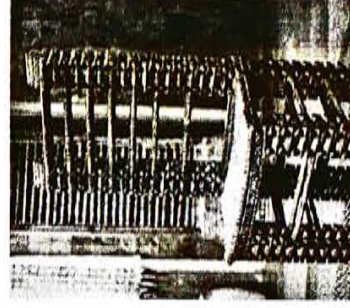
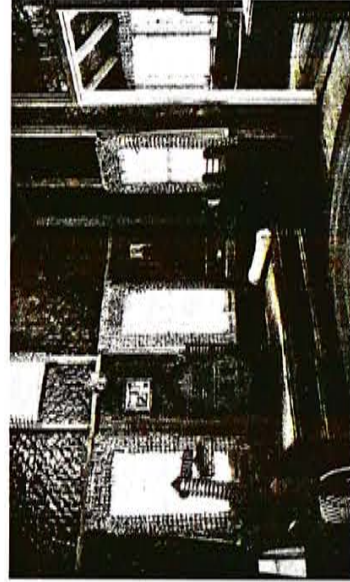
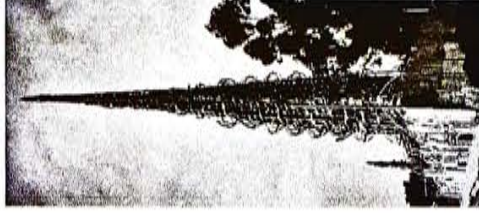
UNUSUAL MATERIALS

There were many examples of the elaboration on waste and recycling materials, dated back more than half a century ago. Some of them were done because of cost consideration, some for the expressions of this "alternative" or "unusual" aesthetics.

The transformation of waste materials could be very impressive, especially when in use of tremendous amount. Like the "Glass Castle" (figures in the middle¹⁷) done by a carpenter, George Plumb, who started to work with used bottles of all kinds since 1963. 180,000 bottles were used so far for a number of small structures.

The Watt Towers by Simon Rodia in L.A. suburb (figures on top¹⁸) even carried the materials to the height of 102 feet. He began to compose the towers in bent steel, cement covering with inlaid of scrap pieces mosaic tiles, glass and pottery, shells, etc. in 1921. The tower was listed as national monuments in late fifties.

The use of these materials could get really "crazy". In Pigeon Cove, Massachusetts, Elis Stenman and his wife began to build and furnish their house from newspapers since 1922 (figures at the bottom¹⁹). A wood substitute was created by rolling the newspapers in a way not to destroy the print and use no glue, to make chairs, tables, lamps, etc. About 100,000 newspapers had been used when Stenman died in 1942.



¹⁷ Michael Schuyt & Joost Elffers, *Fantastic Architecture*, (New York: Harry N. Abrams Publishers, 1980), p.140-141

¹⁸ *Ibid.*, p.78-79

¹⁹ *Ibid.*, p.142

To BE CONTINUED....

This project was a real challenge for me. From the very beginning, I was involved with a number of social issues generated from the social-political circumstances at the time. And later after subsequent development, I tried to connect the social issues like informal political expressions, with the architectural issues like ideology and representation, costing and technology, with the environmental issues like air and noise pollution. It was far more complex than I would have imagined. Especially concerning the environmental issues, the design did not reflect enough in depth consideration. A lot more research and detailed studies need to be done. For example, the application of lightpipes as the strategy to bring natural light down to the underneath of highways.

And there was a very immediate question I asked myself after the final design of the system. Can it happen in other residue spaces of similar situations in Hong Kong? There are obviously a lot of those kind of spaces all over the city. So the next big task for me would be to modify the system and expand the program possibilities (e.g. can it be used to organise a fun fair? Sunday market? basketball playground or even a cathedral?). This is to demonstrate its portability and adaptability to transform other residue spaces in Hong Kong. It is exciting to see the opportunity of re-looking at the left-over pattern in our city.

This project is not an end, a solution for a problem. Instead, it is just the beginning, to set a different angle for us to look closely at what we neglected everyday - neglected people, neglected space, neglected material.

to be continued.....



spaces underneath highways, West Kowloon Reclamation, Yaumatei

1. Ackbar Abbas, *Hong Kong - Culture and the Politics of Disappearance*, (Hong Kong: Hong Kong University Press, 1997)
2. Peter Murray & Mary Anne Stevens, *Living Bridges: The Inhabited Bridge, Past, Present and Future* (London, Royal Academy of Arts, 1996)
3. Dietrich Schwela & Oliver Zali (editor), *Urban Traffic Pollution*, (London, New York, E & FN Spon, 1999)
4. Jan Cohen-Cruz, *Radical Street Performance: An International Anthology*, (London, New York, Routledge, 1998)
5. Wissenschaftliche Bearbeitung und Gestaltung, Bernd Baier mit Stefan Meyer-Miethke, *Anpassungsfähig Bauen = Adaptable Architecture*, (Stuttgart : Institut für leichte Flächentragwerke, 1975)
6. Robert Kronenburg, *Houses in Motion*, (London: Academy Editions, 1995)
7. Robert Kronenburg, *Portable Architecture*, (Oxford, Architectural Press, 2000)
8. Maggie Toy (editor), *Architectural Design, Ephemeral/Portable Architecture*, (Oxford, Architectural Press, 2000), vol.68 no.9/10 Sept-Oct 1998.
9. Lester Walker, *The Tiny Book of Tiny Houses*, (New York: The Overlook Press, 1993)
10. Stewart Champion, *Access Scaffolding*, (Harlow, Longman & Ascot, England, Chartered Institute of Building, 1996)
11. Jonathan Huges & Simon Sadler (editor), *Non-plan, Essays on Freedom Participation and Change in Modern Architecture and Urbanism*, (London: The Architectural Press, 2000)
12. Martin Pawley, *Garbage Housing*, (London: The Architectural Press, 1975)
13. Kevin Lynch, *Wasting Away*, (San Francisco: Sierra Club Books, 1990)
14. Reader's Digest Association, *New Complete do-it-yourself manual*, (Pleasantville, N.Y., Reader's Digest Association, 1991)
15. Pacific Domes, *Domebook Two*, (California, Random House, 1971)
16. Allan Wexler, *Allan Wexler*, trans. Gloria Bohigas (Barcelona, Gustavo Gili, 1998)
17. Florian Matzner (editor), *Wolfgang Winter & Berthold Horbelt*, (Germany: Hat je Cantz Publishers, 1999)
18. Michael Schuyt & Joost Elffers, *Fantastic Architecture*, (New York: Harry N. Abrams Publishers, 1980)

ARCHITECTURE LIBRARY

建築學圖書館

THESIS 畢業論文

Overdue Fines on Thesis

HK\$1.00 per hour

4 hrs.

Time Due 還書時間		
27 MAR 2012		
08:45 pm		
4:45 pm		
17 SEP 2012		
6:45 pm		
17 SEP 2012		

CUHK Libraries



003947821