

Economics and Transportation Linkages

Dalian Loop

Bai Jinyu

China

Ling Li

China

Reto Nebel

Switzerland

Vladimir Savcic

Serbia/Spain

Sebastian Seelig

Germany

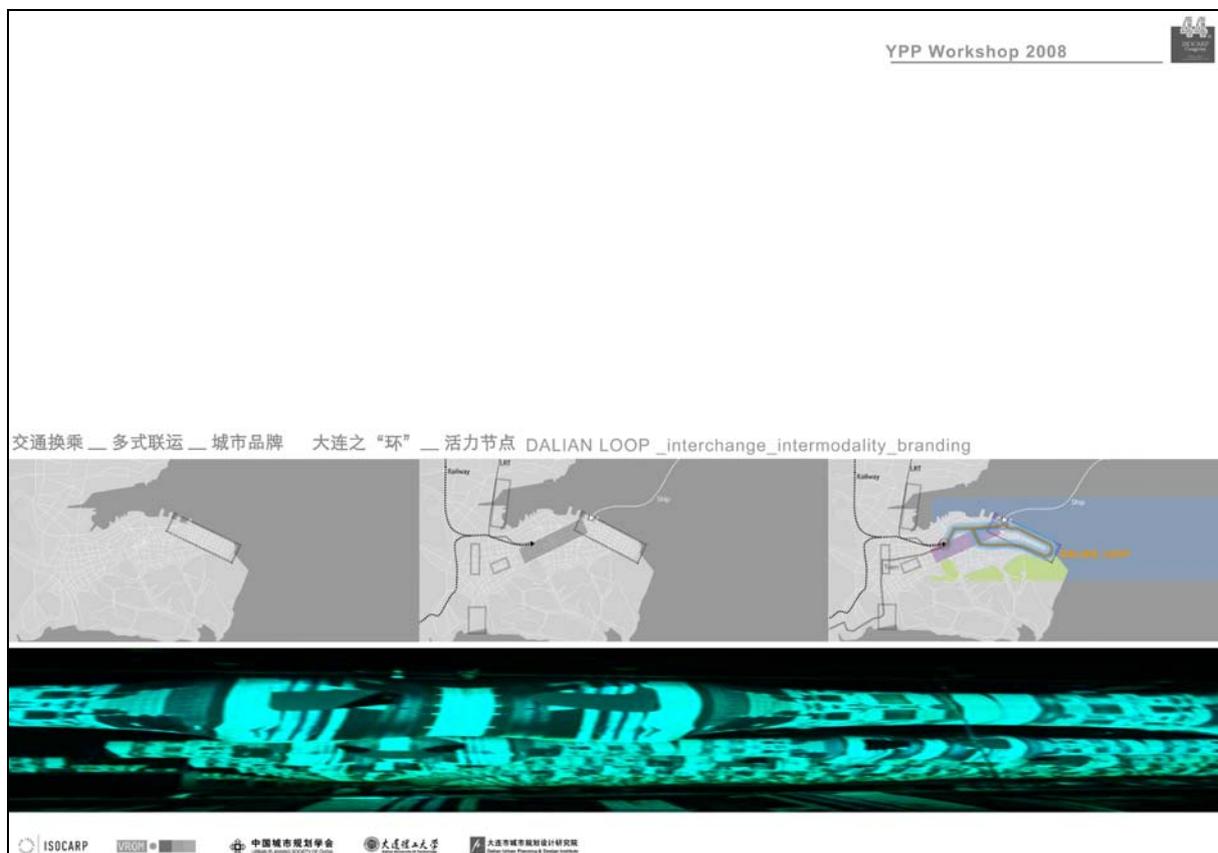
Wita Simatupang

Indonesia

Coordinator

Elien Wierenga

The Netherlands



Introduction

Dalian - an important port city of industry, trade and tourism in Northeast China – is located on the southern tip of the Liaodong Peninsula, on the West shore of the Pacific Ocean. It is neighboured by the Yellow Sea at the East and the Bohai Sea at the West. This makes Dalian to have a superb geographical location. It also serves as a gateway to Beijing and Tianjin; but also to Liaoning, Jilin and Heilongjiang and to part of the Inner Mongolia Autonomous Region.

Dalian City has the jurisdiction over six districts, three county-level cities and a county, with a total population of 5.85 million people on an area of 13,566 sqkm¹ - please refer to table below.

Name of Jurisdiction	Target (million)			Upper Limit (million)		
	Urban Population	Agricultural Population	Total Population	Urban Population	Agricultural Population	Total Population
Central City	4.5	0.3	4.8	6	0.4	6.4
Main City	2.8	0.1	2.9	3.3	0.1	3.4
	1.7	0.2	1.9	2.7	0.3	3
Zhuanghe City	0.75	0.3	1.05	0.8	0.35	1.15
Wafangdian City	0.8	0.3	1.1	0.85	0.35	1.2
Pulandian City	0.65	0.25	0.9	0.75	0.35	1.1
Changhai Town	0.1	0.05	0.15	0.1	0.05	0.15
Total	6.8	1.2	8	8.5	1.5	10

Table 1. Target and Upper Limit of Population of Dalian Cityⁱⁱ

The Main City is the city-level context of this particular work, although the regional context has been strongly considered in the study. The administration of Main City consists of four districts: (1) Zhongshan, (2) Xigang, (3) Shahekou and (4) Ganjingzi.

	District	Function	Area (sqkm)	Population
1	Zhongsan District	Finance and Commercial Centre	43	370,000
2	Xigang District	Government Centre	26	330,000
3	Shahekou District	Residential, educational, office	49	600,000
	Inner city or downtown area		118	1,300,000
4	Ganjingzi District		491	540,000

Table 2. Population of Main Cityⁱⁱ

Although the project area is specifically located in East Harbour, the proposals will cover the entire inner city area and furthermore connect the project area to the entire inner city as well as to the whole region. Therefore, the proposal is based on a regional analysis in terms of its economic and transport situation and development (the groups working focus) and its' assumed effects on the Project area.

Regional Context - Economy

Economy of Dalian owes its power to strong industrial activities and its unique location. Dalian is part of the Bao Sea Surrounding Economic Zone, North East Asia Economic Zone and closely connected to Chang River Delta Economic Zone. Its main economic sectors are (i) major shipping centre of the Northeast Region, (ii) major financial, business, tourist and communication centre of the Northeast Region, (iii) major petrochemical, electronic information, and manufacture centre of the Northeast Region. As the third largest port, the contribution of industry to economic growth is high, as primary industry of 4.8% (as 24.76 billion RMB), secondary industry of 56.2% (153.65 billion RMB), and tertiary industry of 39% (134.69 billion RMB)ⁱⁱⁱ.

Moreover, Dalian GRDP was estimated at 313.1 billion RMB. It marks a striking increase of 17.5% (at comparable prices) over the previous year, which is also the largest growth rate since 1994ⁱⁱⁱ. Dalian aims to double its per capita GDP – which is 51,624 RMB at the end of 2007 or equivalent to USD 7,067 – to USD 15,000 by 2020^{iv}. The new development strategies direct urban development towards the West and North section of the region. These new development directions ⁱⁱⁱ involve the development of two cities and three satellites as well, as a radial development in the form of a V-Shape. This strategy further identified different areas of development directions, with targeted functions as follows:

- (i) Central City;
 - the Main City: the region's administrative and cultural Centre, Central Business District, and Modern Industry Area
 - the New City: technologically advanced industrial base, high-tech industrial base, modern logistics base and also the main port
- (ii) Wafangdian City: machinery manufacturing, building materials and tourism; focus on the development of bearings, automotive, cement and other industries
- (iii) Pulandian City: light industry and tourism-oriented medium-sized cities; focus on the development of clothing, food, electrical and mechanical industry and agriculture subsidiary food processing industries
- (iv) Zuanghu City: port tourism and synthetic industry as the leading function of medium-sized city; focus on development of port industry and tourism
- (v) Changhai Town: pilot area of “Dalian on the sea” as the special development zones of marine economic and marine service area.

Although the main objective lies on economic growth, the urban development of Dalian strongly acknowledges the importance of socio-economic and living quality as well as ecological environment as development indicators. This forms a strong basis for the cooperation of many public uses, public spaces, and public transportation initiatives.

Regional Context - Transportation

The regional transportation networks consist of civil aviation, railways, highways and the port. Zhoushui zi Airport of Dalian – which is used on both civil and military purposes - has regular flights to and from cities in Japan, South Korea and other domestic cities such as Beijing, Tianjing and Shanghai. It is 1 hour flight distance to Beijing, Tianjin, and Seoul; and 2 hour flight distance to Shanghai. The air traffic shows an upward trend and has doubled its number of passengers in the last 4 years. A new passenger airport is currently under planning to be constructed in the North (please refer to Map of Regional Transport).

The existing railway network connects Dalian with different major cities in Northeast of China and offers also direct trains to Beijing. The main train station is located nearby the city centre. The passenger and cargo port of Dalian which is located next to the project site, offers a few regular connections to Tianjing, Weihai, and Yantai in Shandong Province. Ferry lines are also available to Shanghai, Qinhuangdao and Incheon, in Korea. At the moment, the port does not play such an important role in terms of the number of passengers compared with the railway and air traffic. There is a plan to relocate the cargo port, thus, the port focuses on passenger and tourism activities.

Inner City and East Harbour Area

Inner city is currently functioning as the region's administrative and cultural centre hosting many world class facilities such as the Expo Centre in Xinghai Square. Moreover, its economic function it is the region's financial and commercial district; the Central Business District is located mainly along the main avenues of Zhongsan Rd and Renmin Lu; as well as their periphery blocks and associated squares of Zhongsan Square and Friendship Square; and extensive shopping districts around the Victory Plaza. The inner city is of main interests of the city's economy mainly to its financial and commercial existence.

The transportation at the city level is – apart from the individual transport – mainly focused on a bus system. Public transportation modes are: (i) trains, connecting the inner city with the airport and region; (ii) tramline, connecting the main city east-west; (iii) light rail trains, connecting downtown with the New City in the North. In terms of modal split amongst the modes of transportation in the city area, it is noted that travel by public transportation is the most frequently used mode of transport. Private car use is only used by a small number of people, but it is estimated that this number will increase rapidly.

The existing public transportation system still needs to be improved since it is not well connected and integrated to the regional transport. There is a lack of connections between airport, port, train station, tram line

and other urban functions. Taking into account that there are - despite the small number of individual car use - traffic bottlenecks which lead to regular congestions especially during peak hours, the main focus in terms of connecting the project site to the existing city centre must be to provide an efficient public and (non-motorised) transportation system. The benefits of the public and non-motorised transportation are well known (e.g. less land consumption, safe and relaxed travel for commuters, less traffic and congestion, reduced environmental impacts etc.)

Dalian Loop - Connecting the Future and the Existing

Dalian Loop is a multilayered urban strategy linking elements of transport and technical infrastructure planning, local economic development and urban form and architecture. The main aim of the strategy is to enhance the connectivity of the highly frequented transportation hubs (train, light rail, and tram stations) and urban areas (East Harbour, central business districts) in an efficient but also environmental friendly manner. In addition Dalian Loop targets a better transport connection on the regional level in distributing the large share of daily commuters from the New City to Dalian Downtown and to the East Harbour by means of public transport.

This objective is followed by an extension of the existing Dalian tram system to the North-East direction forming the spine of the Dalian Loop. The new line builds up the small, but highly valuable network of existing trams and trolley buses, a legacy from the years of Japanese occupation. The tram is well accepted and used by Dalian's population, a fact that eases the extension of the existing line as proposed by the team. Apart from the city's specific potential, the team is convinced that trams in general are favourable systems of public transport since they are reliable and safe, emit low emission, and once implemented, they require cheap operation and maintenance cost.

Dalian Loop opens up the shoreline and the waterfront to the city. It will bind together the fragmented urban structures of the City and will - foremost - act as a great urban intervention. The introduction will allow the city to save or reclaim valued public spaces that would have been given over to the automobile since trams occupy less street space. In the Dalian Loop the tram system is seen as an integral part of the street and the public realm, offering the possibility to transform Dalian's car dominated streets into good and vibrant urban spaces and therefore underline the specific character of the historic streets and public spaces.

Along with the concept of the extension of the tram service and the enhancement of public realm and streetscape, the project aims at activating certain strategic points in Dalian's urban fabric. These "Nodes" are pivots of activity, either acting as inter-modal exchange spaces (Train Station, Port) in the existing structure or crucial public and commercial spaces in East Harbour (Waterfront). In the two transport hubs, an enhanced transition between the different modes of transport (train, light rail and ship) to the downtown tram system is

envisaged. Regarding the Waterfront a better communication between the planned CBD and the leisure zone aimed with the node. They will serve as focal points for communication supplemented by service and commerce facilities creating lively, dense multi-use environments. The whole Loop is supported by an underground technical support and service structure, including IT connection and other technical infrastructure devices. We perceive the Dalian Loop as a project that will extend beyond its immediate boundaries. The introduction of a multi-use strip connecting the single parts and nodes of the City will foster local identity. The sequence of public spaces and places of spatially concentrated activities will enhance the physical and functional connectivity between the old and the new part of Dalian and in long-term improve the quality of life – not only in the inner city, but also in the East Harbour.

Dalian Loop – Activity Node (cross sections, objects, vectors)

Urban (re)development of Dalian central axis and sea connector line, based on infrastructural loop tube in architectural and urban layout can be analyzed through different cross pivots. Specific sections show all complexity of this modal mechanism with tram infrastructure as a spine in spatial and functional level. Three chapter pivots, representative points marked complexity and evolution of Dalian loop from interchange public zone areas throe intermodal multi-layer infrastructural subject.

Terminal Node – Motherboard Interchange Zone

Cross section of loop in the rail terminal and LRT terminal level is based on the interchange character of the public space zone. The strong communication axis LRT terminal – Train terminal – Tram line (existing) is supported by spatial organization with dominant central functions, functional and urban frame is leaded on line New commercial / service spot area – street front lines – main CBD link on city level. A new interchange spot area is designed as a multi functional zone with all of the characteristics of the actual CBD link, developed and supported with strong intermodal identity and frequency of site. The Loop is interpreted as main communication connector with separated service/technical link in background.

Landmark Node – Brand Recover Zone

Architecturally and in urban design the future landmark is the most attractive location in the Dalian CBD zone. It is a highly competitive area since it is the central connection link between port terminal, new landmark and not the determinate CBD axis. Loop frame and functional diagram extended from tram and IT network in several interconnection point spaces. Intermodal crossing public zone board, vertical segregating and high level of brand created public space design will transform this zone in one of the most attractive transport/recreation/ leisure areas. Extension of CBD transversal, service/technical link in connecting function on downtown level (main pass port – train terminal) and strong architectural expression are main chapters for this –central- node in the loop system of the Dalian downtown zone.

Sea Frontline Node – Skyscraping in Sustainable Mode

New CBD area on coast line axis will use an actual activated, but not developed spatial potential of Dalian downtown zone. Central functions and services, with high standard residence and temporary accommodation function, which will make a basic structural and distribution diagram. Tourism, commerce, service use and recreation create a unique design concept on the metropolitan level, based on examples where they have been successfully been put into practice (e.g. Singapore, Dubai, Hong Kong). Loop in functional layout covers transport infrastructural links, point of crossing and parking zones and build a linear frame with vertical gradation on line seacoast and the interior residential zone.

Dalian loop on downtown level and its architectural and urban concept will transform actual un-recognizable spatial structure and permit the development of the same in contemporary third generation site.

References:

ⁱ <http://wikitravel.org/en/Dalian> (accessed on 17 September 2008)

ⁱⁱ Zang, Jiaming, (2008), *Introduction of Urban Development Plan in Dalian*, unpublished, Dalian

ⁱⁱⁱ <http://torchrelay.beijing2008.cn/en/journey/dalian> (accessed on 17 September 2008)

Socio-Cultural and Historical Identity

A Place for Dalian with Dalian

Divya Chopra

India

Li Fan

China

Ceelia Leong

Japan

Yi Xiaoeng

China

Rolf Schütt

United Kingdom/Germany

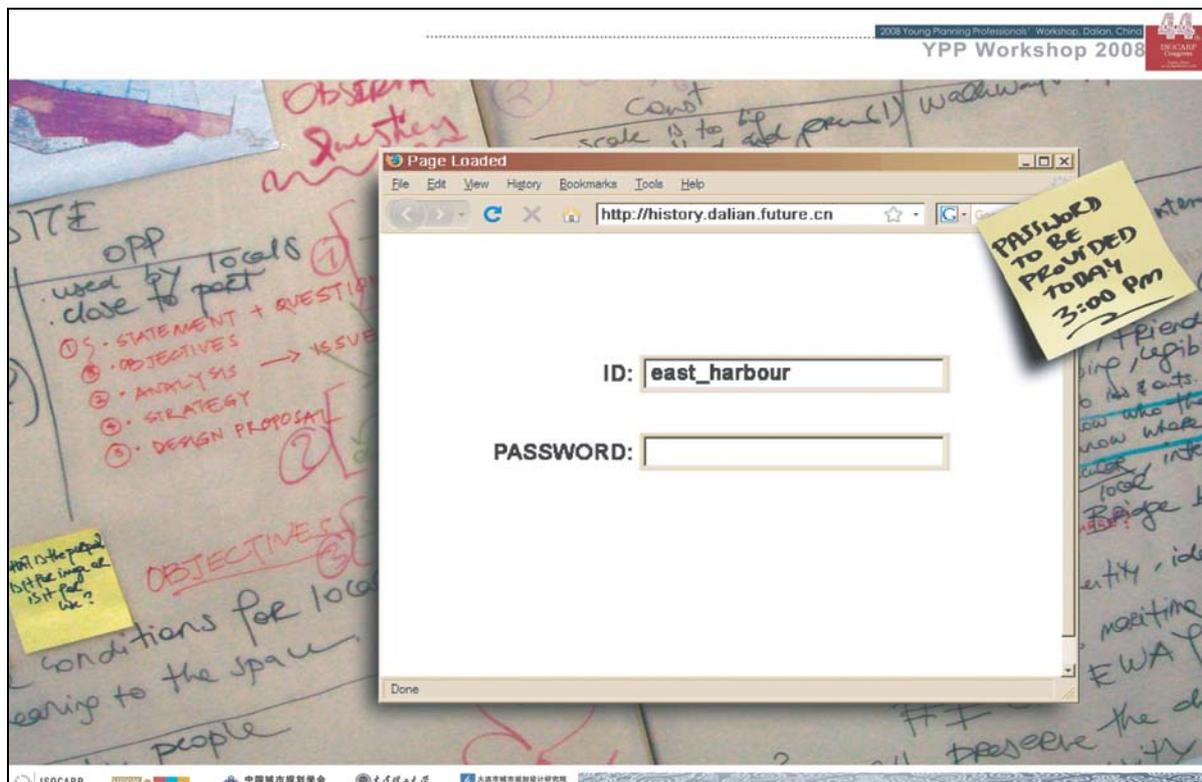
Zeynep Gunay

Turkey

Coordinators:

Sun Hui & Jiang Hui

China



Introduction

The goal of the project is to explore the role of public space in improving the quality of the city of Dalian through the perspective of socio-cultural and historic identity. The objectives are, firstly, to study the existing urban fabric and analyse socio-cultural and historic identity and secondly, to propose strategies that incorporate/enhance the significance of the urban waterfront in East Harbor based on the above mentioned theme.

Regarding these goals and objectives, we need to understand the most basic and essential questions of: *what is identity? Is it given or is it representative?* Further leading to what is the identity of Dalian? Or what is the identity of Dalian's public urban spaces? Do these spaces have any identity? Do users of these spaces give them their identities? Have we ever considered the users of open spaces? What do these spaces mean to people of Dalian? Why urban public spaces need identity? Who gives the decisions? These questions form the very basis to search an answer to define identity of Dalian's public urban spaces and specifically that of the "East Harbour".

There exists an ever-shifting interplay between community, society and culture. We need to understand this inter-relationship and discuss the significance of each of these elements that will determine, shape and influence the public urban space. Thus, the East Harbour becomes more than a city space to be developed by the local authorities. It needs to be observed and explored, offering some valuable clues and hints that will give us a better understanding of space, place and identities.

Bearing in mind these fundamentals, the project is divided into five chapters. The first chapter gives a brief summary on history of Dalian and its role as a harbour. Second chapter starts with the question "*What do we have?*". It analyzes the historical context of public spaces and existing use of public spaces in Dalian. Third chapter discusses the main goal and objectives by answering "*What do we want?*". Based on the analysis and objectives, fourth chapter discusses the strategies brought forward to answer "*How do we get that?*". Lastly, in the conclusion part, some essential questions are answered directly which form our understanding of open space and identity.

Part 1

Background: History of Dalian

Qing Dynasty

- **1880:** The Qing government constructed loading bridges and fortifications with built-in cannons, and set up mining camps on the Northern coast of Dalian Gulf and it became a small town. At that time, Jinzhou, north of downtown Dalian, now Dalian City's District of Jinzhou, was a walled town and the

centre of political and economic activities of this area.

British and Japanese Occupation and the Soviet Union Lease

- **1898:** Dalian was colonized by the imperial Russia and originally named the city “Dalny”. It was then elevated from an innocuous fishing village into a new free-port city, the chief commercial terminus and outlet of the Trans-Siberian Railway connections to the Yellow Sea, with all the essential modern engineering works.
- **1904:** Japan captured Dalian after winning the Russo-Japanese War, and augmented its industrialization and modernization until 1945
- **1945:** Japan had to surrender to the Soviets in WWII. From then on, Dalian was developed jointly by both Soviets and P. R. China.
- **1955:** China was granted sole control over Dalian with almost 30 years of urban stagnation.
- **1980:** Under the Reform Policy, Dalian was designated as one of China's 14 coastal cities declared open to foreign investors. Dalian thrived and rapidly emerged as a major city of industry and tourism in the North-Eastern region.

Dalian's Role as a Harbour

Dalian is the marine gateway of China to the whole world. Thus, it is an important centre of trade, industry and tourism. Originally established by Russia, then later occupied by Japan, Dalian has a long history as an international sea port supporting commerce and tourism from Japan, Korea, and other traditional Asian regions for over a century. Presently, Dalian is the centre of foreign trade in Liaoning Province as well as being the second largest international commercial harbour in China. It is one of those rare cities that has the look of a major metropolitan hub, but the mindset of an island resort. With a mountainous panoramic beauty encircled by beaches it is host to year-round festivals apart from many other attractions.

Dalian People

- **Dalian city 2002:**

Total population:	5.98 million
Total urban population:	3.28 million
(55% urbanization)	
- **Dalian city 2020**

Total population:	8.00 million
Total urban population:	6.80 million
(85% urbanization)	

Dalian Life and Culture

According to China Daily, Dalian was rated in 2006 as the first most liveable city in China in 2006. Dalian is widely regarded as the most beautiful city of China. The majority of the original Dalianites were the poor farmers and fishermen who had come from Shandong Province in a large population move called "Chuang Guandong". Among the Dalian dialects, standard Mandarin is usually spoken in Dalian with a few loanwords from Japanese and Russian, reflecting its history of foreign occupation, which is a very rare case in the Chinese language.

Part 2

"What do we have?": Analysis of historic context and existing use of public urban spaces

In order to describe the various urban public spaces in Dalian and comprehend their meaning, it is necessary to classify them and understand what they imply in terms of their social, cultural and historic characteristics. The central area of Dalian has recently been improved by the construction and maintenance of urban public spaces through the "National Garden City" strategy. While these developments have increased Dalian's popularity to attract tourists, one of the main problems seems to be the identity of these spaces as "places for Dalian community". Today, there are six important urban public spaces in Dalian. These are Harbour Square, Zhongshan Square, Friendship Square, Victory Square, People's Square and Xinghai Square (see Figure 1).



Figure 1. Urban Public Spaces in Dalian

Table 1 lists the most typical public urban spaces (squares and three of the most significant ones) in the city, describing their characteristics in different categories.

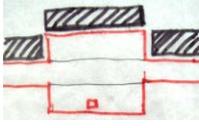
Type of Public places	Social	Cultural	Historical	Identity
 Roundabouts	No interaction with people, just a passing element	Has an aesthetic value, with sculpture(s)	-	Transportation nodes
 Xinghai Square	For city level events	White Ornamental Pillar erected at the centre of the plaza and few Chinese symbols	Built to commemorate the return of Hong Kong in 1997	The biggest square / plaza in Asia
 People's square	Reflects power, authority, respect	Early modernism architecture	Reminiscent of the Japanese occupation	The civic centre of Dalian
 Zhongshan Square	Features a mixture of business and recreation	The historical buildings surrounding the plaza have European architectural styles	Built to commemorate the founder of modern china -- Mr. Sun Yat-sen.	The financial centre of Dalian

Table 1. Typology of Urban Public Spaces in Dalian

Opportunities and Constraints

The opportunities and constraints of existing use of Dalian's urban public space are studied under the following headings:

- Balance of scale and size
- Quality of space for users (shed, green)
- Connectivity with the places around
- Mixture of social groups
- Satisfaction of people's needs
- Sense of belonging
- Orientation / Focus

In terms of the contribution of these public spaces to the local identity, it is understood that public places are there to provide social interaction, connectivity, diversity, historical continuity and cultural linkage.



Figure 2. Xinghai Square

In some of the existing public places in the city, it is observed that some of these socio-cultural and historic aspects are present, but in many cases they fail to connect to their users.

Some places, like in the Xinghai Square (fig. 2), provide a sense of understanding of the modern China, highlighting the importance of the city.



Figure 3. Xinghai Square

However, considering the use of the places by local residents, some appear to be less attractive. These spaces do not appear to provide conditions for social interaction and connectivity.

Places such as the ones depicted in figure 3 and figure 4, feature cultural elements like monuments and artworks. However, a clear limitation to a close interaction with these elements is also perceived.

Sometimes places contain foreign elements or equipment, which may be provided to satisfy the demand of visitors / outsiders, but it happens to be ignored by both locals and foreign visitors (Figure 5).



Figure 4. Sculptures on restricted area

Sometimes little details make a big difference (Figure 5 and 6), although not in terms of leading visitors to make use of the services that the infrastructure is meant to provide. The shops in Figure 5 show that despite of not buying anything, locals visit it because it provides shade / shelter. The canopy contributes to provide closer social interaction.



Figure 5 and 6. Shops in Xinghai Square



Figure 7. Clear contrast

Figure 7 shows many details that describe some of the constraints and opportunities of the places in Dalian. The high density of residential infrastructure (background) implies the need for recreational space nearby. The large Xinghai Square provides abundant space, but the scale is gigantic, lacks shade / shelter, seats (see people sitting on the floor or the plinth of the column) and the way the water feature is designed is not contributing to an efficient way to use water for decoration (exposure to sun contributes to evaporation).

The series of pictures from figures 8 to 11 show further potentials in different places visited. Figure 8 and 9 show how busy roads may lead pedestrians and cyclists away from the roads, making the city more attractive to car traffic, thus implicitly contributing to the environmental stress.



Figure 8 and 9. Views from major boulevards

Both pictures suggest the need to improve alternative ways of transportation, especially public transportation. They also show the big difference that a vegetation canopy makes to a traffic way. It contributes to reducing noise and CO₂ emissions, as well as to enhance the landscape.



Figure 10 and 11. Harbour Square and Zhongshan Square

Figure 10 describes how the beautiful gardening work enhances the features of a roundabout. However, it is restricted to car users and not appreciated by pedestrians. Figure 11 shows one of the few examples of natural canopies, partially dedicated to pedestrians. Observing the behaviour of pigeons, sitting exclusively under the shadow, it displays the natural need for protection.



Figure 12. People's Square

Figure 12 shows the representative function of People's Square. The square is enclosed by a tree barrier and contains a vast green space with beautiful gardening, which is not used by visitors, except for passerby.

Part 3

“What Do We Want?”: main goal and objectives

From our perspectives, it is important to define what people need from these public urban spaces. Social, cultural and historical characteristics are interdependent elements and constantly influence each other. For planning and designing cities and places from a socio-cultural and historic perspective, we need to understand the juxtaposition of various layers that give identity to a place. We need to create places that would inculcate a sense of belonging and social equity. Physically we should enhance the idea of legibility and permeability, thus strengthening the image of that place in the city. Looking at the culture of Dalian, it is significant to recognize the various historic influences in terms of Russian Imperial period and Japanese Occupation and the contestations between the local people as the insider and foreigners as the outsider, as well as between tangible and intangible culture elements. Lastly, it is important to recognize the role of Dalian as a harbour and a port city and instil respect towards history through bridging the past, present and future such as connecting different layers of historicity and retaining physical traces of history. Hence, the main goal of this study is to create a place for Dalian people with Dalian elements of culture, social and history.

The three primary objectives comprise of social inclusion, cultural diversity and historical continuity as shown in Figure 13.

- **Social inclusion** considers the creation of a place for all regardless of the people status, wealth and gender. It also promotes a strong public realm and a sense of belonging to the users.
- **Cultural diversity** focuses on enabling local people to give meaning to their space.
- **Historical continuity** intends to bring different layers of history together.

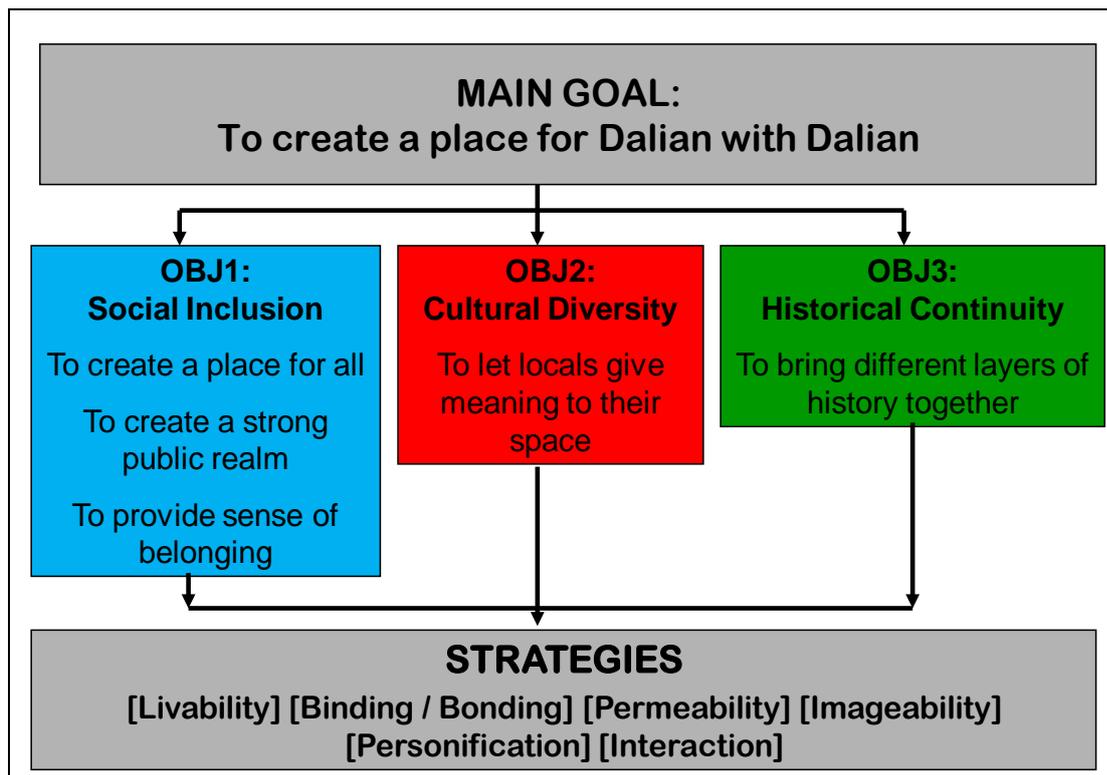
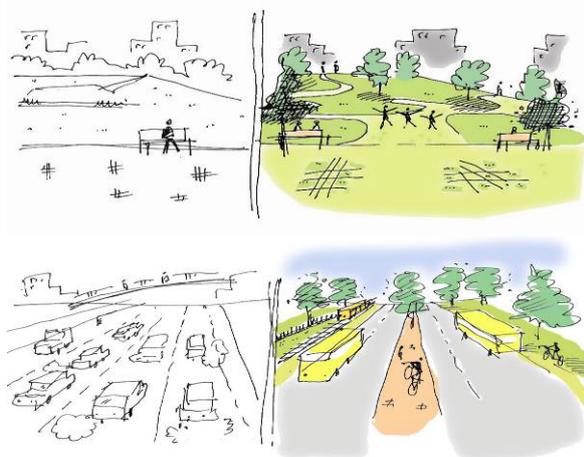


Figure 13. Goal and Objectives

Part 4

“How to Get There?”: strategies

The three objectives - Social inclusion, cultural diversity, historical continuity- are to be achieved through strategies which emphasize on six aspects. These aspects are liveability, personification, imageability, bridging, interaction, and permeability.

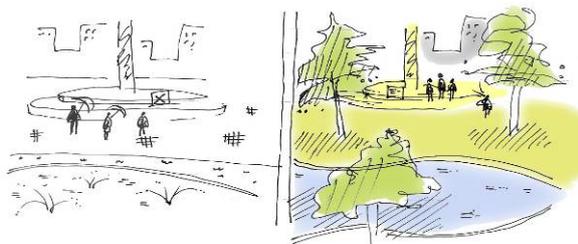


Strategy 1. Liveability

Liveability refers to providing multi-purpose activities to make the place more liveable. Public spaces should be a platform of expression for local people. They should serve opportunities for different activities such as recreation, relaxing/ resting, sports, or whatever the locals wants. They should be flexible enough to support a wide range of activities.

Strategy 2. Personification

Personification means the reflection and support of the identity through public art/landmark for the city. Dalian and its public spaces should have genuine elements that people can relate to thus creating a sense of belonging and pride. The citizens of Dalian should be involved in the design of places. We suggest to ask them if they identify themselves with these places, and why do they use them or why not.



Strategy 3. Interaction

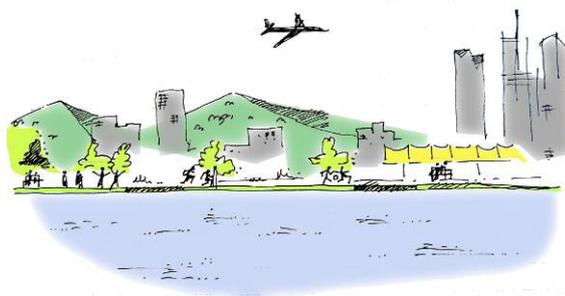
Interaction is for designing an interactive environment between people and nature/water. Public spaces should create opportunity for people to interact with the environment at first, and secondly, to interact with others.

Strategy 4. Imageability

Imageability defines the image of the place either socially in terms of people occupying that space or physically integrating the existing form with the new skyline.

Strategy 5. Permeability

Permeability is to make the blue and green space more permeable. The future development in the waterfront should create an opportunity for the city to be integrated with the waterfront (e.g.: by putting height restrictions along the waterfront, breaking the straight shore lines). Places should also be permeable with each other. Linking the green and blue space and creating a network for pedestrians and cyclists throughout the city of Dalian can contribute to more active citizens and less noise and CO2 emissions. The connection of the East Harbour with the existing port should also benefit from this strategy.



Strategy 6. Bridging

Bridging reflects to connection between past, present and future of the city. Retaining the traces of history is one of the most important strategies. The East Harbour development should reflect its history and identity as a former port area through the architecture, public art and use (e.g. Landfill - retain existing shoreline through roads, commercial use, landscape features; Dalian Waterfront Museum). The historic elements should be incorporated.

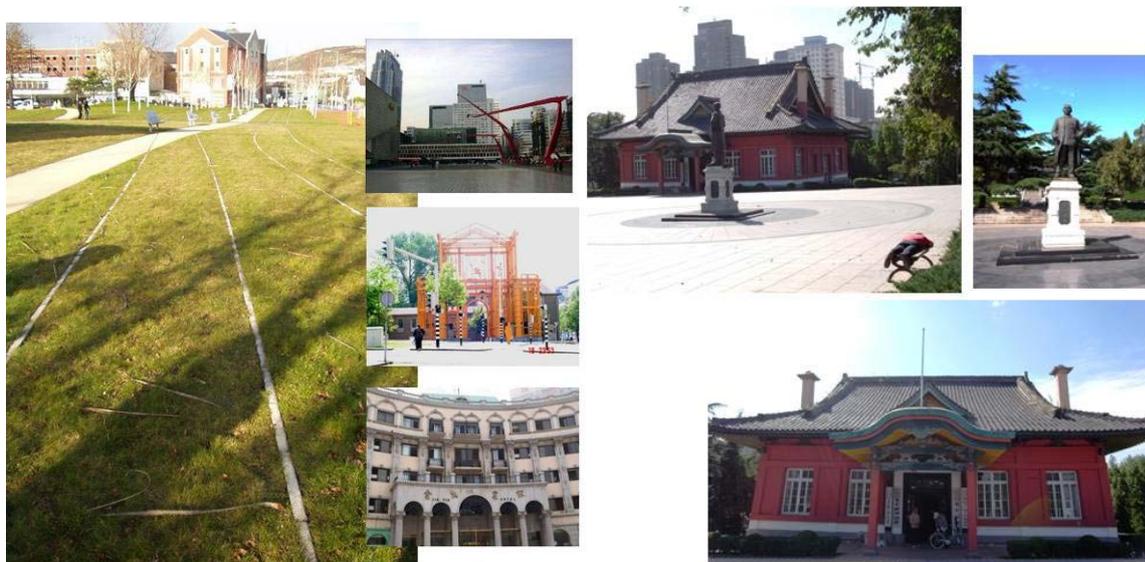


Figure 14. Reuse of Historical Buildings

Reuse of old historical buildings could retain the different architectural influences brought into Dalian. One such example is Dalian Zongshan Park. A building built during Japanese occupation (Figure 14) was converted into elderly community centre where elderly used actively for gatherings, classes, tai chi exercise, Chinese classical music and mahjong games. The keeper of the building commented that the sensitive war sentiment towards the building was diverted through changing the function of the building into positive community activities. In addition, Dr. Sun Yat Sen, honorary father of modern china statue was strategically erected next to the building to boost the park image.

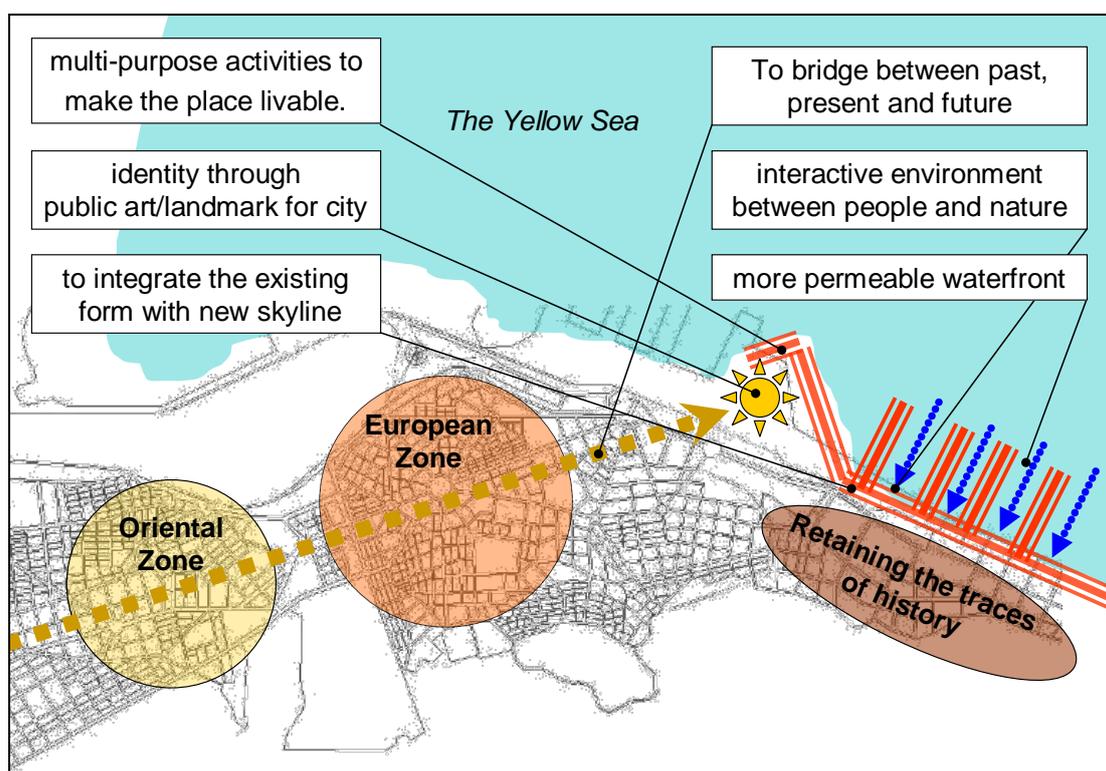




Figure 15. Strategy Scheme

<Implementation Strategy> Participation

Participation is the main goal in the deployment of the strategies in the *creation of a place for Dalian with Dalian*. This is the creation of the conditions to let Dalian people give their meaning to urban public place and to make Dalian a city for all.

Part 5

Conclusion

“What is a City but the People.” (W. Shakespeare)

Cities are expressions of the urban society that contributes to the ever-evolving culture of the city and it is the history that defines the progressive evolution of the city as an institution. As designers / planners we need to re-establish this inter-relationship between urban form and society. Dalian is a city with many public urban spaces. However, most of them lack uniqueness and distinctiveness. In the terms of socio-cultural and historic perspective, these public spaces in the city fail to reflect any identity or association. Therefore, our main goal (for Eastern Harbour) is *to create a place for Dalian with Dalian*. The nature of urban development should enhance “quality of life”, making cities a place for all.

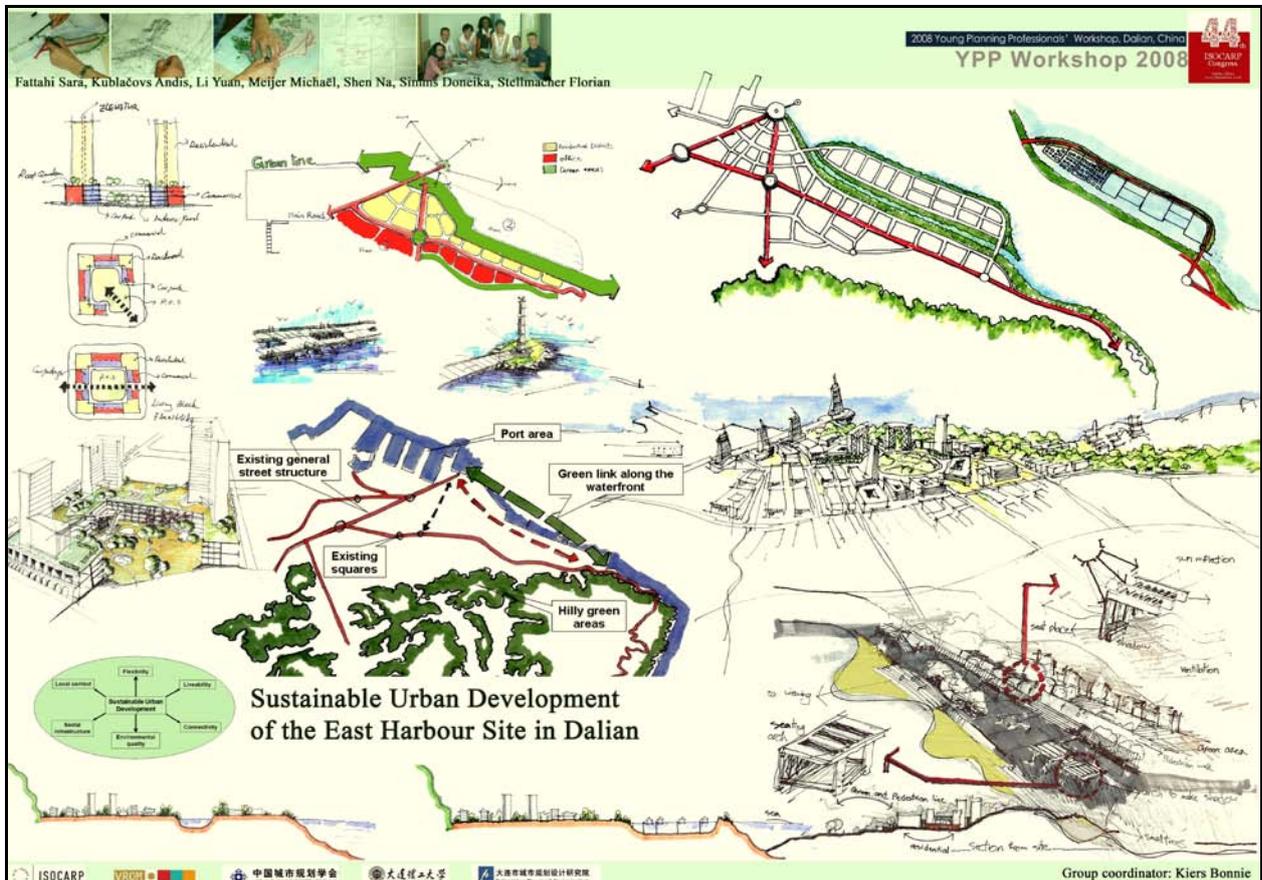
To conclude, we have tried to answer some essential questions which were mentioned in the introduction. Firstly, what is identity? Is it given or representative? Identity is not given. Identity is who we are as a whole. It is something that makes you unique and distinct. Identity of public spaces is not given, but is representative of

its users. Secondly, who are the users? Are they locals or tourists? The users are both, locals as well as visitors. However, locals should be prioritised, because open spaces are their home, their living room. Thirdly, why open spaces need identity? This is because public spaces are the ID cards of cities. In other words, the identity of the city is reflected in its urban public spaces. Fourthly, How to attain identity of this site? By knowing who they (Dalian people) are and make others (outsiders) know where they are, by respecting what the locals want and what they need, by creating conditions for locals to give their own meaning to the place, by creating an open space for people with people and through urban continuity by bridging between the past, present and future, might be some of the possible ways to attain identity of an open space which will be constantly evolving.

Sustainable Urban Development Ecological Garden City

Michaël Meijer
The Netherlands
Doneika Simms
Jamaica
Li Yuan
China
Sara Fattahi
Iran
Florian Stellmacher
Switzerland
Andis Kublačovs
Latvia
Shen Na
China

Coordinator
Bonnie Kiers
The Netherlands



The Young Planning Professionals' group composed of Sara Fattahi, Iran, Andis Kublačovs, Latvia, Li Yuan, China, Michaël Meijer, the Netherlands, Doneika Simms, Jamaica, Shen Na, China, and Florian Stellmacher, Germany, and coordinated by Bonnie Kiers, the Netherlands, referring to the Dalian municipal vision of becoming an "Ecological Garden City", proposes the sustainable urban redevelopment of the East Harbour site in central Dalian. Dalian is regarded and regards itself as a very green city (currently 42% of the city surface is not a built-up area). The "Ecological Garden City" has been set out as the city's development objective as part of the 2004 Municipal Comprehensive Plan. This highly ambitious, however, rather general objective has been taken by the YPP group as the reference for deriving a framework for analysis and development of one of the most important urban development projects in Dalian - the Eastern Harbour site.

Re-Programming: Redevelopment of the Eastern Harbour Brownfield Area

Basic planning principles have to be derived for reprogramming the site due to its importance, concluded as main planning principles for sustainable redevelopment of the site. The site has turned into a brownfield area due to the changing port locations and functions within Dalian City and the Liaou Nian Province. The site opens up both the opportunity and the task for newly programming the area's future. The site is of strategic importance to the whole city. It is a natural extension of the city's Central Business District (CBD) and for two of the city's major functions as a passenger port and a waterfront tourist destination. It forms an immediately available reserve for the pressing needs in the fast growing city of Dalian, especially commercial and residential uses. In addition, the site was partly used for harbour and industrial purposes before, most probably requiring rehabilitation measures due to

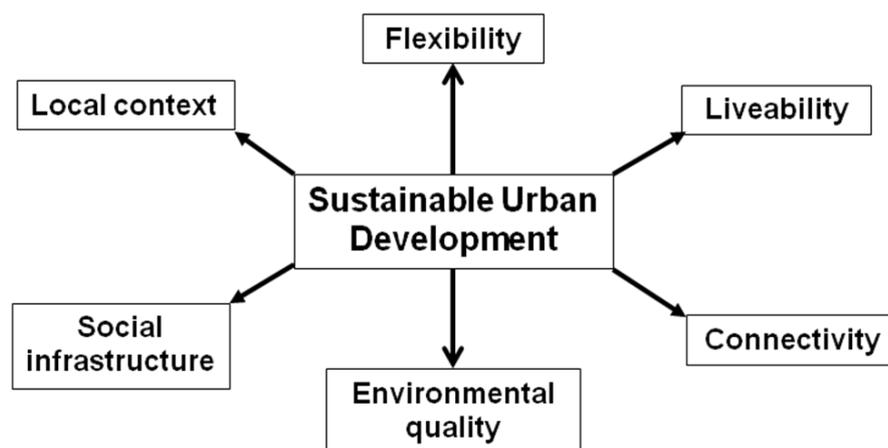


Figure 1. Main planning principles: The framework of sustainable urban development

contaminations at risk to be washed to groundwater etc. One third of the area covered by the land-use plan proposed by the City of Dalian is to be reclaimed from the sea.

Referring to basic ideas of sustainable development, we derive and propose a framework for sustainable development basing on local particularities suggesting it to form the main planning principles for the redevelopment of the Dalian East Harbour site. Sustainable urban development here is used as an umbrella

principle that interlinks all the other sub-principles shown in the framework. It has been applied to the current plans and the challenges faced by Dalian and the Eastern Harbour site in order to point out proposals for redeveloping the Eastern Harbour area.

Sustainable Urban Redevelopment: An Attractive and Liveable Waterfront Space

We propose to redevelop the Eastern Harbour brownfield site to an attractive and liveable space alongside and in close connection with and accessibility to the waterfront. Special attention has been laid on multi-usability and multifunctionality as well as the structure and design of green spaces, both public and semi-public.

Two scenarios are proposed to capitalize to the utmost extent on the waterfront situation. The first one builds on refusing additional land reclamation and suggesting floating houses instead to be protected from sea influence by constructing a dyke. The second scenario (phase) builds on land reclamation. However, the “new land” will be separated from the mainland by a canal, thus creating a longer waterfront and improving the attractiveness of the spaces for recreation, living, ecology and commercial activities alike (see Annex 1).

Planning within the Framework of Sustainable Urban Redevelopment

Local context

Although continued massive growth is expected for Dalian, there are significant vacancies in both housing and commercial floor spaces. This is however combined with high apartment prices. Therefore, we suggest that before additional land reclamation from the sea is started, all other suitable sites have to be used for environmental and financial feasibility. Dalian is presently developing two major urban centres; Xinghai Square is to become the city’s second CBD, however not showing significant development up to now, and the “New City” North of the Harbour is designated as the city’s major future commercial development zone. Hence, land reclamation in the Eastern Harbour is postponed until it becomes inevitable. Accordingly, the programming should be flexible and conveniently phased.

With regard to ecological control, the short-term goal is to apply strict regulations for protecting the slope and the vegetation in the green buffer zones from construction by clearly designated building zones. In addition, an ecological corridor will be developed around the peninsula along the Huanghai and Bohai coastlines.

Harbour use and residential use on the Eastern Harbour site might be conflicting with industrial harbour use and goods handling therefore we suggest that any heavy industry is relocated from the vicinity of the site to some other more appropriate and less conflicting location.

Flexibility

On the one hand, functional flexibility in buildings and layout allows for changes in functions in reaction to market demands. On the other hand, structural flexibility has to allow for planning and development in phases by easily switching between project development phases and adjusting project extensions, to be seen from the two scenarios derived as development stages.

Liveability

The development should provide appropriate choice and location of various recreational facilities, mix of functions and social groups, adequate building density, humane and intimate scale, and accessibility to waterfronts.

Increased waterfront length, especially in the second scenario, by preserving the existing waterfront line and transforming it into a canal would maintain the ecological connection as a green space between housing and other premises providing even more attractive multifunctional leisure space. Within the design easy access for all user groups to the waterfront and to public spaces is provided. By adding these green areas natural ventilation of public spaces is also provided. A new typology of a semi-closed building block with yards and mixed-use provides a green and energy-saving living space.

Connectivity

The development provides for good transportation links with neighbourhood centres, priority of attractive public transport (preferably tram line as a backbone for the public transport services), a promenade for pedestrians and cyclists along the coastline, a structured street network including bicycle lanes and sidewalks, an adequate parking system, and an intelligent transport management system that would be adaptable to changing transport flow conditions. Green link along the waterfront connecting to the inner city to the west and to the scenic road to the east would be of a high value both for the ecological stability, green space quality, safety and attractiveness of the development site. Sub-regional links to the hilly green areas to the south and to the existing street structure and neighbouring areas, especially the profiling squares of the central city, must be considered as important elements for better inclusion of the development site within the existing urban tissue of Dalian city.

Environmental quality

The development has to consider the integration of local ecosystems, minimization of risks from natural hazards, integrated energy, water, sewage and waste management systems, clean air and water, the application of reusable materials, and the relocation of cargo handling (especially coal).

Adaptability to sea level rise and increasing hazardous events from the sea due to global climate change should be seriously considered. Therefore our proposal does not immediately support the idea of some additional land reclamation from the sea to increase the capacity of the development area. Instead we propose idea of floating homes that should be protected from the direct sea influence by a system of dykes, at the same time allowing increase in the housing stock, having less influence on the existing water ecosystems and being more adaptable to the changes in sea water level. The second development scenario is more extreme in terms of land reclamation but still it can be realized in a sustainable and attractive way by having a canal between the existing natural coastline and the coast of the reclaimed land.

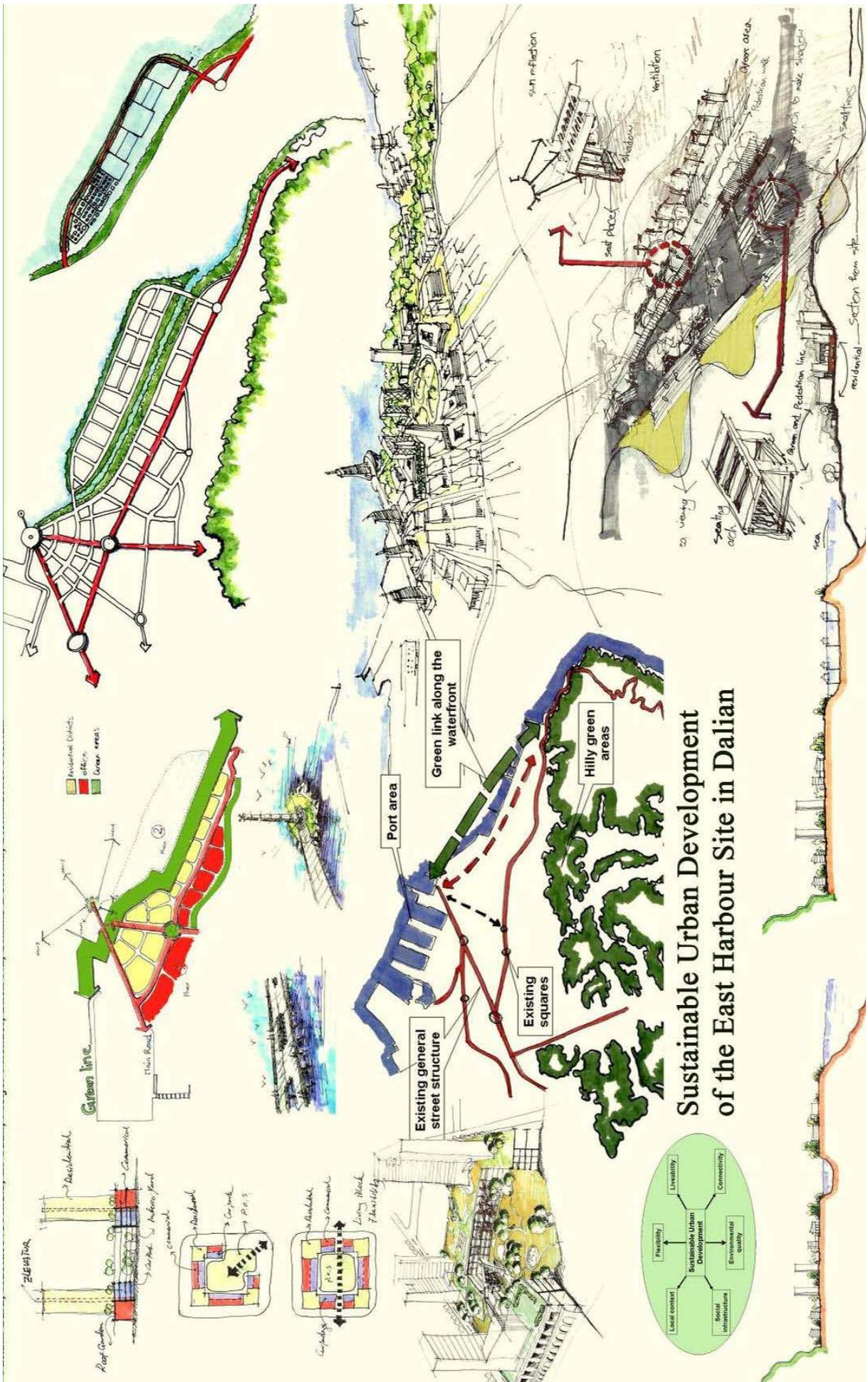
Social infrastructure

The development must provide an adequate supply and accessible location of required social infrastructure (e.g. schools, kindergartens, medical and social facilities) supporting the liveability of the neighbourhoods. The social services should also be of a high quality and with good accessibility from all parts of the planned neighbourhood.

Proper calculations of the necessary social infrastructure may be done after deciding on the number of the expected population, housing units and workplaces.

Conclusions: Summing up the Proposal

It should be noted that besides the general proposals basing on the planning principles we came up also with some more specific proposals for structuring the site's land-use zoning and to express our understanding of the favourable urban design ideas of the building blocks and other smaller architectural elements that would be applicable in this particular case. Those proposals as design sketches are shown in the Annex 1. Finally we are concerned that the planning and design principles proposed by our group may be fully applied for more in-depth analysis, land-use zoning and location specific architectural design to regenerate the Dalian East Harbour site in a sustainable way at the same time meeting also the demands of the local traditions, site particularities and requirements for attractive and liveable social environment of a post-modern Chinese city.



Sustainable Urban Development of the East Harbour Site in Dalian

Urban Form and Public Landscape Transition

Nuri Mouriño

Mexico

Philipp Fleischmann

Austria

Craig Johnson

United States of America

Dorota Kamrowska

Poland

Tang Lei

China

Coordinator

Nupur Prothi-Khanna

India

URBAN FORM AND PUBLIC LANDSCAPE
过渡·变迁
TRANSITION

Zone | Gateway
Zone | Mixed Use
Zone | Residential

East Harbor will be the future gateway to the city of Dalian.

Point of transition between
- land and water
- industrial and recreational
- urban and natural
- grid and radial urban structure

The future development will be a cultural and landmark destination for residents and visitors alike. It will consist of three distinct zones each with a different character and varied scale. The focus of each zone is on a central water gathering place.

2008 Young Planning Professionals' Workshop, Dalian, China
YPP Workshop 2008

Density

Nuri Mouriño | Philipp Fleischmann | Craig Johnson | Dorota Kamrowska | Tang Lei
Coordinator | Nupur Prothi-Khanna

ISOCARP | 中国城市规划设计研究院 | 大连理工大学 | 大连理工大学城市规划设计研究院

Introduction

Our group work was centred on an urban form and public landscape approach to designing a new district in the Eastern Harbour area of Dalian City. Starting from an analysis of public space in Dalian City, we then determined contextual themes and how the site relates to the broader context of Dalian City. We looked at similar examples around the world to refine design elements. Finally, we designed a conceptual plan that synthesized the analysis along the main themes of transition and gateway.

Typology of Public Spaces in Dalian

Public Beaches

The public beaches of Dalian are very active public spaces. Fishing, swimming and commercial activities take place, irrespective of the environment quality of those places. The beaches are also a place where art is exhibited. Where beach and nature meet each other, this creates an additional visual interest.

Scenic

Dalian has got large scenic and natural landscape areas. Several green hills are close to both the city centre and the sea. The Landscape is inaccessible as it is too steep and rugged, but its organic beauty attracts tourist and visitors.

Formal Squares

A dominant feature in Dalian are the formal squares. Xinghai Square, Peoples Square and Zhongsan Square are the most important examples. A number of various representative squares are found in both downtown Dalian and newer extension areas. The huge spaces are used as symbols of power and authority. The scale is not human and these squares are primarily used for large festivals and ceremonies. The space is devoid of much vegetation and public furniture, lacking of shade structures and enjoyable surroundings.

Transportation Junctions

A number of squares such as Harbour Square are primarily glorified traffic circles. The green areas feature very limited accessibility and conflict between cars and people. There is no interaction with the surrounding buildings. These spaces generate the radial grid in many parts of Dalian downtown.

Gateways

The city of Dalian is a one of the most important ports in China and is often referred as a “gateway”. In more detailed scale the East Harbour can become the gate connecting the city with the sea. The meaning of gate in Chinese culture is strictly connected with the notion of change and transition. The gates indicate change between outer space and inner space. Gates are also a window to other realities connecting - earth and heaven, water and earth, nature and build environments, public and private, formal and informal. These elements can be seen through the use of gates in traditional Chinese gardens.

Transition

The East Harbour is a place of transition. The transition manifests itself in many ways. It is a place where:

- Land meets water

- Nature meets urban
- Industrial meets recreation
- Grid meets radial

In the city of Dalian there are two major kinds of urban grids. In the west we can find regular rectangle grids, introduced during the Japanese occupation of Dalian. Going to the east the grid changes to the European radial structure typical for XIX century cities like Paris, Brussels or Petersburg. Based on these forms we should ask ourselves what should be the urban structure of the project area. Should it repeat existing structures? Thinking about transition in the area of the East Harbour we cannot forget the context. The project is located between the old harbour on the west and the natural beaches on the southeast. This is also one of the favourite recreational areas for both tourists and residents of Dalian. In Chinese language there are different expressions for transition in space and time and in our project we not only speak about spatial transition but also about phases.

Case Study Precedents

Given the diverse expertise (planners, architects, urban designer, community organizer) and nationalities of the design team (Polish, Indian, American, Mexican, and Austrian), international case studies of successful waterfront developments were discussed. Talking about waterfronts that each team member was very familiar with and sharing why those waterfronts were successful and how those waterfronts were similar or different with the Dalian waterfront led to some lively and fruitful discussion on the role of waterfronts as public space in cities.

These discussions and debates regarding international case studies were further summarized and directed by the following questions:

- What makes a successful urban waterfront?
- What elements and symbols of Chinese culture can be interpreted in the design?
- How do people use outdoor space?
- What kind of waterfront will make Dalian a World Class City?

Using the public space and urban form analysis, the design team looked specifically at the opportunities and constraints of Dalian and discussed how international waterfront case studies might help to determine potential solutions for the waterfront area. The discussion of the specific characteristics that contributed to the success of each of these waterfronts led to defining the following categories that the team felt that could successfully work in the Dalian case:

- Strong Landmark Element / gateway
- Good Quality Landscape design
- Destination Making: cultural activities, gathering places
- Multiple Senses / Experience: sound, texture, colour, lighting, scents
- Place Making: identity of place, locality and historical background
- Pedestrian oriented and human scale
- Effective transition to water

Key to all these characteristics was activation. It was generally agreed that urban waterfronts were only as good as the amount and the quality of activity that occurs along the waterfront. Attractions and landmarks such as the Renzo Piano sculpture in Genoa and the Yokohama waterfront in Japan were used as examples of how a sculptural building or work of art can help to define the waterfront as well as the city. Along many waterfronts, these attractions and cultural events such as the Performing arts centre in Singapore, the Sydney Opera House and the Baltimore Waterfront all attract large numbers of tourists, are highly used and in some cases re-energize waterfronts that were abandoned. Besides being a key local, cultural and tourist destination, waterfronts that were designed with human-scale and pedestrians in mind are most successful. These waterfronts include examples such as Port of Los Angeles, the Bund in Shanghai, Hamburg Waterfront, and Veracruz in Mexico.

Altogether, these international waterfront case studies, allowed the team to compare and contrast various place experiences around the world with Dalian. This sharing of different perspectives and places helped to direct design interventions in Dalian along the themes of transition and gateways that all team members could grasp and internalize in a very quick and effective manner.

Master Plan

After visiting the site and analyzing the urban form and landscape, the cultural meaning of gateways and the structure of Chinese gardens we proposed to develop East Harbour as the gate of Dalian City centre by using the concept “transition”.

The site and its context are between nature and urban, industrial and recreation, land and water and also radial and grid road network. Aiming to prevent this areas fragmentation and due to its current structure, we suggest interpreting the East Harbour area as a transition space between these widely different landscapes by designing three transitional districts:

- Landmark/ cultural district
- Community Marina/ mixed use district
- Environmental /residential district

The first district includes the construction of a landmark element encouraging cultural activities, leisure, and commerce. It will be a tourism destination of the City centre this landmark should frame Dalian City as a gateway. The second district suggests a mixed used area with lower density that must integrate a landscape design into an accessible waterfront. The third district is proposed as an environmental / residential area with low rise buildings and recreational spaces as a public beach.

Open Spaces

Natural environments will have continuity as green corridors from the mountains down into Dalian's coast. Shoreline and sidewalks should generate a rich variety of activities and services based on pedestrian friendly access and movement always focusing on the engagement of urban and natural zones. Each zone has a specific character of waterfront. The main focus of each district is a water element that is key to generating the radial grid common in each zone. The first zone is centred on a highly active harbour. The second zone is more of a neighbourhood/community marina. The third zone is centred on a natural beach.

Decreasing Density, Changing Land Uses and Skyline

The transition between the three zones represents a decreasing density and gradual change in the skyline; the first area is a high density extension of the city centre. Uses in this zone are primarily commercial and office. The second district is primarily a higher density and mixed used. The uses in this district are primarily residential with supporting shops and restaurants. The third district emphasizes lower density and its relation with the environment. Its uses are primarily residential and natural.

With these concepts we were able to compose a coherent design strategy that focused on creating a transitional landscape that would also be a key gateway to Dalian City.