Objective

- There are many cases of urban waterfront redevelopment around the world.
- To discuss about the balance of human activities and natural environment around urban waterfront,
- it is important to understand the background, the objective and the methodology of urban waterfront redevelopment projects.

Cases

- Introduction to urban planning and urban planning in Nagoya, Port of Nagoya
- Keihin Industrial Area, Tokyo, Japan: Toward the Integration of Brownfield Rehabilitation and Planning Methodologies
Introduction to Urban Planning in Nagoya

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Land Use and Urban Form (Regional Scale)

Creating Great Places (District Scale)

Construction of Nagoya Castle Town (1610) by Shogun Ieyasu Tokugawa.
Population Growth of Nagoya City

Source: Nagoya City

Expansion of Municipal Area and Urban Area

1. 明治22年 (1889)
2. 大正3年 (1924)
3. 昭和13年 (1938)

Source: Planning Bureau, Nagoya City and Nagoya Urban Institute (1999), "History of Nagoya's Urban Planning"

Expansion of Municipal Area and Urban Area

Existing Land Use 1920

Zoning 1924

Source: Planning Bureau, Nagoya City and Nagoya Urban Institute (1999), "History of Nagoya's Urban Planning"

Existing Land Use 1938

Zoning 1943

Source: Planning Bureau, Nagoya City and Nagoya Urban Institute (1999), "History of Nagoya's Urban Planning"

Existing Land Use 1948

Zoning 1951

Source: Planning Bureau, Nagoya City and Nagoya Urban Institute (1999), "History of Nagoya's Urban Planning"
Rail Network

Source: Housing and City Planning Bureau, Nagoya City

Nakagawa Canal and Tsuyuhashi District

Port of Nagoya

Waterfront Industrial Area

Waterfront Industrial Area
Toward the Integration of Brownfield Rehabilitation and Planning Methodologies: Case Study of Keihin Industrial Area, Tokyo, Japan

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1. Introduction

Redevelopment of mixed-use (res. & comm.) urban area

The vast industrial areas still remain

City of Yokohama part (2,200ha) of Keihin Industrial Area (KIA)

History
• 1859: Opening of the Port of Yokohama
• 1920s: Development through the private reclamation projects
• After WWI: Major cement, steel, electronics, oil, wharf and warehouse companies — left behind various hazardous substances in the soil
• After WWII: Continuous expansion until the completion of Daikoku Harbor in 1990

KIA from inland to the bay
1. Introduction

- Residential uses
- Canals and warehouses
- Large plants, some underutilized
- Vacant lands
- New R&D institutions
1. Introduction

Center for Sustainable Urban Regeneration
Engineering & Risk Services
Akito Murayama, et al.

Active freight

Oil companies

Heavy industries

Heavy industries

Production by major types of industry in Keihin Industrial Area

38% decrease

City of Yokohama part (2,200ha) of Keihin Industrial Area (KIA)

Recent drastic movement:
- Mergers of oil and steel companies
- Relocation of plants to foreign countries

Potential sites for redevelopment:
- Research and development institutions have been located
  - RIKEN Yokohama Institute
  - Yokohama City University International Graduate School of Arts and Sciences
1. Introduction
City of Yokohama part (2,200ha) of Keihin Industrial Area (KIA)

Environmental Problems
• The largest polluter to the regional environment
• Large improvements in air and water qualities were made through the effort of industries responding to the gradual enforcement of national regulations
• Now, soil contamination is a big issue

Calls for
the integrated methodology of brownfield regeneration and planning
as it gradually evolves
from the heavy industrial base
to a new urban area with R&D institutions, light industry, business and commercial facilities, housing and other uses

3. Planning and existing conditions
3-1. Past and current regional and local planning
Past regional planning studies by national government
• 1970s: Tokyo Bay Aqua-Line
• 1980s: Redevelopment of Tokyo Bay Waterfront to promote urban redevelopment to boost the country’s economy

Past local planning studies in KIA
• Initiated by City of Yokohama
• New vision for KIA and implementation of necessary projects
• Focused on industry-related redevelopment and infrastructure projects instead of housing or mixed-use projects
• Promotion of industry-related growth for more tax revenues

3-2. Existing conditions - land use
Change of land use in six zones of KIA
Underutilized sites and their proposed land use transition
3. Planning and existing conditions

3-2. Existing conditions - transportation

- Public transport is limited
- Utilization of existing freight tracks for passenger services under consideration - stagnant discussion since the area’s land use plan is still not clear enough
- Arterial roads for cars and trucks already constructed and will be extended

3. Planning and existing conditions

3-2. Existing conditions - canals, green spaces and historic structures

- Canals of different width - total length of sea wall: 70km
- Some are not used for industrial purposes or covered by green - opportunities for redevelopment with high level of amenity
- Historic structures - shipyards, factories and warehouses

4. Conclusion: Toward the integrated methodology

Approach to develop a comprehensive plan for KIA

- Analysis of land use demand and industrial development potential from the regional perspective
- Site-by-site analyses of underutilized sites to estimate redevelopment potentials and alternatives
  - the degree of soil contamination, future land use, best-suited cleanup technologies, legal schemes and financial incentives for remediation, historic and green resources, and location in relation to transportation facilities
- Development of easily accessible inventory/database of contaminated properties using public available information

4. Conclusion: Toward the integrated methodology

Approach to develop a comprehensive plan for KIA (cont’d)

- Other issues such as transportation, building types and urban design of public space can then be discussed based on the results of the site-by-site land use and redevelopment analyses
- Various stakeholders involved in appropriate stages
  - city departments, property owners, business owners, potential developers, non-profit organizations and citizens
- Professionals to support the process
  - planners and urban designers, environmental and other experts, as well as facilitators and managers
Restoration of Urban Waterfront through Viaduct Removal

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1. Background

• Shaping attractive urban centers, particularly improving existing built environment, for urban sustainability and quality of life
• Built structures with poor design and high vulnerability in cities where rapid modernization and growth occurred in the latter half of the 20th century
• Viaducts or elevated expressways on urban waterfronts: representative examples
• Efforts to remove the viaduct, restore the waterfront and use the opportunity to take a great leap forward in urban center regeneration

2. Framework for case studies

• Close look at planning processes in pioneer cases: How did they reach to an integrated solution?
• Especially the conflict solution between civil engineers and urban planners/designers seems to be a big issue
  • Civil engineers: rebuild the viaduct as quickly and cheaply as possible to move traffic
  • Urban planners/designers: once-in-a-century opportunity to restore the waterfront and to regenerate the surrounding urban area
• What are the keys to successful urban waterfront restoration through viaduct removal?
• Learning from international comparative case study

3. Cases around the world (1)

Portland, USA
Boston, USA
San Francisco, USA
Seattle, USA
Seoul, Korea
Philadelphia, USA

3. Cases around the world (2)

Nihombashi, Tokyo, Japan
Sumida Riverfront, Tokyo, Japan

Willamette Riverfront in Portland (1)

1920: Seawall constructed
1942: Harbor Drive constructed
1968: Governor Tom McCall initiated this study to replace Harbor Drive with open park space
1972: Downtown Plan included the removal of Harbor Drive and the development of a park
1974: Harbor Drive removed
1976: Park completed
1988: Park renamed to Tom McCall Waterfront Park
Now: East bank under consideration
**Willamette Riverfront in Portland (2)**

- [Image of Willamette Riverfront in Portland]

**Clear downtown planning strategy in Portland**

- Integration of land use and transportation
- Transit and pedestrian oriented, not automobile oriented
- The removal of Harbor Drive and the development of a park: one of many projects to implement the downtown plan

**Central Waterfront in Seattle (1)**

- 1933: Seawall constructed
- 1954: Alaskan Way Viaduct constructed
- 2001: Alaskan Way damaged by Nisqually Earthquake
- 2002-: Five alternatives carefully studied (Environmental impact assessment)
- 2004: Reduced to two alternatives: "tunnel" or "rebuild"
- 2006: Central Waterfront Plan based on citizens' input proposed by Mayor
- 2007: Seattle residents vote down both alternatives

**Central Waterfront in Seattle (2)**

- Five alternatives studied

**Central Waterfront Plan**

- Surface
- Bypass Tunnel

**Participatory planning and politics in Seattle**

- Central Waterfront Plan: Active citizen participation including design workshops and forums
- Mayor and City Council with different political stances
- Referendum to evaluate two alternatives independently: "No" to both alternatives

**The Blue Ring and its Projects (Seattle)**

[Image of The Blue Ring and its Projects]
The Blue Ring: connecting places: THE NEXT DECADE (Seattle)

Olympic Sculpture Park (Seattle) by Weiss/Manfredi

http://www.seattleartmuseum.org/

Cheonggyecheon in Seoul (1)

- 1948: Cheonggyecheon covered
- 1968: Viaduct constructed
- 1991: Idea of Cheonggyecheon restoration discussed by university professors and discussion started
- 2000-2002: Restoration project plan developed through the series of symposiums
- 2002.6: Lee Myung Bak became Seoul Mayor, promising Cheonggyecheon Restoration in election
- 2002.7: Cheonggyecheon Restoration Headquarters established
- 2003.7: Construction started
- 2005.10: Restored river opened

Cheonggyecheon in Seoul (2)

Strong leadership and integrated approach in Seoul

- Strong leadership of Mayor Lee Myung Bak and strong political support
- Cheonggyecheon Restoration and Transit System Improvements at the same time: Small impact of viaduct removal without providing alternative route
- "Triangle Governance System" to execute the project quickly
  - Headquarters (within city government): Executive function
  - Citizen Committee: Judicial function
  - Research Team (within Seoul Development Institute): Research function
Nihombashi in Tokyo (1)

1999: Local residents and businesses formed the Nihombashi Area Renaissance 100 Years Planning Committee to discuss the restoration of Nihombashi river and other issues.

2003: Experts, MLIT, TMG, Chuo Ward, Metropolitan Expressway Company began discussions.

2005: Chuo Ward established the Nihombashi / Tokyo Station-Front Area Machizukuri Committee.

2006: Prime Minister Koizumi convened experts to come up with policies by September 2006.

Nihombashi in Tokyo (2)

Nihombashi River and Metropolitan Expressway Viaduct

Unclear situation in Tokyo

- Experts submitted a proposal for Nihombashi to the Prime Minister Koizumi in September, 2006.
- Unclear situation with a new Prime Minister.

Low Carbon City Initiative in Nagoya City

About Nagoya
- The Third Largest City Region in Japan
- Population: 2.26 million (February 1, 2010)
- Households: 1,018,000 (February 1, 2010)

Goals to Reduce CO2 Emission
- 25% below 1990 Level by 2020
- 80% below 1990 Level by 2050

Lifestyle Visions
- “Eki-Soba” (Station Area) Urban Lifestyle
- Nature-Oriented Suburban Lifestyle
- Low-Carbon Lifestyle: Innovations in Car, Live/Work and Energy

Action Plan to be Developed by March 2011
- Need to Address Effective Urban Design Solutions to Environmental Issues
Nagoya City (November 2009)

Nakagawa Canal Regeneration Plan