

the benefits of the integration of urban planning and public transport

UITP(International Association of Public Transport)

mentioned that the benefits of the integration of urban planning and public transport

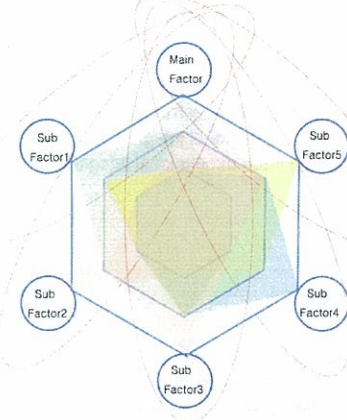
Integration between spatial designing between transportation area and urban planning area

- 1) Integration between transport planning and land use planning
- 2) Integration between transport measures and environmental urban resources
- 3) Integration between urban actors and social involvement
- 4) Integration with other related fields such as health, education, culture and environment.

UITP (International Association of Public Transport) mentioned that there are many dimensions to the integration of public transport and urban planning. It refers to the physical integration of different land uses with transport services, to the integration of strategies, policies, administrative entities and disciplines, and to the coordination between the public and the private sector.

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과거의 도시정비가 현행의 도시문제를 일대일로 해결하기 위한 직접적인 제안과 과제 수행이었다면, 앞으로의 도시수법은 점차 해결해야 할 도시문제가 복잡화, 다양화되어 가고, 관련된 분야 및 도시계획행위에 참여하는 관계자가 많아지고 있다. 이에 각 도시가 오랫동안 겪어왔던 주된 도시문제의 해결에 초점을 맞추면서, 동시에 도시의 새로운 비전을 재공하고, 정체성을 추구하여 거시적인 경쟁력에서 앞서나갈 수 있는 미래에 필요한 덕목들을 함께 해결해 나갈 수 있는 일석다조의 효과를 계획하는 다차원적 통합조작이라는 개념을 제안하고자 한다.



The definition of "Multi-dimensional Integration" of this thesis is that the methodology to solve out the specific urban problems with a main identical measure which can also affect on other solutions and factors at the same time with the positive synergy effects. Especially, the term of the multi-dimensional Integration in Urban planning means not only physical connective forms but the inclusive methodology to consider the potential factors and values to maximize the utilization of urban resources influencing on the restructuring urban context.

Depending on time, era, and districts, the factors to consist of Multi-dimensional Integration can be changeable and not fixed. But in this thesis, we will investigate mainly 7 factors which are extracted from chapter 3. These are chronological, spatial, functional, transitional, environmental, social, cultural integration.

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Theory of Urban Structures	Structural Issues	Examples	Features	Factor of restructuring
1690s-1920s Urban Growth Concept as Ideal cities	Infrastructures	Linear city, 'Saint Elia'		Infrastructure
	Hierarchical Zoning	Garden city (Ebenezer Howard, 1919)		Environment
1920s-1950s Metropolis ages Spatial Composition of Functional Units	Hierarchical zoning	Le Corbusier, A Contemporary City for 3 Million Inhabitants, 1922)		Function
	Expansion for Urban Growth	King Champ Gillette's 'Metropolis'	basic unit and urban structure, well-connected street network, electric transport, deliveries, maintenance and infrastructure.	Function Infrastructure
1950s-1970 Mega-structure ages	Geometrical Unit system	'mega-structures' (Hilberseimer,)	'branching' or hierarchical thoroughfare patterns, the massive productivity	Function
	Machine city	'machine for living' (Le Corbusier),	auto-oriented city, composed of multi-level freeways, forming a grid of superblocks	Function
Spatial Frame for expansion	Geometric Mega-structures	Nieuwenhuis' New Babylon Project	infinitely expandable plastic of parts	Spatial
	3-dimensional	Metabolism 1960 / Walking City and Instant City (Ron Herron 1964-70)	large scale, flexible and extensible structures that enable an organic growth process	Spatial Aesthetics -Structural
Exchangeable Unit System	3-dimensional	Yona Friedman 'Air space city' (1959-63) Buckminster Fuller's 4D house (1928) Fretz Oles / Constant	Expandable Frame and flexible usages according to time, time units' mass production, standardization flexible space-frame systems	Spatial Aesthetics -Structural
	Exchangeable Unit System	Living in a capsule (Akira Shibuya 1966, Youji Watanabe 1967, Kisho Kurokawa 1970-72) / Plug-in-City, Living Pod and Capsule Tower (Peter Cook 1964-65)	Changeable part of architecture which can be displaced by resident's needs	Function
Pedestrian Network	Pedestrian Network	Alison and Peter Smithson's Golden Lane, 1956	integrated deck and complexes, Pedestrian Network	Transit
	Transit system	Cook's Blow-out village (1966) / GEAM 'Bridge town, Irish Channel' / Transportable city	transportable environment mobile solutions more playful events	Transit, k
Event and Situation	Event and Situation	Cedric Price, the Fun Palace leisure center project, Constant, Model for a Gypsy Camp Triton City project	Spontaneously responsive for the event and temporary needs. Flexible structure supporting changeable situation and events	Social
	Multi-building	Alison and Peter Smithson, Berlin Free University / The Orphanage (Abdo van Eyck) / Agricultural city project (Kisho Kurokawa 1961)	Anonymous collective, horizontal waves of Programmatic and circulatory elements, legible geometric order	Spatial Function
Stem system	Stem system	Joachim Woods, Downtown Frankfurt am Main project, 1962	all flexible possibilities, understandings of the structural role of the road, the multifarious notion of mobility, the continuity of the notion as space	Spatial Function Transit
	Open building system	John Habraken, 1975	efficiency of the building process, while increasing the variety	Spatial, Function
TOD Compact city	Functional Features	Compact transit corridors and Mixed used functions		Function, Transit
	Spatial Zoning	divided the area of Neighborhood TOD, Urban TOD, Secondary Area, Existing Uses, and Open spaces.		Spatial, social, transit
Size	Size	10 minute walking distance, depending on the size, location, and overall function of the site		Spatial, function
	Accessible community	high-quality open space Make public spaces the focus of building orientation and neighborhood activity		Transit, spatial, social
Multi-dimensional Development	Multi-dimensional Development	urban circulation and multi-dimensional pedestrian network, urban network by utilizing underground and above ground spaces		Transit function, spatial

2 4 Multi-dimensional Integration in Architecture urban theories

Architecture-urban theories

- Ideal Cities- Urban Growth
- Metropolis-Spatial Expansion
- Megastructures – Network of Urban structures
- Compact city and Transit Oriented Development

- 1) Integration with Space
- 2) Integration with Infrastructure
- 3) Integration with Function
- 4) Integration with System
- 5) Integration with Society
- 6) Integration with Environment

Where this active integrated urban system
Are shown well? → Railway Station area.

- Railway Station is actively restructured as the center of Urban Regeneration
- Diverse Urban Actors are involved to Railway station restructuring project
- Function of Transportation and Urban center is combined and Integrated

1872	1872 : Mikado opened the first railways line (from yedo to yokohama) (94/104 of engineering were British)	1919	Urban Planning Law, Urban Area Building Law
1890	In the urbanization of Japan began		
1894	the report of the revision of Tokyo city and districts were published (the result of rapid modernization)		
1908	all capital's principal lines were brought into a new central station except for Ueno & Shinjuku		
1914	Tokyo station is completed		
1923	the great Kanto earthquake (around Tokyo area)		
1930	The first underground shopping mall	1943	urban area building code Temporary Special Act(시기지 건축 물법시행령)
1946	improvement of a land lot for reconstruction business after post war (戦災復興土地地区画整理事業)	1946	Special Urban Planning Law(Green belt) / Building codes(건축기준법)
1955	underground shopping malls began to be built around subway stations /Japan Housing Corporation	1952	Fireproof Construction Law
1958	metropolitan area maintenance plan	1954	Land Readjustment Law
1959	Tokyo Metropolitan Area express Road	1957	Parking Lot Law
1960	Shinjuku Sub center Development Corporation	1958	National Capital Region Development Law
1972	a fire at an underground department store in Tokyo	1960	Housing Area Improvement Law
1980	Transportation network Promotion committee for new urban centre	1961	Fireproof Building District Promotion of public facility construction and Law
1985	the railroads were privatized and divided among six privately owned commercial operations	1967	Urban Redevelopment Law
1988	Comprehensive land development measures, more diverse and multi-dimensional space planning has been underway	1971	Amendments to the Japanese National Railway Law (allowing commercial management)
1999	Strategy plan for breaking through crisis(危機突破戦略プラン) —urban regeneration plan, committee for urban regeneration and urban restructuring	1996	Tokyo Ordinance for making the welfare city
2000	Tokyo plan (東京構想2000)		Railway operation law, Railway Business law, the road transportation law
2001	New vision for new urban machizukuri of Tokyo(東京の新しい部心づくりビジョン) / the set up of Urban Renaissance Headquarters	2000	11. transportation barrier free law
2002	2002 Designation for urgent improvement District for urban regeneration(都市再生緊急整備地域)	2001	Railway Operations Law, Railway Business Law, The Road Transportation Law
2004	Tokyo metro is privatized	2003	Urban Renaissance Special Measure Law

Mega-structural Expansion Period
Mixed Use Development v
Multi-dimensional Integration

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3 1 Transformation of Multi-dimensional Integration in Railway Station area of Japan

Meaning	Periods	Urban Role	Features	Examples
Urban Entrance	1830-1850s	Reception structure with basic function(Infrastructure structure)	Potal Monument, essential part of the new system of transportation; Collaboration between engineering and Architecture	Crown Street Station in Liverpool (1830), Euston(London, 1839),
Mega-Structural	1850s-1880s	Architectural evolution as Grand Station	Functional expansion and services, improvement of the Safety, Large-scale shed, Vault	Gare de L'East(1852), Gare de Nord(1864), Kings Cross(1852), St Pancras(1876), Gare De L'Est
1920s	1890s-1920s	Technological Monument having Underground connection	construction technology with new materials, long span and architectural style having Multi-level connection with city, horizontal and individual cantilever roofs	Frankfurt(1888), Leipzig(1915), Milan Station(1931), Stuttgart Station(1928),
Mixed Use	1930-1909s	Extensive rebuilding and Urbanization	Extension of lines, innovation of the post war economy, Modernist design, extensive rebuilding	Florence station (1932), Rome Terminus(1937) Santa Maria Novella (1933) Amstel Station (1939)
	1960-1980	Transit Interchanges	Improved rail technologies at service, Transit focused improvement, Formation of European community, large-scale events, inner terminal interconnection with other transports	Sinkansen trains (Japan, 1964), LGV(France, 1976),
Multi-dimensional Integration	1980s-2000	Redevelopment and Revival	Multi-purposed center, integration of urban design, transport, economic, and service system. International Link	London waterloo, London King Cross Station, Basel central station, Cannon street, Charing Cross, Liverpool Street
	1990-2010	Integrated urban planning	Multi-purposed center, integration of urban design, transport, economic, and service system. International Link	Euro star

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<Expectable effect from Compact city of Japan >

- ① the reduction of dependency on cars / ② the utilization of land and space resources
- ③ reduction of environmental contamination and collapse of agricultural land
- ④ maintenance and establishment **the activated city center**
- ⑤ the efficient administration and financial management in order to **maximize the effectiveness to make use of urban infrastructure** /
- ⑥ strengthen the **efficient public transportation**
- ⑦ reinforce the city attraction and activate the urban economy inducing **tourism an investment**
- ⑧ Strengthen the Local government autonomy through a Town making and Machizukuri
- ⑨ the establishment of **social justice** with the concept of **livable and diverse social culture** for everyone
- ⑩ Local characteristics can be vigorous with **unique history, and cultural resources** .

<the fundamental five factors of spatial design>

- ① the area of **daily life** having independency on the cars
- ② **Foothold development business(据点的)** not just large scale development → Especially focused on Railway Station
- ③ The arrangement of height and scale of Architecture buildings->with same density, various height
- ④ Human scale's compact city design concept

<Importance of urban design for diversity >

- ① **Mixed use** function, ② **ecological** system, ③ **activated identity** of place.

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3 2 Transformation of Multi-dimensional Integration in Japanese Railway Station area

	Exemples
Megastructural	Yaesu(1963, 69)
	JR Nagoya(1955-70)
	whily Umeda (1963, 70, 73, 87)
	Najino Mazzi (1970)
	Avetica(1968, 1999)
	Azalea
Mixed-functional	Diamor (80, 1995)
	Coms Garden(1990)
	Central park
	Setagaya Business Sqaure(1993)
	Habor land (1992)
	ORC200(1993)
	Ebisu Garden Place(1994)
shin umeda city(1993)	
Integrated	Act city(1995)
	Izumi Garden
	Akabane Nishikuzi
	Gawaguchi station
	Saitama(2002)
	Tazagawa(2004)
	shidome(2002)
	Harimazida station
	Akihabara station(2000)
	Shinagawa(2003)
Rokbbongi Hill(2003)	
Shibuya redevelopment (on going)	
Tokyo redevelopment (on going)	
Shinjuku redevelopment (on going)	

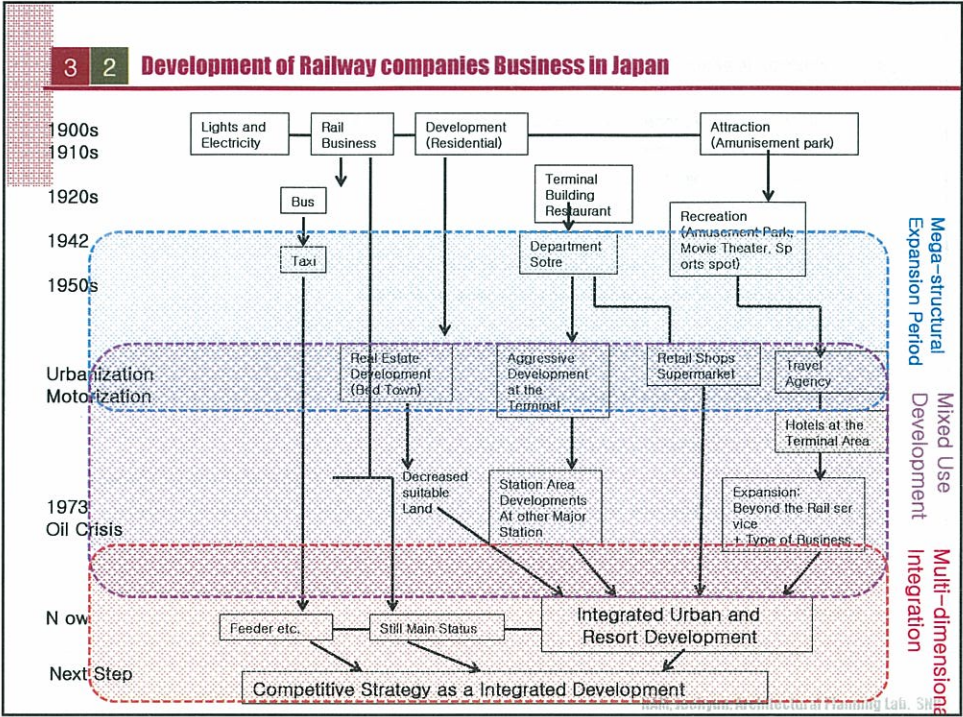
Megastructural Period : the underground space and above ground space are perceived **separately**. Underground plazas and underground shopping malls are constructed and they are connected to the surface by passages.

Mised functional period: pursues **link and connection** between underground space and above ground space more actively. Artificial decks and sunken gardens are used **as intermediate devices**.

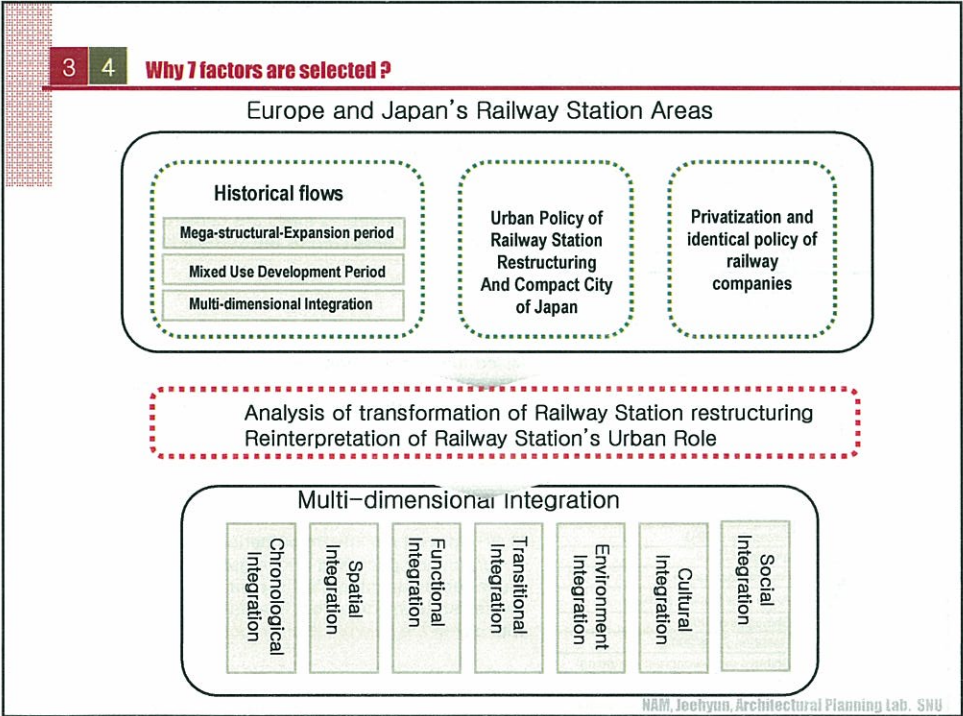
Multi-dimensional Integrated period: the underground space and above ground space are perceived as an integrated system through more diversified techniques that integrate the station area with city **in the viewpoint of Regional planning**

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3 2 Development of Railway companies Business in Japan



3 4 Why 7 factors are selected ?



3 4 Why 5 stations are selected ?

1) The Tokyo Plan 2000

<Otemachi/ Marunouchi/ Yurakucho> ,
 <Akasaka/ Roppongi>
 <Omotesando> . <Nihonbashi,>
 <Akihabara> , < Shiodome >
 <Shinagawa East>



図4 都内の主な地下街と地下鉄

2) Urban Renaissance Headquarters(2001)

Urban renaissance Special Measure Law(2002)

Urgent Improvement 7 Districts for Urban Regeneration (2002-2007)

<Tokyo station, Yurakucho area> , <Akasaka,Roppongi area>
 <Akihabara, Kanda Area> , <Tokyo Bay area> ,
 <Shinjuku Station area> <Shinbuya Station area>

3) Urban Facilities Improvement project

Terminal Railway Station areas Improvement

<Tokyo Station area> , <Shinjuku Station area>
 <Shibuya Station area>



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4 Case study on Restructuring factors of Multi-dimensional Integration

Area	Guideline or Plan
Shinjuku	2005 Shinjuku transport barrier free basic plan
	2007 Shinjuku Area Master Plan
	2009 Shinjuku landscape Machizukuri guideline
Shibuya	2000 Shibuya district masterplan,
	2001-2020 Shibuya Environmental Master plan(Shibuya Ward)
	2003Shibuya station surrounding improvement guideline 21 (Shibuya ward)
	2007Shibuya station central area machizukuri guideline (Shibuya Ward)
	2010 shibuya District Base improvement plan (Shibuya station district base improvement examination committee)
Tokyo	1999 Chiyoda ku- Master plan (Chiyoda Ward)
	Tokyo plan (東京構想2000) TMG(都市整備局)
	New vision for new urban machizukuri of Tokyo(2001)
	2004 Otemachi machizukuri Basic Plan (基本方針)By Otemachi machizukuri promotion committee committee)
	Otenachi Landscape Guidline
Shinagawa	2008 Otemachi, marunouch, Yurakcho District machizukuri Guideline(Otemachi, Marunouchi, Yurakcho district Committee)
	2006 Plan for urban-residence environment improvement in Shinagawa station area
Roppongi	2007 Shinagawa station area machizukuri guideline (TMG(都市整備局)
	1990 Roppongi 6chome urban redevelopment Plan report(六本木六丁目地区市街地再開発事業推進基本計画報告書)一(Roppongi 6chome urban redevelopment preparatory association (再開発準備組合)
	2001 Minatoku Machizukuri master plan(Minato ward)
	Roppongi station barrier free basic plan (2009)
	2009-2014 Minato master plan 港区基本計画、実施計画

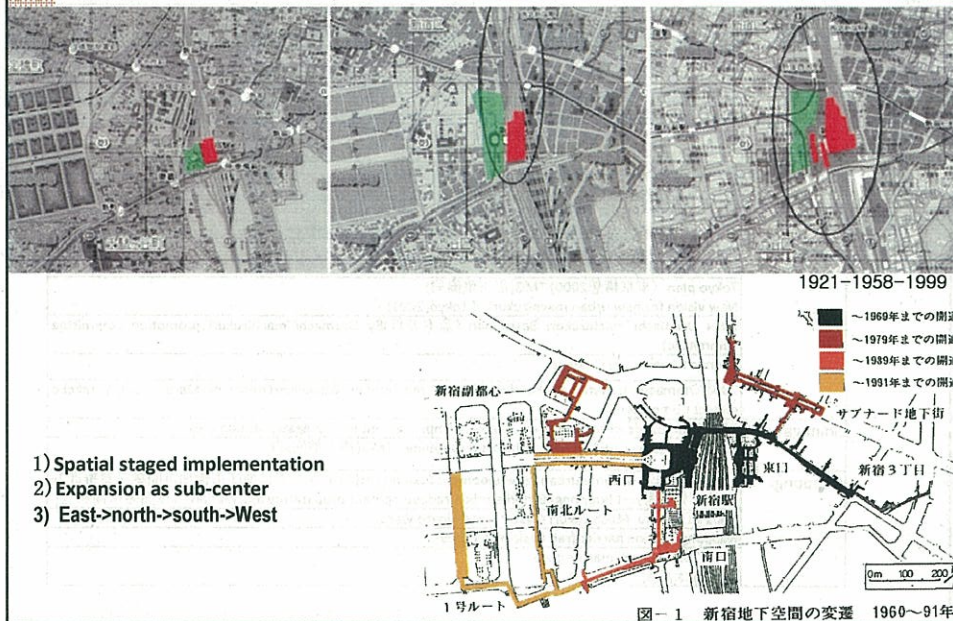
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4 1 Shinjuku Station

problems	Policies	Project
the declined East exit area of Station Unbalanced development	1958 Metropolitan area maintenance, 1960 the national capital region development Law, Shinjuku sub center plan	reconstruction of businesses , New city centers, East Distric Development, Residence Area of in North
	1991 Move of Tokyo Metropolitan 1997Improvement plan for Sub-center	Government ,West District East/West free passways(東西自由通路))
	2000 Foundation improvement for South District of New Shinjuku Station	hukutosinsen line
Disjunction between east and west	2002Designation for urgent improvement District for urban regeneration	Fundamental plan for South area of station/ Terrace city (Odakyu)- south and west exits
	2005 Shinjuku transport barrier free basic plan	
	2007 Shinjuku Area Master Plan	
	2009 Shinjuku landscape Machizukuri guideline	
	2005~2016	Southern beat East and West connected pedestrian Improvement of Transit node, Maintenance for station plaza

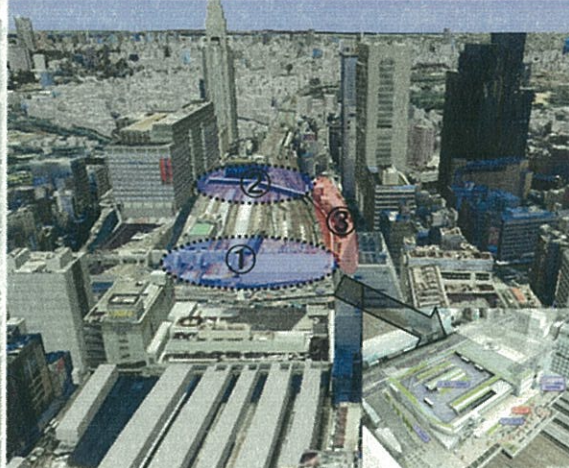
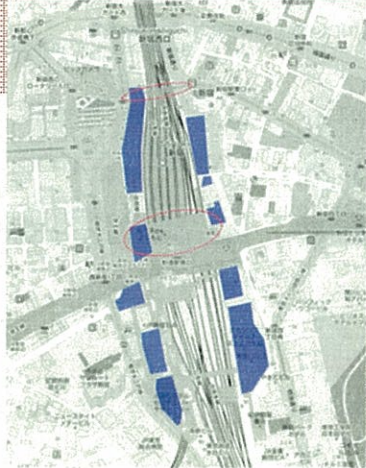
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5 1 Chronological Integration -Shinjuku



5 1 Chronological Integration -Shinjuku

- Restructuring Issues



- 1. Improvement of Transit node
- 2. West and East Free pathway
- 3. Maintenance for Station Plaza

- 1) Efficient network of underground Pathways
- 2) Network of underground shopping passage
- 3) Multi-dimensional Connection from underground to ground, Plaza to buildings, and Pedestrian Deck- Terrace city plan

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5 1 Spatial Integration -Shinjuku

5.1.3 Restructuring Design Factors

2) Spatial Network

① Connection of west and East area by free-pedestrian network(東西自由通路)



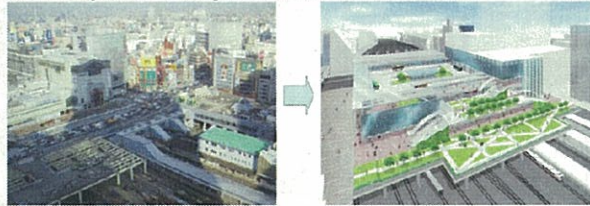
② Multi-dimensional Connection from underground to ground



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① Improvement for Big Scale- pedestrian plaza for disjunction between the west and the East

Southern Beat



② West and East Free pathway



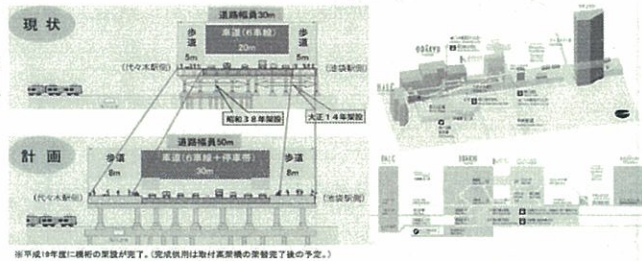
- 1) Connection of West and East area by free-pedestrian network
- 2) Improvement for Big Scale- pedestrian plaza to improve the disjunction between the west and the East(Southern Beat)

1) Strengthen of the nodal function of transportation

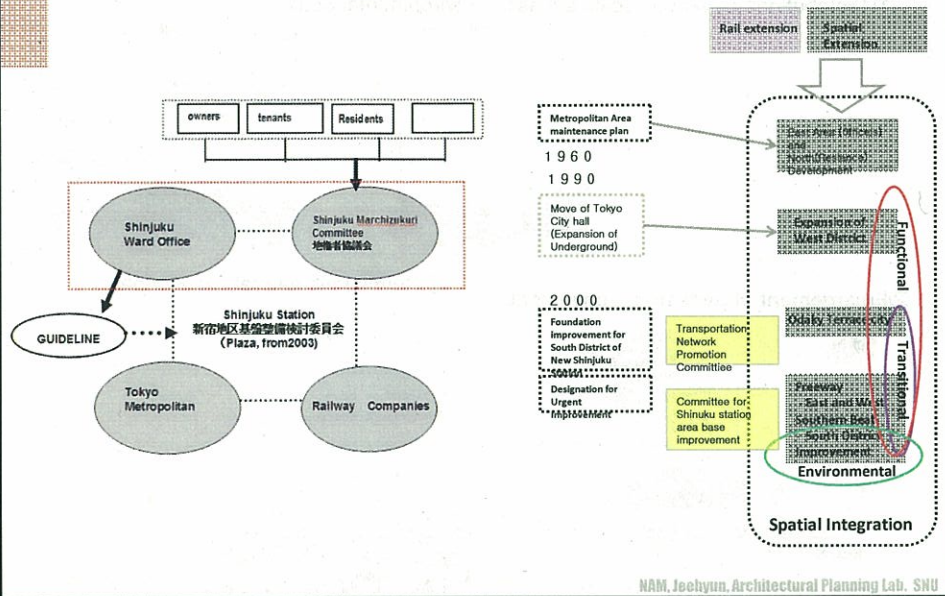


③ Multi-dimensional Pedestrian Deck- Terrace city plan by odakyu

- 1) Pedestrian Network with open spaces
- 2) Enlargement of pedestrian pavement



4 1 Shinjuku Station



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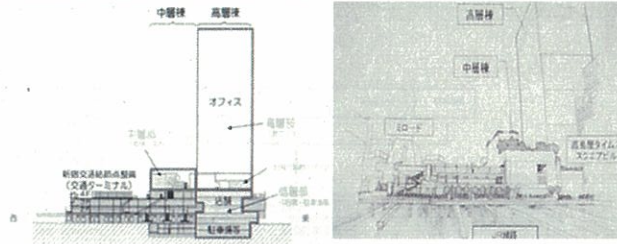
4 2 Shibuya Station

Context and problems	Policies	Project
	1885 Shibuya station opened	
Decreased population,	Shibuya district Masterplan, 2000	
Traffic congestions Complicated circulation for transferring	2002 Shibuya station area improvement guideline 21 (Shibuya ward office) Committee for Shibuya station area improvement guideline 21	Create the identity, broad vision, equipment of agglomeration of infrastructure. Pedestrian network of the underground, Hachiko plaza, West exit plaza 13th subway opening, relocation of Tokyo toyoko line into underground
Lack of vision for future and Environment	2001-2020 Shibuya Environmental Masterplan	Green space, beautiful urban landscape, succession of History, Fresh Air, and Energy saving
Lots of barrier against pedestrian network Traffic congestion Too crowded users Lack of Public place for community	2003, Shibuya surrounding improvement guideline 21	Pedestrian network of the underground, Hachiko plaza, West exit plaza
	Shibuya central area Machizukuri guideline (2007)/ Shibuya station area improvement adjustment Committee 渋谷駅周辺整備に関する調整協議会	Expansion of meaning of city, Establishment of Urban corridor;/ Environmental landscape, by PPP(public-private Partnership)
	Shibuya station base improvement plan(2008) Shibuya Station base Improvement policy (2010)	easily recognizable station, pedestrian network, relocation of railway, east exit redevelopment

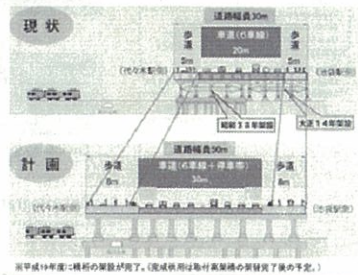
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5 1 Environmental Integration -Shinjuku

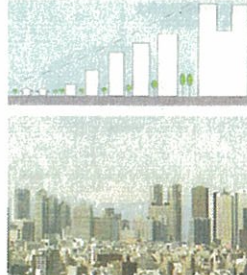
① Distributions of various scale's mass – Environmental Scale



② Enlargement of pedestrian pavement



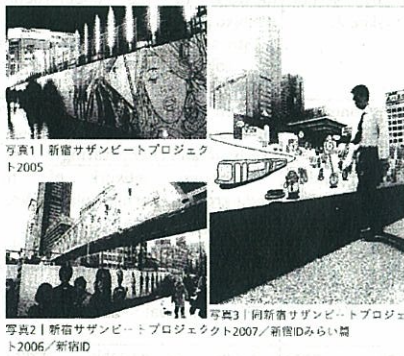
③ Continuous natural Landscape



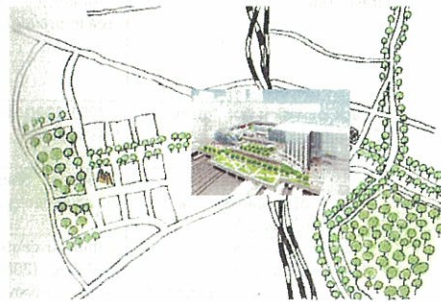
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5 1 Cultural Integration -Shinjuku

① Construction paces-> public art, historical information



② Continuous natural Landscape



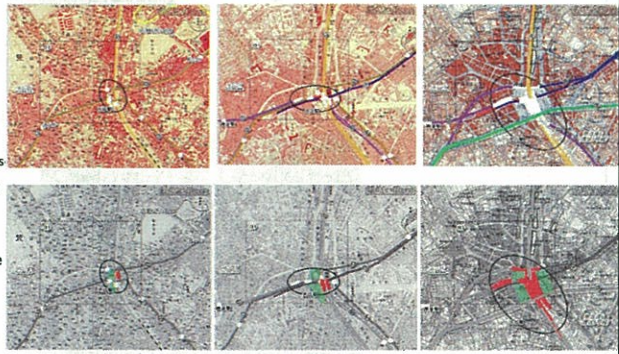
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5 3 Chronological Integration – Shibuya

5.1.2 Historical Transformation

- 1885 JR Yamanote opening
- 1920 Tokyu line opening
- 1927 Hachiko statue firstly built
- 1933 Keio Inokasira opening
- 1936 Ginza line opening
- 1945 rearrangement by war, tokyu cultural ce (near east plaza)establishehd
- 1948 Hachiko statue rebuilt
- 1954 Romen train
- 1969 Tokyu tamagawa line
- 1970 Romen train closed
- 1978 hanzomon line
- 2000 Shibuya urban planning master plan, dennentoshi(including tamagawa line)
- 2002 Shibuya station area improvement guideline21
- 2003 Tokyu cultural center(near east plaza) is clos
- 2005 Designation of Urban regeneration urgent improvement district
- 2006 romen train exhibition
- 2007 Shibuya central area machizukuri guideline
- 2008 hukutosin line(Ando tado design)
- 2008 渋谷駅街区基盤整備方針
渋谷駅街区基盤整備都市計画変更
- 2012 Underground of Tokyu-toyoko line

- Easily Legible space(accessibility and the Hachiko plaza improvement)
- Re-arrangement of railway's location for making node of transportation in the East plaza
Tokyu's Shibya east exit's redevelopment "A mark of Tokyu bunka kaikan"
- Pedestrian network focusing on over the ground



Historical transformation of Shibuya Station 1921-1955-2000

5 2 Chronological Integration – Shibuya

5.3.3 Restructuring Issues

①Shibuya station area improvement guideline21(2002)

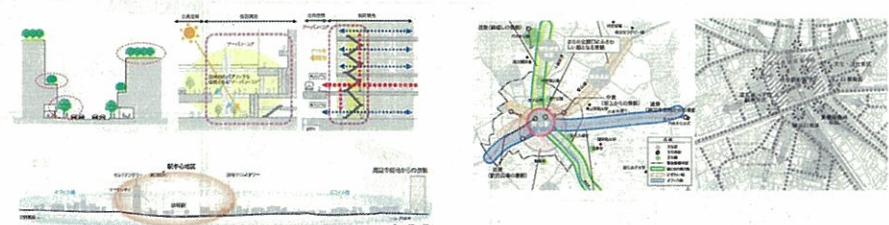
- Pedestrian network from the underground to buildings
- Plan for Hachiko plaza
- Plan of West exit plaza



②Designation of Urban regeneration urgent improvement district

③Shibuya central area machizukuri guideline (2007)- expansion of meaning of city

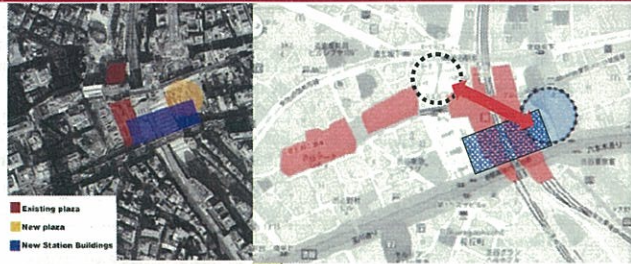
- World leading Core concept focused on human life(Expansion)
- Establishment of Urban corridor
- Environmental landscape



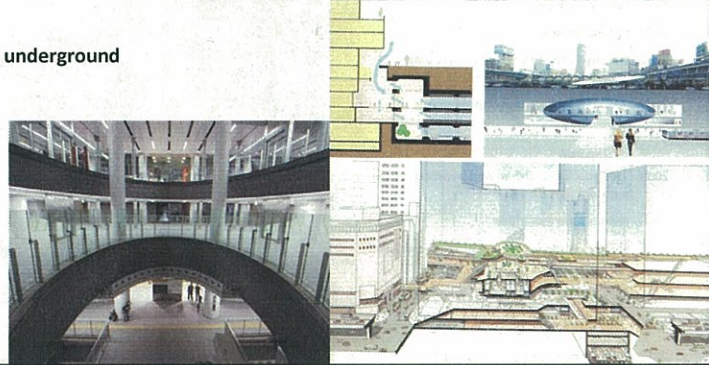
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5 2 Spatial Integration - Shibuya Station

1) Urban connection with new station



2) Spatial Openness of underground



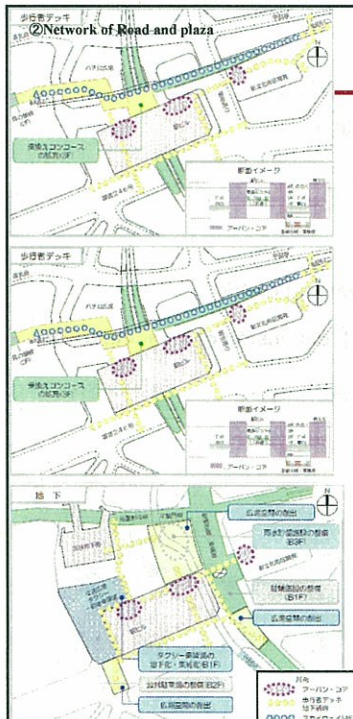
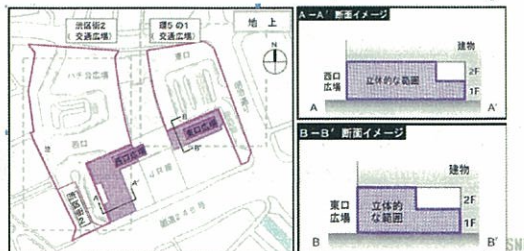
Spatial Integration - Shibuya Station

3) Reimprovement of plaza for differentiated identity

① Network of Road and plaza



② Multi-dimensional Connection from plaza to buildings



5 2 Functional Integration -Tokyo Station

②Combine the function and aesthetic



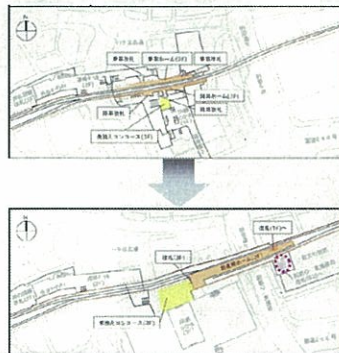
NAM, Jeehyun, Architectural Planning Lab. SNU

5 2 Transitionl Integration -Shibuya Station

5.3.3 Restructuring Design Factors

1) Transitionl Hierarchy

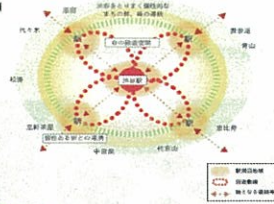
- ① Distribution of Ticket gate for efficient circulation
- ② Relocation of Urban resources(Rail Concourse)
- ③ Differentiation with cultural Districts(historical TOKYU Culture Center)



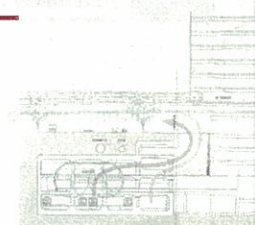
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5 2 Environmental Integration - Shibuya Station

1) Natural Air circulation in Tokyo culture cent



2) the wide area network concept



2) The road of wind- Macro Visi



4) Alleviation of architecture regulation-Diagonal line regulatoin

NAM, Jeehyun, J

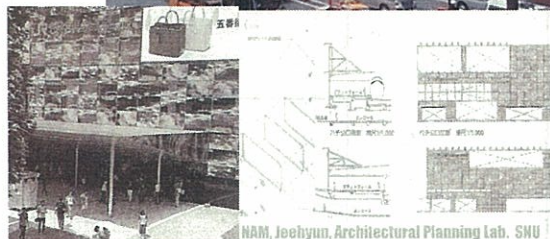
5 2 Cultural Integration - Shibuya Station

1) Differentiation with cultural Districts(historical TOKYU Culture Center)

1956	Shibuya Tokyu culture center was opened(渋谷東急文化会館開館)
1985	Tokyo international fantastic movie festival
1986	Shibuya tokyo2 was opened
1990	Shibuya tokyo3 was opened
2000	Tokyu golden hall (wedding hall) closed
2002	Plan for deconstruction of Tokyu culture center was decided
2003	Completion of deconstruction
2012	Shibuya new culture street will be opened



2) Responsive Façade



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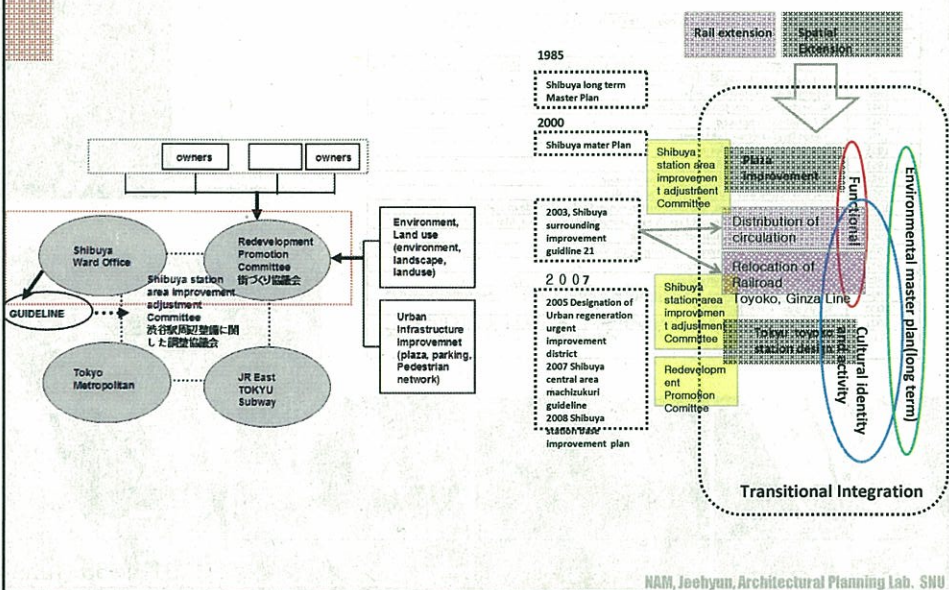
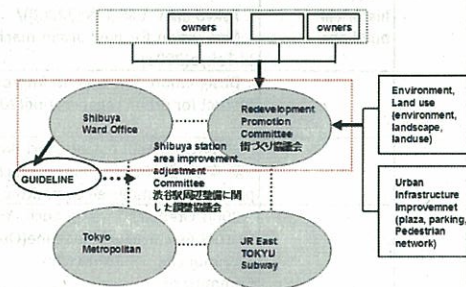
1) Transitional Hierarchy

1) Coordination of related Fields : Civil, Urban, Architecture

2) the communication with citizen about artistic concepts



3) Ward and local machizukuri initiative social system



4 3 Tokyo Station

Context and problems	Policies	Project
urbanization	First built plan(1914)	Enlargement of Eaves and pavement/ the establishment of Stores in plaza
Damage from war and fire	Reconstruction after the fire(1946)	Waiting room, Restaurant/ Yaesu Deguchi(East Exit) Open
	total improvement base investigation(1987)	idea of FAR transferring method/ Opening of Tokyo station gallery(1988)
The need of symbolic façade of historical context	1999 Chiyoda ku- Master plan (Chiyoda Ward) Strategy plan for breaking through crisis-urban regeneration plan(1999) /	Symbolic façade, plaza as integration with street. Network of west and east. Conservation of environment, strengthen of transit as the junction of underground space, Network of water and green space,
Restoration of historical buildigns	Tokyo plan (東京構想2000)/ New vision for new urban machizukuri of Tokyo(2001)	Red brick's old Tokyo station restoration and historical architectures near Tokyo station. Citizen Movement for conservation
	Designation for urgent improvement District for urban regeneration(2002)	Improvement of pedestrian network, Station Plaza in front of Yaesu Exit/ The free pathway between the east and the Wes
	2004 Otemachi machizukuri Basic Plan (基本方針)By Otemachi machizukuri promotion committee committee)	
	2008 Otemachi, marunouch, Yurakcho District machizukuri Guideline(Otemachi, Marunouchi, Yurakcho district Committee)	

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5 3 Chronological Integration -Tokyo Station

5.1.2 Historical Transformation

1914	The Tokyo central station was complete (Tatsuno kingo)
1915	The special waiting room
1919	Place for Lost and found
1926	Enlargement of Eaves and pavement in front of Domes, the establishment of Stores in plaza
1937	the Agency of railway(鉄道庁)
1938	Opening of Information center
1947	Reconstruction after the fire, 4 th floor's enlargement for Auditorium
1947	R.T.O office completed
1950	Yaesu Deguchi(East Exit) Open
1951	Waiting room on platform
1951	The administration offices
1952	R.T.O office was transferred to Japanese Railway
1957	Lost and Found was moved to near Yaesu Exit
1959	Telephone booth, stores, and Information center for hotel inside of station
1959	Rename of exits, (Marunouchi south exit, Marunouchi north exit, Marunouchi central exit)
1967	Heart bus office in marunouch south exit
1970	Information ceter was moved to Marunouchi south exit
1972	Opening of Sobu line's underground
1988	Opening of Tokyo station gallery
1999	Strategy plan for breaking through crisis(危機突破戦略プラン) —urban regeneration plan
2000	Tokyo plan (東京構想2000)
2001	New vision for new urban machizukuri of tokyo」,東京の新しい都心づくりビジョン
2002	Designation for urgent improvement District for urban regeneration(都市再生緊急整備地域)

tokyo station 1914 image. Image in Japan Bicycle Culture Center



tokyo - 1909-1921-1956-1998

- ① First built plan(1914) , In 1926: Enlargement of Eaves and pavement in front of Domes, the establishment of Stores in plaza
- ② Reconstruction after the fire(1946) : Waiting room, Restaurant, 4th floor's enlargement for Auditorium
- ③ Sobu subway opening(1972) : Security facilities, Transit facilities for Heart bus
- ④ Present (2004) source: Gallery

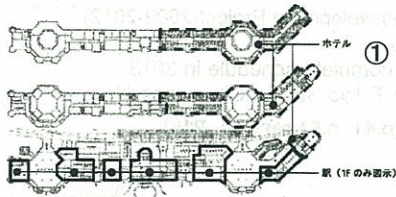


図1 創建時の平面図¹⁾

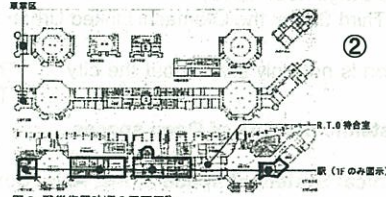


図2 戦災復興時頃の平面図²⁾

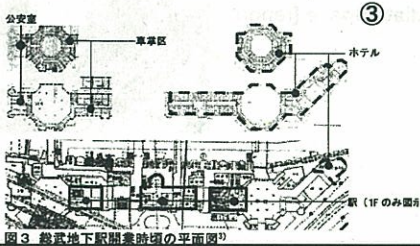


図3 総武地下鉄開業時頃の平面図³⁾

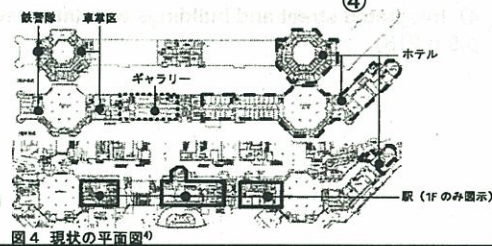
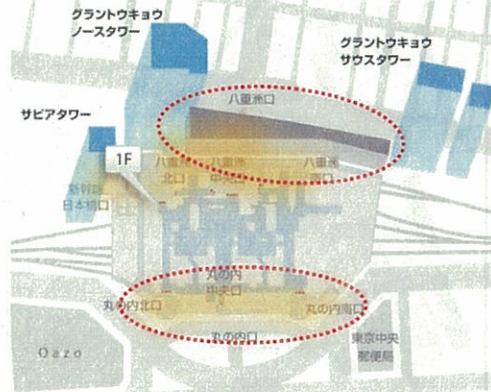


図4 現状の平面図⁴⁾

□ Main issues of improvement

- Improvement of pedestrian network
- Rearrangement of Station Plaza in front of Yaesu Exit
- Rearrangement of Station Plaza in front of Marunouchi Exit
- Improvement of The free pathway between The east and the West

In 1999, Strategy plan for breaking through crisis(危機突破戦略プラン) provided the regeneration outline for main location of Tokyo.
 In 2000, Red brick's old Tokyo station was decided to go through restoration for recovering the original architectural appearance by 「Tokyo plan2000」
 And In 2001 October, 「new vision for new urban machizukuri of tokyo」 made it clear to conserve and restore the historical architectures near Tokyo station.
 Tokyo station area was designated as the object for 「urgent improvement District for urban regeneration(都市再生緊急整備地域)」 in 2002.



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1) Chronological Hierarchy

1) Incremental Stages of spatial restructuring-Long/ Short Term pla

- ① The First stage: Creating a New Vibrancy in Marunouchi (August 2002-2007)
- ② The Second Stage; Tokyo Station city: "Broader" and "Deeper"-Progressing to the Second Stage(2007-2009)
- ③ The Third Stage: the Otemachi Linked Urban Redevelopment Project(2009-2012)

"Station is not only station but the city" The complete schedule in 2013
 "The Tokyo Station City conception"

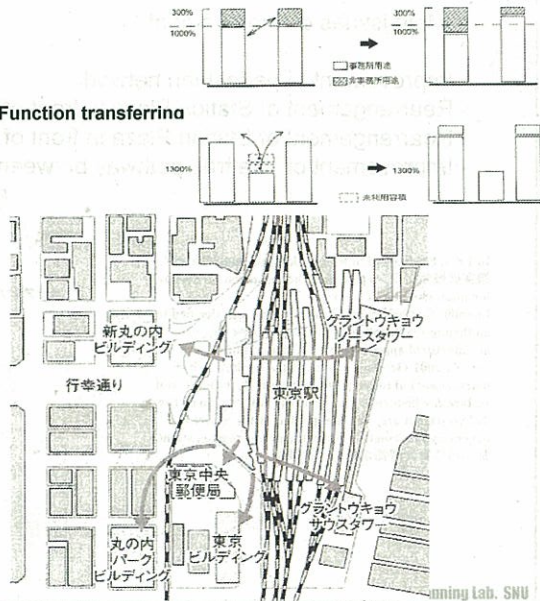
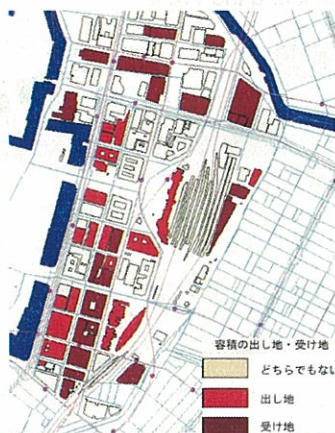
2) The Systemic network of Open spaces [p.41, p.61 report -215]

3) Hierarchical System of space- Zone, Axis, Core

4) Integrated street and buildings with Intermediate Space [report p.9 p.218]



1) Control for height By FAR transferring and Function transferrina



5 3 **Transitional Integration -Tokyo Station**

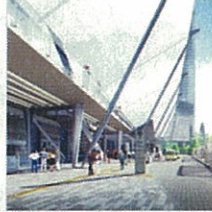
5.4.3 Restructuring Design Factors

2) Chronological Network

1) pedestrian deck looking down the historical landscape



グランルーフと八重洲口駅前広場

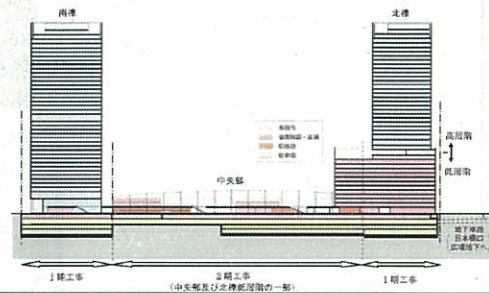


駅前広場



歩行者デッキ

2) Underground rearrangement



5 4 **Environmental Integration -Tokyo Station**

5.4.3 Restructuring Design Factors

3) Chronological Scale

1) Scale Control for showing the historical Landscape

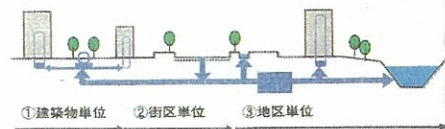


2) Expression line as the limitation for height of base part of highrises

3) the façade of city

4) Building's Height control for Urban landscape

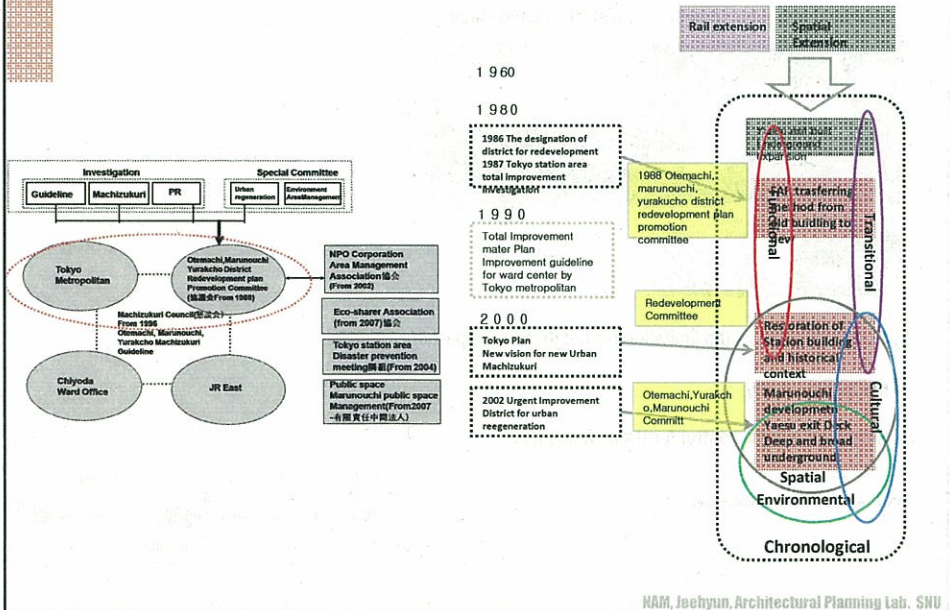
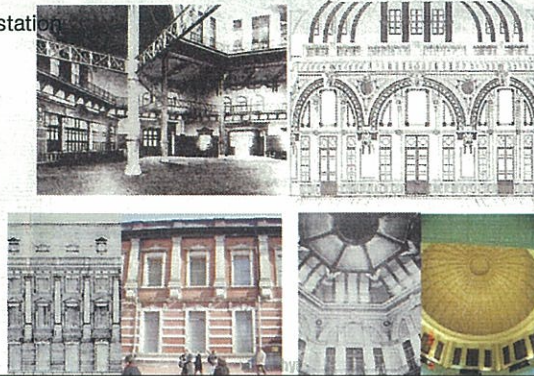
4) Network of Nature- Wind, Green, Water



① Restoration of old ornaments



② Historical and Symbolic meaning of station



4 4 Shinagawa Station

Context and problems	Policies	Project
Declined of East Exit	1984Kowa real estate company acquired the east area of shinagawa station	Integration of shinagawa east exit
	1985construction Committee of shinagawa station 1987-89Investigation for Master plan of Shinagawa station surround area improvement	
Lack of walkable pedestrian	1990Committee for Redevelopment District plan of Shinagawa station east exit (Tokyo metropolitan, ward offices, business companies, JR east)	Open space, underground network, s, green space,
	1992Redevelopment district plan for Shinagawa station east exit	
	1993Shinagawa station East-west free pathway	
Declined of west exit. The lack of Connection between West and East. Environmental Problem	The establishment of shinagawa station east exit district's Committee(品川駅東地区開発協議会設置)	Yard, green space, Newbuildings, facilities in East Part of Station
	1998Shinagawa Intercity Project completed	
The lack of Connection between West and East. Environmental Problem	2003the Shinagawa 'Grand Commons project' opened	East-west feeway connection, Identical and balanced development
	2004.06Elementary plan for Road Crossing (Railway Multi-dimensional Crossing business鉄道立体化の検討対象区間)	
	2004.11Committee of Improvement Plan for Residence environment in Shinagawa surrounding area(品川周辺地域都市、居住環境整備基本計画策定委員会)	
	2006 Plan for urban-residence environment improvement in Shinagawa station area	
	2007 Shinagawa station area machizukuri guideline (TMG(都市整備局))	The role of South gate of Tokyo, environmental machizukuri plan, high density large development near station, connection between east and west.

Source: Multi-dimensional Strategies for Urban Environmental Design in Shinagawa Station

NAM, Jeehyun, Architectural Planning Lab, SNU

5 4 Chronological Integration - Shinagawa Station

5.5.2 Historical Transformation

5.5.3 Restructuring Issues

1984	Kowa real estate company acquired the east area of shinagawa station
1985	construction Committee of shinagawa station
1987-89	Investigation for Master plan of Shinagawa station surround area improvement
1990	Committee for Redevelopment District plan of Shinagawa station east exit (Tokyo metropolitan, ward offices, business companies, JR east)
1992	Redevelopment district plan for Shinagawa station east exit
1993	Shinagawa station East-west free pathway plan
	The establishment of shinagawa station east exit district's Committee(品川駅東地区開発協議会設置)
1998	Shinagawa Intercity Project completed
2003	the Shinagawa 'Grand Commons project' opened
2004.06	Elementary plan for Road Crossing (Railway Multi-dimensional Crossing business鉄道立体化の検討対象区間)
2004.11	Committee of Improvement Plan for Residence environment in Shinagawa surrounding area(品川周辺地域都市、居住環境整備基本計画策定委員会)

- Shinagawa Intercity Project (1980~Completed in 1998)- the yard city
 - It secures an account as the tenant building
 - It provides high quality work space and a facility
 - It is equipped with the environment as the social mission
 - It becomes the herald of the town making which contributes to the area
- the Shinagawa 'Grand Commons project' opened(2003)

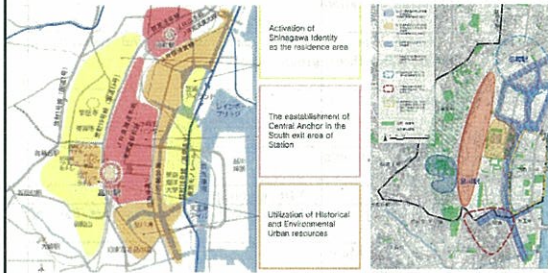
- ① Arrangement of the junction of transportation(The West Exit)
- ② The lack of connection between the west and the East exit
- ③ the internationally advanced model for Environmental problem

- 1) Arrangement of the junction of transportation(The West Exit)
- 2) The lack of connection between the west and the East exit
- 3) the internationally advanced model for Environmental problem
- 4) Long term and Broad vision's Regional Plan

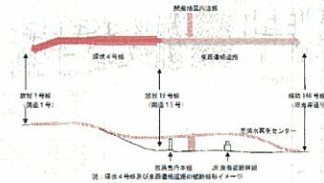
Lab. SNU

5 4 Spatial Integration—Shinagawa Station

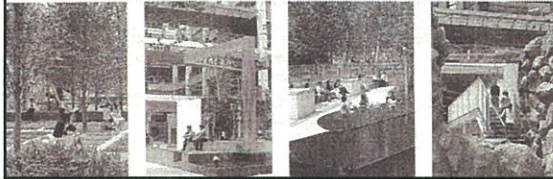
1) Differentiation of District features



2) Connection for Urban disconnection



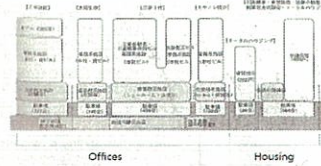
3) diversified perspective of open space



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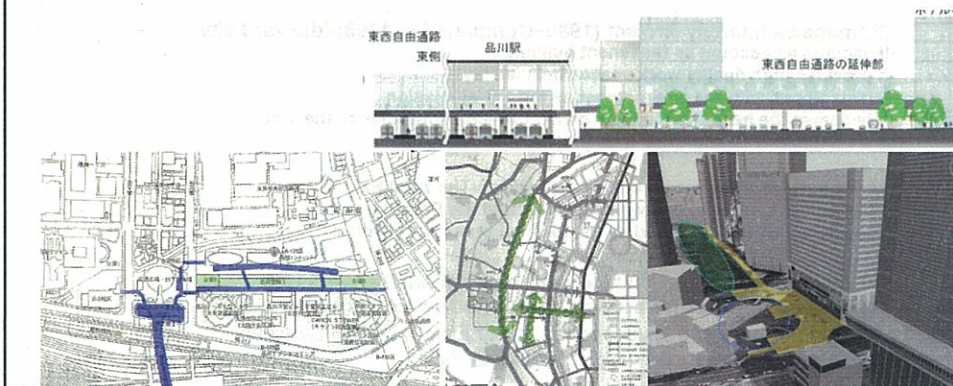
5 4 Functional Integration—Shinagawa Station

1) Multi-dimensional zoning by functions



5 4 Transional Integration—Shinagawa Station

1) Multi-dimensional Pedestrian Network



3) Environmental Scale

1) Station like a ecological park

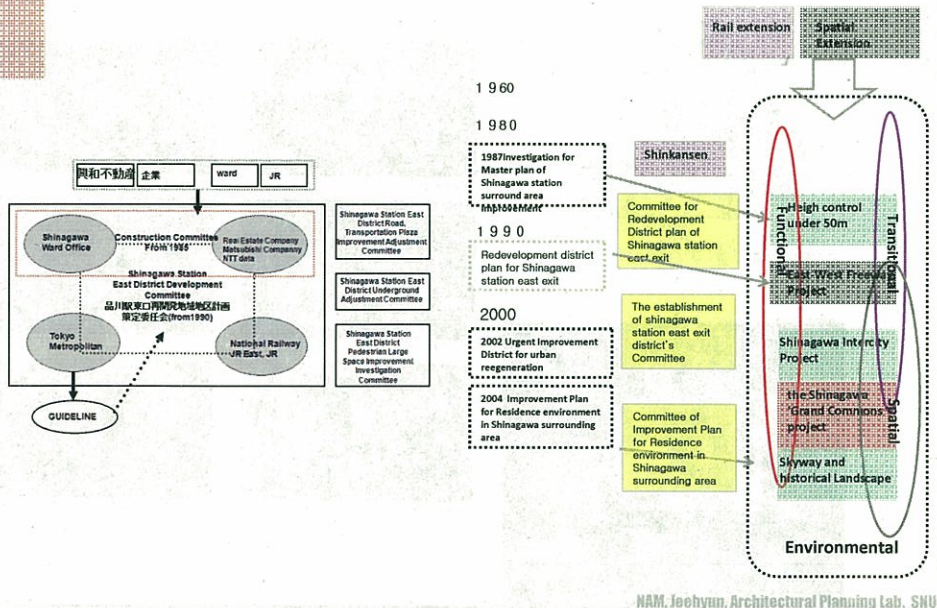
2) planning of the proper size of building for environmental effect

3) Restriction of building height for historical Landscape

Control Under 50m by District Improvement plan



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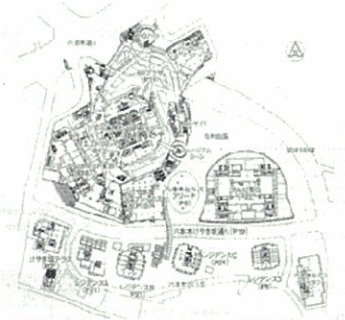
4 5 Roppongi Station

Context	Policies	Project
Mori faced strong oppositions from environmental movement	Roppongi hills	Generate the public communication with local residence
	1979,the land readjustment preparatory association was formed(Mori as the Executive Director)	
Create identity as cultural city center	1986 Designated as Redevelopment Inducement District by Tokyo Metropolitan	1990 Roppongi 6chome urban redevelopment Plan report(六本木六丁目地区市街地再開発事業推進基本計画報告書)―(Roppongi 6chome urban redevelopment preparatory association (再開発準備組合))
	1987 Investigation for basic plan of redevelopment	
The need for pedestrian network.	1988 Community-improvement council (Machizukuri Redevelopment)	Functional zoning, 3dimensional Plaza and Road,
The need for 3-dimensional Landuse	Dec 1990 Establish " Roppongi 6chome urban redevelopment preparatory association (再開発準備組合)	
Need for distribution of circulation	Public announcement for Roppongi 6chome urban redevelopment Plan	Approval about the plan for Right Exchange of Land from Metropolitan Governmet
High densitys land use	Apr 1995 Roppongi 6chome was selected as the category1 of "urban redevelopment project" by Tokyo Metropolitan	
	Oct 1998 Establish of " Roppongi 6 chome area redevelopment association "	Improvement of transportation junction, Universal design for various needs, local transportation sevice
	By Approval from government on redevelopment	
	Feb2000 Ownership transfer plan approval granted(Conversion of rights from the Governor of Tokyo)	Improvement of transportation junction, Universal design for various needs, local transportation sevice
	2001 Minatoku Machizukuri master plan(Minato ward)	
	2004 Designated Landscape area(Machinami Keikan Juten Chiku) Certified Private Urban Redevelopmet Project - Mid Town	Urban rule for various people, attractive urban life, advanced planning for future,partnership with resident, developer, administration, safety
	Roppongi station barrier free basic plan (2009)	
	2009-2014 Minato master plan 港区基本計画、実施計画	

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5 2 Chronological Integration – Roppongi

5.2.2 Historical Transformation



1996年8月*



2000年10月*



2001年4月*



2001年8月*



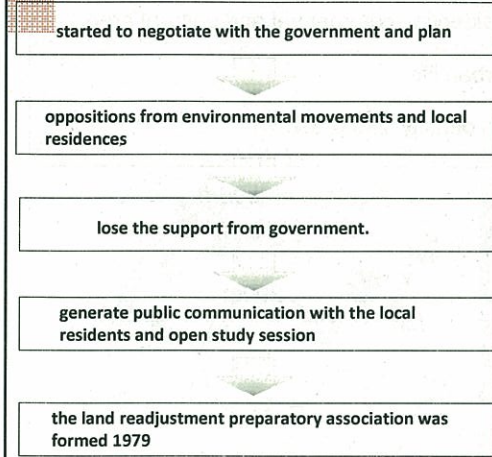
2001年12日*



2002年4月*

*印画資料提供: 森ビル

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1969	Akasaka Roppongi District has been designated as a redevelopment district
1979	the land readjustment preparatory association was formed(Mori as the Executive Director)
1987	Investigation for basic plan of redevelopment
1988	Community-improvement council (Machizukuri Redevelopment)
Dec 1990	Establish " Roppongi 6chome urban redevelopment preparatory association (再開発準備組合) "
1993	Public announcement for Roppongi 6chome urban redevelopment Plan
Apr 1995	Roppongi 6chome was selected as the category1 of "urban redevelopment project"
Oct 1998	Establish of " Roppongi 6 chome area redevelopment association "
Feb2000	Ownership transfer plan approval granted(Conversion of rights from the Governor of Tokyo)
Apr 2000	Approval about the plan for Right Exchange of Land from Metropolitan Governmet, Construction began
Spring2003	Completion
Jul 2002	Designated Priority Urban Development Area
Oct 2003	Start of transplanting existing trees
Mar 2004	Designated Landscape area(Machinami Keikan Juten Chiku)
May 2004	Certified Private Urban Redevelopmet Project
May 2004	Start of Construction
2007	Construction Completion

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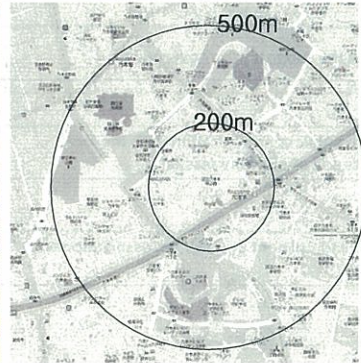
Spatial Integration – Roppongi

1) 3 dimensional Crossing of Plaza and Road

2) Underground connection from Roppongi to midtown



- 1) providing a modern, disaster-proof residential, commercial and cultural area.
- 2) The model for 21st century Cultural urban life
- 3) multi-dimensional connection and high density's land use.



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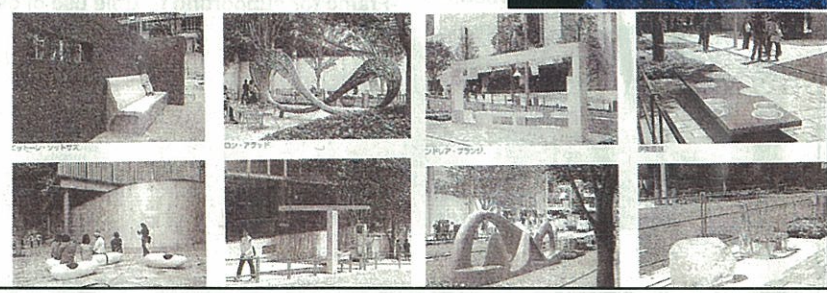
①Diverse scales of Open places between buildings



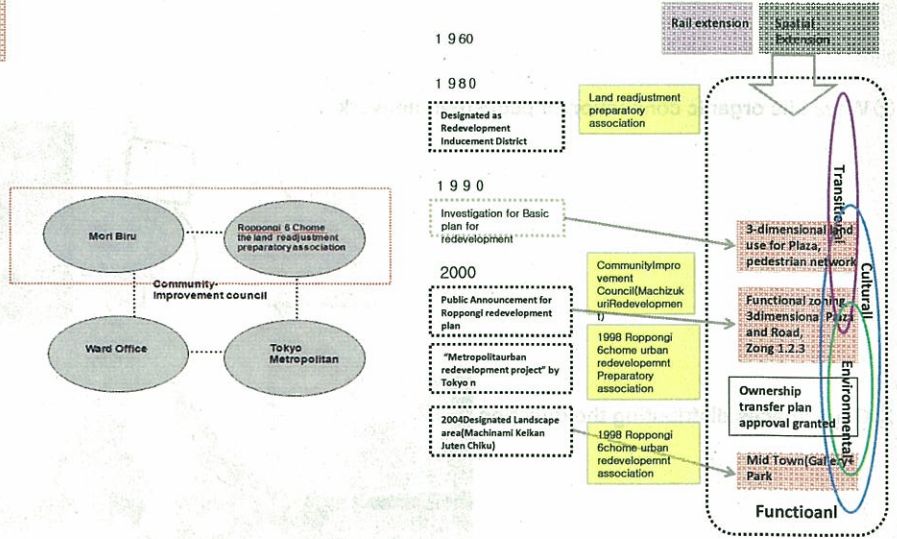
HAM, Jeehyun, Architectural Planning Lab. SNU

5 2 Cultural and Environmental Integration – Roppongi

- 1) Continuous Landscape
- 2) Linear Cultural promenade from Roppongi to Midtown
- 3) Street Furniture and Illumination



4 5 Roppongi Station



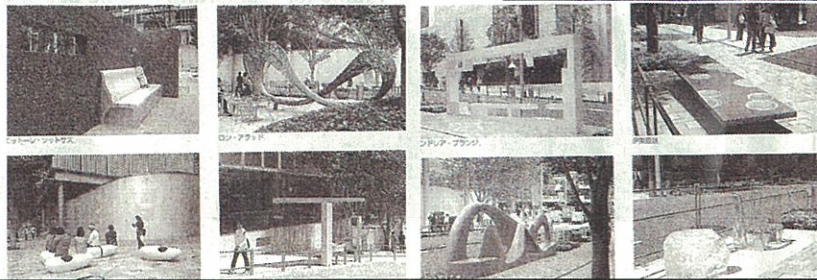
HAM, Jeehyun, Architectural Planning Lab, SNU

5 2 Cultural and Environmental Integration – Roppongi

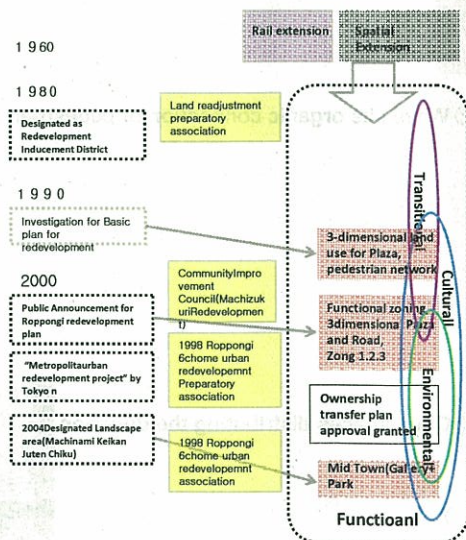
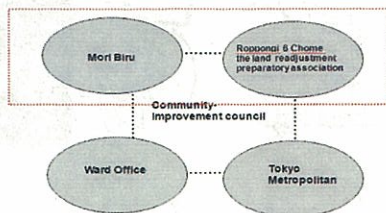
1) Continuous Landscape

2) Linear Cultural promenade from Roppongi to Midtown

3) Street Furniture and Illumination



4 5 Roppongi Station



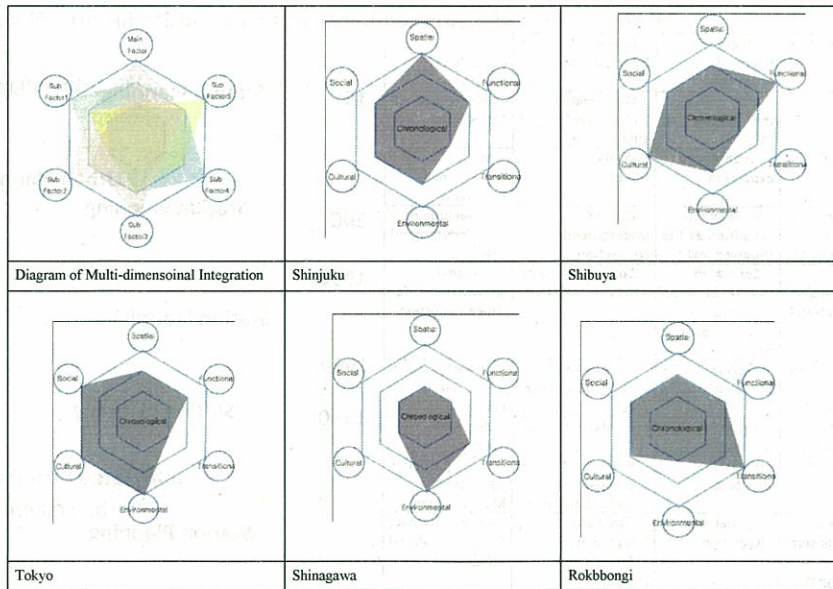
5 2 Maturity of Station and Evaluation factors

6.2.2 Evaluation factors

	Design strategies	Shinjuku	Shibuya	Tokyo	Shinagawa	Robbongi
Chronic	① Incremental Stages ② Long Term plan ③ Broad vision's Regional Plan	● ○ ○	○ ● ○	● ● ●	○ ○ ●	○ ○ ○
Spatial Integration	③ 3-dimensional Network ① Underground connection ② Diversification of open space ④ Options crossing railroads ⑤ Urban connection	● ○ ● ● ●	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Functional Integration	① Functional Zoning ② Versatile design for multi-function ③ Alleviate regulation for mixed use ④ Intermediate Space for buffering function	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○
Transit Station	① Redistribution of transit mobility ② Accessibility for urban connection ③ Street like Pedestrian Network	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○
Environmental	① Ecological Urban resource ② Proper scale and height control ③ Urban Landscape ④ Night landscape	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○
Cultural Integration	① Differentiation for identity ② Historical and Symbolic meaning ③ Aesthetics on station ④ Reciprocal design ⑤ Event(Illumination)	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Social Integration	① Inclusive social communication ② Flexible System for managing project ③ Citizen participation ④ Coordination of related Fields	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○

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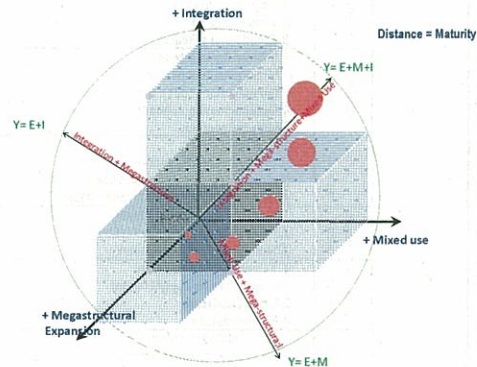
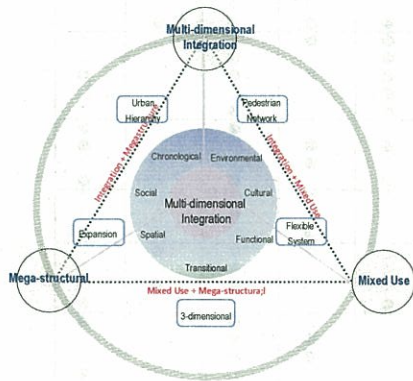
5 2 Transformation of Railway Station areas' restructuring



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5 2 **Maturity of Station and Evaluation factors**

6.2.1. Transformation of Maturity of Station

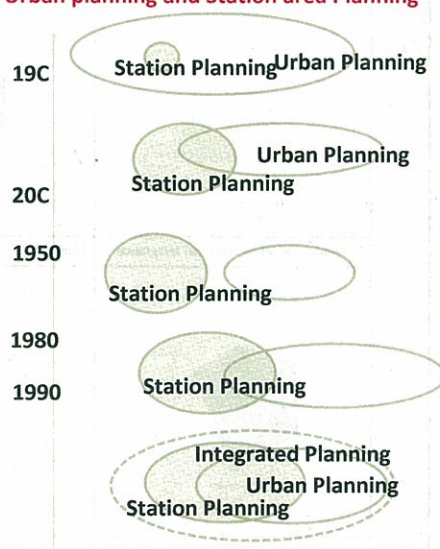


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5 3 **Comprehensive strategy for Multi-dimensional Integration**

Integrated Policy between Urban planning and Station area Planning

Network	Mega-structural expansion	Mixed Used Development	Multi-dimensional Integration
Period	after War ~ the middle of 1970	the middle of 1970~the middle of 1990s	the middle of 1990s~now
Expansion	Quantitative expansion	Qualitative expansion	Multi-dimensional Expansion
Underground Expansion	underground expansion as the shopping malls	Organic Underground connection	Development to Underground city
3-dimensional Network	Separated design between underground and ground space.	Connection with adjacent facilities	Optional Network for Urban Disjunction
Pedestrian Network	Passing shopping +	Pedestrian network to connect urban Disjunction	Street pedestrian like network
Urban Network	Station planning	Local Community	Regional Planning
Function	Passing+shopping	Passing shopping+ Various business	Passing+Shooping+Business+ Multi-function
Multi-dimensional Integration	Spatial Integration	Functional Integration Transitional Integration	Environmental, Social, Cultural Integration

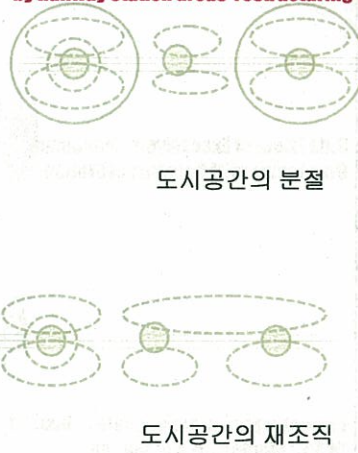


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5 3 Comprehensive strategy for Multi-dimensional Integration

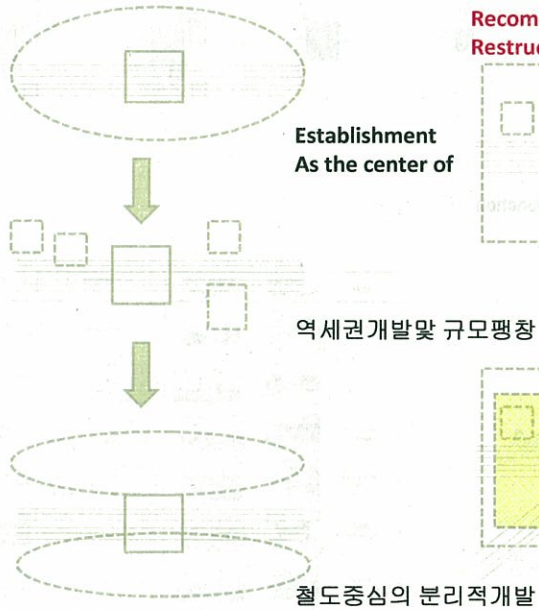


Recombination of Urban Context by Railway Station areas' restructuring

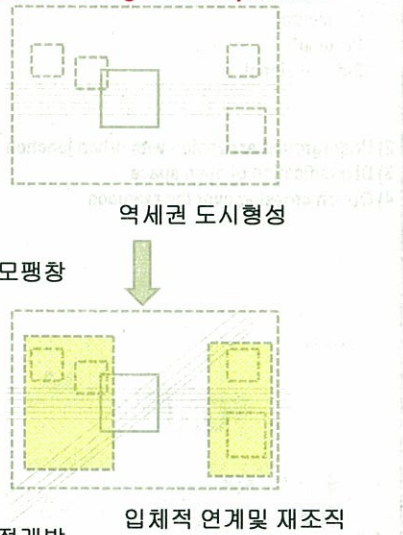


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5 3 Comprehensive strategy for Multi-dimensional Integration



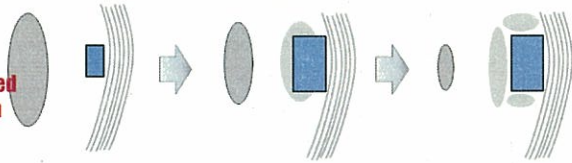
Recombination of Station area by Restructuring or Railway Station



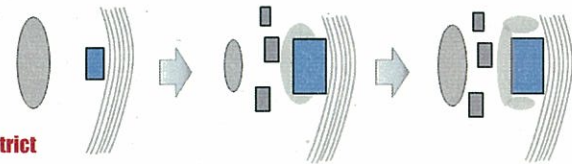
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Appropriately Decentralized concentration for urban balance

Side Effect of Excessively condensed Development of Complex of Station



Promoting the broader scale of District Of Surrounded area of Station

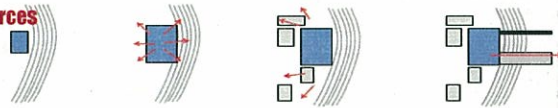


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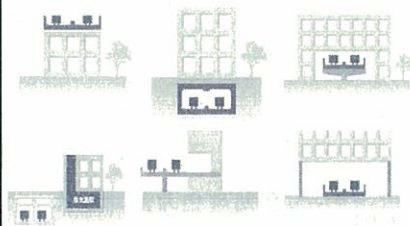
5 3 Comprehensive strategy for Multi-dimensional Integration

3-dimensional Network with urban resources

- 1) 3-dimensional Network
 - * Horizontal,
 - * Vertical
 - * 3-dimensional



- 2) Underground expansion with urban junction
- 3) Diversification of open space
- 4) Option crossing over the railroads



Type	Connection (horizontal)	Connection (Vertical)	Features	design factors
I Underground passage			*Underground passageway	passage, pocket square, fountain, parking lot
II Intermediate space for network			*Urban garden *Locable square for connection *Pocket garden *Underground square *Exit for heliport	sunken garden, arcade, plaza, Supermarket
III Underground shopping mall			*Underground parking lot *Linear shopping mall *Bench and meeting place(square)	Linear shopping mall, arcade, skyway, pedestrian deck
IV Underground city			*Super arena, *Multi-level pedestrian deck, skyway *Shopping mall of street *Connection upper and under layer	Grand square of underground, skyway, conveyer walk
V Block connector			*Organic connection with upper and under layer *Multi-deck(primary) to connect several block	intermediate space, greenery space, shopping mall, multiplexed pedestrian deck, street furniture, transportation square
VI Grand development			*As a one self satisfying city	greenery space, city garden, main trade road, transportation plaza, art/culture/recreation, cultural facilities, multi-functional space

6 3 Comprehensive Strategy for Multi-dimensional Integration

6.3.1 Relativity for Urban Connection

- ① Recognition about the Relativity between urban resources
- ② Spatial integration
- ③ Organic Network for Accessibility

6.3.2 Decentralized concentration for Urban Balance :

- ① Efficient and environmental distribution of various scale's Mass
- ② Scale for Adaptability

6.3.3 Differentiated Hierarchy for Urban Identity

- ① Consideration for related factors surrounding railway station areas
- ② Utilizing historical and environmental resources can promote the identity of station
- ③ Spatial Variation for Identical Hierarchy

6.3.4 Adaptable Flexibility for Urban changes

- ① Flexible design for multi-purpose
- ② Versatile structural settings can generate potential activities
- ③ Flexible process and inclusive co-operation between different fields

6.3.5 Incremental planning for Long term

- ① Incremental planning based on time

6.3.6 Inclusive participation for Urban co-operation

- ① Various Urban Actors-Inclusive participation for co-operation
- ② Specialized committee for local features

6.3.7 Differentiated Sub-Committees

- ① Identical Planning and Examination process
- ② specialized committees for supporting urban planning

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6 Conclusions

This phenomenon of multi-dimensional Integration in railway station area can be interpreted as the results of transformation in order to accommodate demands of a city responding to the times' situation and various relations of users and participants of this area. Restructuring of these multi-dimensional Integration in railway station means not only physical connective forms but the systemic methodology supporting potential value to maximize the utilization of urban resources.

Firstly, This research pays attention to the recent changed role model of railway stations which is turning from Large-scale and Multi-mixed development into Multi-dimensional Integration.

The Second, From the analysis of recent Japan's urban policies related to railway station areas, we could find out that the middle of 1990s was the transitionally changing period in the aspect of committee systems and government policy to involve the local planning. From this period, we could find the more public and broad vision's planning on railway station areas plan as multi-dimensional integration beyond just physical and functional expansion.

The Third, This article presents the five representative types of multi-dimensional integration that are Spatial, Functional, Chronological, Transitional, Environmental, Social and Cultural Integration by taking notice of that railway station areas are turning into the various dimension's integration system by the recombination between inherited local characteristics and the new demands for changed role.

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The Fourth, from this detail analysis of chapter 5 on 5 representative stations, we could find the more advanced design strategies and evaluation factors that can be useful to evaluate the maturity of station. They are indicating the complex integrations among 7 integration types and could be differentiated characteristics to find out the station's identity. With drawing the Multi-dimensional analysis diagram which consists of 7 integration types and shows the degree and relations of each factors which are involved each other, we could recognize the station's multi-dimensional integration's status in convenient way as one sight.

The Fifth, we could extract the six comprehensive design strategy for establishing the multi-dimensional integration like this: Inclusive Relativity for Urban Connection, Decentralized Concentration for Urban Balance, Differentiated Hierarchy for Urban Identity, Adaptable Flexibility for Urban Changes, Long Term plan- Incremental planning and Inclusive participation for co-operation.

To make the public transportation system not only alternative for transportation but also really competitive with private participations, we need to build up a system of total and multi dimensional integration of railway station areas which induce inclusive participation from related authorities and careful network planning of the infrastructures, urban resources and human communication. Also, co-operation between related fields such as architecture, urban, civil engineering are getting more important in designing railway station where share complicated facilities and spatial needs in common. From the early stage of planning, these co-operation beyond the specific field should be discussed in order to reduce the struggle being caused from individual and separated planning. Finally, this consideration about social co-operation will be useful for setting up the organically integrated station areas.

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