THE 4TH VIRTUAL DESIGN WORLD (UP Theme 2014"Sustainable Olympic Town in Tokyo Bay 2020" Area A Olympic Comprehensive Services Center Sustainable Laches And Reactivate Space

Introduction

- The S.T.A.R.S. (Sustainable Taches and Reactivate Space) is a planning concept of Tatsumi region which includes adding new city facilities and adjusting land use, to meet the need of 2020 Olympic Games in Tokyo, Japan. This plan is hoped to provide easy mobility and comfortable stay for visitors from around the world and to live up to the expectation of an advanced environmentally friendly city.
- The Sustainable Taches concept will ensure the serving of the needs in accommodation, entertainment, food/beverage supply and transportation for the visitors during the Olympics, which will also be used effectively by the local after the Olympic Games, avoiding unnecessary investment and excessive financial burden.
- The Reactivate Space concept tries to promise the development of the harbor region out of the image of a conventional industrial waterfront and offers an attractive and valuable city environment, promoting the local tourism development.
- The S.T.A.R.S. aims to achieve the region's long-term development and to balance the cost performance in both ecological and scenic sense in Tatsumi region, Tokyo.



Design Concept

- Currently Tatsumi region is an industrial district where employees work during the daytime and leave at night. It results the small population of flow rate in the region, and will have to confront the dramatic increase of the flow of visitors during 2020 Olympic Games. Thus city facilities dealing with that condition are needed by that time, and they should continually have effective functions after the Olympics.
- Light rail transit, as the primary means of regional transportation, appears not high (crowded) in rush hour, and very low in non-rush hours(fig.3). From the experience of 2008 Olympic Games in Beijing, China, the traffic volume of main subway is 150% higher than normal*, which is far lower than the excepted capacity rate of traffic volume in Tatsumi region during Olympics.
- | Also in Koto Ward Urban Planning Master Plan(江東区都市計画マスタープラン, fig.2), there is an additional LRT expected in future besides the current two high ways of transportation, which will surely further lower the pressure of individual railway.
- Therefore, we draw the conclusion that the Shin-Kiba Station itself does not need expansion. What needs to increase is the capacity of accommodating visitors in this region. If the station were extended, after the Olympics it would gradually return to normal state and then it would be bloated, which is a waste of investment.
- In the S.T.A.R.S., we avoids intense routes of motor vehicle traffic and choose several geographical spots to adjust Tatsumi region(fig.1), providing accommodation, entertainment, comprehensive service center and bicycle road network to achieve the specific core goals in 2020 as following:
- 1. Disperse the pressure of the traffic volume of visitors, increase the carrying capacity of local population -- add functional urban facilities and space
- 2. Advocate the eco-environment idea to the world -- add bicycle transportation network, utilization of solar energy, etc.

3. Promote the charm of harbor metropolis -- provide an attractive environment with complex urban features, promote regional smart development of tourism economic in Tokyo.

*: From Analysis on Beijing Subway Flows during the 29th Olympics, Journal of Transportation Systems Engineering and Infor-mation Technology, 2008.12,vol18,No.16.



Ochosen Area Railway Station Fgi.1 The S.T.A.R.S. sphere of influence

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Fig.2 Light Rail Transit Plan Koto Ward Urban Planning Master Plan

3.3 Rail Transit Investigation Jul,17th(Friday), Shin-Kiba Station e-way, from Shin-Kiba Station to vo direction.

The carriage is visually half full The carriage is visually almost full The carriage cannot contain current passangers (None)

e choose carriage No. 3-6 to record. s soons as one of the 3 carriages fits the per containing condition, we mark it.



Area D Comprehensive Entertainment Mall



- In order to avoid traffic chaos, An comprehensive entertainment mall is built outside Yumenoshiman(夢の島), not far from one of the expected stadiums, in the side of Tatsumi Seaside Park(辰巳の 森海浜公園), meeting the need of entertaining and shopping during Olympics. Both of the mall and the stadium share the vehicle parking lot together.
- The reason of choosing this location is that Tatsumi 1-chome is mainly a residential area(fig.4). The entertainment mall in that region can be fully used by the local after Olympics, which avoids unnecessary investment and excessive financial burden of the architecture.





Concept Sketch

- In the services of the Olympics the 2020 Olympic Games, an Olympic comprehensive Services Center is designed with a variety of functions in an integrated architecture. It locates the nearest to several stadiums for the convenience of transportation, which provides the main parking area of both motor vehicles and bicycles during the Olympics.
- After the period, the Services Center will continually be used as a memorial exhibition museum of 2020 Olympic Games.







Area E Bicycle Transportation Network & Hostel

- During the Olympic Games, We believe using bicycle is the most energy-saving and convenient methods for the very region. We set up several bicycle rent shops and bicycle parking lots (fig.5), create a new bicycle transportation network separated from the main vehicle transport network. (view more detail in VR Data.)
- Some of the plants in Area E will be transformed into hostels offering accommodation for visitors, or other serviceoriented facilities including bicycle rent shops. The selected accommodation buildings locates at the inside of the bay, at a distance from the Shin-Kiba Station, also away from the traffic noise of the main motorways. After the Olympics, they could be restore to their original functions.



Bicycle Rent Shops





- All the facilities and buildings are lower than 3 floors high, to maintain the urban landscape, also to avoid unnecessary investment and easy to restore to its previous status after the Olympics if necessary.
- Some individual smoking rooms are set to obey the anti-smoking policy in Japan uilding Height Under 3 Floors







Area B Waterfront Plaza



A additional Waterfront Plaza is created by the harbor for the tourists, in the company of Daigo Fukuryu Maru Exhibition Hall(第五福竜丸展示館) and Yumenoshima Tropical Greenhouse Dome(夢の島熱帯植物館), simultaneously adding a souvenir shop and fast food restaurant. It provides the parking area for bicycles. In this way the tourism spots in the reigon are combined together and strengthen the regional population capacity.





Area C Light Steel Structure Space (optiona

- By the side of two expected stadiums, there is a subsidiary functional construction, providing temporary staying space and services for guests. It is as a transitional spot from the two stadiums to open space, which links to two existing car parking lots. The construction could be built with light section
- steel structure, which is easy to remove and recycle after the Olympic Games





Eco-Design

• In order to reduce carbon dioxide emissions, the cost of electricity is reduced in the design. Low carbon and ecological materials are used such as LED lighting and solar energy equipment which set on the building roof



- Fig.6 Tokyo Natural Enviro
- Koto Ward is in low altitude. It is necessary to consider flood controlling (fig.6). Familar with the drainage system under Tokyo, small scale rainwater infiltration system can be set at the core of design areas. Also the use of new ma-



- terials in environmental design to lower maintenance cost. Versi Cell finds application in the construction of plaza







Flood Control Pipeline