Evolution of the City——Convenience and Comfort for Working People

Written by Yasushi Aoyama, Representative of Urban Institute, former Vice Governor of Tokyo Metropolitan Government

Introduction

The urban structure of Tokyo's city center has changed significantly in recent years. The original axis at the heart of Tokyo's city center stretches from Otemachi-Marunouchi-Yurakucho into Yaesu and all of Nihonbashi, which is steadily developing. Areas of development that stand out since moving into the 21st century make up a central axis of Akasaka-Roppongi, moving into Toranomon, Shinbashi, and existing Shiodome, and extending to Hamamatsucho-Takeshiba. A third axis, which has spatially increased a great deal in recent years, stretches from Tokyo's Tsukiji District to its coastal area. To accommodate the 2020 Olympics, this Tsukiji-Coastal axis is to be further developed, including improvements to its transportation system, which has become a new issue.

The important thing is that as the city evolves, the convenience and comfort of the working people will increase. From the era where buildings are built alone or rebuilt, by redeveloping on a block-by-block basis, towns with mutually functional continuity will be created, these urban centers will be formed. It becomes an attractive city.

The Greater Tokyo Area's structure is to be developed in line with the Metropolitan Inter-City Expressway, which is about 100 kilometers in diameter. Originally, the plan was to hold the Tokyo 2020 Olympics exclusively at facilities within Tokyo's city center and coastal area, but this was expanded to include numerous sports facilities throughout the Greater Tokyo Area and beyond. This change in plans will likely contribute to the development of the Greater Tokyo Area's Circular Megalopolis Structure.

In order for the corporate economy to develop by acquiring excellent talent, it is important for cities to realize a comfortable office environment with high convenience for people working there.

（1） Tokyo's urban structure

Regarding Tokyo's urban structure into the future, "The Long-Term Vision for Tokyo" was formulated in late 2014, which covers the "Circular Megalopolis Structure and Area Integration Structure concepts." These have been considered fundamental concepts for Tokyo's urban structure since the "Tokyo Plan" in 1995. This can be understood as advance notice to repair the "Circular Megalopolis Structure" concept.

The Circular Megalopolis Structure concept features improvements to three circular roadways - the Shuto Expressway's Central Circular Route, the Tokyo Gaikan Expressway (Outer Circle), and the Metropolitan Inter-City Expressway (Ken-O Expressway) to form its principal axis, acting in concert as a circular, Metropolitan Inter-City Expressway within a radius of approximately 100 kilometers from the metropolitan area.

The Shuto Expressway's Yamate Tunnel was completed in 2015, making it possible to travel from Shinjuku to Haneda Airport in about 20 minutes. This development is considered a significant change to Tokyo's urban structure. The multicore urban structure concept has been advancing since around 1980, and is nearly completed for building space volume and transport hub functionality in Shinjuku's sub-center. A pressing issue for many years now, traffic congestion on the Hamasaki Bridge (part of the Shuto Expressway's Inner Circular Route) has been eliminated. This, and the smoothing of traffic on Sotobori-dori Street thanks to completion of Circular Route 2 stretching from Shinbashi to Toranomon, will make 2015 go down in the history of roads in Tokyo as the year that saw major declines in traffic congestions in Tokyo's city centre

A significant point regarding the Circular Megalopolis Structure concept is that it does not follow the long and narrow Tokyo metropolitan administrative division spanning east to west. Instead, the concept focuses on

development of the Kanto Plain's "One Metropolis Four Prefectures" as an extended metropolitan area, with a particular focus on the Ken-O Expressway.

From east to west, primary cities on the Ken-O Expressway route include Narita, Tsukuba, Kuki-Shiraoka, Oume, Yokota, Hachioji, Sagamihara, and Ebina. These cities all contribute important functionality to the metropolitan area.

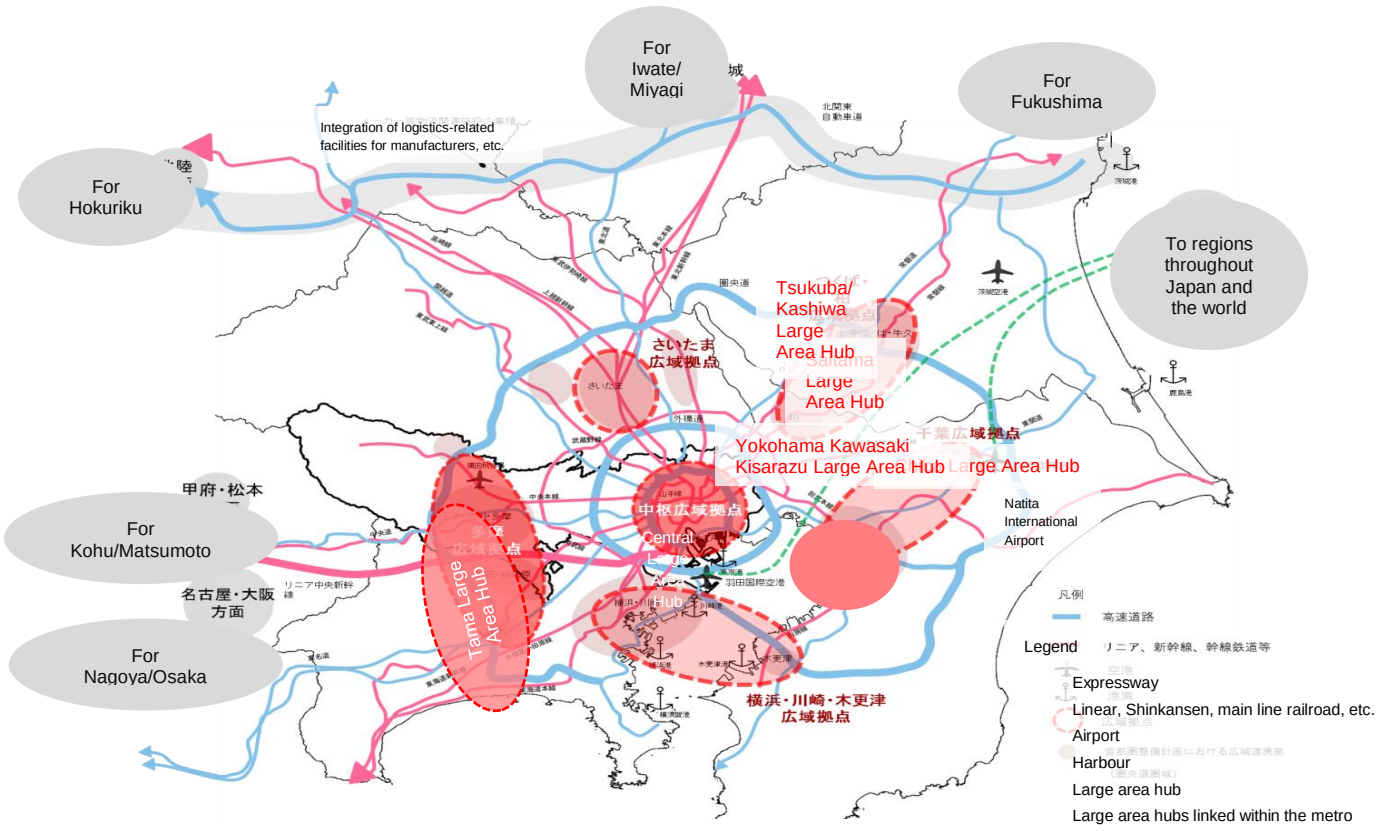


Figure 1: Tokyo metropolitan area's urban structure concepts: the Circular Megalopolis Structure and Area Integration Structure:from the Tokyo City Planning Council's September 2016 report "Tokyo's Urban Image for the 2040s and the Path to Achieving It"

According to Tokyo's "City View Tokyo 2013," the Tokyo metropolitan area (One Metropolis Three Prefectures, approximately 200 kilometers in diameter) surpasses the New York metropolitan area (approximately 300 kilometers in diameter) and London metropolitan area (approximately 160 kilometers in diameter) in terms of GDP.

Tokyo's strength when compared to London and New York lies in its ability to function remarkably well as an enormous, densely-packed urban area, featuring districts with a diverse range of distinctive features that mutually complement one another.

The Tokyo metropolitan area is able to function well due to its circular roads, 12 in total, continuously being planned and built. This includes eight circular roads, C1 to C8, within the Tokyo metro area, two Shuto Expressway circular roads which are the Inner Circular Route and Central Circular Route, and two roads that continue outside of the Tokyo metro area which are the Outer Circle (Tokyo Gaikan Expressway), and the Ken-O Expressway (Metropolitan Inter-City Expressway).

Tokyo's railway system features two circular lines within the metro area, which are the Yamanote Line and Oedo Line, but also includes two expansive circular lines called the Musashino Line and Nanbu Line (with a total length of approximately 130 kilometers). In recent years, the municipality along the Musashino Line has been known for its vibrancy.

Now that a summary of the Circular Megalopolis Structure has been provided above, let's get into the Area Integration Structure. Tokyo's long-term vision states: "in order to further increase our vitality as a city in spite of its decreasing population and aging society, we must establish a place where anyone from nearby regions can live comfortably and live active lifestyles." Goals factoring into this plan include regional characteristics, an assembly of functions for daily life support such as commerce, medicine, and welfare, networking between bases, barrier-free construction, and creation of a high-quality living environment.

The Circular Megalopolis Structure also adheres to this vision as an urban structure concept, but in this case, an expansion of distinctive qualities in each area of the city is viewed as more important.

When thinking of the concepts in this way, they could also be described as “Diverse Urban Communities within a Ring-Forming Megalopolis.” This is a simple and almost direct translation from Japanese. One can usually describe something using fewer words in Japanese than in English. In this case, however, it is somewhat simpler to describe the concepts in English. I wonder if it is correctly described.

The word “integration” as used in Tokyo’s long-term vision is a bit different than the term “compact city” being used by the Japanese government.

The meaning of “compact city” as put forth by the Japanese government is that, instead of living spread out from one another in an era of shrinking population, the population would be concentrated in a centralized, suburban city. An actual example of this can be found in Ehime Prefecture’s Matsuyama City. Its population has been increasing in recent years, in spite of the population decreasing in surrounding areas. This indicates that a lot of people are moving away from the surrounding areas to live in Matsuyama City. This is because the city offers a variety of important functions, such as employment, medicine, welfare, commerce, and higher education.

This sort of trend can be found on a national level. However, it might be a bit too early to refer to the Tokyo metro area, or Tokyo rather, as a compact city in Japan. If we could see 30 years into the future, it might be worthy of the title. It’s not a clear-cut issue.

Since transitioning into the 21st century, Japan, the U.S. and Europe have changed to a more comprehensive approach to urban planning. Terminology has changed from “urban planning” to “city creation” in Japan, from “urban planning” to “comprehensive planning” in the United States, and from “land-use planning” to “spatial planning” in Europe.

In all cases, planning that focuses on a comprehensive list of items such as welfare, education, housing, environment, and economy has replaced the traditional philosophy of city creation alone in urban planning. An emphasis on consensus building in the decision process is another common feature. This could be described as the evolution of urban planning in an economic growth society into urban planning for a mature society.

（2）Changing the structure of the city center’s axis

The changing structure of Tokyo’s city center has become more obvious in recent years. A “City View Tokyo” report, issued in March 2016 by the Tokyo Metropolitan Government Bureau of Urban Development, highlights the accumulated conditions of total floor space in each Tokyo district, comparing data from 1991 to that of 2011.

In this case, “total floor space” refers to all floor space used for various purposes combined into one statistic. This includes floor space for business, commerce, housing, life support (government office, education and culture, public welfare and medical care), and other items (such as industry, warehouse/transport, lodging, sports, industry promotion, and supply processing).

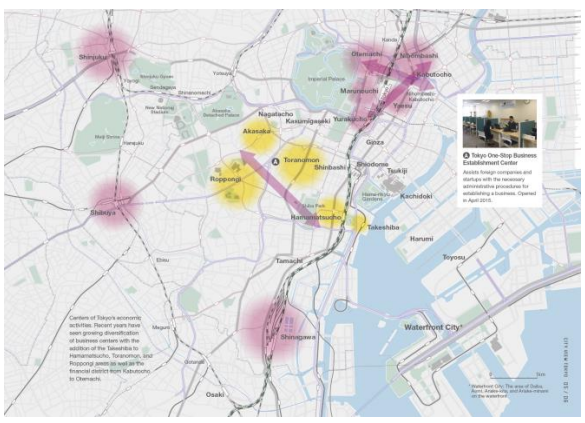


Figure 2　The City Center’s Axis

According to this data, the transition of floor space from 1991 to 2011 for the city center axis (Otemachi, Marunouchi, Yurakucho, Nihonbashi, Yaesu) is 17,055 m^2 ⇒ 21,481 m^2, for the Akasaka-Takeshiba axis (Akasaka, Roppongi, Toranomon, Hamamatsucho, Takeshiba) it is 8,524 m^2 ⇒ 11,212 m^2, for the Tsukiji-Seaside axis (Tsukiji, Harumi, Toyosu, Ariake, Seaside) it is 4,122 m^2 ⇒12,304 m^2, and for the Shinjuku sub-center it is 5,184 m^2 ⇒7,115 m^2.

When looking at floor space volume, we have the Tokyo city center's axis, the Akasaka-Takeshiba axis linked to the Tsukiji-Seaside axis, and Shinjuku as a sub-center. These areas are packed to the brim with projects for 2020. A few significant examples include Tokiwabashi (floor space 680 thousand m^2), Yaesu 1-Chome (240 thousand m^2), Yaesu 2-Chome (316 thousand m^2), Marunouchi 3-Chome Tokyo Chamber of Commerce and Industry/ Tokyo Kaikan/ Fuji Building (172 thousand m^2), Otemachi 1-Chome (361 thousand m^2), Toranomon Block A/ Block B (221 thousand m^2), Toranomon Mori Trust (210 thousand m^2), Hotel Okura (180 thousand m^2), Akasaka 1-Chome (175 thousand m^2), Takeshiba (171 thousand m^2), and the Hamamatsucho World Trade Center Building (369 thousand m^2).

These projects alone exceed a total floor space of 3 million m^2, which is roughly equivalent to the floor space of 20 Marunouchi Buildings. This series of projects is a continuation of the completion of the Marunouchi Building in 2002, and Roppongi Hills in 2003. Since then, there has been an unbroken continuation of projects in Tokyo's city center, which are forming a new city center axis, and rapidly enriching the city with new functions.

Some examples of project content include the Tokiwabashi project, which started out as redevelopment linked to a moat embankment at the Imperial Palace, but is linked to Nihonbashi through JR railway lines. The Yaesu 1-Chome and 2-Chome project was a gathering of small sites, to create a town that is fitting of the Tokyo Station Entrance, which is a base for the National Shinkansen Network. It also includes bus terminal installation to quickly improve functionality of Tokyo Station's Yaesu Entrance. The Marunouchi 3-Chome project is linked to an international forum, enriching Yurakucho's function for international conferences, and to improve the pedestrian network for all subway lines at Tokyo Station and near the Imperial Palace. The Otemachi1-Chome project improves continuity between the Palace Hotel, Hotoria, and surrounding buildings such as the Keidanren Building.

The Toranomon Block A/ Block B project completes the functionality of Toranomon Hills, and makes it more convenient to use public transport by adding a pedestrian network to the Ginza Line's Toranomon Station and the new Hibiya Line Station. The creation of a bus terminal encourages use of public transport services from Haneda Airport and the Seaside sub-center. Projects involving Toranomon Mori Trust, Hotel Okura, and Akasaka 1-Chome will quickly improve the convenience of a pedestrian network passing all the way through Akasaka and Toranomon. The image of this once-vacant lot will change significantly among pedestrians.

Traditionally, Nagatacho is known for politics, Kasumigaseki for government, Marunouchi for large corporate HQ buildings, Otemachi for finance, Nihonbashi for commerce, and Akasaka/ Roppongi for foreign capital. The image of Toranomon among the average person is not so concrete, but thanks to a great deal of redevelopment taking place throughout that area, it should soon form its own distinctive image.

These projects, combined with redevelopment projects along the C2 from Shinbashi through Shiodome to Toranomon, will form continuity with Takeshiba and Hamamatsucho (a pedestrian's deck stretching for quite a long distance will be built there). This in turn will form a new axis of cities in the city center made up of Akasaka, Toranomon, Shinbashi, Shiodome, Takeshiba, and Hamamatsucho. The scope of Tokyo's city center is certain to change in the near future. By referring to the Area Integration Structure as a "compact city" concept, perhaps the degree of integration within the city center will increase even more. For the last several years, the area from Shinagawa Station to Seaside has been in the spotlight, but will this phenomenon continue into the future? If so, the scope of Tokyo's metro area will expand to the south, which may be considered a step in the opposite direction of the Area Integration Structure concept.

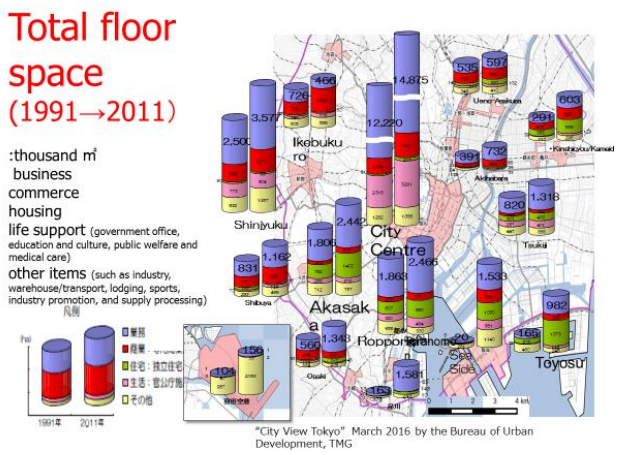


Figure 3　Total Floor Space:1991 ⇒ 2011

City center axis (Otemachi, Marunouchi, Yurakucho, Nihonbashi)
1991 ⇒ total 17,055→ 21,481 thousand ㎡ ⇒ 2011
housing 1,154⇒1,740 thousand ㎡
Akasaka-Takeshiba axis 8,524→ 11,212 thousand ㎡
housing 496⇒687 thousand ㎡
Tsukiji-Seaside axis 4,122 →12,304 thousand ㎡
housing 179⇒1,424 thousand ㎡
Shinjuku sub-center 5,184 →7,115 thousand ㎡
housing 989⇒1,277 thousand ㎡
Housing total of axis:2,818⇒5,128 thousand ㎡, 54.5%⇧

Figure 4　Total Floor Space of City Center Axis:1991 ⇒ 2011

When thinking about how important the "transport node" element is to Tokyo's multicore urban structure concept, South Tokyo has a promising future.

On the other hand, the fact that transport nodes within each sub-center are simply nodes, and have never grown (building floor space etc. did not significantly accumulate), overall accumulation may not amount to much in the near future.

Areas such as Kasumigaseki, Nagatacho, Marunouchi/ Otemachi, Akasaka/ Roppongi, and Nihonbashi have their own distinctive characteristics, with central management functions in Japanese politics, government, and economics, but the question remains whether or not the area south of Shinagawa Station can develop a function that rivals them in the near future. This is something worth thinking about carefully. When discussing urban structure, it is best not to be swayed by emotion.

The meaning of "central management function" in politics, government, and economy can be explained with Shibuya as an example. Although it is not in the city center, it has an overwhelming cultural drawing power, especially among the youth. When it comes to economic strength, we think of global cities such as Tokyo, New York, and London, but just as the cultural drawing power of Paris cannot be ignored, Shibuya can be considered a sub-center from a cultural perspective, although it is not literally in the sub-center or city center, and does not have a lot of building floor space.

Quantitative expansion has significance, in that Tokyo's city center can evolve as an activity base for global intellectual thought through continuous development. This will enrich the city center's functionality through overall development rather than a "here and there" approach. With a focus on new construction and renovation of sports and cultural facilities in Tokyo's city center and coastal area, the urban structure of those areas will change significantly, and be enriched for it.

（3）Qualitative enrichment and quantitative expansion for city center integration

If quantitative expansion of building floor space is carried too far, it will ruin the supply-demand balance, and could even interrupt city gentrification (qualitative enrichment) based on market principles. Tokyo's current city center policy has accelerated floor space expansion throughout the city center via floor area ratio deregulation. This is an attempt of qualitative enrichment of functionality for Tokyo's city center, but eventually it will have to be corrected.

How does housing factor in to the building floor space supply-demand balance? For a long time now, we've fought for a housing policy to expand the average living floor space per person. According to "special ward statistics" discussed at a special ward conference, floor space per person measured in Japanese "tatami" mats for 2013 was at 12 mats (about 3.3 m^2 per mat), which had somewhat expanded since the same statistics were measured in 2003 at only 10 mats per person.

However, when looking at the change in average area for condominium apartments according to the Ministry of Land, Infrastructure, Transport, and Tourism, during a period of decrease in land price and building costs, total area tended to rise. But since prices started rising, there has been a general decrease in average area. So then, even with newly-constructed condominium apartments, living floor space per person may not necessarily show an increase.

In recent years, the diversification of apartments in Tokyo has stood out. Ceilings are built higher, security is strengthened, gyms are installed, the building's superintendent offers more services, etc. for a boom in apartments offering luxuries on par with a hotel. Apartments for active seniors feature large public baths, restaurants, medical clinics, etc. Some even provide day services, home-visit nursing, short-term daily care, clinics, and other services. We have reached an era of apartments offering multiple in-home services including housing for the aged, group homes, restaurants, and food preparation services to meet a diverse range of needs.

Urban policy in both London and New York calls for an additional tens of thousands of homes every year, and even in Paris, housing construction plans are actively moving forward. But this is not the case in Tokyo, a city dealing with many qualitative issues, such as the implementation of handicap facilities, and renovation of dilapidated apartment housing.

A Floor Space Surplus Theory was proposed in 2003 during the City Revitalization Enactment. Although the theory was incorrect, we are always dealing directly with urban functionality upgrades and building floor space supply and demand problems. In 2003, total floor space with areas such as Roppongi Hills completed in the city center had exceeded 2 million m^2. However, the large buildings estimated for completion in 2016 (some with tentative names, and estimated floor space) include JR Shinjuku at 111 thousand m^2, Roppongi 3-Chome East at 202 thousand m^2, Sumifu Shinjuku Garden Tower at 180 thousand m^2, Otemachi Financial City Grand Cube at 194 thousand m^2, Tokyo Garden Terrace Kioicho at 227 thousand m^2, and Kyobashi Edograd at 114 thousand m^2. This totals about half the floor space of 2003.

Originally, Tokyo has made totally different towns from New York and London.

Unlike both cities, Tokyo has made a new subway line one after another, and the subway station has made efforts to connect directly with buildings and condominiums at the concourse.

When buildings redevelop from several to dozens of standings like the Otemachi, Marunouchi, Yurakucho districts, Roppongi, Nihonbashi, we have made it to cooperate with each other's underground shopping areas and decks on the second floor level.

This is what we call development of block units. Instead of thinking about functions with buildings alone, several buildings have been made to complement each other, such as office, apartment, commerce, food and drink, entertainment, sports, culture and art.

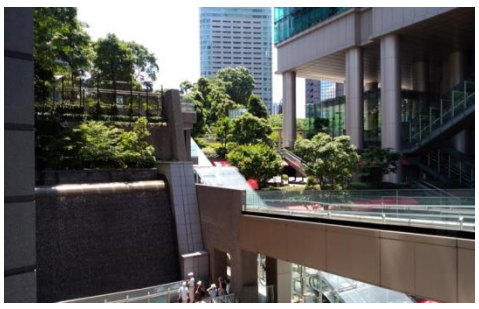
If this is the first phase, the current Tokyo city center has entered the second phase. For example, in Otemachi, Marunouchi and Yurakucho districts, from Otemachi to Higashi Ginza, it became a continuous town so that we can walk without taking an umbrella even on rainy days.

Development of block units by different developers has come to be continuous with each other.

We call this a collaboration of functions, or formation of urban axis.

Picture1　Formation of Urban Axis——Otemachi

Picture2　Formation of Urban Axis—-Marunouchi



Picture3　Formation of Urban Axis—Roppongi

Also, the floor area ratio of hotel sites will increase up to 1.5 times the current floor area ratio for a 300% maximum upper limit. Hotels in the near future will experience a fixed increase. For the first time in post-war Japan, “zero growth in residential land” was declared in 2015 for national land planning, making a change in land usage policies quite important. If the vacant lots to soon appear in Tokyo’s city center were once building floor space, new building floor space for re-occupancy by tenants and occupants would be accepted, but for vacant land that was once used for public facilities, various types of office buildings and apartments will not be accepted for construction there. Instead, I believe a city policy regarding these lots will be demanded so that usage is limited to facilities specializing in sports, fashion, art, music, industrial events, and various forms of entertainment

（4）Railway network

Next in line is a railway plan. In April 2016, the government’s Council of Transport Policy released a draft report entitled “The Future State of the City Railway in Tokyo’s Metropolitan Area” with a completion goal by the year 2030. More specifically, the following eight railway lines were selected for a “Railway Network Project to Strengthen International Competitiveness.”

<1> Construct a line directly connected to the city center (Oshiage <-> New Tokyo <-> Sengakuji)

<2> Create mutual line operation for Keiyo Line and Rinkai Line with the JR Haneda Airport Line (Tamachi/Oimachi/Tokyo Teleport Station <-> Tokyo Freight Terminal <-> Haneda Airport, Shinkiba)

<3> Construct the Kama-Kama Line (Yaguchinowatashi <-> Kamata <-> Keikyu Kamata <-> Otorii)

<4> Construct a Keikyu Airport Line, lead track for Haneda Airport Domestic Terminal Station

<5> Extend the Tsukuba Express (Akihabara <-> Tokyo [New Tokyo])

<6> Construct a Seaside Subway, perform uniform maintenance on the Tsukuba Express extension (coastal area <-> Ginza <-> Tokyo)

<7> Extend the Yurakucho Line (Toyosu <-> Sumiyoshi)

<8> Implement a Shinagawa Subway plan (Shirokane-takanawa <-> Shinagawa)

The Council has not specified any order of priority for these eight lines. A decision must be made as soon as possible, with Tokyo at the forefront, for priority ranking and a primary contractor. In particular, the three Haneda Airport lines require attention.

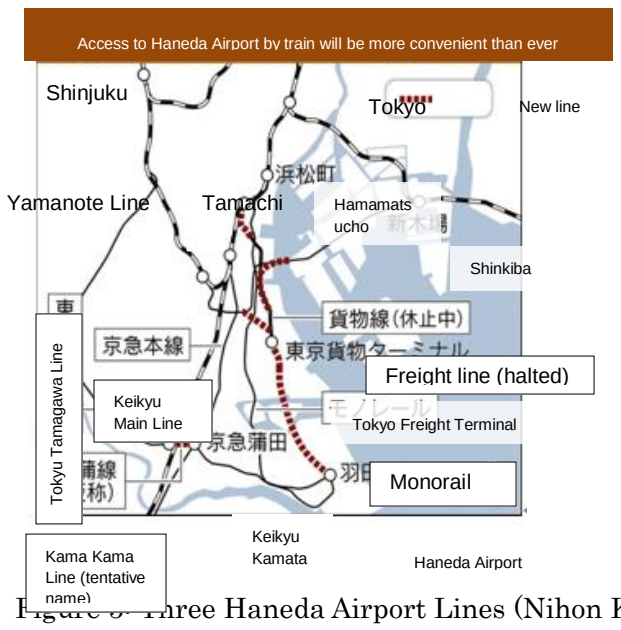


Figure 3: Three Haneda Airport Lines (Nihon Keizai Shimbun)

Of course, Subway Line 8 will be an important addition to Yotsume-dori Street, tied to each part of East Tokyo in a circular pattern, instead of moving directly from East Tokyo to the city center in a radial direction. The three East Japan Railway airport lines running from Haneda Airport to Shinjuku, Seaside, Chiba, and Tokyo Station are also important in terms of Tokyo's urban structure.

In addition, a TX subway line running through the coastal area will become a major topic of discussion as well, because it runs from Akihabara to Sotobori-dori Street, goes through the front of Tokyo Station, then runs from Kajibashi-Ginza to Tsukiji-Harumi-Toyosu-Ariake-Seaside and all the way through the Seaside sub-center.

In closing

In this paper, I have organized the main points regarding the current state of preparations for the Tokyo 2020 Olympics, only two years away. The central focus included urban structure issues such as facility construction and transportation, as well as Tokyo's future image as a post-Olympic city, but there are many other issues as well. In December 2015, the Tokyo government announced "Towards 2020 – Building the Legacy" but its content will only begin to fully take shape in the coming days.

Expenses for holding the Olympic Games at Tokyo's National Stadium initially totaled 734 billion yen with facility expenses included. Tokyo had 387 billion yen in funds available, and the Japanese Olympic Committee estimated approximately 400 billion yen in revenue from sponsors.

However, Tokyo has already determined that 224.1 billion yen will be required to build new sports facilities and renovate existing facilities. The city will be responsible for partial costs to build the new National Stadium at roughly 400 billion yen. Maintenance costs for temporary sports facilities were initially estimated at 72.3 billion yen during Tokyo's bid to host the Olympics, but due to a steep rise in construction costs in recent years, some estimates claim roughly 300 billion yen will be needed, with a possible share of costs with the Olympic Committee to be estimated in the near future. With a new governor elected, required expenses must be clarified immediately to

gain understanding from the citizens of Tokyo.

As of April 2016, the Tokyo Organising Committee of the Olympic and Paralympic Game secretariat organization is headed by the Secretary-General (from the Ministry of Finance), with three Vice-Secretary-Generals (from MEXT, Tokyo Metropolitan, and the private sector), as well as a Chief Security Officer (from the National Police Agency), Sports Director (professional athlete), and a spokesperson (from the Ministry of Foreign Affairs) among many others, for a temporary staff totaling 694 people and 11 divisions, from the national, municipal, and private sectors, as well as sports organizations.

Tokyo has established a reputation as the world's safest large city. But with the 2020 Olympic and Paralympic Games coming to town, people from all over the world will gather there. Certain people attending will be targets of terrorism, and terrorists will have an opportunity to blend in with tourists to attack by stealth. Our ability to prevent terror, and to maintain our reputation as the world's safest large city, is now at stake. An increase in expenses is projected for this area as well. The Tokyo 2020 Olympics opening ceremony is to be held on July 24, with the women's marathon on August 2, and the men's marathon and closing ceremony on August 9, which is the hottest time of year. We must utilize humanity's intellect in concert with modern science to counter such hot weather for athletes and spectators alike.

For international air travel, Tokyo uses Narita and Haneda airports. In July 2016, the national government and local municipalities agreed to change Haneda Airport's departure and arrival routes to fly over the city center. This will change Haneda's current annual departure/arrival frame of roughly 450 thousand times to 490 thousand times. The increase will primarily be due to usage by international lines, but along with the projected increase in foreign travelers, and high demand for flights to Haneda Airport from domestic airports, discussions may be in the works to increase the number of runways, which currently stands at four. With the Shuto Expressway's Yamate Tunnel completed in 2015, people are able to travel between the Shinjuku sub-center and Haneda Airport by bus or taxi in 25 to 30 minutes. This increased convenience will lead to further improvements in functionality for Haneda Airport.

There are many issues to deal with in limited time, but for the next four years a great deal of discussion and preparation will take place regarding society from the Olympics and beyond in Tokyo, and Japan in general. This is the key to holding a successful Tokyo 2020 Olympic Games.