TRANSPORTATION OF YOKOHAMA
- PRESENT STATUS AND POLICIES OF THE MUNICIPALITY -

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1. INTRODUCTION

The history of Yokohama began with the opening of the port as a window to overseas trade, when the Tokugawa Shogunate which had lasted over 300 years fell and the policy of national isolation was abolished. During the 130 years since then, this small fishing village has become Japan's second largest city, with a population of about 3.15 million. It grew into a large city with a port of international trade, industry, and housing, close to the capital city of Tokyo.

Yokohama City faces various traffic problems such as congestion in the city center and over-crowding on trains during the rush hours, and these problems are hindering the vital functions of citizens and companies alike.

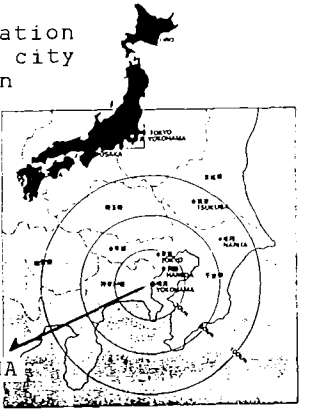


Fig. 1-1 Location of Yokohama city in Japan

When we look at the entire Tokyo urban region, then serious problems such as traffic congestion, and insufficient housing and energy supply are occurring due to an over-concentration of the central functions in Tokyo city center. The functions must be dispersed to surrounding core cities in order to solve this problem. Yokohama City also is engaged in many urban development projects to help accommodate the various functions such as business, commerce, and culture, as well as to take over part of Tokyo's role as an international and cultural city, and a core business city.

In this paper, I would like to propose an appropriate transportation plan to support the development of Yokohama including a review of previous policies.

2. HISTORY OF YOKOHAMA'S FORMATION AS A CITY

(1) The Port Opens - From Fishing Village to Port Town

First, I would like to describe the steps in the history of Yokohama as a city, its geographical and spatial relationship with

Tokyo, and the existence of two city centers in central Yokohama.

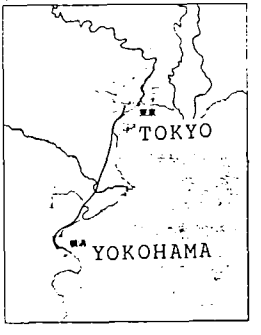
The history of Yokohama as a city began 135 years ago in 1853 when Commodore Perry's fleet sailed from America. The Tokugawa Shogunate that ruled Japan at the time received them in Yokohama. Following that, a friendship and trade treaty with America was signed in 1858 and in line with this treaty the five ports were opened putting an end to Japan's 200 years of seclusion. Yokohama was opened as the most important of these five ports.

Because Yokohama was selected as the location for the port, Yokohama's destiny was to become the city to complement Tokyo, the capital of Japan. That is to say, in a social climate of reverence for the Emperor and expelling the barbarians, it was necessary to keep the foreign settlement at a certain distance from the capital of Edo. However, if the port were too far from the capital then it would be inconvenient. It was because Yokohama was located neither too far nor too near Edo that it was selected. The distance of approximately 30 kilometers from the center of Yokohama to the center of Tokyo means that Yokohama is not completely absorbed into Tokyo, but nor can it stand totally independent of Tokyo. So Yokohama's historical role has been to complement Tokyo. Its evolution from the original port town, to industrial city, and since World War II as a dormitory town for Tokyo were all destined by its geographical relation to Tokyo.

The location selected for the port also played a role in determining the structure of Yokohama's city center. The new port was actually located as far away as 4 km from the Tokaido Highway which was the main trunk road in Japan those days.

Foreign powers including America actually asked to open Kanagawa which was a post town on the Tokaido Highway as a port. But the Shogunate which could not take responsibility for security made an informal decision to open the port at Yokohama Village, a small village with about a hundred houses located about 4 km off the highway, and then carried out the reclamation, insisting that it was part of Kanagawa.

Fig. 2-1 Relation between Tokyo & Yokohama (1880)



Four years later at Namamugi which was slightly closer to Tokyo from Kanagawa on the Tokaido Highway, three Englishmen who rode into the procession of Hisamitsu Shimazu the Satsuma retainer, were attacked, and one was killed, showing that the worries of the Shogunate were not entirely unfounded.

In any case, the new port was away from the Tokaido Highway which is the reason why the center of Yokohama is divided into two areas: Kannai region centered around the port in those days, and the area around Yokohama station which was developed later. In order to improve the potential of Yokohama city center, Minato

Mirai 21 project was based on the premise that it is necessary to link these two areas.

These were the historical factors that shaped Yokohama's destiny from the very outset as a town from the point of view of the relationship between Tokyo and Yokohama, and the structure of Yokohama's city center.

When the new Meiji government adopted a policy of actively introducing western science and technology, Yokohama which was a major trading port with Tokyo at its back, as well as a window to overseas, became the center of "civilization and enlightenment".

It was against this background that Japan's first railway was opened between Tokyo (present Shinbashi Station) and Yokohama (present Sakuragicho Station) in 1872, just 5 years after the establishment of the new government. From then, railways were actively constructed as national policy, partly to meet military needs. Yokohama Station however gradually shifted towards Tokyo due to geographical constraints and the need to plan a route that offered rapid access towards Kansai and Kyushu. As a result, Kannai area was left away from the arterial line of the railways.

The Yokohama Line, a national railway, and several private railways were successively built in the 1900's. However, none of them was constructed to go through the Kannai area, but took a route that either goes through, or ends at the present Yokohama Station. To this day, there is no high-speed railway directly linking directly the Kannai area with downtown Tokyo.

(2) Prosperity and Chaos
- Development as an Industrial / Port City

From around 1889 when Yokohama was municipalized as a city, the formation of capitalism began in Japan and the need for marine transport increased. Expansion and improvements to Yokohama Port which was the largest trading port in Japan those days had begun.

At the same time full-scale improvements to the railway network in Yokohama were initiated, spurred by the increase in inland cargo transport and the increased interest in the railway business.

In the 1900's, the introduction of industries and increase in the population had begun but there was hardly any improvement in the urban infrastructure due to reasons like insufficient funds.

In 1923, the Tokyo region suffered a severe earthquake, and the city center of Yokohama was also almost totally destroyed by this Great Earthquake. It was a good opportunity for Yokohama to improve its urban infrastructure, but because it was felt the reconstruction of Tokyo was a higher priority, the national budget for the restoration of Yokohama was drastically cut back. As a result the restoration plan had to be considerably reduced from its original scale, and improvements to trunk roads in the city center were restricted to only on a small part.

With the start of World War II, industry in Yokohama developed rapidly as the need for war supplies began. Urban planning, however, was held up due to the wartime structure, and the war came to an end in 1945.

Yokohama city center was also almost totally destroyed during World War II, and although this was the second opportunity after the Great Earthquake, once again the reconstruction of the city was not possible because a considerable part of Yokohama city center had to be appropriated by the allied forces to avoid the sequestration of Tokyo.

The companies which had accumulated in the city center moved to Tokyo as a result of sequestration and Yokohama lost its function as a metropolis that it had nurtured over the years.

(3) High Economic Growth and Population Increase - Absorption into Tokyo Zone

Yokohama which twice lost opportunities, invested principally into industrial foundation such as developing industrial areas and improving harbor facilities as a central target during the postwar economic recovery. Although the rapid population increase had started again as the economy recovered quickly, improvements to the living environment were deferred.

Then during the high economic growth period which started in the 1960's, housing development was promoted at a considerable pace centered around the suburbs as a dormitory town of Tokyo, and the highest priority was placed on providing facilities for living such as schools and waterworks, which did not leave many financial resources for road improvement.

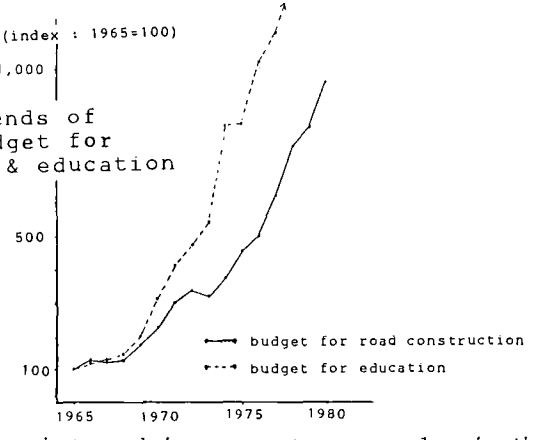


Fig. 2-2 Trends of Yokohama's budget for road construction & education

One of the reasons that road improvement was so slow is that the city had to adopt a policy of restricting the population, and land readjustment project which is an effective measure for road improvement could not be actively promoted because it would encourage population growth. While the city was adopting this negative policy, a large-scale urban development project incorporating the construction of a new railway was carried out by a private railway company centered on the northern area of Yokohama. This led to the creation of new residential areas and their populations are now as high as about two hundred thousand as some of the most popular and tvpical luxury residential areas.

Their development continues today and the railway has become one of the most crowded in Japan, bringing favorable results to the railway business. This large-scale development project combined with the construction of a railway carried out by a private company seems to be one of the most successful examples of its kind in the world.

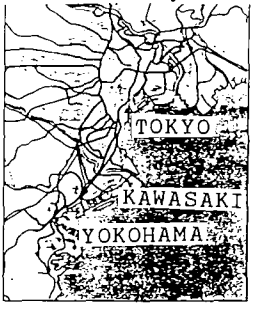
However, it is somewhat ironic that most of the people who moved to these residential areas worked in Tokyo, so that the suburban area of Yokohama was absorbed into Tokyo as its dormitory town and hinterland. The urban structure of Yokohama which had remained independent since it was opened as a port, underwent a considerable change.

With other railways there was little construction of new lines, but the addition of extra cars to trains or an increase in tracks were carried out in response to the overall increase in commuters from Yokohama to Tokyo. As a result, a railway network with excellent transportation capacity has been formed between Tokyo and Yokohama.

From the aspect of the highway net also, expressways have been constructed between Tokyo and Yokohama since it was important to link the two cities. The Tomei Expressway which is a national trunk road also opened and an interchange was constructed at the northern end of Yokohama. However, the road construction has been mainly carried out by the central government and the road network in Yokohama is still backward compared with other large cities.

With regards to the port from which Yokohama originated, the role of passenger ships came to an end with the development of rapid air and land transport systems, and the majority of cargo shipping has moved to bulk cargo centered on containers so that cargo handling facilities for conventional small cargo has gradually become obsolete. New facilities for containerization have moved to the entrance or outside the port, and Yokohama still retains its position as Japan's top port of exit. Against this background, Yokohama city center has undergone a change in character from port-function oriented to business-function oriented. The site of Minato Mirai 21 which is currently in progress utilizes the land which used to house obsolete port facilities together with the site vacated by relocation of a factory.

Fig. 2-3 Current railway connection with Tokyo



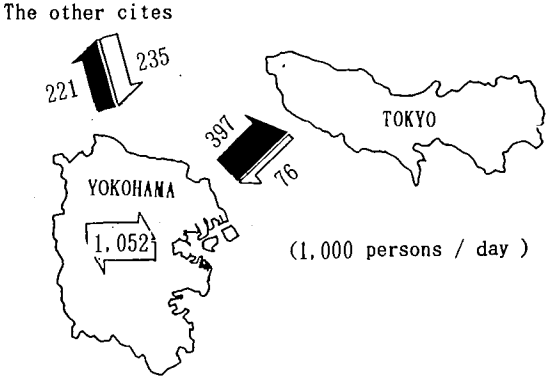
3. PRESENT STATUS OF TRANSPORT IN YOKOHAMA

(1) Present Status of City Activities

The number of people engaged in work in Yokohama is

increasing year by year, while the population moving into Yokohama surpasses that rate, and the increase in the nighttime population is at a very high level even compared with other parts of the nation. Therefore, the ratio of population daytime and nighttime (daytime population : nighttime population) is tending to decrease every year. In 1985 it fell below 90%, and as many as 35% of those gainfully occupied living in Yokohama, work in Tokyo.

Fig. 3-1 Flow of commuters & students (1985)



Compared with other large cities such as Osaka and Nagoya which are the third and fourth largest cities in Japan, they have a higher concentration of business establishments. The concentration of business establishments in Yokohama is not sufficient for a city with the second highest nighttime population of Japan, but is more appropriate to one with a population of 1 million. Yokohama is too close to Tokyo to require branches or dispatch offices there, so that business operations in the city have been gradually cut back in the course to time.

Table. 3-1 Comparison between large cities in Japan (1986)

	population (× 1,000)	no. of offices (× 1,000)	no. of workers (× 1,000)	amount of retail sale (× 10^9 yen/year)
YOKOHAMA	3,057	116	1,044	8,023
TOKYO	8,374	657	6,307	164,894
OSAKA	2,643	274	2,364	64,278
NAGOYA	2,134	151	1,270	35,428
KOBE	1,424	81	641	6,532

The city area of Yokohama is relatively large at approximately 430 km^2, and the land use is rather sharply divided: the city center consists of an area with the functions of commerce, business, and tourism, the suburbs are residential, and the port district is industrial.

The citizens living in the suburban residential areas commute to Tokyo on weekdays, and their life activities on days off are also oriented towards Tokyo. Although they live in Yokohama, in

many cases they do major shopping in the commercial areas of Tokyo, and are not particularly attracted to the city center of Yokohama. It is damaging to the city's commercial activities to have this kind of psychological division in the city area.

It is rather exceptional in the world for a metropolis with a population of 3 million to seek work in a neighboring city and for it to be included as an urban region of that city.

(2) Present Status in Division in the Means of Transport

Before introducing the present status in transportation in Yokohama, I would like to mention the use of each means of transportation as preliminary information.

First, for daily commuting to offices and schools, most people use public transportation such as railways and buses. To achieve this, there are ample railways connecting with Tokyo city centers and they have a large transit capacity to meet transportation needs at peak times in the morning. Buses are not used as a direct means of commuting to offices, but a high percentage are used as a means of access from the residential areas to the nearest railway station. Most are for short-distance journeys, and the bus routes are centered around railway stations.

Table. 3-2 Modal choice of commuters (Yokohama:1980)

railway	bus	owned car	walk or cycle	others	
45.1	19.1	16.6	16.1	3.1	%

Cars were once a a luxury item for the general public. They were hardly ever used on a daily basis, but only by companies for business activities.

However, as is well-known, the recent development of the domestic automotive industry and improvements in income levels have led to the overwhelming prevalence of cars, and today there is one car for every two Japanese.

The number of cars has increased in absolute terms, and the improvement in roads has not caught up with this, so that chronic traffic jams have become a problem in many places.

As a result of the permeation of cars to general households, the automobile accounts for a high rate of everyday transportation such as for shopping and leisure. Any policy in future transportation planning must address this use of cars.

The important role that railways play in commuting is unlikely to decrease in the future either, whereas the bus which is another means of public transport has lost a considerable amount of users because it cannot operate on schedule due to traffic congestion on the roads and the prevalence of two-wheel vehicles. This drop in users causes greater financial difficulties for the bus companies thus perpetuating the vicious circle in which they cut back on the number of buses, in turn resulting in less users.

New lines for the world-famous shinkansen bullet train are still being constructed even today, and the service is well patronized as a means of transportation for journeys of mainly 300

to 500 km, since it is faster than air travel that requires access time to the airport.

Improvements in the airline network and relative reductions in air fares in recent years have meant that domestic long-distance transportation centers on air travel. The considerable increase in overseas exchange, the internationalization of the Japanese economy and the strong yen over these few years, has placed greater emphasis on access transportation to airports.

(3) Problems in Transportation

Next, I would like to summarize the current problems in transportation in Yokohama.

1) Roads - insufficiency in absolute terms -

The main feature of the present road situation in Yokohama is that the overall length of the roads is relatively long, but most of them are narrow, and road-widening is long overdue.

Table. 3-3 Comparison of total road length between large cities in Japan

	total road length (km)	*occupancy of road area (%)
YOKOHAMA	8,465	10.7
TOKYO	11,307	14.7
OSAKA	3,872	17.6
NAGOYA	5,994	15.1

*occupancy of road area = total road area / total city area

As a result, roads that can in no way be described as wide must act as trunk roads and carry traffic beyond their capacity causing traffic congestion. Apart from the historical reasons already given, road improvements have not been promoted because of the difficulty in carrying out efficient road construction due to its hilly topography. The problem of delays in road improvement exists throughout Yokohama.

Yokohama is located on an axis that geographically links Tokyo and the cities along the Tokaido, so that through traffic flows into the trunk roads in the city causing traffic jams.

Furthermore, because the Keihin Industrial Area and a freight terminal handling containers sandwich the city center, heavy vehicles running right through the business area of Yokohama is an everyday occurrence that greatly hinders business traffic.

Because the Tomei Expressway, a national trunk road, runs through the outer boundaries of the city, some distance is involved in accessing the city center from there, and that road also cannot function adequately as a connection road due to traffic jams around the interchange.

The insufficiency of roads linking the city centers of Yokohama and Tokyo hampers business activities.

2) Railways - inconvenient location of railways -

As described earlier, efforts have gone into improving the transportation capacity of railways to Tokyo, but the concentration of business functions in Tokyo has out-paced them, and rush-hour overcrowding is at its limit on some railways.

Topographical constraints mean that the railway network does not cover the city adequately, and there are areas inconvenient to traffic scattered throughout the city where the nearest station is far away or has poor access.

The municipal subway has been making efforts to develop new lines in areas not served by railways, but because it is slow and adopts a different system it is unable to share tracks in the competitive areas of the city centers where passengers are. Compared to other cities in Japan, the subway is under-utilized.

Many railway lines consist of radial routes centering on Yokohama Station, so that overcrowding there during rush hours due to the concentration of transfer passengers is becoming a serious problem. It is also an inefficient network because the lack of circular routes makes it impossible to move around the city without going through Yokohama Station once.

3) Buses - low-key public transportation -

Due to congestion on the roads to the nearest station during commuting hours, buses cannot operate on schedule which inconveniences citizens who do not have minute to spare during this busy daily commuting time.

Furthermore, many commuters are adopting two-wheel vehicles in preference to buses. This causes financial difficulties to bus operators who cut back on non-profitable routes, leading in turn to a further decrease in users, etc. The city has to improve parking facilities in order to get rid of two-wheel vehicles left in front of stations, so the city is caught between encouraging buses which are public transportation, or bicycles which are private transportation.

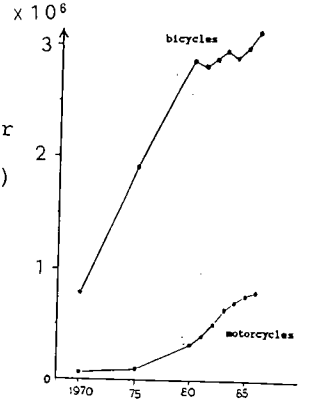


Fig. 3-2 Trends of the number of bicycles & motercycles (in the Kanagawa prefecture)

Table. 3-4 Share of public transportaion in Yokohama

	railway	bus	taxi	total
1975	2,109	1,050	201	3,359
	(62.7)	(31.3)	(6.0)	(100.0)
1980	2,444	907	201	3,554
	(68.8)	(25.6)	(5.6)	(100.0)
1985	2,668	899	196	3,762
	(70.9)	(23.9)	(5.2)	(100.0)

x 1,000 persons / day ; (share : %)

Since buses are a means of transportation that uses roads, buses account for a large part of the hardware problem concerning roads. Apart from that, problems from the software aspect such as service also enter the picture.

Although buses are a means of transportation used like station peripherals, there is no fare discount for transfer even among the municipal transportation systems, such as bus to subway, or bus to bus. This also results in a decrease in the number of users.

Though possibly be inconceivable in other countries, the last bus in Japan ends around 11:00 p.m. In the morning there is no problem, but if you return a little later at night, the operating hours are already over. This drives away season-ticket holders who are important regular customers, and is a major cause of the decrease in bus use.

Just recently, the bus operators seem to have realized this fact, and late-night buses connecting the last train have begun to be operated in various areas. Yokohama is the area where this late-night operation is being carried out most actively in the whole of Japan, which is most welcome.

4) Access to airports - distant airports -

The distance to Haneda, the airport for domestic flights, from the city center of Yokohama is about 25 kilometers, which is not too far. However, the access situation is poor because there is no direct rail link connecting it with Yokohama and it is not possible to estimate the times of the limousine bus due to road congestion on the expressway.

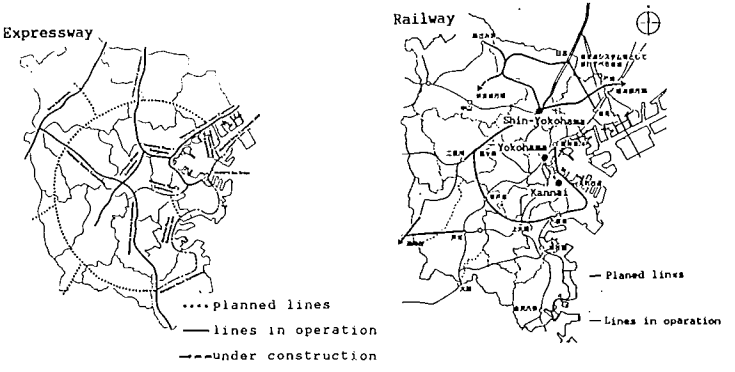
The distance to Narita Airport for international flights is about 90 kilometers, which is very far away for an international city. It also necessitates a transfer to reach Narita by rail. The road trip to Narita is congested because it involves going through Tokyo, so that travelers have the inconvenience of having to allow for this excess time when they take the limousine bus.

4. PROPOSALS FOR TRANSPORTATION PLANS FOR YOKOHAMA - FOR THE 2ND OPENING OF THE PORT CITY -

Yokohama City has drawn up a master plan for all of the municipal government's policies for the 21st century, and the transportation policy drawn up in line with this master plan incorporates the following transportation network plans. However,

I would like to examine the ideal transportation systems for Yokohama and propose the following points in addition to the plans made by Yokohama City.

Fig. 4-1 Yokohama's network plan



o Further improvements to radial extensive transportation network

The current road network plan gives priority to improving the circular roads, but I believe that equal importance should be placed on improving the radial roads.

Regarding the radial roads to Tokyo, improvements to one route along the bay area is being considered in order to relieve congestion. However, even if this road were improved it is unlikely to satisfy traffic needs between Tokyo and Yokohama which would increase greatly when Yokohama becomes a core city.

Even if a distributed multi-core urban structure were to be formed, the center of information and various functions borne by the group of core cities would be in Tokyo. If this is so, then the radial axis directly linked with the center and subcenter of Tokyo must be improved even more. In addition, roads linking the core cities will be necessary and these should be radial roads centered on Yokohama. These roads should be structured so as to allow direct access to the city center of Yokohama including the Minato Mirai 21 area.

Like the roads, construction of rapid-transit railways directly linking the city centers of Yokohama and of Tokyo should also be considered. The only space there is to accommodate such railways is through the coastal area of Tokyo Bay which is currently used as an industrial area. Since there is a movement to readjust land use in this area for business facilities at present, such a railway would have potential in linking these facilities.

o Priorities in road improvement

As I have already described, there are few wide trunk roads in Yokohama. In the present situation where space for construction of roads and financial resources are severely limited the highest priority in road improvement should be placed on the construction of trunk roads with ample width. Improvements to

roads for regional level traffic are of secondary importance.

This is because construction of wide trunk roads allows improvements to be made to various public utilities by using the road space, thus the framework of the urban transportation systems can be formed. In other words, wide roads are an irreplaceable asset for the transportation systems of a city. For instance, if the roads are wide, railways can be constructed by using the space above or below the roads, and buses can easily operate on schedule.

A review of the road plans currently promoted by Yokohama City shows that most of them are only half measures with widths around 20 m at the most, except for a few exceptions which are as wide as over 30 m. This kind of policy for road improvements should be revised and roads of ample width should be constructed. To take the extreme point of view, there is no need to place any importance on roads other than these kind of trunk roads for the time being.

o Active public investment in railways

Although railways are a public means of transportation, the importance of profitability is one of the constraints in existing railway plans. However, about 30 billion yen per 1 km is needed to construct a railway today, and unless profitability is removed from the constraints, it is difficult to carry out considerable improvements to railways even in Yokohama, a metropolis with a population of 3 million.

The railway network in Yokohama was already completed almost to its present level 50 years ago, and since World War II, the only new railways constructed have been JR's Negishi Line, Tokyu Denentoshi Line, Sotetsu Izumino Line, and the subway. This fact shows the difficulties inherent in constructing railways today.

However, for road improvement, emphasis must be placed on trunk roads and with the restriction that only certain of those should be improved. It is also doubtful that transportation by road alone is sufficient to answer the needs, so there is a great necessity to improve the railways to supplement it. Since railways are transportation facility stock that can be passed down to future generations, why not change the parameters and consider profitability as a secondary factor?

In other words, if the line is expected to be profitable to operate, then the public sector should actively bear a considerable part of the initial investment (construction cost) and improve the network of reliable public transportation in the city.

The autobahns which were constructed during World War II in West Germany have formed the framework of the road network today. Taking this as an example, an investment in the stock of transportation facilities with a view to 30 to 40 years ahead is by no means excessive.

Simply taking the density of railway lines as an index, even if all the lines planned in Yokohama were constructed, it would still not reach the level of Osaka and Nagoya today. There still seems to be room for construction of railways in Yokohama.

Table. 4-1 Comparison of railway between large cities

	① total railway length (km)	② number of population (10^3)	③ total area* (km^2)	density of railway ①/② ($m/10^3$)	①/③ (km/km^2)
TOKYO	532.9	8,209	566	64.9	0.94
YOKOHAMA					
(1988)	171.1	3,072	325	55.7	0.53
(2000)	250	3,690	325	68.0	0.77
OSAKA	241.2	2,546	203	94.7	1.18
NAGOYA	150.7	2,091	301	72.1	0.50

③ total area* = total urbanization control area

Japan quite easily overcame the economic crisis that threatened export industries as a result of the strong yen, and economic activities are buoyant. Though the financial resources of Yokohama city are not as great as Tokyo where there is a concentration of companies, they are rather plentiful, and the tax revenue from business establishments is increasing steadily. Furthermore, Japan is still moving towards the aging society and has not reached the situation where most of the public investment is spent on welfare, so this opportunity to make a lump sum investment in hardware facilities should not be missed.

The railway system should be examined positively in areas where buses cannot serve traffic demand at peak times by applying this idea of active public investment in public transportation in a circular direction which is particularly needed at the moment.

As for public investment, private railway operators should be considered the same way as public railways. The current system of subsidies treats public subway business much better than that of private operators, but on reflection whether public or private, they are no different in that they answer the transportation needs of citizens. It might be as well to consider that the private sector is sharing the burden for the part that should be borne by the public sector, and if the same amount of public assistance can be given for the initial investment, then the subsidies given to private railways which have greater business efficiency would produce greater social benefit.

o Establishing a benefit principle system

The method of raising financial resources for the improvement of railways should also be examined. In particular, effective policies should be adopted to return the benefit from the development resulting from the construction of new lines. Although this has been advocated for some time, it presents many difficulties such as selecting those who must share the burden, or the method of calculating the amount to be borne, so that no method has yet been established. However, efforts should be made to ensure adequate burden-sharing from the developers concerned who enjoy enormous profits from opening the railways.

Based on this kind of idea, Yokohama City started a fund system from the spring of 1989, in which the burden charge from the developers along the railway, and the general financial funds

of the city are reserved for the construction of railways. This system is applicable not only to the construction of railways, but to grade separation operations for railways and roads to relieve road congestion. This kind of widely applicable system is the first of its kind in Japan.

o Need for total transportation facility improvements

An examination of the status of improvements to current transportation facilities shows a lack of consistency with the land use plan.

For instance, although it is true that road improvements in urban areas have become difficult, road widening is sometimes carried out independently in the urbanization control area in the suburbs. With subways, too, stations are sometimes inexplicably built in the middle of an urbanization control area, which, I believe, is one of the reasons there are few subway users.

Since these transportation facilities are to be developed by the city itself, their development requires increased demand and more efficient investment by integrating it with the areawide development of the surrounding areas. The development of transportation facilities in the future should be incorporated with the construction and improvement of related urban facilities so long as it does not deteriorate the surrounding environment.

This kind of development method should be tackled more actively, in which case, I hope that the fund system described earlier can be used effectively.

o Construction of a new international airport

In the past, Yokohama did not have sufficient access to the transportation to a wide area. For instance, in the old days, the Tokaido line did not go through the city center, and it was extended towards the West from Yokohama Station. This has caused the problem of not having a direct link between the city centers of Tokyo and Yokohama.

It was also decided that the shinkansen bullet train would go through the outlying area of Shin-Yokohama rather than the normal city center, and what is more, until very recently the super-express did not stop there so that it was a local station on the New Tokaido Line. Roads too, suffer from poor connection between the city center and the Tomei Expressway. What is more, the likeliest route for next shinkansen bullet train, a super-speed linear motor train between Tokyo and Osaka currently at the conceptual phase, does not run through Yokohama but far north of the city.

As far as airports are concerned, leaving aside Haneda for domestic flights, the international airport was constructed in Narita, which is as much as 90 km away and on the wrong side of Tokyo.

Many of these problems occurred as the unavoidable result of Yokohama's geographical location.

However, in order to develop the cultural and tourist aspects at both the national and international level, smooth connection with transportation to a wide area is essential.

Some way to reduce even slightly the time distance to existing airports, is required at the very least. Currently, the operation of a helicopter between Narita and Haneda is being tried out, but it cannot be the definitive solution to the means of access to the airport for reasons such as frequent cancellations due to bad weather, and the expensive fare. A policy to shorten the time distance even slightly by using existing means of transportation is required.

However, even that cannot be the definitive measure for transportation, and the only complete solution to the problem of airport access is to construct a third airport in the Metropolitan area near Yokohama which offers easy access to the city.

In fact, it is said that in the long run, the present two airports in the Metropolitan area (one domestic and one international) cannot meet the demand, and sooner or later the day will arrive when a new airport is required. There is no other example in the world of an area with a population of 30 million being served by only one international airport.

Yokohama which began as an international trading port city will once again be the window to the world with an airport, the modern-day port, and take up its role as Japan's representative international city.

Although the fact of the matter is that it will be difficult to construct a new airport due to restrictions on air zones because of existing airports, and because such a major construction project like an airport cannot be handled exclusively by the city of Yokohama, we should try to realize this project by influencing the national government through cooperation with neighboring local authorities, to build up a transportation system not just for Japan but for the world.

5. CONCLUSION

I have outlined the process from Yokohama's formation as a city to the proposal for transportation plans. If Japan is to play a central role in the Pacific Basin Region, it is important to avoid taking just a narrow view of Yokohama, and consider the whole Tokyo region as one unit.

In this paper, I have explored the future of the city as a core city with business functions and as a city which assures a comfortable living for its citizens. However, it is of course necessary to discuss a plan based on the ideal transportation system for the whole Metropolitan area. In particular, it would be essential to promote a plan to realize the international airport plan through the cooperation of local administrations.

It is my hope that Japan which has an important role to play in the world together with Yokohama, will play an active role in the international forum.