

STUDY ON PUBLIC SIGNS FOR A PASSENGER INFORMATION OF TERMINAL STATIONS IN JAPAN

Takatoshi TAMEKUNI
Lecturer
Dept. of Civil Engineering
Ashikaga Institute of Technology
268-1, Omae-cho, Ashikaga,
Tochigi 326, Japan
Fax: +81-284-64-1061

Tatsuzo AKASE
President
Rei Design Corporation
6-20-804, Rokuban-cho,
Chiyoda-ku,
Tokyo 102, Japan
Fax: +81-3-3263-7695

Hitoshi IEDA
Professor
Dept. of Civil Engineering
University of Tokyo
7-3-1 Hongo, Bunkyo-ku,
Tokyo 113, Japan
Fax: +81-3-5800-6868

abstract : This paper researches that the public signs for a passenger information of terminal stations in Japan. Then this paper studies its survey of present condition at Yokohama terminal station and Ikebukuro terminal station in Tokyo area. From this research, the railway companies cared for the areas have not shown to any messages of other companies. Finally, we can classify to consideration with information system.

1. INTRODUCTION

An urban population of Japan has been exceeding 70%. Many cities in Japan have been expanding center of railway station according as the progress of the modernization since the beginning of Meiji era(1868-). This things differ from Western countries railway stations. Therefore, Japanese railway stations not only have expected functioning to transport but also to prestige of their cities. Especially, central station in a big cities have made a large terminal station according as connecting plural railway lines. And, another transit connected there. On the other hand, stations in itself have become a shopping complex, and this surrounding areas have been gravitation of shopping, business, and public facilities. Namely, terminal stations of Japanese big cities have been one of the center of the city including this surrounding areas.

Terminal stations need to design the public signs for directing many passengers smoothly and surely. Up to now, terminal stations were mostly not to service these signs. Then they have happened with communication barrier because of pending arrangement these signs. And the terminal station has connecting plural railway lines are different from railway companies, mostly feels inconvenience because of differ from how to service these signs.

With the background seen above, we focus on the public signs for a passenger information of terminal stations in Japanese large city. Then we study its survey of present condition at Yokohama terminal station and Ikebukuro terminal station in Tokyo area. So we study its consideration with information system.

2. SUBJECT OF INVESTIGATION

2.1 Terminal Station

We define terminal station is the station connected plural railway lines. A large city area has a large-scale terminal station connected many railway lines. This terminal station connect another transit such as bus, taxi. And it compounds shopping facilities such as underground market, station building, department store. Further this surrounding areas have been gravitation of shopping, business, and public facilities. Namely, terminal stations of Japanese big cities have been one of the center of the city including this surrounding areas. Passenger gets around railway to railway, facilities for access, shopping complex, and public facilities in this surrounding areas. So passengers need to information for moving smoothly. However, they have happened with communication barrier because of pending arrangement these

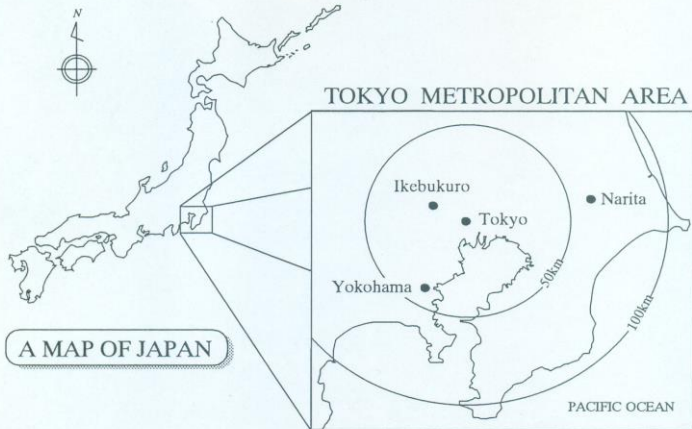


Figure 1 A Map of Japan and Tokyo Metropolitan Area

signs. That to say, we can grasp the concrete communication barrier, according as survey and classification of public signs for a passenger information in large terminal stations.

2.2 Yokohama and Ikebukuro Terminal Station

This case study is Yokohama terminal station and Ikebukuro terminal station as large terminal stations. Figure 1 shows a map of Japan, Tokyo metropolitan area and both terminal stations.

Yokohama terminal station locates in the south of Tokyo, connects lines with five railway companies, has about 2 million passengers getting on and off per day, is one of the center of Yokohama city known for long as port town.

Ikebukuro terminal station locates on the Yamanote-line(loop line) in Tokyo, connects lines with four railway companies, has about 3 million passengers getting on and off per day, is subcenter of Tokyo link together with suburban area in the northwest.

Both terminal stations connect vertical combination lines, station building is shopping complex, and these surrounding area are many public facilities.

2.3 Public Signs for a Passenger Information

Sign is to show the contents to communicate with using a mark. So, it is message in itself not to things. Then, if the substance greets our eyes makes mark in the relation with people and acts as message, we can call to signs all of them. So, we can think sign not only eyesight but also sound, smell, the sense of touch.

Thus, according as coming at a substance of signs, we can see to help smooth movement for passengers. Then, we think to be useful upgrade the amenity at terminal stations according to make design of public signs for a passenger information. We focus on the eyesight signs.

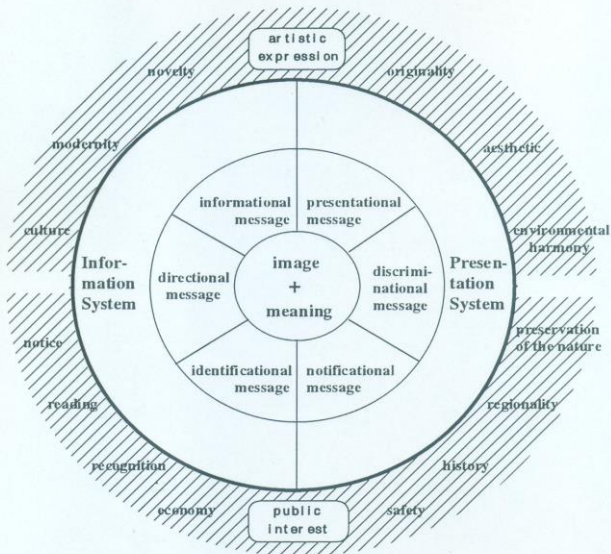


Figure 2 Sign Design Structure

Figure 2 shows sign design structure because of understanding in substance.

3. SURVEY OF PRESENT CONDITION

3.1 Subject of Survey

We had investigated the present condition of post up message in view of flow from a field survey. And we classified these data to get a field survey separated into some areas. This survey had done from November 1995 to February 1996, at Yokohama terminal station and Ikebukuro terminal station. So, an extent of survey was out of latch with railways connected both terminal stations.

3.2 Yokohama Terminal Station

Figure 3 shows the map of Yokohama terminal station.

Yokohama terminal station connects eight lines of five railway companies as follows.

- 1) East Japan Railway Company(JR); Keihin-tohoku line, Yokohama line, Tokaido line, Yokosuka line
- 2) Tokyu Corporation; Toyoko line
- 3) Keihin Electric Express Railway Company; Main line(Keikyuu line)
- 4) Sagami Railway Company; Main line(Sotetsu line)
- 5) Yokohama Municipal Subway

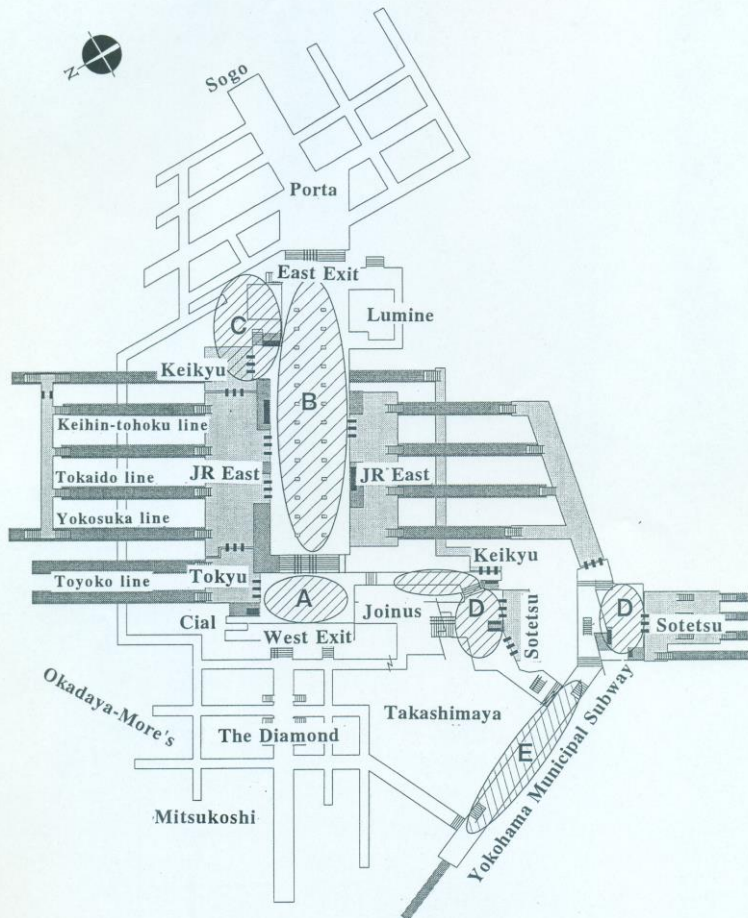


Figure 3 A Map of Yokohama Terminal Station

Then, this station in itself is some station buildings(SB) and underground markets(UM) for shopping as follows.

- 1) Side of West Exit; Cia(SB), Sotetsu Joinus(SB, UM), The Diamond(UM)
- 2) Side of East Exit; Luminc(SB), Porta(UM)

And, some department stores locate near this station as follows.

- 1) Side of West Exit; Takashimaya, Mitsukoshi, Okadayama-Morc's
- 2) Side of East Exit; Sogo

A bold alphabets are each areas of this survey as follows.

- area A; Upper level of Tozai Jiyu Turo(public passage)
- area B; Lower level of Tozai Jiyu Turo(public passage)
- area C; Ground level of East Exit and nearby ticket barrier of Keikyu line
- area D; Connecting passage for Sotetsu line and concourse
- area E; Concourse of Yokohama Municipal Subway



Photo 1 Post up Message at Area A



Photo 2 Post up Message at Area B

Photo 1 shows the present condition of post up message at area A, and Photo 2 shows at area B. As both of photos show, we can see a lot of directional message with suspending form. Because Tozai Jiyu Turo is an axis in view of flow at this station, it is many directional message like platform, ticket barrier, ticket counter, bus depot, taxi stand and so on. And we can see these messages make classified by colors and sizes of letters. These messages are three priorities of a function for communication by these sizes of letters. Then, first priority messages with the biggest letter are platforms of JR line and exits of station. So platforms of JR line are green color, and exits of station are yellow color. And other messages are small sizes.



Photo 3 Post up Message at Area C



Photo 4 Post up Message at Area D

Photo 3 shows the present condition of post up message at area C. We can see we find it very difficult to message except facilities of Keikyu line. Phot 4 shows the present condition of post up message at area D. Likewise Photo 3, we find it very difficult to message except facilities of Sotetsu line.



Photo 5 Post up Message at Area E



Photo 6 Post up Message at other Area

Photo 5 shows the present condition of post up message at area E. We can see a map of city-guide outside of message for platforms. Photo 6 shows the present condition of post up message at the underground markets(The Diamond). We find at confusion of identificational messages, shopping markets and railway lines.

We can make an analysis according as compare with message of five area at Yokohama Terminal Station. A message of platform makes showed all of areas with condition to coordinate. But other messages like station facilities, accessory structures, exits of the station, facilities of access and so on are not coordinated existence, words and way of indication. Especially, the railway companies cared for the areas have not shown to any messages of other companies. As a matter, there are shown to message in themselves and related facilities.

3.3 Ikebukuro Terminal Station

Figure 4 shows the map of Ikebukuro terminal station.

Ikebukuro terminal station connects seven lines of four railway companies as follows.

- 1) East Japan Railway Company(JR); Yamanote line, Saikyo line
- 2) Tobu Railway Company; Tojo line
- 3) Seibu Railway Company; Ikebukuro line
- 4) Teito Rapid Transit Authority(TRTA, Subway); Marunouchi line, Yurakucho line, New line

Then, also this station in itself is some station buildings(SB) and underground markets(UM) for shopping as follows.

- 1) West Side of JR; Tobu Department Store(SB), Metropolitan Plaza(SB), Tobu Hope Center(UM)
- 2) East Side of JR; Seibu Department Store(SB), Parco(SB), Ikebukuro Shopping Park(UM)

A bold alphabets are each areas of this survey as follows.

- area A; Concourse of Tobu Railway
- area B; Concourse of JR
- area C; Concourse of Seibu Railway
- area D; Concourse of TRTA

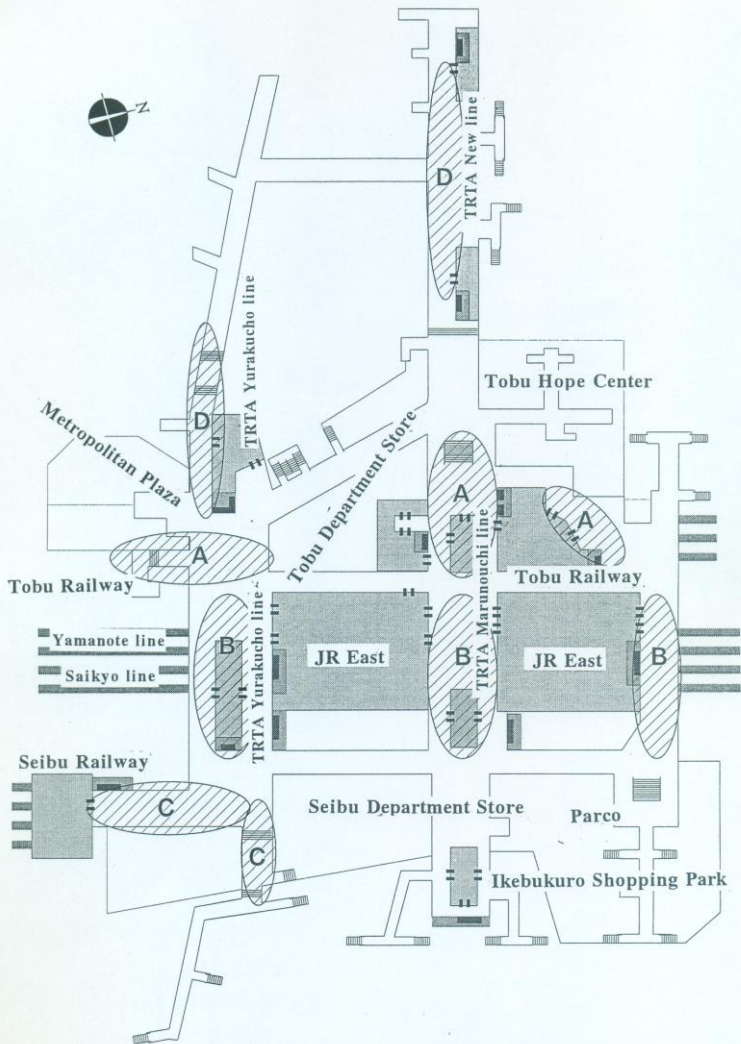


Figure 4 A Map of Ikebukuro Terminal Station



Photo 7 Post up Message at Area A



Photo 8 Post up Message at Area B

Photo 7 shows the present condition of post up message at area A. We can see a message of Tobu department store related Tobu Railway Company, together with directional messages. And these make coordinated to color with blue.

Photo 8 shows the present condition of post up message at area B. Firstly, we can see a message with bigger letter for platforms of JR line.



Photo 9 Post up Message at Area C



Photo 10 Post up Message at Area D

Photo 9 shows the present condition of post up message at area C. We can not see any directional messages. Because these messages don't make shown by any big letters.

Photo 10 shows the present condition of post up message at area D. As view of left-hand, we can see we find a map of surrounding area in this station.

In the Ikebukuro Terminal Station, we can feel a vivid impression with these directional messages make shared by colors. For example, Tobu Railway is blue; Seibu Railway is black; JR is white, green and yellow; TRTA is white and yellow. Then, as passengers have known to each color codes, they can useful understand position themselves. On the other side, we can see the directional messages don't make coordinated each other.

4. ANALYSIS ON THE PUBLIC SIGNS FOR A PASSENGER INFORMATION

4.1 Correspondence to Passengers

As a visual information supposing correspond to all passengers, almost every railways are equipped with visual sign for a passenger information. These are form of illumination the inside with suspending form, post up directional message and identificational message. Some railways are added a sign paneled in form on the wall or self-standing, posted up informational message, and have made information system with correlation some sign messages each places.

As a visual sign at terminal stations in Japan, several railway companies are set up with plan of their own at several management area. This system's advantage is high effect for study on a passenger use a line, and a passenger feel there is railway worthy of the name. On the other hand, a large terminal station connected with some lines are happened with many communication barrier at their spaces for common use, because of a passenger move across different sign areas.

A space for common use in a large terminal station needs to identify station exit and ticket barrier not to incline message each railway companies. Namely, we think these need to make designed sign messages formulate a system that all the station area are one with urban facilities.

4.2 Correspondence to Communication Barrier

We bring up three problems; a visual noise, an intricate of machinery and tools for passenger, and an intricate structure of space, to a primary factor meeting with communication barrier.

Firstly, a main factor of a visual noise at station terminals is commercial advertisement and a stand with occupied pedestrians. There are many case of barrier to recognition of visual sign. As think upon comparison with railway station is the public society, it is preferential subjects to keep effect in the passenger information for many passengers move smoothly. Then, we think that it needs arrangement for passengers to a standard for the establishment of these noises.

Secondly, a factor of an intricate of machinery and tools for passenger is a passometer. This is with the progress of multi functions recent years and hard to understand for an intricate of handling. These background are spread with extend the line into and combination service of each railways. These things are contributed to improvement of facility, but so we have become an intricate of getting a ticket. Because of reduce to this communication barrier, we think that it needs to improvement forward simple operation and relationship with operation-panel and indication of fare.

Finally, this is a problem of an intricate structure of space. Many terminal station in Japan, railway companies were obliged to require terminal stations with composition equipped in spite of urban development. At the result, terminal stations have been an intricate structure of space as addition and wedge oneself in.

4.3 Correspondence to Information Base

A large terminal station become a base of the city that are one of larger urban system with this surrounding area to gravitation of shopping, business, and public facilities. So, a space at the station isn't an existence of independence view of urbanization. The other way to say, a large terminal station needs to communicate in this space limited for passengers with relation to larger urban system. Accordingly, the way of correspondence isn't only to rely on the infor-

mation.

So these things, a large terminal station is important to think that it make expected an information base too. Then we need to discuss with a plan of information base, in case of urbanity space. If we discuss with a plan, we think four informations as follows.

- 1) Information about a spread of transportation network and present condition
- 2) Information about a spread of urban space and present condition
- 3) Information about a spread of social phenomenon and present condition
- 4) Information about present condition of natural environment

5. CONCLUSIONS AND CONSIDERATION WITH INFORMATION SYSTEM

Table 1 shows a content of message ought to offer at the terminal station. We can see to classify consideration with information system. And we can see to share with priority in each messages.

A communication has included a notion of a joint too. So, there is a image to consist of come to understand each other. As we think a subject with information system from point of view to planning, if the construction subject offered a message one-sidedly, the message doesn't have get an effective result because the content of message didn't communicate for users. Then, we need to recognize with a subject of the communication.

The present railway terminal stations have dispatched massive messages. As a visual things limit, we find three types as follows; notice type, equipment type, display type. Notice types are as follows; as they say vjusal sign, commercial advertisement, business posters of railway company, campaign tools for sales promotion, public posters. Equipment types are as follows; ticket counter, ticket barrier, train information equipment, clock, weather forecast, electronic equipment. Display types are as follows; goods in shop, shop windows, reliefs, wall painting, sculpture.

This is a result these massive messages arrange to consist of communication once more in the relation with space and users characteristic.

REFERENCES

- Transport Amenity Promotion Foundation(1996) : **Study on Public Signs for a Passenger Information to Amenity Terminal Station**. TAPF, Tokyo.
- Akase, T. and Yokota, Y.(1994) *Designing Signs Vol.1: Public Signs*. Rikuyo-sha, Tokyo.
- Akase, T.(1994): **Study on a Sign and Design**. SDA Review No.10, Sign and Design Association in Japan, Tokyo.

Table 1 Content of Message ought to Offer at the Terminal Station

Message	Indicative Class	Content of Message
Directional Message	priority A: Message ought to guide at all areas	Platform Main Flow at the Station Station Exit Facilities of Access; Bus, Taxi Shopping Complex Total Information Center
	priority B: Message ought to guide at nearby ticket barrier	Ticket Counter Travel Center Station Office Locker Telephone Toilet
	priority C: Message want to guide at all areas if possible	Mainly Facilities at the Surrounding Areas
Identificational Message	priority A: Message need to have a distant view	Platform Main Flow at the Station Station Exit Facilities of Access Total Information Center
	priority B: Message need to see nearby ticket barrier	Ticket Counter Travel Center Station Office Locker Telephone Toilet
Informational Message	priority A: Message ought to guide at main point in the yard	Railway Network The Station Yard Route for Moving
	priority B: Message want to guide at main point in the yard if possible	Surrounding Areas Urban District Areas
	priority S: Message want to guide at the facility on base with electronic technology	Traffic Information City Information Social Information Natural Information