



Motorway Undergrounding Projects in the 1960s: Coordinative Mechanism of City Administration in Yokohama

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In the 1960s, when the inner-city motorway was introduced as a new urban infrastructure, major cities worldwide faced a severe shortage of urban space for installation. Yokohama was gifted, as it could utilize its disused canals, but faced many difficulties in changing its route and structure into undergrounding. In 1968, the mayor of Yokohama invited urban planner Akira Tamura to set up the Planning and Coordination Office (PCO). Since the route and structure of the inner-city motorway in the central part of Yokohama had been authorized by the national ministry, a year of coordinative task led by the PCO seemed impossible, considering the highly centralized Japanese administrative system. The success of this case marked a paradigm shift in the initiatives led by local governments. The theme of this study is to clarify how the newly born agency tackled the task that evolved into the "coordinative mechanism" within the municipal administration.

Keywords: urban motorway, utilization of existing urban space, municipal administration, national ministries, coordinative mechanism, local initiative

1. Objectives of research on the general coordination function of local authorities

In the 1960s, when inner-city motorway networks were introduced as a new urban infrastructure in highly urbanised regions (Fig.1/2), major cities worldwide faced a severe shortage of urban space for installation. Yokohama (Fig.3) was gifted, as it could utilize its disused canals (Fig.4), but faced many difficulties when changing its route and structure underground.

In 1968, the mayor of Yokohama, Ichio Asukata¹ (1915/1990, mayoralty 1963/1978), invited the urban planner Akira Tamura² (1926/2010) to work for the city and set up the Planning and Coordination Office (hereafter "PCO") as the coordinative mechanism (Fig.5) within the municipal administration. Since the route (Fig.6) and structure of the inner-city motorway had been authorized by the national ministry³, a year of coordinative task led by the PCO seemed impossible, considering the highly centralized Japanese administrative system. Finally, the motorways were rerouted and laid underground. The success of this case marked a paradigm shift in local governments' initiatives.



Fig.1 The Tokyo Metropolitan Region in Japan Source: own elaboration.



Fig.2 Yokohama City in the Tokyo Metropolitan Region Source: own elaboration



This case is well-known among Japanese administrative officials and scholars in the field of town planning. However, the detailed process of its coordination was not clear, although it has been mentioned in some books⁴ by Akira Tamura, who was involved in the undergrounding project. Apart from prior research conducted by the author of this study,⁵ there are no academic studies which attempt to scientifically and objectively verify this project.

The author of this study, who became a city officer after Tamura relinquished his executive post in 1978, is now a board member of a non-profit organisation that has been set up to examine the history of Yokohama City's town development. This study aims to scientifically and objectively verify the planning facts of this case, such as the motorway undergrounding that has become legendary. This study is not intended to glorify Tamura's achievements. As for the undergrounding case, the number of people who know about it has decreased over the last 50 years, and those who responded to our historical questionnaires were partially involved in the case and have not given us a full picture. The author of this study attempts to weave a full picture by drawing analogies from historical questionnaires, newspaper reports, and other related documents. During this study, the author discovered a record memorandum⁶ of the coordination process compiled by the PCO, which was the coordinator of this case. The discovery of this 'record memorandum' revealed the details of the entire coordination process for the first time. Therefore, this study is based on the previous research conducted by the author of this study and the new findings of the 'record memorandum'.

2. The history of inner-city motorway planning in Yokohama

In 1964, Akira Tamura, who was then working at the Environment Development Centre, proposed to Mayor Asukata a plan for the future of Yokohama City (named "Six Spine Projects")⁷ that included inner-city motorway networks planned since 1963⁸. In 1965, the City of Yokohama set up the Motorway Planning Section for the planning of the motorway networks (hereafter "MPS," which became the Motorway Division⁹ of the Road Bureau in 1968). In March 1966, the Town Planning Bureau, together with the Ministry of Construction (hereafter "MoC") and the Metropolitan Motorway Authority (hereafter "MMA"), proposed several routes for the extension of the Metropolitan Motorway from the Tokyo Haneda Airport to Kannai and inland districts of the city centre. Contrary to the Yokohama Canal Usage Council's recommendation, the MPS regarded the idea of using the Haohka (Fig.7) and Yoshida (Fig.8) canals for the motorway as the most feasible option, rather than for the municipal subways.

In July 1966, the Yokohama sub-committee of the National Urban Transport Council submitted its recommendation to the Ministry of Transport (MoT) that considering the urgent requirement caused by severely congested public transport, municipal subway line No.1 between Kamiohka (southern Yokohama) and Kannai and line No.3 between Yamashita-cho (port area) and Yokohama Station be built without delay¹⁰. In March 1967, the MoT granted a project license for subways.

In December 1967, the city assembly approved the reclamation project of the Haohka canal but suggested that the subway should be undergrounded and the motorway should be elevated. The MPS proposed a north-south line along the Yoshida canal connecting the inner-city networks with the inter-city Tomei motorway by planning elevated interchange behind the Kannai railway station. The City Beautification Council¹¹, which had been considering how to guide the redevelopment of the areas along Odori Linear Park¹² on the reclaimed Yoshida canal, feared that if the elevated motorway cut through the Linear Park, the redevelopment project would be meaningless¹³. Despite these conditions, Mayor Asukata was still hopeful that undergrounding the motorway would be made possible by any means¹⁴.

At the city assembly in February 1968, Mayor Asukata expressed his sense of crisis¹⁵: "We are preparing to start construction of the subway at the end of April this year, but we cannot start until when the MoC authorized the route of subway according to the Town Planning Law, in due course the MoT officially approves the construction work, and the MoC finally gives us a permission to use the roads." Subsequently, the Kanagawa Town Planning Local Council¹⁶ approved the motorway under the Town Planning Law for the route along the Haohka canal only, apart from the structural type, and allowed the MoC to extend the metropolitan motorway to Yokohama (Fig.9). The route runs through the Haohka canal and then the Hori River to the port area. The north-south line along the Yoshida canal was not included because it still had to be coordinated with Odori Park and the subways. On learning of this decision, the shop owners of shopping streets in the city center petitioned Mayor Asukata and the chairman of the city assembly to change the motorway route¹⁷. They argued that the construction of the elevated motorway would divide Kannai and inland district and that the huge structure would create a nuisance for the future landscape.



Fig.3 Kannai district, central part of Yokohama, at its early period of the port opening with river and canal networks in 1859. Courtesy of Yokohama Archives of History.

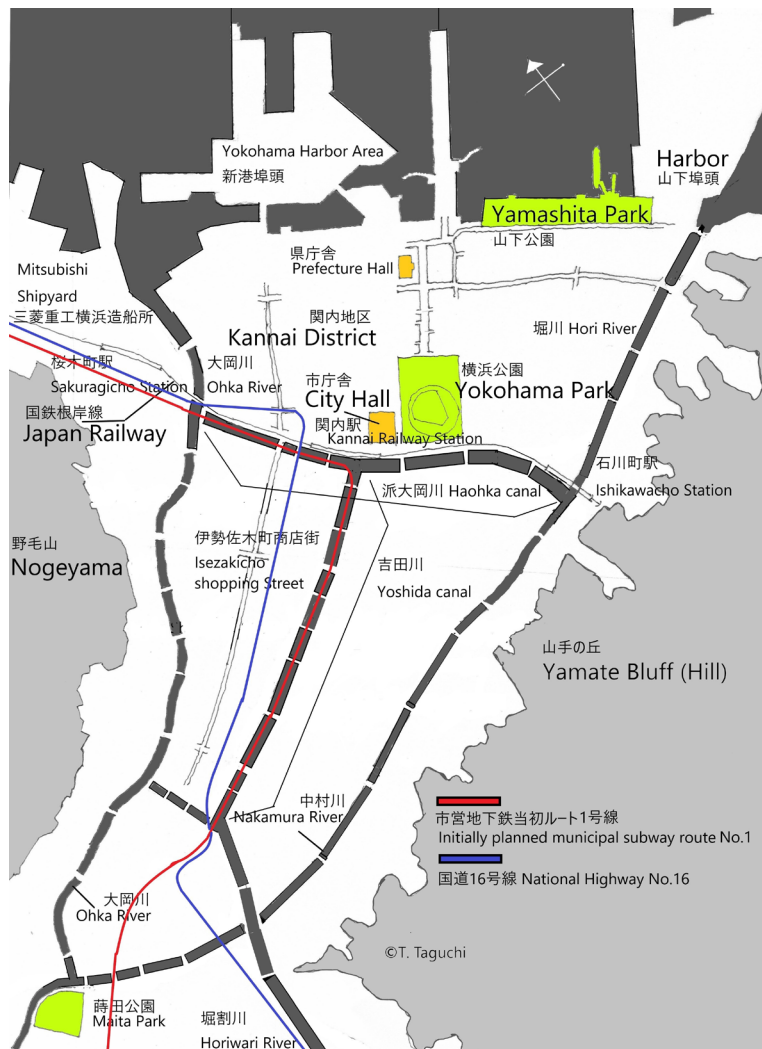


Fig.4 River and canal networks in the centre of Yokohama prior to the urban motorway planning. Source: own elaboration.

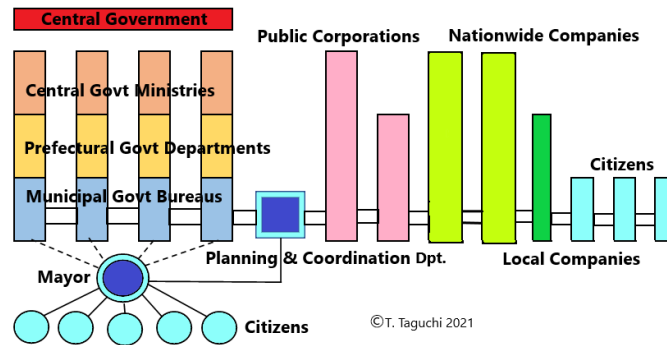


Fig.5 The concept of the PCO (PCD expanded in later years) by Akira Tamura. Source: redrawn by the author consulting with Tamura's Ph.D. dissertation.

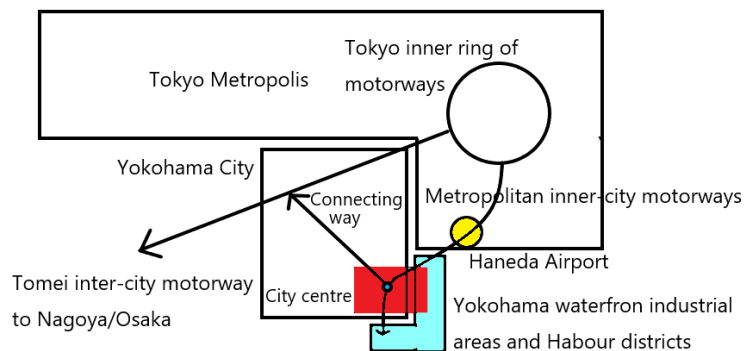


Fig.6 The initially planned motorway route from Tokyo to Yokohama City. Source: drawn by the author consulting with relevant documents of the city and MMA.

3. The Planning and Coordination Office

In later years, the PCO recruited a diverse range of personnel from outside, but at the time of its establishment, these were staff members transferred from other bureaus. While the coordination section and deputy director group of the PCO were all clerical staff, the Planning Section had only one clerical staff member and all the others were technical staff (five in civil engineering and one in architecture). At that time, coordinative departments in municipalities all over Japan were mainly clerical, and it was rare to find one, such as Yokohama, which was mainly technical¹⁸. These technical staff members used their expertise and experience to critically analyze and coordinate the ideas and plans of the other specialized bureaus involved in the work. One of those staff members was Yoshio Tashiro, who was an able motorway engineer and worked at the city's MPS before moving to the PCO. It is assumed that Tashiro formulated the 'record memorandum', since its handwriting was similar to his.

In May 1968, the City General Affairs Bureau issued a notice¹⁹ to all concerned Bureaus requesting the necessary collaboration with the PCO. The purpose of the establishment of the PCO was "to facilitate the planning, coordination and progress management of important planning projects of the city," and specifically stated that 'important project plans, including the six spine projects, should be coordinated with the PCO as early as possible at each point of progress'. Tamura attended executive meetings (mayor, assistant mayors, head of the PCO, head of the General Affairs Bureau, and head of the Finance Bureau), and the PCO acted as the secretariat for the meetings. Tamura was a director of the PCO at the initial stage until 1971, then he became the head of the PCO.

4. The negotiation process of undergrounding motorways

The record memorandum²⁰ detailed the chronology of the negotiation processes from 13 June 1968 to 23 April 1969 in a brief and concise manner, which includes when and where meetings were held, who attended the meetings, and the topics that were discussed. Therefore, this document is the most important part of this research.



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In March 1968, Urban Bureau of the MoC told in the city executives that they could not pass the concerned town planning decision on the subway route alone until the city had decided on its policy towards the north-south line. If the undergrounding of the motorway along the two canals was agreed upon and the interchange was also undergrounded (Fig.11), the subway had to cross under the underground interchange and go deeper, which was unacceptable in terms of cost and construction timeline. The limited space left above the ground next to the open-cut trench is unsuitable for Odori Linear Park. Mayor Asukata, who could not remain ambiguous about the undergrounding policy, expressed that elevated motorway would be a permanent scar on the city's future, and that it was time to scrap the whole idea and start again²¹. In June, the city started to contact MoC officials who had previously made decisions. Negotiation on the undergrounding of the motorway and its rerouting (Fig.12) began with the city trying to get the MoC back to the table, which was angry at the city's reiteration.

In August, the Director General of the Town Planning Bureau was asked by a MoC official whether the city would bear the increased cost of the undergrounding project and whether it would be responsible for any problems caused by the Nakamura River locals who would suffer from the rerouted motorway. On the other hand, the MoT accepted the change in the subway route. They replied that it would be possible to acknowledge a "slight change in route" if the Haohka Canal was given over to the underground motorway. When the mayor and Tamura met with the governor of Kanagawa Prefecture, he mentioned that the city's proposal was fine and that he would cooperate, but the prefectural government's actions stopped there.

In September, the director general of the Urban Bureau of the MoC expressed that he wished to cooperate with the city's plan and he did not mind the increased project costs. In October, a meeting was held with the MoC, MMA, and the city to review the city's proposal. The MoC's policy was to evaluate the project's profitability in the MMA. In November, the MMA replied that it would be difficult to repay the construction investment in the required 30 years through toll revenues²². In November, the MoC asked the city for a response, stating that: (1) the MMA could only be instructed to build an elevated motorway along the Haohka and Yoshida canals; (2) if the city was to replace the 6 billion yen increase in the cost of the project, the Haohka and Yoshida canals could be open-trench structures; and (3) if the Yoshida canal section (north-south line) was cancelled, the Haohka canal could be open-trench without the city's investment. The city announced that it would accept a prior investment of 4 billion yen for motorway undergrounding along the Yoshida canal.

In December, the MoC laid the following conditions for undergrounding of the Haohka and Yoshida canals: the city pay the land cost, and concerned organizations bear the common cost such as reclamation equally. Yoshiro Watanabe²³ was an influential MoC official who tried to become an intermediary between the PCO and MoC. On the other hand, the city's Transport Bureau expressed that it was impossible for the subway and motorway to coexist (Fig.13) at the Yoshida canal and requested to separate them. At the end of January, the Director General of the City Transport Bureau informed the MoT that even if the subway was changed to a wide national highway running alongside Odori Linear Park a few blocks away, it would not be possible for the subway to turn around at the intersection in the centre of the Kannai district and thus would not be able to run directly to Yokohama Station. The MoT hardened its stance since the city's intention was contrary to the preconditions approved by the National Transport Council that approved the Yokohama subways project.

In February, the MoT commented that if direct service was impossible, the National Transport Council would cancel the license and cut off the national subsidies. The negotiations had reached an impasse. Therefore, the deputy mayor, head of the PCO, and Tamura requested Saburo Oka, a Socialist Party Member of Parliament (MP), to mediate with the MoC and the MoT. Oka was the chairman of the Construction Committee of the House of Representatives that had jurisdiction over the MoC; he was also a close friend of Mayor Asukata. Oka presented the MoC with a conciliation proposal: "Motorway's construction as soon as possible until the Yamashita Bridge and subways as soon as possible along the Yoshida canal". In other words, there would be no coexistence of motorway and subway in the Yoshida Canal. In the meantime, the MoC informed the city that it would discuss matters with the MoT directly, but this was indefinitely postponed. According to Hisao Hasegawa²⁴, a town planning bureau transport engineer who was seconded to the PCO at that time, Tamura accompanied him and visited the MoC almost every day.

On February 22, the mayor, the director of the PCO, and Tamura met with the Director of the Urban Bureau of the MoC to inform him that (1) there was no coexistence of motorway and subway, (2) the subway was to be built in Yoshida canal, and (3) the motorway was to be temporarily extended to the ramp in the middle of the route but the extension would be considered without delay.

On February 27, a day of heavy snowfall, Yukio Onouchi, the vice-minister of the MoC, and Tamura attended a meeting between the two parties sitting with Oka²⁵. The vice-minister began by saying that he wanted to hear their



conclusions. Tamura opined that coexistence was difficult, and the subway and motorway should be built as soon as possible. The vice-minister said that he understood what the city was saying. Afterward, a bureau meeting attended by all the officials concerned lasted until midnight, and the opposing comments led to a big controversy. In response to this situation, the project policy was reconfirmed at the city executive meeting on March 3²⁶, as follows: (1) Subway No.1 along the Yoshida canal, subway No.3 along the artery of Kannai district, and the motorway along the Haohka canal as an open-cut trench and constructed tentatively until the Hanazono-bashi bridge, (2) the motorway would not be branched off into the Yoshida canal, (3) the Yoshida canal would be used as Odori Linear Park, and (4) the north-south line would be considered positively. With this policy, the mayor and the director of the PCO met the vice-minister²⁷. The vice-minister replied that what had been decided had to be done. On April 23, Kanagawa Town Planning Local Council²⁸ approved the project (Fig.12), as originally proposed by the city.



Fig.7 Haohka canal viewing Kannai district on the right. Photo courtesy of the City of Yokohama.



Fig.8 Yoshida canal viewing inland areas towards the south-west. Photo courtesy of the City of Yokohama.



Fig.9 The initially decided plan of elevated motorway routes by MoC in 1968. Source: own elaboration.



Fig.10 The finally agreed part of underground motorway (dotted line) and its connecting elevated motorways above Nakamura river. Source: own elaboration.

5. Conclusions: the role of coordinative mechanism in municipal administration

Yokohama's PCO, directed by Tamura, remained active until 1978, when Asukata left the city to become the chairman of the Japan Socialist Party (even after the change of administration in 1978, and it remained until June 1982 when it was dissolved). The success of the first task concerning this case was then used as a springboard for the PCO gradually establish its status within its administration. However, at the initial time of the case in question, it was unclear whether the coordination activities would be successful. First, it was (and still is) unthinkable that the city administration would be opposed to the national government that was seen as a superior authority. Second, it was necessary to remove the mental barrier to do so. The following are some of the key points of the coordinative mechanism that is visible from the detailed process of undergrounding negotiations.

- 1 When the city administration began contacting the MoC, it reaffirmed its undergrounding policy: the executive meeting demonstrated that the city's policy was consistent and unchanged.
- 2 By ordering the city road bureau that was dissatisfied with the mayor's policy change and the role of luring the MoC to the negotiations, they were expected to view the matter from the opposite standpoint, rather than the MoC's default policy, and induced them to act in accordance with the city policy.
- 3 As official negotiations with the MoC and MoT began and proceeded, various important decisions in terms of policy formulation became necessary. The PCO then took the lead in bringing the relevant departments together while maintaining close communication with the mayor.
- 4 Engineers from relevant institutions examined the feasibility of going underground from a technical point of view. By sharing the results with relevant bodies, they attempted to find an agreeable direction according to technical theories. In his testimony, Takashi Tatsugami²⁹, a former member of the city motorway section, said that an underground interchange would require loose alignment for visibility that would result in an



- excessive amount of area for its construction. In addition, if the underground motorway and subway could not be constructed simultaneously, it would be technically difficult to bury the motorway tunnel above the subway³⁰. When looking for a place where the subway line could turn around, the only result was to go straight from the Yoshida canal towards Kannai district and use the space at the side of the City Hall.
- 5 In terms of cost, the city facilitated the negotiations by announcing that it would accept an upfront investment of 4 billion yen for undergrounding the motorway. Although the MMA expressed the extension of the motorway to Yokohama unprofitable, the "upfront investment" by the city could become beneficial in cost for the MMA. As the MMA was a public corporation set up and supported by the national and local governments in the Metropolitan region, Yokohama City was one of investors of the MMA. It can be seen that Yokohama City's amount of investment into the MMA stock was 4,177.5 million yen from 1969³¹, the year after the negotiations were concluded, to 1977, the year before the partial opening of the motorway. It was acknowledged that the subway construction would be severely affected by the undergrounding process. The City Transport Bureau and the MoT did not expect deep-depth construction³² that would result in a longer period of construction and an increase in cost.
 - 6 In the end, the MoT, angered by the inability to direct the subway operations due to the change in route, suggested that the subway license be abolished³³. The MoC agreed to a political settlement through the intermediary of a M.P. to save face for each ministry, since both ministries had no other choice but to maintain their original project assignments.
 - 7 Both Asukata and Tamura came to the brink of accepting the incomplete coexistence of motorway and subway along the Yoshida canal³⁴, even if the Odori linear park was left as a patch of small space, so far as the MoC and the MoT were satisfied. Subsequently, the situation took a major turn when the MoT pointed out a discrepancy with the original plan for the subway and opposed it. This act of coordination began the evolution of the PCO as the cornerstone of the coordinative mechanism, which at this stage was still only in its infancy. Finally, the coordination results imply the importance of technical work and cost issues. Political mediation has its place, but only after the preconditions for the concerned bodies are established.

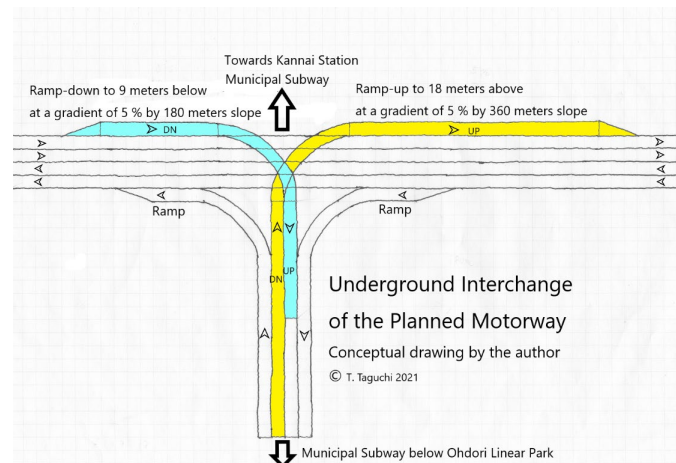


Fig.11 Image of the planned interchange behind the Kannai railway station to connect Haohka canal route with Yoshida canal route assumed by the author consulting with reference of MMA³⁵ documents. Source: own elaboration.



Fig.12 Completed open-cut motorway near Yoshida canal. Source: own elaboration.

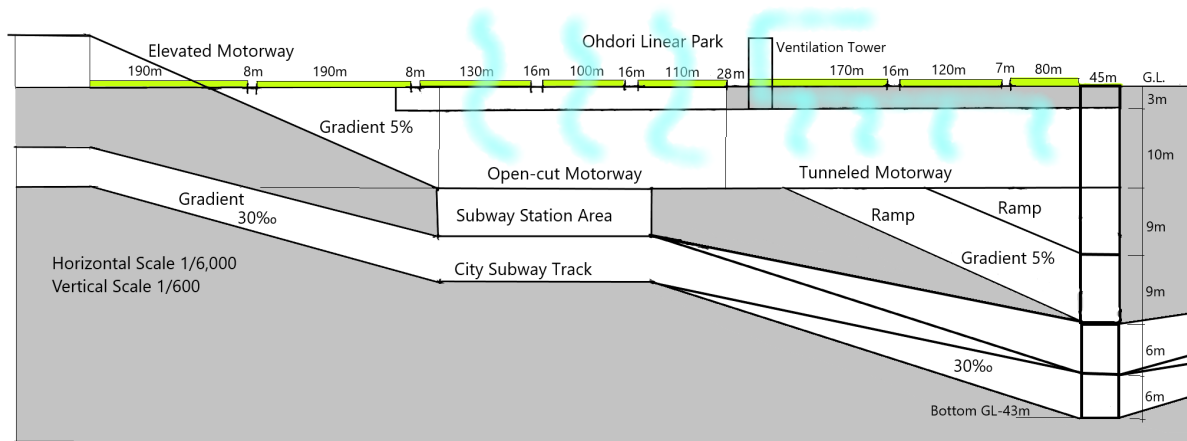


Fig.13 Image of coexisting plan of subway and underground motorway along Yoshida canal assumed by the author by consulting with references of MMA³⁶ and Municipal Transport Bureau³⁷ documents. Source: own elaboration

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Disclosure Statement

No potential conflict of interest was reported by the author.

Notes on contributor

Toshio Taguchi is an independent scholar at a non-profit institution that studies the planning history of Yokohama, focusing on the 1960s and the 1970s, when the urban environment became aggravated because of population expansion. Taguchi worked at Yokohama city administration as an urban designer after mayor Asukata and planner Tamura left the city. He was a friend of Tamura until his death in 2010. Although Taguchi learned from Tamura, empirical research has not been conducted to study the achievements of Tamura and his colleagues. Therefore, Taguchi and other peer scholars have set up an institution and conducted research activities, in a scientific and objective manner, to re-evaluate Yokohama during that period.

Bibliography

Asukata, Ichio. *Seiseiryuten (Asukata's reminiscences)*, Tokyo: Asahi newspaper (in Japanese), 1987.

Architecture bureau. *Toshibishingikai Gijiroku (Minutes of the City Beautification Council of Yokohama held on 29 November 1967 and 22 March 1968)*, Yokohama: Architecture bureau of Yokohama city government (in Japanese), 1968.

Environmental development centre. *Yokohamashi Shoraikeikaku Kisochoa Houkokusho (Overall research report of the future plan of Yokohama city)*, Yokohama: Yokohama city government (in Japanese), 1964.

Environmental development centre. *Yokohama Toshinbu Saikaihatsu Kihonkoso Houkokusho (Report of Yokohama's central district redevelopment scheme)*, Yokohama: Yokohama city government (in Japanese), 1966.

Environmental development centre. *Yokohama Kannai Ishikawachoeki Shuhenchiku Kaihatsu (Final Report of redevelopment policy of Kannai and Ishikawacho station areas)*, Yokohama: City architecture bureau and Japan public housing corporation (in Japanese), 1966.



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- Environmental development centre. *Yokohama Kosokutetsudo Kensetsu Nikanrensuru Toshinbu Saikaihatsu Chosahoukokusho (Report of the redevelopment policy of the central district along the municipal subway line)*, Yokohama: Yokohama city government (in Japanese), 1967.
- General Affairs Bureau. *Kiakuchoseishitsu Sechinikakaru Jimunoatsukai (Request notification for conferring policy with the Planning and Coordination Office)*, Yokohama: Newsletter for administrative staff No.2 issued on 15 May 1968, Civic Bureau of Yokohama city government (in Japanese), 1968.
- Hasegawa, Hisao. Oral history of undergrounding motorway talked by an ex-official of the Planning and Coordination Office, Yokohama: Akira Tamura Memorial – A Town Planning Research Initiative NPO (in Japanese), 2013.
- Kanagawa Construction Department of the Metropolitan Motorway Authority. *Yokohanesen Niki Oyobi Mitsuzawasen Kojishi (Construction History of Yokohane Line 2nd Phase and Mitsuzawa Line)*, Yokohama: Metropolitan Motorway Authority (in Japanese), 1979.
- Kanagawa Construction Department of the Metropolitan Motorway Authority. *Shutokousoku Yokohanesen Niki Kojishi (Construction History of Yokohane Line 2nd Phase)*, Yokohama: Metropolitan Motorway Authority (in Japanese), 1986.
- Kanagawa Newspaper. Article of Asukata's explanation at the city assembly meeting in February 1968, Yokohama: Morning edition, Kanagawa Newspaper on 4 February 1968 (in Japanese), 1968.
- Kanagawa Newspaper. Article of the shop owners' opposition to the construction of the elevated motorway in March 1968, Yokohama: Morning edition, Kanagawa Newspaper on 1 March 1968 (in Japanese), 1968.
- Ministry of Construction. *Kensetsusho Hoshinkessaisho Toshinburuto Toshikeikakukettei No Henko (Ministry policy formulation paper of change of the motorway drafted on 18 April 1969)*, Tokyo: the National Archives (in Japanese), 1969.
- Metropolitan Motorway Authority. *Shuto Kosoku Dorokoudan Nijunenshi (20th Anniversary history of the metropolitan motorway authority)*, Tokyo: Metropolitan Motorway Authority (in Japanese), 1979.
- Mayor's secretary office. *Shicho Nichiroku Takanecho (Schedule of the Mayor, Takanecho)*, Yokohama: Asukata Archives ⑦/⑧, Yokohama city archives of Yokohama city government (in Japanese), 1968/1969.
- Metropolitan Motorway Authority. *Shuto Kousoku Dorokoudan Sanjunenshi (30th Anniversary history of the Metropolitan Motorway Authority)*, Tokyo: Metropolitan Motorway Authority (in Japanese), 1989.
- Okada, Ichiro. *Kakusin Jichitai (The Liberal Local Governments)*, Tokyo: Chukoshinsho Publisher (in Japanese), 2016.
- Prefecture town planning bureau. *Yokohama Gidoshado Keikaku Chosahokokusho (Research report of Yokohama's motorway feasibility)*, Yokohama: Kanagawa prefecture government, Yokohama city government and Town planning association (in Japanese), 1963.
- Prefecture town planning bureau. *Kanagawa Toshikeikaku Chihosingikai Gijiroku (Minutes of Kanagawa town planning local council No.99 held on 16 February 1968)*, Yokohama: Prefecture town planning bureau of Kanagawa prefecture government (in Japanese), 1968.
- Planning and Coordination Office. *Toshinburuto Taigaisesho No Keisokatsu (Chronological report of negotiation processes of the motorway planning)*, Yokohama: Narumi Archives No.53, Yokohama city archives of Yokohama city government (in Japanese), 1969.
- Planning and Coordination Office. *Asukatashicho Kara Okasensei Eno Onegai (Request from Mayor Asukata to Oka M.P., Agenda of meeting with PCO)*, Yokohama: Akira Tamura Archives No.3061-2, Yokohama city archives of Yokohamament (in Japanese), 1969.
- Planning and Coordination Office. *Portrait of a city from its port opening to the 21st century (Yokohama city report for the international congress YLAP)*, Yokohama: Planning and Coordination Office of Yokohama city government (in English), <https://www.machi-initiative.com/research-materials/ylap-un-conference/>, 1982.



- Road bureau. *Yokohama Toshikosokudoro Mou Keikakuan (Map of Yokohama's proposed motorway networks)*, Yokohama: Research Committee of Yokohama's motorway planning of Road bureau of Yokohama city government (in Japanese), 1968.
- Road bureau. *Shicho Hoshin Kessaisho Toshikosokudoro No Henko (Municipal policy formulation paper of modification of motorway structure signed by mayor Asukata on 1 March 1969)*, Yokohama: Open information of Yokohama city administration requested by the author (in Japanese), 1969.
- River council. *Aratamagawa To Haohkagawa Umetate Riyokeikaku Toshinsho (the final report of the municipal public river council regarding Aratama and Ohka rivers)*, Yokohama: Akira Tamura memorial documents, Yokohama city archives of Yokohama city government (in Japanese), 1966.
- Town planning bureau. *Yokohama Toshikosokudoro Keikaku Chosahokokusho (Research report of Yokohama's motorway network)*, Yokohama: Town planning bureau of Yokohama city government (in Japanese), 1966.
- Transport Bureau. *Yokohama Kosokutetsudo Kensetsushi (Construction History of Yokohama Municipal Subway Systems)*, Yokohama: Municipal Transport Bureau of Yokohama City Government (in Japanese), 1987.
- Tamura, Akira. *Tamura Akira No Tatakai (Akira Tamura's War towards the citizen's government)*, Kyoto: Gakugei publisher (in Japanese), 2006.
- Tamura, Akira. *THE MAKING OF A CITY*. Yokohama: Akira Tamura Memorial – A Town Planning Research Initiative NPO (in English), <https://www.machi-initiative.com/yokohama-the-making-of-a-city/>, 2020.
- Taguchi, Toshio. *Yokohamatoshinbu Kosokudoro Chikakajian Nimiru Jichitaikikakuchoseishitsu No Yakuwari (The Role of the Local Government's Planning and Coordination Section in an Unprecedented Move to Underground the Motorway in the Middle of Yokohama City)*, Tokyo: J. Archit. Plann., AIJ, Vol.85, No.769, pp.603-613 (in Japanese), 2020. DOI <http://doi.org/10.3130/aija.85.603>
- Tatsugami, Takashi. *Sakuragicho Gojyukosa Koji Keikaku To Seko (Report of civil engineering of underpass planning and construction of motorway and subway near Sakuragicho)*, Yokohama: Research quarterly Nov.63 of Yokohama city government(in Japanese), 1979.
- Tatsugami, Takashi. Oral history of undergrounding motorway talked by an ex-official of the city motorway section, Yokohama: Akira Tamura Memorial – A Town Planning Research Initiative NPO (in Japanese), 2013.
- Watanabe, Yoshiro. Oral history of undergrounding motorway talked by an ex-official of the Ministry of Construction, Yokohama: Akira Tamura Memorial – A Town Planning Research Initiative NPO (in Japanese), 2015.
- Yokohama city government. *Shishunobukaigi Gijiroku (Minutes of the city executive meeting on 22 May 1968)*, Yokohama: Akira Tamura memorial documents, Yokohama city archives (in Japanese), 1968.

Image sources

Figure 1: own elaboration.

Figure 2: own elaboration.

Figure 3: Yokohama Kaiko Siryokan (Yokohama Archives of History).

Figure 4: own elaboration.

Figure 5: own elaboration.

Figure 6: own elaboration.

Figure 7: Yokohama city government.

Figure 8: Yokohama city government.



Figure 9: own elaboration.

Figure 10: own elaboration.

Figure 11: own elaboration.

Figure 12: own elaboration.

Figure 13: own elaboration.

Endnotes

¹ Asukata, Asukata's reminiscences.

² Tamura, Tamura's war.

³ Prefecture town planning bureau, Minutes of Kanagawa town planning local council No. 99 held on 16 February 1968.

⁴ Tamura, THE MAKING OF A CITY.

⁵ Taguchi, The Role of the Local Government's Planning and Coordination Section in an Unprecedented Move to Underground the Motorway in the Middle of Yokohama City.

⁶ Planning and Coordination Office, Chronological report of negotiation processes of the motorway planning.

⁷ Environmental development centre, Overall research report of the future plan of Yokohama city.

⁸ Prefecture town planning bureau, Research report of Yokohama's motorway feasibility.

⁹ Road Bureau, Map of Yokohama's proposed motorway networks.

¹⁰ Transport Bureau, Construction History of Yokohama Municipal Subway Systems.

¹¹ Architecture Bureau, Minutes of the City Beautification Council of Yokohama held on 29 November 1967 and 22 March 1968.

¹² Environmental Development Centre, Report of Yokohama's central district redevelopment scheme

¹³ Environmental Development Centre, Report of the redevelopment policy of the central district along the municipal subway line.

¹⁴ Environmental Development Centre, Final report of redevelopment policy of Kannai and Ishikawacho station areas.

¹⁵ Kanagawa Newspaper, Article of Asukata's explanation at the city assembly meeting in February 1968.

¹⁶ Ibid., 2.

¹⁷ Kanagawa Newspaper, Article of the shop owners' opposition to the construction of the elevated motorway in March 1968.

¹⁸ Planning and Coordination Office, Portrait of a city from its port opening to the 21st century.

¹⁹ General Affairs Bureau, Request notification for conferring policy with the PCO.

²⁰ Ibid., 5.

²¹ Yokohama city government, Minutes of the city executive meeting on 22 May 1968.

²² Metropolitan Motorway Authority, 20th Anniversary history of the MMA.

²³ Watanabe, Oral history of undergrounding motorway talked by an ex-official of the MoC.

²⁴ Hasegawa, Oral history of undergrounding motorway talked by an ex-official of the PCO.

²⁵ Planning and Coordination Office, Request from mayor Asukata to Oka Member of Parliament, Agenda of meeting with PCO.

²⁶ Road Bureau, Municipal policy formulation paper of modification of motorway structure signed by mayor Asukata on 1 March 1969.

²⁷ Mayor's secretary office, Schedule of the Mayor, Takanecho.

²⁸ Ministry of Construction, Ministry policy formulation paper of change of the motorway drafted on 18 April 1969.

²⁹ Tatsugami, Oral history of undergrounding motorway talked by an ex-official of the city motorway section.

³⁰ Kanagawa Construction Department of the MMA, Construction History of Yokohane Line 2nd phase.

³¹ Metropolitan Motorway Authority, 30th Anniversary history of the MMA.

³² Transport Bureau, Construction History of Yokohama Municipal Subway Systems.

³³ Ibid., 5.

³⁴ Ibid., 2.

³⁵ Kanagawa Construction Department of the MMA, Construction History of Yokohama Line 2nd Phase and Mitsuzawa Line.

³⁶ Ibid., 35.

³⁷ Ibid., 32.