

A STREET DESIGN AS A DEVICE TO CULTIVATE ATTACHMENT OF INHABITANTS

Yoko Mohri* · Hiroto Imai* · Yuji Hoshino* · Ichiro Kobayashi*
Graduate School of Science and Technology Kumamoto University*

ABSTRACT:

This paper reports an example of street design for a road improvement construction. However, the street design to report is not suggestion of a merely beautiful street design. In our attempt, the design has been placed as a device to cultivate attachment of inhabitants. In this paper, our original concept and the process of the street design will be shown. We convened workshops to get a clue of street design. So, process of workshops is the process of the street design. As a result of the discussions, a systematic design was established. The proposition is supposed to assure a continuity of the relation between the inhabitants' life and the street design. At the same time, the design is a trace that inhabitants involved in this street design. In brief, our design concept is to give an opportunity for deepening inhabitants' attachment to the street.

KEYWORDS: street design, cultivate attachment, road construction

1. INTRODUCTION

Nagasaki Prefecture implements "Evaluation system for Nagasaki Prefecture public works" based on "Nagasaki Prefecture propulsion ordinance or beautiful town development (Machizukuri)". This system includes adviser system. This adviser system supports public works in Nagasaki Prefecture by adviser's participation in concept and design. Hoshino associate professor of Kumamoto University was appointed from Nagasaki Prefecture. This was the prompt and we got involved this project.

Target project is roadway improvement at Obama Kita Arima line (Tanigawa processing zone) in Nagasaki. As there are many mountain area in this town, the target area is located at flatland. Therefore, the target area is important roadway for inhabitants.

Depending on these backgrounds, we convened workshop including inhabitants of this town. Aim of

workshop is derivation of street design. We analyzed results of workshop and repeated consideration. As a result, we derived of systematic street design as device. This street design is a device to cultivate attachment of inhabitants before completion.

This paper reports the street design as a device to cultivate attachment of inhabitants and effort of this project. In this paper, our original concept and the process of the street design will be shown. The project, which this paper will present, is not peculiar at all. Similes public works implement in each place. Therefore, we aim to show possibility of street design for common roadway improvement and to connect new viewpoint.

2. PROJECT CONTENTS

2.1 Summary of project

The target of the public work is the roadway improvement at Obama Kita Arima line (Tanigawa

processing zone) in Nagasaki. This line is important district roadway.

Obama town in Unzen city is initial point of this roadway and Kita Arima town in Minami Shimabara city is the terminal point. Tanigawa processing zone is located in terminal point at Kita Arima. Inhabitants of this town call this roadway “Arima Street”.

Tanigawa processing zone is 900m. This includes a bridge. We show the detail table 1. This roadway do not have sidewalk at present conditions before improvement. After improvement, this roadway has street width of 6m. This road has street width 13m including sidewalks (figure1).

In this way, this project has aim to wide street width and improvement of line. Now, such a project is common. This project scale is not large at all.

Table 1 Digest of project

Project Term	2006.04~2009.03
Street Width	From 5m to 6m (13m)
Distance of interval	900 m
A Road Standard	The third grade the third class
Design Speed	50km/hr

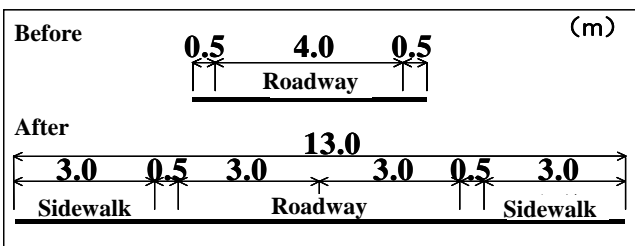


Figure 1 Road width

2.2 Explanation of target area

There is a ruin of Hinoe castle at Kita Arima town, Minami Shimabara city. The feudal lord Harunobu Arima dispatched a mission to the Europe at Tensei. From this influence, this town had a divinity school of SEMINARIO at first in Japan. In this way, this town has history of cultural exchange. More over, depending on these backgrounds, inhabitants of this town hold Christmas event and illuminations around Arima Street. Most of this town area is mountain area, but, Arima

Street is located at few flatlands (Photo1). This town has natural environments and enough spring water. Therefore, as shown Figure3 a lot of public facilities gather along Arima Street: School and Branch city,



Photo1 Kita Arima town

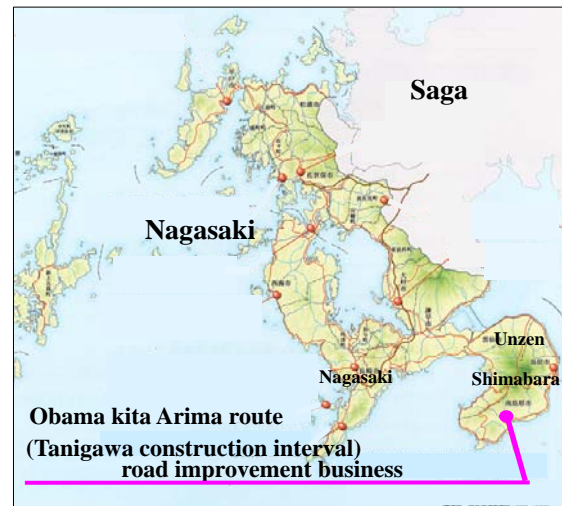


Figure2 Location of objection in Nagasaki

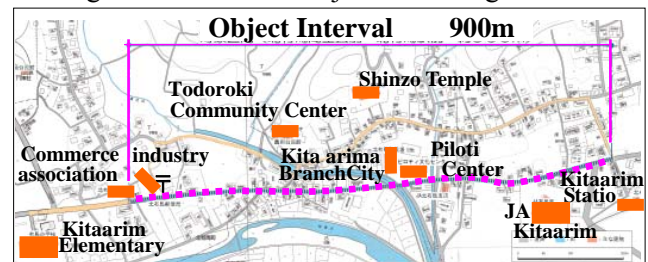


Figure3 Location of Objection in Kita Arima



Photo 2 Arima Street

hall, post office, station (Figure 2,3).

3. PROCESS TO REACH A STREET DESIGN

3.1 Summary of the workshop

We convened “Arima Street beautiful town development(Machizukuri)workshop”to derive street design. Therefore, derivation of street design in this paper is composition of workshop and contexture, and process of analysis for the result. Table2 shows the summary of the workshop. Also we participated events of this town to inform workshop.

Table 2 Summary of workshop

Convened Term	2005.12 ~2006.10
Number of Times	6 times
Date	Sunday
Time	13:00~15:00 p.m
Participant Number	Average 32.5
Participant	Inhabitants, Staff (Include elementary school students)
Assembly Hall	Piloti Cultural Center Hinoe (Figure 2)
Information	Publication (Report) (By Minami Shimabara city)



Photo 3 Workshop

Participators of workshop are not only inhabitants around the road but also inhabitants of this town. At least, half of participants were inhabitants in this town (Photo3).

But this is project of Nagasaki Prefecture, we got

collaboration of Minami Shimabara city.

To inform inhabitants out of participator, we reported about content of workshop by printed on both sides A3 size sheet (photo4). Content is aspect of workshop and schedule, but not analyzed opinions in the workshop. This report was distributed with publication of this town.



Photo 4 Report of workshop

3.2 Assembly of workshop and cooperation

At first, we explain the assembling of the workshop. We planed all schedule before the 1st workshop. This planning also assembled each workshop and considered corresponding street design. As a result, we set each theme and work content. We looked for next content of workshop every time we convened workshop, based on the result. And, all schedule were updated. Figure4 is the result and content of convened workshop in fact.

We have 3 points as consideration or impressions after all six times. At first, this all schedule was recognized as policy in common. Next, what all schedule was realized at first was effective for guidance of next workshop. The last point is to have led to making a role clear. We checked each role after the 3rd workshop.

Next, we explain collaboration. The formation of collaboration is Kumamoto University, Nagasaki Prefecture, Minami Shimabara city. Kumamoto University played role of study to lead the result to street design. Nagasaki Prefecture played role of

realization by study technically and budget. Minami Shimabara city played role to give out report and set up hall. We considered that this role-sharing was effective. Despite it is only 1 year since we convened

The 1th (05.12.17.sat)	Result	Analysis
“Fieldwork” Find the favorite place	Fieldwork MAP Photo	Potential of the town
The 2th (06.01.22.sun) “Talk・Know a town” Write in a characteristic at a map AIM Think about the theme of Arima Street : 「〇〇Street」	〇〇Street MAP	⇒Analysis table
The 3th (06.03.12.sun) “Think about road improvement business” Study this project Think about the usage of this street AIM Think about the place that I want to use	Zoning Important place	⇒MAP :Zoning and Important place
The 4th (06.05.28.sun) “Think about the design of this street I” See physical model AIM Fixated total image	1/50 physical model The comment of the discussion	⇒Round Tree Grid Plan Facing Plan Planted Zone Plan Banding pattern Plan
The 5th (06.07.02.sun) “Think about the design of this street II” AIM Fixated total image important part	4plan physical model 1/50 The comment of the discussion	⇒ Combination of the Elements and contextur Final Plan
The 6th (06.10.29.sun) “Relation with the future way” AIM Fixated practical visualization	10 Plan Combination of the block	4 ⇒ 1 Plan Combination of the block

※ “ Subject” Work

Figure 4 Schedule of workshop

workshop, this project accesses to actualization by getting budget at this moment. Therefore, we consider what we can dedicate ourself to our role was effective. The time that we made a role clear was at the change of the fiscal year. Not only that, 4th workshop became turning point to concretize street design.

We got opinions of inhabitants out of participator. It is because of the influence of regular workshop and relationship of participation in event. And Minami Shimabara city was shown a policy to collaborate as a town development. It is considered that a chance to see each other and to repeat dialogue lead staff to cultivate attachment. More over, it is considered that staff is prepared for effort to access to actualization.

3.3 Results of workshop and analysis

We explain about consideration process of street design from results of workshops.

The 1st workshop was fieldwork around this town. The 2nd workshop was discussion about this town based on impression of fieldwork. We looked for theme of Arima Street in a group of participant. The group announced “Arima Street is 〇〇street”. From such a work, we caught consciousness for the

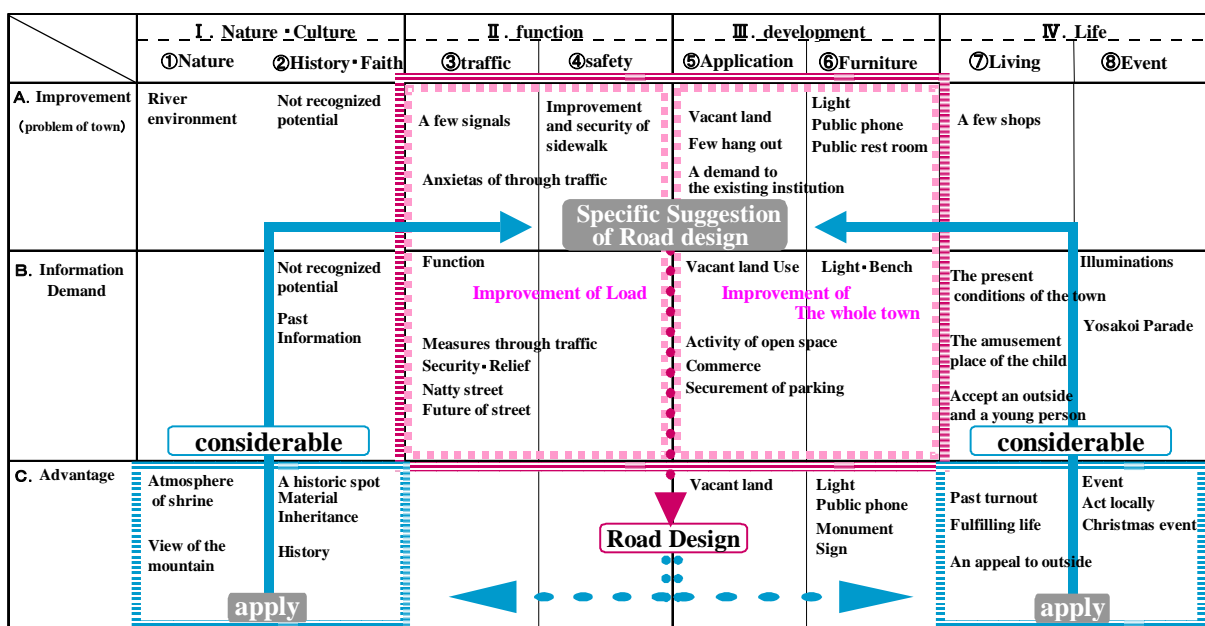


Figure 5 Analysis of opinions

enriching of “the life” and the living to “live” in this town. In figure 5, the result of analysis that we gathered the opinions that is result in the 2nd workshop.

The 3rd workshop looked for the usage of the way. Therefore, we understood project contents how Arima Street was improved. Participant learned

as knowledge of traffic density and speed, road and sidewalk width. We picked out important places and zones in the target area. This is result of the 3rd workshop. We made zoning map.

The workshop until the 3rd was present conditions analysis. In contrast, after the 4th times shift to the suggestion of a concrete street design.

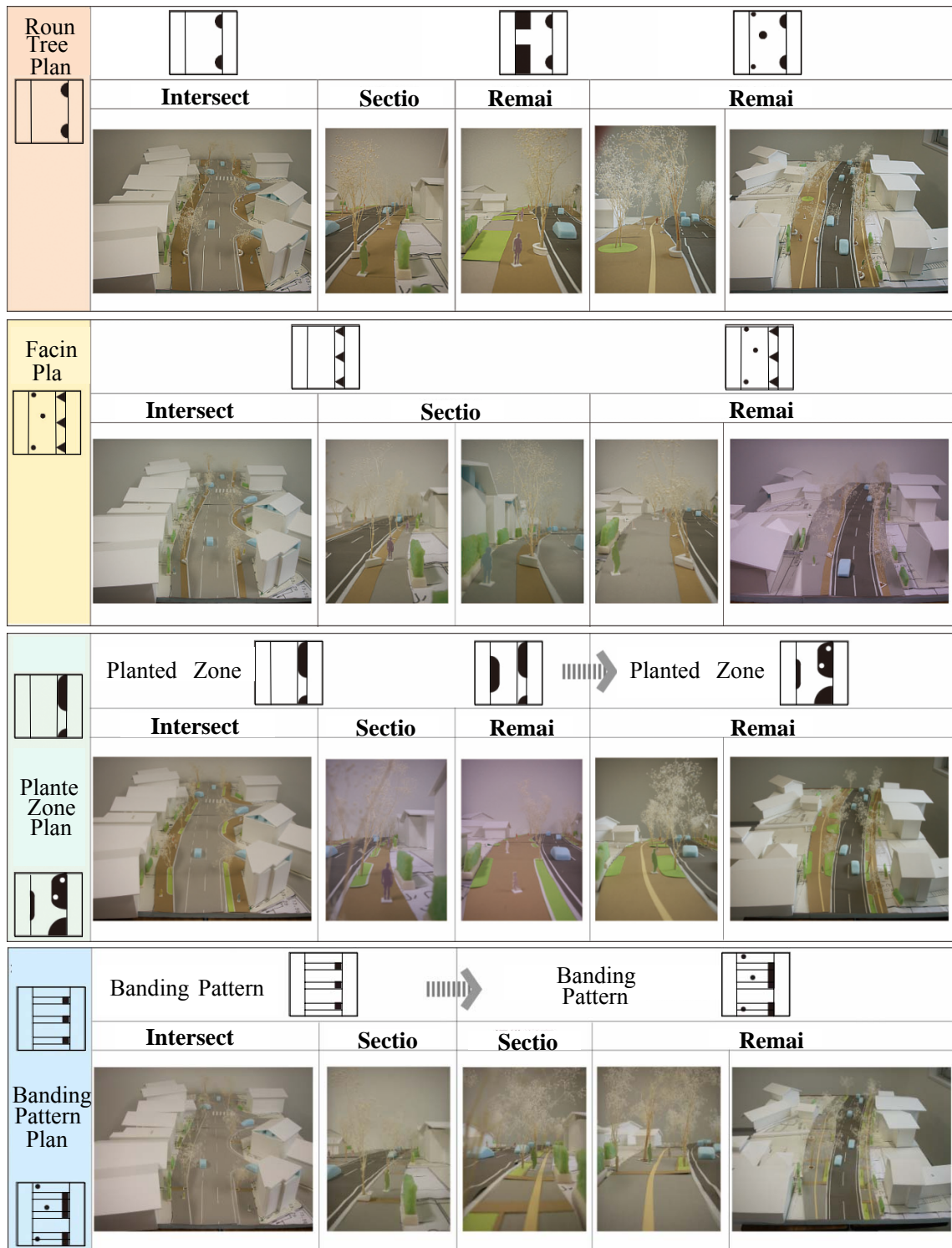


Figure 6 Variations of street design

With the 4th we prepared for 1/50 models which expressed road linear shape after the improvement. This models contain of only minimum information, not street design itself. A purpose of the 4th is to understand a road after the improvement as three-dimensional. We gave a free exchange of space of opinions while watching a model with the 4th and make a search for an image of the whole street. And it was demanded that we made a plan as an original plan.

Afterwards in a university for the next time, we made a search about the possibility of the street design. And we organized the variation of the design and the function. As a result, the possibility of the street design was narrowed down to four designs (Round tree grid plan / Facing plan / Planted zone plan / Banding pattern plan) (figure6).With the 5th we expressed the four designs to 1/50 model and

shared the merit and demerit. Afterwards, about each design, we found free opinions. Result of the 5th is what was quite narrowed down to Banding pattern plan and opinions provided for each design.

We received this result, we advanced to study possibility of Banding pattern plan more. We studied about relations to the placement of Banding pattern and tree grid. We study also about relations to the furniture, tree grid, bench, light, and so on (figure 7). On the other hand, we studied possibility to occur in a ground plan when these were expanded into the whole target area. These two studies led to considering present conditions analysis such as analysis and the zoning of the town. From such study, we arrived at plan as the design which could correspond with living in this town, being connected in enriching of living, zoning, which arrived in the final plan.

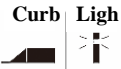

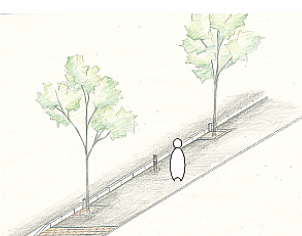
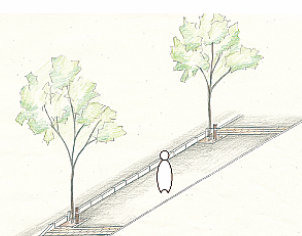
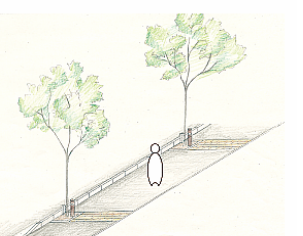
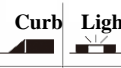

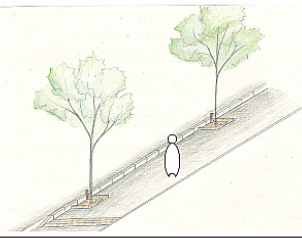
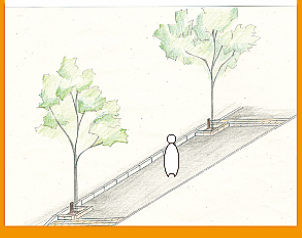
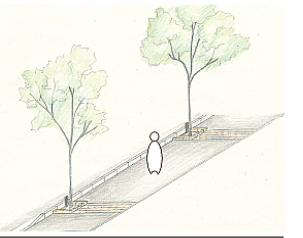
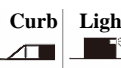
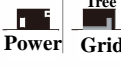
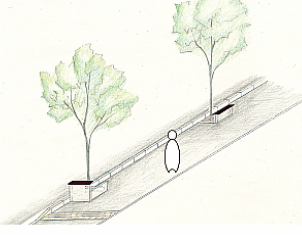
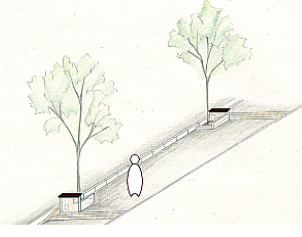
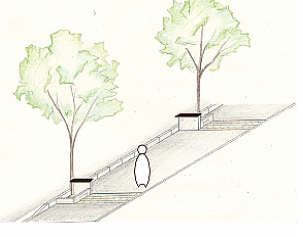
Alignme Context Design Element Combinatio	Discrete type	Adjacent type	Integrated type
1 Normal Design Curb Light  Power Tree 			
2 Tree Design Curb Light  Power Tree 			
3 Wall Design Curb Light  Power Tree 			

Figure 7 Study of placement

4. FINAL PLAN

4.1 Function and intent of street design

Figure 8 and photo 5 show the final plan. The final plan is the design which a Tree grid design 2-Adjacent type B of figure 7. That studied Banding pattern plan of figure more for.

We explain a characteristic of the final plan. The final plan that we have proposed is a systematic street design: accompaniment of the entrance of the residential land. It is characterized by the three points: two roadside trees juxtaposed at the entrance, a design of the pavement bordering the entrance of the residential land and light up of the pavement by two illuminations undergrounded in tree grid.

In addition, we explain the settlement of the curbstone and the power supply. The curbstone of the part which tree grid is installed in set up Banding pattern and tree grid (photo 5). The power supply for illuminations sets up inside of the tree grid. The color is not outstanding that is tea-based separately.

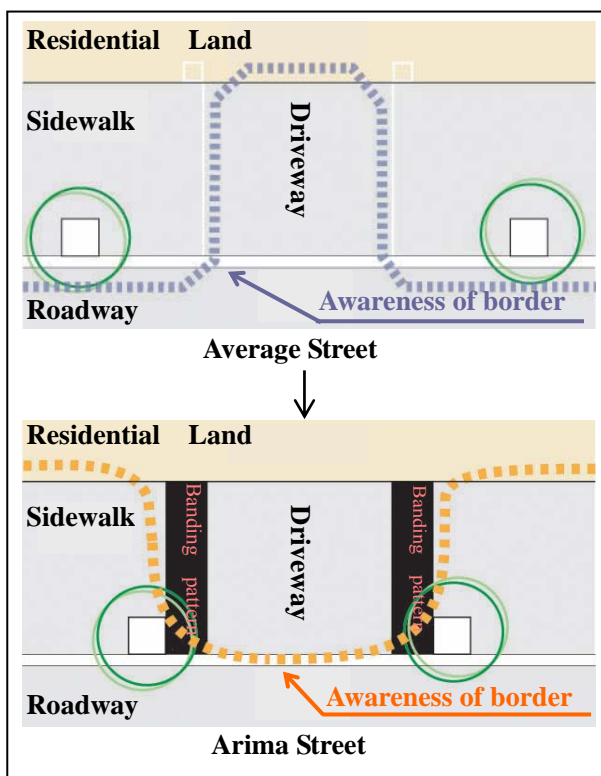


Figure 8 Intention of Arima Street



Photo 5 Model Sc: 1/10

We explain a function as the space of the final plan. There is a function that the final plan becomes clear driveway by Banding pattern at sidewalk and by a curbstone at the road side. On the other hand, by few unlevelled of the tree grid, sidewalk space becomes rough. But, tree grids continue makes clear the walkable width.

We explain two intentions put in a final plan. The first is that the juxtaposed trees give an impression as if they were the gates of the house in the roadside (figure 8). The dim lights are laid on the entrance welcome inhabitants. Illuminations will be symbolized their life and living. These devices are expected to widen the attachment of the inhabitants from residential land to a pavement design and a roadside tree.

The proposition is supposed to assure a continuity of the relation between the inhabitants' life and the street design. It is considered that the continuity of the relation in the everyday life brings to the inhabitants the attachment to the street. In brief, our design concept is to give an opportunity for deepening inhabitants' attachment to the street. We hope that final plan is device to cultivate attachment of inhabitants.

The second is flexibility of design. The final plan

that we have proposed is a systematic street design: accompaniment of the entrance of the residential land. Therefore the function of this system will not be lost even if any variations are given to pavement design of Banding pattern. Such flexibility enabled us to reflect many of propositions in workshops to the pavement design. So, for the pavement design, a proposition by inhabitants in workshop is applied. It is expected that the reflection reminds inhabitants of their participation to the design.

4.2 Balance of the whole target area

The final plan is a systematic street design: accompaniment of the entrance of the residential land. Therefore the interval of each roadside tree and each banding pattern become irregular. We studied the position of the driveway into in the whole street and the interval of the roadside tree with 1/500 models (photo6).

As a result, for a tree and the interval of the Banding pattern, correspondence to show in figure 8 was necessary. We decided to install the Banding pattern in connection or intersection to tell about the entrance and exit of the car. For the roadside tree, we have suggested to supplement over and shorts in a rule such as figure9.

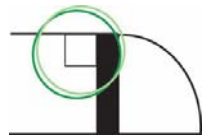


A) Intersection • Crossing	a) Two-dimensional plan
Banding Pattern + Street tree +Light	
B) Narrow	b) Two-dimensional plan
Between Banding Pattern +Planted Zone + Street tree	
C) Wide	c) Two-dimensional plan
Banding Pattern + Street tree	

Figure9 Rule of interval



Photo 6 Study of interval

4.3 The design of the block

The material of the pavement design Banding pattern is interlocking block. It is a prefecture article for sale which it used the fragment of the ceramic ware as design. In the 6th workshop, participant studied the combination of the block. As a result, 10 plans were suggested. The 10 plans were suggestions of the parts shown in photo. We studied in a ground plan for these 10 plans at a university.

We studied About the state that repeated a part to length of the sidewalk width, the state that formed a line by constant section length in succession more, the state when I changed the color of the block. It is considered that this study and the attribute of the proposer were not partial, and we narrowed it down to 4 plans from 10 plans. It was decided 1plan from 4plans by a participant of workshop. It is a plan of photo7 to have been decided. In the plan of this decided block, we will study a color combination.



Photo 7 Decided combination of block

5. CONCLUSION

In this paper, we make search for the clue of the street design in workshop.

We showed the process from the result of the workshop to derivation of street design.

We caught the consciousness of inhabitants such as “the life” to “live” in the town and paid our attention to an experience in the everyday life.

The final plan is a systematic street design: accompaniment of the entrance of the residential land. The proposition is supposed to assure a continuity of the relation between the inhabitants’ life and the street design. It is considered that the continuity of the relation in the everyday life necessarily brings to the inhabitants the attachment to the street.

On the other hand, we use that this streets being unified by one system. More over, we reflect the result of workshop in the details of Banding pattern by direct expression. We assume that this Banding pattern design becomes a clue to leave attachment. Because, a clue is a trace that inhabitants participated this street design before completion.

In this way, we assume that device to set a relation with the street design is device to cultivate attachment.

This intention based on a workshop arrived at one design. This paper is the one report.

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