

## Study Notes

# How Children Perceived their Hometown from the Viewpoint of Local Environmental Interaction

MIZUKI Shodo and MINAMI Hirofumi

(Kinugasa Research Organization, Ritsumeikan University/  
Graduate School of Human-Environment Studies, Kyushu University)

This study examines “*michikusa*” (children’s play while returning home from school) and looks at how to evaluate regional environments from not only the adult perspective, but also that of children. For this case study, the Ohtani Primary School area in Fukuoka Prefecture, Japan, was chosen. In this area, school routes to and from school routinely used by children had been refurbished in order to safely isolate children from vehicles, with the goal of reducing their risk of being hit by cars. This case study adopted the methodology of fieldwork in which the researchers followed students and walked with them in areas along the school route in order to identify and illustrate differences in their behavior when walking along the temporary school route used during the refurbishment period and then along the refurbished route. Through this fieldwork, the researchers observed relationships between children’s play and the street environment which offered some suggestions regarding how we can better incorporate the perspectives of children into our methods of evaluating street environments when a local society incorporates changes. Regarding the current case of environmental street changes that were instituted by a local society, it was found that the refurbishment of school routes for the purpose of securing the personal safety of children against traffic was not always perceived as good in the eyes of children with respect to the relationship between their activities and the street environment. New sidewalks for the purpose of isolating children from vehicles did not necessarily result in improved safety for children. Indeed, it may have introduced new risks for children to be hit by cars, since children cannot be constrained to talking and playing on very narrow sidewalks. For example, during the course of this study, children were sometimes observed stepping onto the street in order to extend their play area because the narrow sidewalk only accommodated either their standing on it or their walking straight home. These findings suggested that environmental changes with the intention of maintaining children’s safety may in fact precipitate new dangers instead of safety, and they may deprive children of “*michikusa*” opportunities.

**Key words** : *michikusa*, children’s play, evaluate hometown, street environment

### 1. Research aim

The aim of this research is to present a theme for discussing how to evaluate regional environments. In particular, the findings from

this research can be useful in discussions of what kind of viewpoints are necessary when considering the possibility of regional environmental changes within any local refurbishment.

In general, decisions regarding where, what, and how to change their region are made with considerations on top priorities such as safety, and these matters seriously influence regional environmental changes (Mizuki, Araya, Iijima, Kanamaru and Yamaguchi, 2003). Local people may take part in the process of consideration and decision-making, and their opinions may be emphasized. However, the opinions of participants are usually adopted from the views of adults but not from children (Hart, 1997).

What do children feel with regard to their regional environments given the results of such a decision process? On the basis of children's interests with respect to their regional environments and their opinions, this study illustrates the results of fieldwork aimed at adding a view to promote new ways of evaluating regional environments.

## 2. Research overview and methodology

### 2.1. Location

The area around the Ohtani Primary School, located in the city of Kasuga where is dormitory suburb and adjacent to Fukuoka City, Japan, was chosen as the focus of this study. In this area, the refurbishment of a school route was

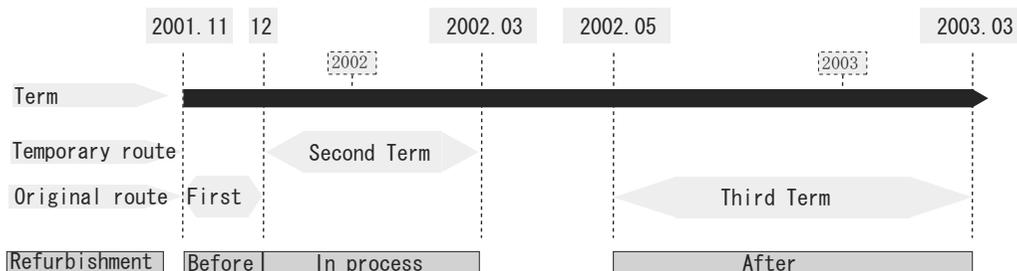
requested by the local people to the local government, and pavement was installed in order to separate pedestrians from vehicles for traffic safety reasons, and in particular to prevent children from suffering from traffic accidents. Because of measures required for prevention.

The fieldwork consisted of three terms. The first term was carried out from November to December, 2001, at an original school route before the refurbishment began. The second term was from December, 2001, to March, 2002, along a temporary school route instead of the original route which was undergoing refurbishment. The third term was from May, 2002, to March, 2003, along the refurbished route. (Figure 1)

Students of the primary school had to go to school along a temporary route during the refurbishment, and they begin to use the refurbished route four months later. This case study focused on the relationships between day students (children) and street environments through fieldwork in which the researcher accompanied the children along these different school routes.

Though there was the risk that vehicles might hit pedestrians before the refurbishment due to the street being four meters in width,

Figure 1. Three terms of the fieldwork



which is not wide enough, the refurbishment with the newly installed pavement compensated for the risk. This street is straight and paved, and it has few natural surroundings such as fauna and flora. A great number of vehicles pass along this street daily. Moreover, a few shops and stores have opened along the street, and children get many opportunities to meet and chat with local people such as shopkeepers and customers.

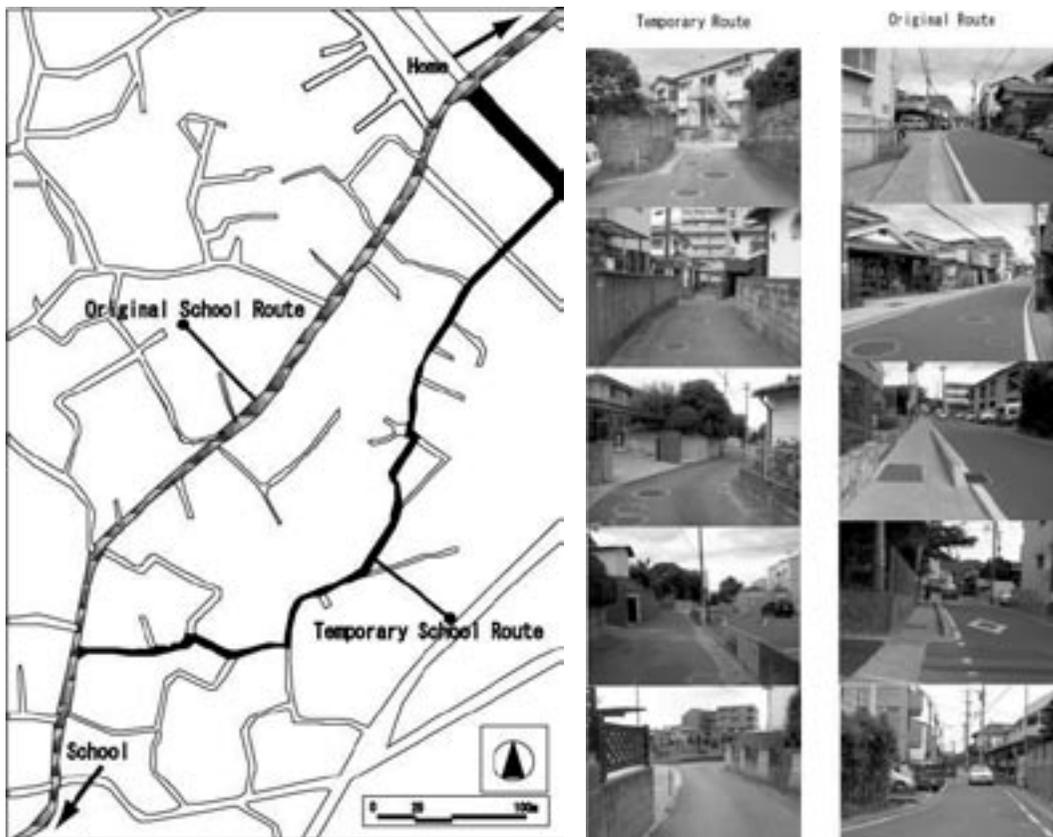
However, there are a number of aspects of the temporary school route used as alternatives during the refurbishment that are different from those of the original school route. The temporary street has a large number of uphill

and downhill slopes along with many turns to the right and left. Further, it is a narrower thoroughfare (approximately 3 meters in width), and vehicles hardly pass along it. In addition, this street is rich in diversity with several short detours and lots of natural surroundings. However, there are no shops or stores, and therefore few opportunities for seeing and chatting with local people. These differences were found from observing both the original and temporary school routes. (Figure 2)

## 2.2. Children groups

Two groups of children who live in the area of Ohtani Primary School and use the school

Figure 2. Original route and Temporary route



routes often were chosen for this fieldwork. They use not just one part of the school routes, but all of them every day when going to or leaving the school. The first group was composed of a few girls and boys, all of whom were 11 years old, and the second group was composed of four boys, all of whom were 12 years old.

### 2.3. Fieldwork method

Fieldwork was conducted on the two groups during their way home from school. One researcher accompanied the groups of children, paying attention to them and their behavior as they were influenced by the street environment. Most of children has known well about many environments of their local town, including all paths. This means it is not first time for them to use the temporary route and we can compare the appeal between different two routes.

The techniques adopted for collecting the fieldwork data included taking photos, marking on a map, and conducting interviews whenever it was observed that the children were being influenced by the street environment and reacting with interest. From these findings, what children are interested in, what kind of impressions they have of the environment, and what they regard as their favorite or least favorite aspects of the environment while they pass along the street can be illustrated. One of the important characteristics of this fieldwork was that the researcher assumed the role of a member of the respective group and not a “researcher” because acting in the same role as children can allow a researcher to feel the same things that they feel.

### 2.4. Process to take part in children groups

Building on relationships of trust with the children was important in this fieldwork (Fine & Sandstrom, 1988 ; Hart, 1979). At the beginning, the researcher accompanied many groups of children, but many of them did not feel relaxed and kept their distance from the researcher. Such an atmosphere was therefore not fit for making substantial conversations. However, a few groups of children soon became interested in various items related to the research, such as the maps and camera, and they began talking and asking the researcher what the items were for. This helped to promote the children’s cooperation with the fieldwork. Two of these groups that expressed interest in the fieldwork were then chosen as the focus of this research. The purpose and subject of the fieldwork was explained to the groups, and they accepted the researcher as a member of their group during their adventures along the school routes, which was referred to as “*michikusa asobi*.”

### 2.5. Fieldwork permission

Before launching the fieldwork, the researcher requested permission from the primary school and local leaders, and meetings were held with the primary school teachers and residents’ association leaders in order to explain the research and to obtain consent. As an attendant of the children along their school routes, an armband was given to the researcher.

### 3. Findings

#### 3.1. The street environment and how children evaluate it

Research questions consisted of what kinds of street environment are children interested in and how do they evaluate it. Children are members of the “local people” and are also users of the local environment. Nevertheless, children’s opinions are rarely adopted in cases of the refurbishment of the local facilities that they use. This means that the decisions and logic behind regional environmental changes are based on unfair opinions as they do not adopt the opinions of the local children (Mizuki & Minami, 2003). In fact, the consideration of what children feel about their regional environment as users of that environment should be required in such situations. To this end, this research examines the behaviors and opinions of children based on fieldwork conducted along two different school routes.

##### 3.1.1. Impressions regarding the two school routes

One of the school routes had been designated a regular route, and the other was a temporary school route used while the regular school route was undergoing refurbishments. Both routes were chosen without consulting the children. As a result of the fieldwork along both school routes, several kinds of children’s opinions were recorded. In particular, the opinions could be separated into two categories: positive opinions, such as “enjoyable” and “favorable”, and negative opinions, such as “unhappy” and “dislike”. Further, the

percentages of each category were different depending on the school route. The rate of positive opinions was larger than the rate of negative opinions for the temporary route during refurbishment, while the rate of negative opinions was larger than the rate of positive opinions for the regular school route (Table 1).

##### 3.1.2. Twelve categories

The impressions of children regarding the school routes can be further divided into the following 12, more detailed categories: 1) shapes, 2) images, 3) through traffic, 4) objects, 5) natural environment, 6) cleanliness, 7) shortcuts, 8) smells, 9) distance to the school, 10) encounters, 11) school rules, and 12) territories (Table 2).

From Table 2 and the 12 different categories, it can be said that children evaluate the street environment taking into consideration not merely the structural characteristics but also their own feelings and experiences.

##### 3.1.3. Differences in opinions regarding the environments

Table 3 illustrates the kinds of opinions children had regarding the two different types of school routes based on an analysis of the above categories, and through this we can approach an understanding of how children evaluate the street environment. Differences in their opinions regarding the two routes were found in five categories: *through traffic*, *natural environment*, *shortcuts*, *smells*, and *distance to the school*. Overviews of the differences in each of the five categories are as follows:

*Through traffic*: whether they feel comfortable

Table 1. Impressions regarding the two school routes

Impressions regarding the school routes		
	Positive	Negative
The temporary route	<ul style="list-style-type: none"> <li>• Walking the long down slope on my way home is very exciting.</li> <li>• I feel being surrounded by walls.</li> <li>• I can play kicking a brinny, because vehicles hardly pass.</li> <li>• I can play a game using a maintenance hatch as a tool because of few through traffic.</li> <li>• Up and down slopes make fun on me.</li> <li>• I excite climbing fences surrounding houses.</li> <li>• I found a lion-shaped roof ornament.</li> <li>• I feel like to take a Sharon fruit from a tree.</li> <li>• I want to make a secret play place on the top of the small cliff.</li> <li>• The street is clean without any rubbish.</li> <li>• I like tread maintenance hatch.</li> <li>• The street makes me feeling like to go to the school.</li> <li>• There is a shortcut and I like it.</li> <li>• I smell something like food from houses.</li> </ul>	<ul style="list-style-type: none"> <li>• Long way to school</li> <li>• I want to make a secret play place on the top of the small cliff.</li> </ul>
The regular route	<ul style="list-style-type: none"> <li>• I enjoy walk and kicking a brinny.</li> <li>• I like the short way to go to school.</li> <li>• There are some steps, and I can step up and down it.</li> <li>• I often meet my friends.</li> </ul>	<ul style="list-style-type: none"> <li>• Children from other primary school sometimes glower at me and feel fear and angry with them.</li> <li>• There are not any places I have side trip.</li> <li>• I feel danger passing by vehicles.</li> <li>• Car exhaust smells bad.</li> <li>• There are too many cars for me to walk with relax.</li> <li>• The street is wide but danger with vehicles.</li> </ul>

enough to play on the street depending on the number of vehicles passing by;

*Natural environment*: whether they feel like there are places where can play;

*Shortcuts*: whether they can choose their own route and save time;

*Smells*: whether they like or dislike the smells in the environment;

*Distance to the school*: whether it is near or far.

As a result, in the categories of *through traffic*, *natural environment*, *shortcuts* and *smells*, children evaluated the temporary school route as preferable when compared with the regular

route. Only in the category of *distance to the school* did they prefer the regular route over the temporary route. This was because the original route was of a shorter distance to the school than was the temporary route. To sum up, it can be said that children preferred the temporary school route more than the regular route.

### 3.2. Differences regarding the street environment and children's play

The two different school routes with their respective street environments caused differences in the children's behavior. The types of children's play along the regular

Table 2. Opinions of the children in twelve categories

Categories	Opinions of children (× : Negative Opinions)	
	The temporary school route	The regular school route
Shapes	<ul style="list-style-type: none"> <li>Walking the street is very exciting because of the down slope.</li> <li>Up and down slopes make fun on me.</li> </ul>	
Images	<ul style="list-style-type: none"> <li>I like the narrow footpath.</li> <li>I feel being surrounded by walls.</li> <li>The street makes me feeling like to go to the school.</li> </ul>	
Through traffic	<ul style="list-style-type: none"> <li>I can play kicking a brinny, because vehicles hardly pass.</li> <li>I can play a game using a maintenance hatch as a tool because of few through traffic.</li> </ul>	<ul style="list-style-type: none"> <li>× I feel dangers passing by vehicles.</li> <li>× There are too many cars for me to walk with relax.</li> <li>× The street is wide but danger with vehicles.</li> </ul>
Objects	<ul style="list-style-type: none"> <li>I excite climbing fences surrounding houses.</li> <li>I found a lion-shaped roof ornament.</li> <li>I like tread maintenance hatch.</li> </ul>	<ul style="list-style-type: none"> <li>I enjoy walk and kicking a brinny.</li> <li>There are some steps, and I can step up and down it.</li> </ul>
Natural environment	<ul style="list-style-type: none"> <li>I feel like to take a Sharon fruit from a tree.</li> <li>I want to make a secret play place on the top of the small cliff.</li> </ul>	<ul style="list-style-type: none"> <li>× There are not any places I have side trip.</li> </ul>
Cleanliness	<ul style="list-style-type: none"> <li>The street is clean without any rubbish.</li> </ul>	
Shortcuts	<ul style="list-style-type: none"> <li>There is a shortcut and I like it.</li> </ul>	<ul style="list-style-type: none"> <li>× There are not any places I have side trip.</li> </ul>
Smells	<ul style="list-style-type: none"> <li>I smell something like food from houses.</li> </ul>	<ul style="list-style-type: none"> <li>× Car exhaust smells bad.</li> </ul>
Distance to the school	<ul style="list-style-type: none"> <li>× Long way to school</li> </ul>	<ul style="list-style-type: none"> <li>I like the short way to go to school.</li> </ul>
Encounters		<ul style="list-style-type: none"> <li>I often meet my friends.</li> </ul>
School rules	<ul style="list-style-type: none"> <li>× I want to climb the small cliff, but I don't because It is not allowed.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
Territories		<ul style="list-style-type: none"> <li>× Children from other primary school sometimes glower at me and I feel fear and angry with them.</li> </ul>

school route and along the temporary route found as a result of the current fieldwork are shown in Figure 3. Generally speaking, many types of play were observed along both school routes regardless of the differences between the two street environments. However, special types of play, such as those that require the maximum width of the street, were changed to fit the particular street environment or done only in a street area fit for such play.

One category, *through traffic*, included aspects of the street environment that were in direct opposition with regard to the regular and the temporary school routes. The regular route had a large amount of through traffic, which was contrary to the temporary route, which hardly had any vehicles pass through. Put simply, the street condition in which vehicles hardly pass allowed children to have a number of types of play that fit the environment of the temporary route. On the other hand, the

**Table 3. Differences in children's opinions regarding the two routes**

Categories	Opinions of children (○ : Potive Opinions ; × : Negative Opinions)	
	The temporary school route	The regular school route
Through traffic	○I can play kicking a brinny, because vehicles hardly pass. ○I can play a game using a maintenance hatch as a tool because of few through traffic.	×I feel dangers passing by vehicles. × There are too many cars for me to walk with relax. × The street is wide but danger with vehicles.
Natural environment	○I feel like to take a Sharon fruit from a tree. ○I want to make a secret play place on the top of the small cliff.	×There are not any places I have side trip.
Shortcuts	○There is a shortcut and I like it.	× There are not any places I have side trip.
Smells	○I smell something like food from houses.	×Car exhaust smells bad.
Distance to the school	×Long way to school	○I like the short way to go to school

**Figure 3. Differences regarding the street environment and children's play**

Types of play	The school routes		
	Temporary	Regular	Both
Sword battle with parasols			●
Paper-rock-scissors game			●
Pulling bags at each other			●
Sliding and attempting friends having a tumble			●
Word game			●
Chasing game			●
Chatting			●
Play plank to school bags of friends			●
Sumo Wrestling on a step			●
Leaping and crossing over side ditches			●
Barleybrake (use maintenance hatches)			●
Talking an action of charm when an airplane is seen up in the sky			●
Kicking a brinny			●
Flowers and herbs watching			●
Collecting twigs			●
Playing with cats			●
Reading books			●
Spring rainwater with parasols			●
Catching and eating snow and hail			●
Climbing the small cliff	●		
Wide open to play at the street	●		
Hide-and-seek	●		
Loser of games carries bags for all children	●		
Making noises when a crap of dogs is seen	●		
Going by secret paths	●		
Climbing the small cliff	●		
Taking cover from a shower and chatting with shopkeepers		●	
Seeing and chatting with local people		●	

regular route did not allow children to do the same types of play that they could do on the temporary route. (Figure 4,5)

Similarly, differences regarding the types of play which depended on the presence of certain aspects of the street environment on

Figure 4. Children playing since there are no cars



Figure 5. Since there are many cars, no children's play



either side of the road along the two routes was also observed. For the *natural environment* category, for example, there is a small cliff along the temporary route, and there children could make '*himitsu-kichi*', which is a secret play space or fort. However, the lack of such aspects of the natural environment along the original route did not allow children to make '*himitsu-kichi*' along that road.

In sum, the relationships between the street environment and the types of children's play depend on the conditions of the street environment, such as through traffic and aspects of the *natural environment*.

### 3.3. Impressions in opinion regarding the refurbished street environment

Interviews were taken with the groups of children in order to make a comparison between the regular and temporary routes after the refurbishment in which a new sidewalk was installed. The main questions were which street they preferred using as a school route and why they felt that way.

of children that preferred the temporary route was greater than the number that preferred using the regular route. The reasons given for this preference included having the opportunity to find insects, being able to feel relaxed, and being able to enjoy the environment.

Moreover, as their general feelings regarding both school routes, the children expressed negative opinions about the regular route while expressing positive opinions about the temporary route (Table 4,5).

Regarding their opinions about the new sidewalk (1~1.5 meters), children felt it was too narrow to be played on or even to talk with friends standing side by side. For the children, the newly installed sidewalk means merely walking and being board. Therefore, the children can not bear to simply walk home on the sidewalk, and thus they may step into the actual street in order to extend their play space. This means that children will still be in danger although the new sidewalk was installed precisely to make the street environment safer for children.(Figure 6)

As a result of these interviews, the number

**Table 4. Opinions of the children after refurbished**

Opinions of the children (which school routes do you like, and way ?)	
The temporary school route	The regular school route
<ul style="list-style-type: none"> <li>· I enjoyed with a lot of shortcuts, trees and up and down slopes.</li> <li>· I excited climbing a small cliff.</li> <li>· I like the narrow footpath.</li> <li>· The street made me enjoyed.</li> <li>· Vehicles hardly pass in the street was good for me.</li> <li>· The street was a long way to home but made me feeling good.</li> <li>· When I had a homework studying nature. I could do it in the street.</li> <li>· I feel relax because of few vehicles, and it made me playing wherever in the street without care.</li> <li>· This street was exciting.</li> <li>· I like shortcuts in the street.</li> <li>· There are insects in the street of the particular areas such as a tuft of grass and rice paddy.</li> </ul>	<ul style="list-style-type: none"> <li>· I don't dislike the street because of shorter to home.</li> </ul>

**Table 5. Collectibe impression**

Comprehensive opinions	
About the temporary school route	About the regular school route
<ul style="list-style-type: none"> <li>· I would like to use the street again in spite of longer way.</li> <li>· I do not know why but I prefer using the temporary route to the regular one.</li> <li>· I often feel go home along the temporary route but I do not do it because of the school rule.</li> </ul>	<ul style="list-style-type: none"> <li>· Walking through the regular route is boring without chatting with friends.</li> <li>· I do not have "something feeling good" in this street.</li> <li>· This rout is shorter to go home, but there are nay shortcuts and spaces I have side trips, and it makes me being bored.</li> </ul>

**Figure 6. The children can not bear to simply walk home on the sidewalk**



#### 4. Discussion

The aim of this study was to supply places of decision-making with an arguable theme regarding what should be important when assessing the regional environment on the basis of the perspective of children. To do so, fieldwork which investigated children's feelings and behaviors with their comparative experiences between two different school routes was undertaken. In particular, findings from the fieldwork can help to develop the logic of the incorporation of regional changes. Here, how to develop regional environments from the perspective of children in contrast to that of adults is discussed.

It is assumed that the differences between adults and children with respect to the local environment cause differences in the assessment criterion used by each (Teramoto, 1995). Therefore it is often the case that regional improvement does not always fulfill the needs of children (Mizuki & Minami, 2003). In this case study, although adults made a decision to install a sidewalk along a street in order to protect children from suffering from traffic accidents, many children in fact have not regarded the installation as a substantive improvement. When the regional environment is changed with the needs of the local people in mind, such regional improvements should be planned with the inclusion of multiple views from all users of the environment, including those of children.

Regarding the methods for introducing

multiple views into places of decision-making, even though various people from different social positions should participate in such processes, it is not as easy for children to take part. The reason for this is that children are limited in their ability to express their thoughts about the regional environment through words alone (Teramoto, 1995). In order to include the planning perspectives of children, we should first learn how children feel and behave within the environment from research that observes them interacting within such environments. Through this process of understanding children's behavior, more appropriate decision-making for the purpose of effective regional changes and improvements can be achieved.

Children behave with respect to the environment with their own specific corporeality and sentiments (Senda, 1992 ; Kinoshita, 1996 ; Awahara & Kumazawa, 2002). Decision-makers need to examine in particular what points should be focused on from observing how children behave in the street environment. For example, as we look at a world of children while pointing out the danger posed by through traffic in the street, street refurbishments are done for the purpose of traffic safety. However, as a result of this fieldwork, it was found that children in fact feel the necessity of traffic safety, but at the same time they desire to have a space to play in along with the many catalysts for play and for getting around the street environment. In sum, both aspects, that is, traffic safety and the latitude of child activities, should be taken into account within the logic of regional changes, and if the decision is made to ignore them,

then refurbishments will not likely become effective improvements.

Children have a variety of assessment criteria for street environments. For example, it has been seen through the current fieldwork that they assess such environments according to the particular street structural characteristics and their own sensitivities. However, even if such assessment criteria are incorporated into a constructed environment, children will not always be able to engage in any activity that they choose. The reason for this is that in the process of interacting with the environment, we can not overlook the fact that we don't know what situations will occur or how busy the through traffic will become. In other words, it is important to consider not only the development of the physical aspects of the environment but also how to establish situations in which many types of interactions with the environment are possible. While the children in this study were using the temporary school route, they had more opportunities to interact with the environment than they did when they used the regular route. One of the reasons why such differences appeared could be that the temporary school route hardly had any through traffic. These findings illustrate that not only developing the environment, but also changing the conditions that help accommodate activity improves the street environment and helps to alleviate problems.

When environments are established, spatio-temporal design should be incorporated that increases the chances of frequent interactions between the environment and its users, while

taking into consideration the underlying conditions that accommodate such activities. Further, based on such design, if a street environment that makes children feel "good, but for no particular reason" is established, then that street environment can be said to have been improved.

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