

The Quality of Life in Metropolitan Suburbs of Japan: The Availability of Private Cars and the Daily Activities of Married Women

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Introduction

In recent years, the daily lives of suburbanites in Japan's metropolitan areas have changed remarkably in both spatial and temporal aspects. Due to the increase in private automobile ownership, suburban living space has expanded. It has been divided separately into home-related space and work-related space, due to long journeys to work, since residential housing has spread further from metropolis centers. On the other hand, the suburban time budget has changed due to several factors: the lengthening of commuting time, the popularization of the five-day-week, the increasing number of married women in the labor market, and the increasing trend toward a 24-hour service day.

This study tries to evaluate the quality of life in metropolitan suburbs, where daily lives have been undergoing such spatio-temporal changes. In particular, this study will analyze the role of married women in the employment sector and other outside social activities, and will try to identify the obstacles that keep married women from these activities. A survey was taken in which the daily space-time budgets for households were scrutinized.

The time-geographic approach (Hägerstrand, 1970; Pred and Palm, 1978), which contains useful concepts such as the daily path and constraints, was used for analysis. To determine the factors affecting married women's social activities, this study focused on the life stage of the wives and private automobile ownership.

Characteristics of recent suburbanization in Japan

According to Population Census in 1990, 43% of Japan's total population was concentrated within 50 km radii of three large metropolises: Tokyo, Osaka and Nagoya. The majority of this population live in metropolitan suburbs. To examine the quality of suburban life, we, three colleagues and myself, selected two metropolitan suburbs and

investigated the daily lives of suburban residents in 1990. The suburbs we selected were Kawagoe, a metropolitan suburb of Tokyo, and Nisshin, a suburb of Nagoya.

Before turning to our analysis, it is helpful to describe some characteristics of recent suburbanization in Japan. As I mentioned at the outset, the recent suburban daily lives have changed in both spatial and temporal aspects. This change has several factors.

1. Increasing private automobile ownership

The ratio of automobile ownership of total households was 86% in Kawagoe, and 98% in Nisshin. In Nisshin, 46% of total households had a second car. These percentages have been increasing recently. The living space of suburban people has expanded due to this increasing private automobile ownership.

2. The lengthening of commuting time

Recently, residential housing has spread further from metropolitan centers. Due to long-distance journeys to work, the living space of suburban people has been divided into work-related space and home-related space. This generally brings a division between weekday-related space and weekend-related space for the working man, and a division between husband-related space and wife-related space for a household.

For example, Kawagoe, the Tokyo metropolitan suburb study area, is located about 40 km from the metropolitan center. 53% of husbands commute to Tokyo. Husbands' average one-way commuting time is 64 minutes. One third of them travel more than 90 minutes from the home to the work place. These long-distance journeys impose strong constraints on a husband's time budget on weekdays. On average, they get home at around 8:30 PM on average. Most of them cannot eat supper with their children on weekdays.

3. The increasing number of married women in the labor market

According to statistics in 1991 from the Prime Minister's Office, the number of double-income households rose by 6.6% during the past year in Japan. In particular, part-time employment of middle-aged married women has been increasing remarkably. This tendency has been growing among suburban married women, which affects the time budgets of their daily lives.

Study area and data collection

The main study area in this paper is a metropolitan suburb of Nagoya. The Nagoya metropolitan area can be characterized by the mode of transportation chosen in comparison with the other two largest metropolitan areas of Japan; Tokyo and Osaka. As Figure 1 shows, the most common means of passenger transportation in the Nagoya metropolitan

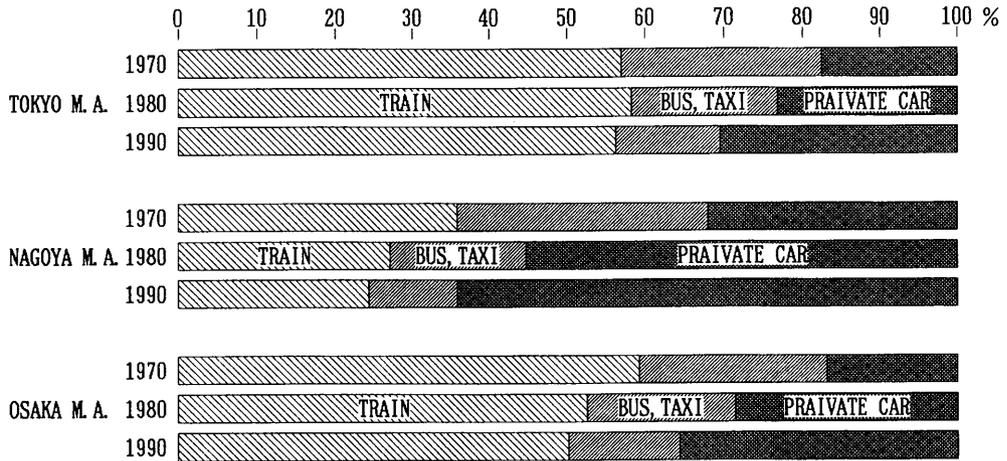


Figure 1 The means of passenger transportation in three metropolitan areas
 Source: Urban Transportation Annual Report, 1993

area is the automobile, and it is becoming increasingly popular. The daily lives of Nagoya's suburbanites depend considerably on the automobile, so it is important to examine how the availability of a private car affects the quality of life of suburban people.

The investigation area, Nisshin, is a city neighboring Nagoya, located about 15 km east of the metropolitan center. 46% of Nisshin's working population commute to Nagoya city. Nisshin is connected to the metropolitan center by only one railway, so public transportation service is inconvenient except along this line. This transportation scenario is typical of a Nagoya metropolitan suburb.

Data were taken from an activity diary survey (Jones, et al., 1983) of households. The space-time budgets on Sunday and Monday for both husbands and wives were scrutinized in detail, that is, what activity was done at what time, in what place, and with whom. Figure 2 shows the format of the activity diary. The time budget survey in the upper part described main activities, sub activities and companions of activities along time. On the other hand, the travel survey in the lower part asked for details of each trip. The cross-check of the two parts and interview surveys compiled accurate information about activities without omission. Besides the space-time budgets, the survey compiled supplementary household information: household structure, private automobile ownership, dwelling history, and so on.

187 households were investigated in Nisshin. Surveyed households can be divided into six categories by the age of youngest child, that is, married women can be also grouped into six stages of life (Table 1).

Table 1 Six Life-Stage Groups

	Description of Group	Age of Youngest Child
Stage A	Younger adults without children (Youngest person under 35)	No children
Stage B	Families with babies	~ 2
Stage C	Families with pre-school children	3~ 5
Stage D	Families with young school children	6~14
Stage E	Families with old school children or working age children	15~
Stage F	Older adults without children (Youngest person 35 or over)	No children

Daily activities of women with preschool children

Here the study focused on the outdoor activities of married women on a typical Monday. Figure 3 shows what percentage of married women at every stage of life used private cars on Mondays. The solid line is related to working married women and the broken line is related to non-working married women. Generally, the use rate of working married women is higher than the rate of non-working married women. This suggests it is more important for working married women to have a car available. In particular, the private automobile is indispensable for working married women with infants. As the graph



Figure 3 Percentage of married women used private cars on Monday

indicates, private cars were used by all surveyed working married women with children under 2 years old (Stage B) on the Monday of the survey.

If the family lives with either the husband's or the wife's parents, the grandparents help the wives to care for the young children and this enables the women to work outside the home. However this type of household is rare in metropolitan regions. Almost all working wives with young children have to use infant care services and it is almost impossible to escort young children to and from the infant care facilities without private cars.

Here is an example of the daily life of such a woman. Figure 4 shows the daily paths of a family which has one child, under one year. The husband works in the central business district of Nagoya and the wife also works full-time in an office in Nagoya city. They have only one car, which is used by the wife on weekdays. The husband commutes by bus and subway. On weekdays the wife drives her young child to a full-day child care facility near her place of work before office hours and picks up her child after office hours. This full-day facility near by her place of work enables her to work full-time. A care facility distant from her work place is not an option for her either, because she would get to work too late after leaving her child at the facility and because after leaving work she could not get back to the facility before its closing time. If she could not find a full-day child-care facility near her workplace, she would have to give up working there full-time. The choice of a job made by a married woman at this stage of life is severely restricted. Consequently, the private car is indispensable for her to move efficiently between the workplace, the day care facility and the home.

Figure 5 is also an example of a one-car household: as the husband drives to work, the wife cannot use a private car to go her work place. They have two children, one is 3 years old, attending a day nursery, and the other is 6 years old, attending first grade of an elementary school. The wife does not have to take her younger son to the day nursery, because a school bus is available and she is only obliged to escort him to the bus stop. Still, a full-time job is not possible for her, because the service hours of school bus are from 8:00 to 9:00 A.M. and from 3:00 to 4:00 P.M. These conditions restrict her to part-time jobs near her home. She works at the nearby post office from 9:00 A.M. to 2:00 P.M. This job might not offer her good prospects.

Activities highly restricted both in time and space are termed "markers" in the language of time geography (Forer and Kivell, 1981). The woman here must accompany her child to the school bus stop a little before 8:30 A.M. and collect him/her a little after 3:00 P.M. Though a free time "window" between markers is available to her, it is not long enough

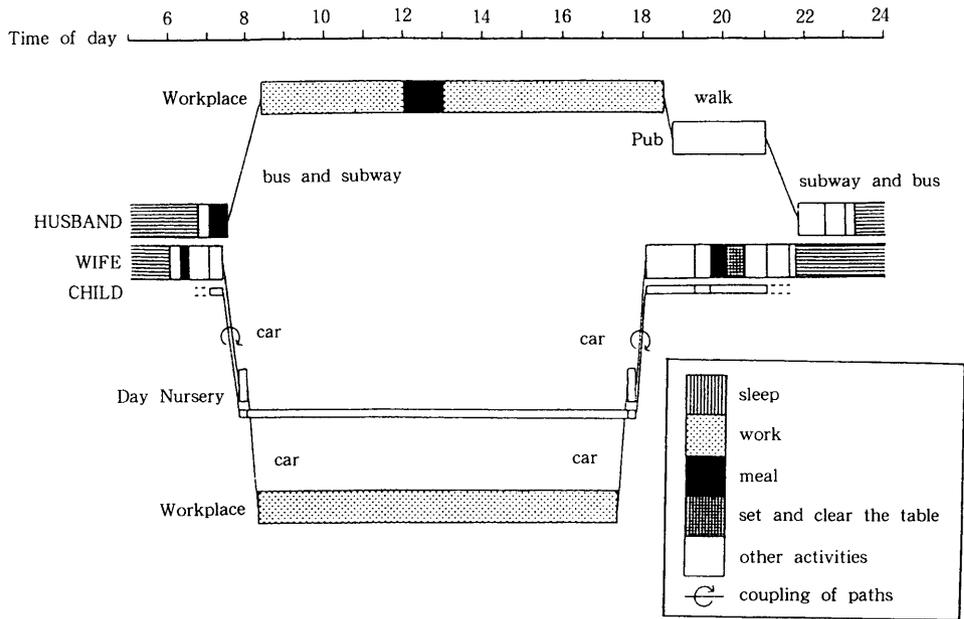


Figure 4 Daily life of a family with one child, under one year
They have one private automobile.

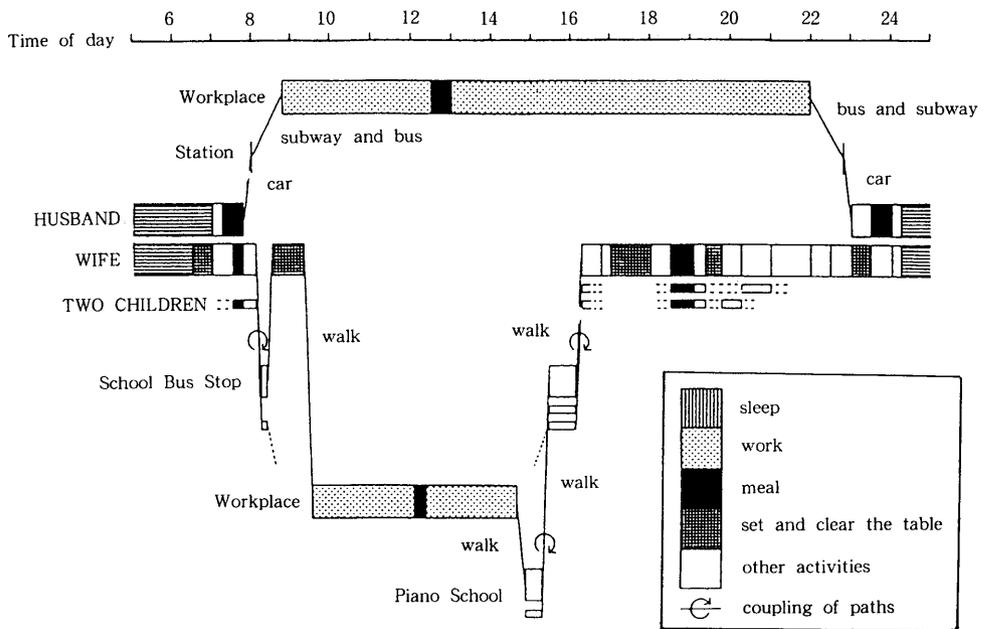


Figure 5 Daily life of a family with two children, 3 and 6 year-old
They have one private automobile.

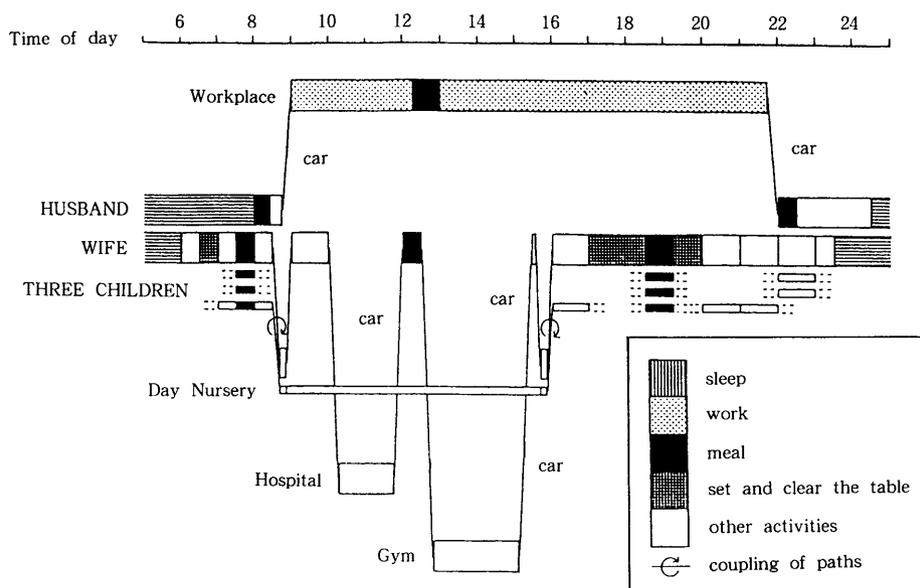


Figure 6 Daily life of a family with three children, 5, 13 and 14 year-old
They have two private automobile.

for her to work full time, so only part time jobs are open to her. As she is a pedestrian, her job sights are even more strictly narrowed.

The availability of a private automobile proves a most important factor affecting married women's social activities as well as their stage of life. For example, the married woman's daily life in Figure 6 would not be possible until a private car was available to her. She is non-working and has three children. She has to escort her youngest child to a day nursery at around 8:30 in the morning and pick him/her up there at around 3:30 in the afternoon. That imposes "markers" on her, although she can drive easily between her home and the day nursery by private car. In the free-time window between these markers on the Monday surveyed, she visited a friend in hospital and played badminton with some other friends in the citizen's gym. It is inconvenient to get to these places by bus. Access to an automobile enables her to participate in social and leisure activities.

Daily activities of women with children in school age or above

A longer time window is available to mothers of primary or junior high school pupils, which enables them to work for much longer periods. Wives in households with no children or with high school students or older can easily participate in social activities. Cooking and washing dishes on weekdays remains an unavoidable household chore, but the residual time

tends to be at the discretion of the wives.

The availability of a private car again affects the quality of suburban life. In Figure 3 presented before, indicating the relationship between the automobile use ratio of married women and their stage of life, there is a steep rise of the ratio in the non-working married women's Stage D. In Stage D, the youngest child is aged 6 to 14 years, that is primary or high school age. This high ratio reflects that mothers have increasing occasions of social activities through their children and these frequently involve driving. The suburban environment requires that wives not only to drive themselves to shopping and recreational facilities, but also to drive their children to children's activities: supplementary lessons after school hours, swimming school, music lessons, and the like. Thus, these wives face further fragmentation of their blocks of free time.

The social activity options available to the married women with grown children should be limitless. But, for pedestrian wives, to whom a car is not available, suburban life would appear to be rather severe. This situation is typical for the one-car household. In suburban areas, where public transportation is often inadequate, the husband drives the car to work, leaving the wife home alone without a car. She is isolated not only from work, but also from shopping and leisure opportunities. The suburban wife without access to a car tends to avoid outdoor activities on weekdays and asks her husband to drive her to the supermarket to buy a week's necessities on weekends.

Purchasing a second car does not always solve the problem, because the number of middle-aged housewives who have a current driving license is relatively small. Figure 7 represents the possession of driving license ratio of the married women surveyed at every stage of life. While all of the younger married women without children (Stage A) have

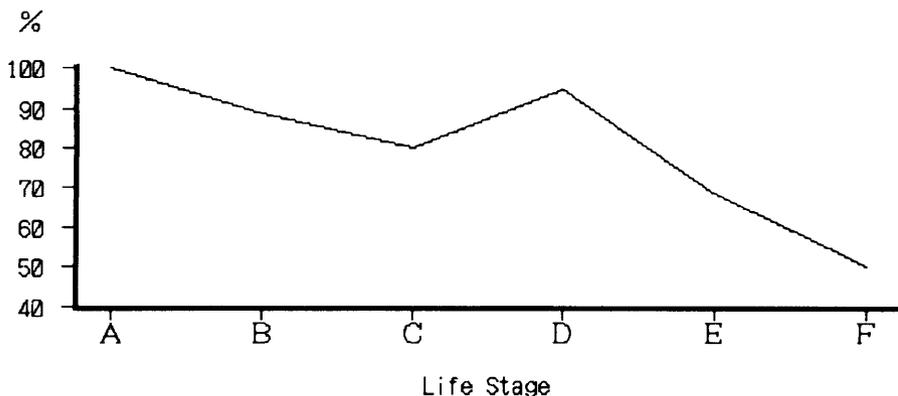


Figure 7 The possession of driving license ratio

driving licenses, the ratio is only 50% in the older married women without children (Stage F). When the husband becomes too old to drive, the daily lives of elderly households will be more severe. They might have no choice but to move from the suburb in which they are living.

Conclusion

As a result of the above analysis, it became clear that the availability of a private car is the key factor affecting residents' activities in the suburban environment, especially in the Nagoya metropolitan area. Regional planners should look on metropolitan suburbs as completely car-dependent areas, because we cannot expect a remarkable development of public transportation services in these areas. Parking lots should be arranged not only at terminals and public facilities but also in residential zones. In housing developments within a surveyed area, almost one parking space per household is provided. Illegal parking of second cars is common and adversely affects road safety. Now, regional planning and policy should take it for granted that second cars are essential to the quality of life of metropolitan suburbanites.

Thus the quality of life in metropolitan suburbs is clarified in a microscopic, as well as a quantitative way, based on the concept of time geography.

Note and Acknowledgement

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