

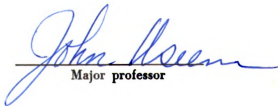
A STUDY IN THE THEORY AND METHODOLOGY OF
COMMUNITY TIME ALLOCATION

Thesis for the Degree of Ph. D.
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ABSTRACT

A STUDY IN THE THEORY AND METHODOLOGY OF COMMUNITY TIME ALLOCATION

by Carl R. Jantzen

This study is an exploration of theory and methodology in the use of the temporal dimension for describing community structure and change. It deals with a problem which is composed of two interrelated concerns: (1) the development of a theoretical framework which can incorporate human time allocation, and (2) the formulation of a method for collecting data on time allocation in communities.

A selective review of anthropological and sociological literature shows that time has been used in many different ways as an index or variable in theory and research. However, many studies of time have lacked a theoretical framework for clarifying the relationships between the uses of time and the relevant social or cultural structure. In the present study, theoretical relevance is provided by linking time allocation to the study of communities. The temporal dimension is an important part of community life because communities occupy their spaces in time. Although time is a basic and pervasive condition of human action, the uses of time are subject to human choice and ingenuity. Time may be considered as a scarce resource which is allocated by a

process similar to the allocation of other resources such as money, land, and energy. With reference to the use of time a community may thus be viewed as a collection of choice-making individuals.

The study of time allocation is proposed as a useful addition to the community study method because (1) time is a quantifiable resource and (2) the patterning of time expenditure can be considered as an index of human values. The formulation of a community time budget methodology is based on the experiences gained in designing and carrying out the illustrative case study of a community time budget. Procedures in this case study involved making the following major decisions: (1) definition of community as a local system of complex, daily human relationships; (2) the choice of human activity as the basic unit for observation; (3) the selection of major types of community activity for sectors of time allocation; (4) gathering the data through the use of informants, observations, and existing reports; (5) confining the study to one month; (6) delineation of community boundaries around the area where most of the activities occur; (7) limitation of observations to public activities; and (8) limitation of observations to adult activities.

The data which were gathered in the case study are presented in a community time budget framework. Discussion and interpretations of the data include comments on

(1) activities inside and outside of the central business district, (2) cycles and synchronization of activities, (3) adjustments in resource allocation, and (4) the "typicality" of the community studied. Evaluation of the time budget method indicated that it should prove useful in the following ways: (1) as an ethnographic technique, (2) as a basis for comparative studies of community structure, (3) as an index of community change, and (4) as a benchmark for the evaluation of planned change in community development.

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CHAPTER I

INTRODUCTION

The general purpose of this dissertation is to explore the theory and methodology of time allocation as an aid toward understanding the human community. On the basic assumption that the ways in which people spend their time are expressions of human values, it is proposed that information on such time allocation can be used to provide a convenient framework for collecting meaningful data on communities.

The problem to be dealt with is composed of two inter-related concerns: (1) the development of a theoretical framework which can incorporate human time allocation, and (2) the formulation of some rules for using time allocation data as a method in the study of communities. Procedures for handling this problem include the case study of a community time budget which serves both as an illustration of methodological decisions and as an example of the kinds of data which can be collected.

On the one hand, this study represents an attempt to clarify a theory of human time allocation which is implied in many studies of time. The literature on time allocation as related to various age levels and roles in a community

or a society consists of accounts showing how time is spent in various activities. These accounts of time allocation are usually expressed in terms of how much time certain categories of individuals--housewives, urban workers, dairy farmers, and other selected aggregates--spent their time during an average day or week. Some more restricted studies give an accounting of how much time certain individuals spent in leisure activities, in work, or in other selected categories of activity. Some of the findings of this body of literature on time will be of use in the present study, but it is not the aim of this dissertation to make an appreciable addition to such studies.

The second concern of this study is directed toward the development of methods for the description of certain social facts--namely, how the total amount of time available to the members of a community is divided into various activities. On the basic assumption that time allocation is also an expression of community structure and organization, the compilation of such information should be useful as an index for the study of community life. In addition, this information should facilitate the identification of certain kinds of community change.

The study of time allocation is not presented as a substitute for other methods of studying community life, but it is proposed that the use of time as one focus of observation provides certain advantages which may supplement these other studies.

The purpose of this chapter is to introduce some of the major concepts and ideas involved in the study of community time allocation. Major divisions of the chapter include: a working definition of community, some observations on time allocation and the community, a discussion of the characteristics of time, comments on the justification for the study, and general procedural plans for the study.

A Working Definition of Community

The use of a community framework for the study of time allocation immediately identifies this study with a vast literature dealing with various aspects of community life. The study of the community has evolved around the general focus on shared living based on common locality. Beyond this deceptively simple statement, a great diversity of perspectives on community life have appeared in the anthropological and sociological literature; there is no precise definition of community which is acceptable to everyone who uses the term. Despite the difficulty in defining the complex system of relationships known as the community, there is a growing body of literature which deals directly with the definitions of community which are implied or stated specifically in community studies. In one of the more extensive such treatments, Hillery (1955: 118) found that a majority of the 94 definitions he analyzed include area, common ties, and social interaction as important

elements of the community. Kaufman (1959:9) includes similar elements in a comprehensive expression of consensus in defining community:

One, community is a social unit of which space is an integral part; community is a place, a relatively small one. Two, community indicates a configuration as to a way of life, both as to how people do things and what they want--their institutions and their collective goals. A third notion is that of collective action.

Although some consensus exists regarding these elements of community, the term continues to have great generality, including the local neighborhood as well as the urban metropolis. In the present study, the general descriptive use of the term "community" shall be continued. Rather than give the term a restricted or specialized meaning, community shall be defined as follows: The human community is a complex, integrated system of interacting individuals usually identified by a central place, and comprising an organization of social activities which enables these individuals to meet the needs of day-to-day life.

Human Time Allocation and the Community

Communities have usually been studied within the framework of either one or both of two major orientations. As social and cultural systems communities have been studied as enduring structures of human relationships. As ecological systems, communities have been studied in terms of the spatial patterns which are important to the existence of particular community structures. Another important facet in

the study of communities, however, combines aspects of these two major orientations in concentrating on the temporal patterns of community life.

The fact that communities occupy their spaces in time makes the temporal dimension an important part of the community study method. Communities "alternately show dispersal of their persons (to the fields, to the hills, by the season, by day, etc.) with assemblage of them (in sleeping quarters, in ceremonies, in communal efforts, in war)" (Arensberg 1955:1147). Changes in daily and seasonal cycles are accompanied by changes in human activity. Despite the diversity of activity which occurs in communities, however, each person in a community normally chooses from among only a few practical alternatives open to him at any given moment. The result is that people spend their time in fairly regular relationships. On the community level this regularity of relationships becomes manifest in the allocation of blocks of time to this and that activity. This regularity of temporal allocations makes it possible to view the community as a system of inputs and outputs of time. Use of the temporal dimension also makes it possible to think in terms of community time budgets.

The Budgeting of Time

A budget is a plan for assigning the controlled portion of a resource to various uses during a period of time. A

time budget is made up of sectors or categories of activities to which time has been allocated. The total time budget of an individual or a community is always limited. The number of time units available to an individual in a week may be determined by multiplying the number of hours in a day, 24, by the number of days in a week, 7. The number of time units available per week to a community of 1,000 inhabitants is 24 times 7 times 1,000. By discovering the number of hours in a community devoted to sleeping, eating, schooling, working, and all other activities it should be possible to ascertain the percentages of time allocated to each activity by the people of this community. These figures would indicate the way people of this community spend their time. Since people usually spend their time in more or less regular relationships, a community time budget should be one way of describing the structure of a given community.

Increasing attention is being paid to time budget analysis and the study of time allocation in communities. In a recent article, Meier (1959) has explored some of the possibilities of using data on time allocation as the basis for social accounts. His investigation of using a communications framework for analyzing urban growth (Meier 1962) also includes human time allocation as part of a general method of approach. In evaluating present methods for describing urban growth, Meier notes that changes in time allocation can have far-reaching effects in terms of social and cultural organization.

Intuitively we feel that the degree of social and cultural organization in cities is understated when expressed in terms of present sets of accounts. At least two dimensions, human time allocation and the communication of cultural images, are missing from the available urban accounting systems. Educators, city planners, public health specialists, and many public administrators have been groping for indicators of advancement and growth in these directions without having anything objective with which to work (Meier 1962:6).

Meier describes how information on time budgets can be gathered by use of existing data which is already gathered by various agencies and groups as well as by making special types of surveys. Depending, of course, on the extent of the data, the results of analyzing time allocation could have the predictive quality of economic accounts. At present, however, Meier is mainly concerned with the practical uses of the time budget:

The usefulness of the time budget framework depends primarily upon its relevance to decisions about the allocation of scarce resources. It will not make or break existing theories in urban analysis, but would only illustrate quantitatively the assertions of Park, Burgess, Wirth and others about the structure of urban society (Meier 1962:49-50).

Meier is not alone in pointing to the importance of using time data for the further understanding of human behavior. A survey of the literature in the next chapter will show that time has been a much-studied subject. Because of its quantitativeness it has had a considerable amount of appeal. As Coon (1948:575) noted some years ago: "If we are to develop a useful statistical method in the study of cultural anthropology, our chief dimension will

be that of time." The present study represents one attempt in the development of such a method.

Some Characteristics of Time

Time As A Quantifiable Entity

The concept of time in human experience denotes duration, recurrence, and sequence of events. Beyond such a relatively general statement little can be said about time without further specifying a particular definition. In his review of several concepts of time Sorokin (1942) mentions that there are a number of different ways in which this flow of events can be defined. There is ontological or metaphysical time, biological time, psychological time, socio-cultural time, and physicomathematical time. Each of these perceptions of time has its own function and referential system. While all of these conceptions of time may be related in some way to anthropological and sociological studies, the physicomathematical concept of time is the most useful one for the purposes of exact and objective measurement. According to Sorokin (1943:159) physicomathematical time refers to the continuous, infinitely divisible, uniformly flowing, and purely quantitative measure used in classical mechanics. It is the time made up of exact units such as seconds, minutes, and hours as these units make up the larger divisions of days, weeks, and years. While mechanical time may be considered in abstraction, it can

also be used as a standard measurement for a related description of social phenomena.

Time As A Scarce Resource

Time allocation refers to the way in which time is utilized within segments of its flow. When treated as a commodity which can be used in different ways and for different purposes, time may be considered a resource. Human-hours have allocation properties which are not unlike those applied to money or land. An individual, a family, or a community may either consume or waste its time. "Wasted" time may infer that its allocation is toward activities which are non-productive from a social, economic, or political standpoint. Time may also be invested. The withdrawal of activity from productive enterprises in order to acquire new skills is an example of the investment of human hours. Time invested in education pays off, not in more time, but in the increased number of alternatives which are made available to the educated individual.

Scarcity is an important characteristic of time as a resource. The flow of time is constant, but the passage of individual units of time is final. Once a specific minute or day or year has been completed, it cannot be lived or used again. It may be possible to "make up for" that block of time by more intensive activity later, but that particular period can never be truly regained. Accumulation and storage of time, in the strict sense, is not possible even though

particular claims on time may be credited: for example, the accumulation of sick leave or paid vacations. Even such attempts at compensation, however, are limited by the finite length of cycles--such as the physiological need for sleep--which constrain activity. It is this fact of scarcity which makes it essential to allocate time and set up priorities for its use.

Time Allocation As An Index of Values

Because they are finite, temporal units are scarce relative to the wide range of alternative activities available to the user of time. Time allocation to some activities but not to others usually requires a choice among these alternatives. Such choices presumably reflect some kind of value system, whether the relevant value be mere survival or some complex combination of desires and needs. The very conception of time as a resource which should be invested and used wisely is an indication of a value position. Cultural differences in the use of time should then reflect, at least in part, variations in value orientations.

Need and Justification for the Study

The Community As An Object of Study

Anthropology and sociology have traditionally been disciplines with a concern for the study of group life. While their information, of course, was usually obtained

through individuals the data which they gathered were intended to elucidate the types of arrangements in which men were found. One of the most obvious of these arrangements was the social entity known both popularly and professionally as the community. Along with the person, the ethnic group, and the national state, the community has been and continues to be one of the prevailing and conspicuous forms in which humanity comes to our notice (Redfield 1955:1).

The literature in anthropology and sociology would seem to attest to the fact that the study of human community is one of the primary concerns of these disciplines. However, as noted by Arensberg (1954, 1961), Reiss (1954), and others, many of the investigations entitled "community study" are not and do not claim to study the entity of community in itself and in its entirety. The community is instead chosen to serve as the setting for a study of some other phenomenon which is presumed to be characteristic of the society as a whole. In terms used by Arensberg (1961) the community is thus chosen as a "sample" of a larger whole and not as the "object" of study.

There are good reasons why emphasis has been placed on the community as a sample rather than as an object. Arensberg (1954, 1961) notes that the community study is a convenient and rewarding tool which provides a mirror of the larger society, allowing the use of empirical,

observational methods of limited scope. Thus the community has proved to be a convenient field for myriads of investigations which demanded an empirical referrent. However, despite the importance of the community as a workplace of social science interest, the community as a thing in itself, as an object, still remains a vague concept.

The idea of community seems deceptively simple until a definition is called for. In popular usage and to the same person it can mean many things from a specific locality to the world's population (Bernard 1962). Even among social scientists who specialize in the study of the community, Hillery (1955) found many and sometimes contradictory concepts of the community. The ambiguity of the term and its usage has in fact resulted in an avoidance of dealing with theoretical constructs of the community. As Beers put it, "some sociologists have given up. They now study class instead of community" (1957:187).

Judging from recent literature, however, the study of community is again coming into the forefront of social science activity (Arensberg 1961). Studies of community power structure, problems of community development, and a general concern with community theory are some of the characteristic emphases of the present time. This increase in attention to community theory has been brought about in part by the realization of anthropologists and sociologists that other disciplines are also interested in the community.

The needs of urban planning and community development, for example, are challenging some of the limitations in the traditional thinking about communities.

Despite the increased attention being paid to the community there remains the problem of how best to study human activity and behavior at the community level. In commenting on strategic gaps in the sociology of community, Rossi says:

The sociology of the local community suffers from more than the usual amount of vagueness and imprecision that characterizes the social sciences in general. Despite the long tradition of community studies in empirical branches of sociology and anthropology, little progress has been made in putting things together in a systematic fashion (1960:21).

He goes on to spell out one of the gaps in the study of community:

Perhaps the most important obstacle in the way of the systematic understanding of local communities is the absence of a good conceptual scheme for the identification of the crucial elements in community structure. We need a good guide book to tell us what to look for, how to identify and how to measure the sociologically relevant dimensions of the community (1960:22).

Reiss (1959:122) claims that one of the difficulties with much of the research on communities has been the characterization of communities in terms of characteristics of individual inhabitants. As a result, students of the community have neglected the development of

satisfactory operational constructs or measures for describing communities in terms of extra-individual properties of the system. This is less true in the field of human ecology than it is in social organization studies of communities, but it remains true for both major fields of investigation (Reiss 1951:122).

These statements by Rossi and Reiss both attest to the need for new approaches to the study of communities if community theory is to advance. According to their statements one of the important requirements in the development of more adequate theory is the need for identification of measurable features of a community system. A method for measuring the way of life in a community would be extremely useful for descriptive purposes. If a valid measurement would be developed, it is likely that such a method could be utilized for the study of change in community life as well as for the study of structure.

The Measurement of Group Persistence and Change

There has been a tendency for "static" structural models to dominate much of social science analysis. As pointed out in a classic article by Simmel (1897-1898), the structure of social groups results from the continuity of certain relationships which persist through time in spite of passing variations. The social structure of a community may thus be described as the human relationships and the component human groupings which have persisted for a reasonable length of time among the people living in a local area. It is the description and measurement of such structure which is often taken to be the central subject matter of sociology.

Of perhaps equal importance to the understanding of community life, however, is the consideration of how this

structure is operationalized and how it changes. That change is an important aspect of community life hardly needs elaboration. It is one of the inevitable facts of life. While anthropologists and sociologists speak much of cultural and social structure, few discussions omit at least a token consideration of how this structure might be changing. Change itself has served as a stimulus to attempts to record structure. When anthropologists were hurrying to remote areas to record ways of life before their disappearance, sociologists were hard at work formulating ideal types with which to better understand change in modern civilization. With all the attention paid to change, however, it has been an elusive problem. On the one hand, it seems obvious that change occurs; on the other hand, it is not always so obvious how to measure the many kinds of change which confront the social scientist. Although structure and change are often presented as dichotomous approaches to subject matter, they can be separated only analytically. It is conceivable that an adequate theory of structure should also incorporate a means for measuring change as well as structure.

Some of the social sciences are ahead of others in the identification of their subject matter and in the measurement of change. Their advance in this respect is usually related to the degree of specificity with which they can identify their object of study. Economists seem to have an initial advantage over many of their fellows in the social sciences

due to the fact that so much of their data is strictly quantitative in nature. They can judge changes in the economy by modifications in the level of expenditure and the makeup of the gross national product. Political scientists can analyze the results of elections and polls. Even demographers have an edge over their fellow sociologists when it comes to measurement of change. Most anthropological and sociological subject matter, however, is not of the kind which is accumulated and presented in terms of meaningful measurements of social structure. What is needed in these disciplines is an index for the measurement of social structure and change.

Within cultural anthropology itself, some areas appear to be gaining greater sophistication in identifying their subject matter. Linguistics is often cited by anthropologists as being ahead of other areas in cultural anthropology in the formulation of specific units of study. An essential feature of the linguistic method is the description of patterns which exist in the use of language. Proper description involves the identification of these patterns in terms of their formal characteristics which, in the case of language, are called phonemes and morphemes.

Representatives of other areas in cultural anthropology have been sufficiently impressed with the success of formal analysis in linguistics to adopt part of the linguistic method and apply it to their own fields of study. For example

ethnographers are increasing the rigor and reliability of their observations by defining the formal properties of cultural conditioning in a method similar to that used by linguists for language. Conklin (1955) has studied the ways in which the Hanunoo categorize different colors, and Frake (1961) has studied how the Subanun of Mindanao diagnose diseases. Wallace (1962) reports on several studies which have used this method to analyze kinship terminologies. In general these studies have been primarily concerned with describing the cognitive processes which are actually employed by the actors in the culture which is being described.

A second group of studies have been mainly concerned with formally describing the actual behavior which takes place. In this vein can be included articles and reports by Pike (1956), Barker and Barker (1961), and Adams (1962). These studies of behavior have been focused on clarifying and validating the descriptive, observational data gathered by ethnographers.

The common theme running through all of these studies is the diversified attempt to ^{avoid} ethnographic bias in formulating the systems of rules by which people live. The studies of cognitive systems are concerned with the cultural rules themselves, while the studies of behavior are more concerned with accurate descriptions of how these rules are put into practice. All of these attempts to more accurately

specify cultural and social structure aim toward a more meaningful analysis of these structures. Insofar as this analysis can be accompanied by measurements of these structures, the specification of both structure and change should be facilitated.

It is the purpose of this dissertation to make a contribution in the same general area as that defined for the ethnographers who employ the techniques of formal analysis. However, the present concern is more restricted in scope in that time becomes the focus of study in the attempt to increase the rigor of observational techniques. Time is often listed as one of the variables to consider in analyzing social change. In his study of industrialization among the Maya in Guatemala, Nash (1958:116) notes that a theory of social and cultural change has yet to be fashioned, but he believes that "change is best understood as the result of the ways in which individuals choose to combine time, effort, and resources in the face of new opportunity." Harris (1959) suggests that much more data on time must be collected to help in understanding the development of primitive economies. Regarding the general question of data collection, he says:

With but a handful of exceptions . . . anthropologists have utterly neglected the problem of quantifying effort and yield. . . . The qualitative and quantitative study of primitive economic systems has hardly begun. Much of the formal analysis which has been achieved suffers at precisely the most critical points from a lack of quantitative treatment (Harris 1959:193, 195).

The consideration of time as a condition or parameter of human behavior should prove to be an important step toward establishing the kinds of systematic accounts needed for clarifying anthropological and sociological materials. Information on time not only serves as an important "anchor" for ethnographic observations, but it also enables the ethnographer to partially quantify his subject matter. As was indicated earlier, such quantification of subject matter usually clarifies structural relationships as well as the kinds and directions of changes which are occurring, especially when such information is accumulated periodically. As yet anthropologists and sociologists have no such set of cumulative accounts or aggregate indexes, but it is partly in analyzing how time is used that such accounts could become relevant to anthropological and sociological studies.

Preview of Procedures

The foregoing portions of this chapter were designed to serve as a brief introduction to time allocation and time budget analysis as a possible method for studying community structure and change. Each of the subjects touched upon will receive further treatment in the following chapters.

Chapter II will include a selective review of the literature on time studies. Although numerous works representing a variety of disciplines could be considered, only a limited number of these studies apply directly to the analysis of a community time budget. Nevertheless, a

consideration of the broad range of studies should offer leads for constructing a time budget.

A general theory and method of time budget construction will be the main subject of Chapter III. Chapter IV will follow with a review of some actual decisions which were made in preparing to gather time budget information in the study of a community.

Chapter V and VI consist of an illustrative case study of a community time budget. The problems and decisions of gathering field data, an analysis of the time budget, and several examples of how the data can be used comprise the bulk of these two chapters.

Chapter VII contains an evaluation of the time budget method and data for studying a community, and Chapter VIII is an analysis and summary of the study along with a statement of conclusions.

Limitations of the Study

The specific purpose of this dissertation is to spell out an idea and do some pretesting and evaluation of that idea in operation. This study is only one of many possible developments which such an idea could take, and the present effort represents only a beginning in terms of what could be done. The time budget is not a substitute for an accompanying, deeper analysis of the social and cultural structure of a community. It promises, however, to be useful as a

survey technique where some basic comparative data are needed.

The need for expansion of the method and for more studies will be noted frequently throughout the coming chapters. Some suggestions for further study will be made in Chapter VII.

CHAPTER II

A SELECTIVE REVIEW OF TIME STUDY LITERATURE

Time pervades the consideration of nearly any subject. It figures prominently in our everyday experiences as well as in the thoughts and writings of philosophers. Either despite or because of its all-pervading character there has developed no recognized field of scientific specialization for the study of time. As an important variable in the study of culture and human behavior, time has received somewhat sporadic attention and it has been treated in many different ways.

Anthropological and sociological considerations of time vary in how directly they are related to the present study. The anthropological concern with time perception and concepts is closely akin to that of philosophy and the study of values as part of culture. Time as an index or variable in theory and research covers a range of studies almost as broad as the fields of anthropology and sociology themselves.

Studies of work patterns and of leisure-time activities constitute a more restricted focus and a concern with a type of behavior, although time is still an important element. This same behavior may be involved in time budget research;

but in studying time budgets the researcher begins with a block of time and endeavors to find out how time is allocated within this period. Several general studies of time allocation can be included in this type of research. Finally, there are a few studies of the community time budget as that term applies to the present study. Each of these varied treatments of time constitute a type of contribution to the study of community time budgets. This chapter consists mainly of a review of selected studies within each of these types. The types themselves are not meant to be mutually exclusive; they simply represent certain broad and overlapping emphases in the anthropological and sociological literature.

Perception and Concepts of Time

Anthropologists have long been interested in the various behaviors of different peoples with respect to time. In his study of the Nuer, Evans-Pritchard noted that these people "have no expression equivalent to 'time' in our language, and they cannot, therefore, as we can, speak of time as though it were something actual, which passes, can be wasted, can be saved, and so forth." (1940:103) However, the Nuer are not totally without a sense of time. Instead of time units, they think in terms of activities and of successions of activities. In fact, Evans-Pritchard concludes that they recognize two kinds of time: ecological and structural. Ecological time is a reflection of a community's

relationship to the geographical environment as recognized, for example, in the change of seasons. Structural time is a reflection of people's relationship to one another as recognized in different age groups and statuses.

Due to the variations found between primitive peoples and Western society, time perspective has been given major consideration as a cultural fact. In his treatment of culture as a "primary message system," Hall (1959) deals with time as a major component in cultural analysis. In a study of five communities in southwest United States, under the Harvard University "Values Project" (Kluckhohn and Strodtbeck 1961), time is used as an important differentiating dimension in terms of value orientations. In his paper, "Culture and Behavior," Clyde Kluckhohn (1954:931-937) discusses various treatments of time perception and quotes a passage from Eisenstadt (1949) which generalizes a good many anthropological findings:

The social structure lends to the mere duration in time (or space) a definite orientation by providing significant links between the individual's different activities, and by relating them in this way to one another. That social time and space are identical with mere "duration" in time and space is clearly shown by the fact that every social structure lays different emphasis on different aspects of (or points in) time and space. . . .

The spatial and temporal orientation of social activities, their definite ordering and continuity, are focused on the ultimate values of a given social structure. Any given social situation can impose the spatial and temporal orientation inherent in it only insofar as it is related to the ultimate values and identifications of the social system (Eisenstadt 1949:63, 67; as quoted by Kluckhohn 1954:931-932).

Studies of time perception are important to the study of time allocation because value orientations with reference to time are related to activities which are measureable in time units. It is not of critical importance that a certain people may or may not regard time to be split into minutes and hours. Mechanical time is most useful for the observer, and it is only that his gathering of data is facilitated if his subjects share his conception of time in terms of equal units. The important point is that people act with reference to a time orientation, and it is in this way that values become related to and evident in time allocation.

Time As An Index or Variable in Theory and Research

The treatment of time in theory and research is not totally separable from the perception of time as briefly outlined in the preceding section of this chapter. However, the concern of this section is with the use of the temporal dimension by the theoreticians and the researchers who are not immediately concerned with time perceptions in the minds of their subjects.

Time Perspective

One of the most common ways in which the temporal dimension figures as an important factor in theory and research is in the distinction between synchronic and diachronic studies. For example, as represented respectively

by the functionalists and the historicalists, these approaches represent two major "schools" of anthropological endeavor in the description of culture (Lowie 1937). The distinction lies partly in a difference in time orientation or perspective on the part of the researchers, not the people being investigated. Diachronic studies are represented by the historical or developmental approach in which a long span of time is implied in the framework of description. Functional or synchronic studies emphasize the structural description of a culture at a given time. While it is by no means the only difference between the two "schools," the temporal perspective is nevertheless an important one.

However, time can also be an important dimension in strictly structural analysis. In a case study using a structural-functional approach, in which time is presumably held relatively constant, consideration of the temporal dimension actually may be a prerequisite to an understanding of the structure. In analyzing Ashanti society, Meyer Fortes (1949) noted that there appeared to be no fixed form of social grouping. However, upon further investigation he found that apparently discrete types of domestic organization in Ashanti are really the differential effects of the same principles, but in varying local, social contexts. "'Structure' thus appears as an arrangement of parts brought about by the operation through a period of time, of principles of

social organization which have general validity in a particular society" (Fortes 1949:84). In developing this analysis Fortes distinguishes three functions of time:

1. Duration--"As mere duration time is an extrinsic factor having no critical influence on the structure of social events or organization."
2. Continuity--"As continuity (or its opposite, discontinuity), time is an intrinsic and critical characteristic of some social events or organizations. In this case it is significant as an index of forces and conditions that remain more or less constant over a stretch of time; or else of those that give way precipitately to new forces and conditions."
3. Genetic-- "Finally, time may stand for what might be called genetic or growth processes, as opposed to mere historical sequence. Time is then correlated with change within a frame of continuity. . . . Growth is the product of two kinds of forces symbolized by the passage of time, those of continuity (conservative forces) and those of non-reversible modification" (Fortes 1949:54-55).

Fortes' analysis of the functions of time shows that, while different perspectives on time may be separated analytically, the various approaches to time are intimately related to each other. That which is observed during one short period of time is usually a result of processes occurring over a greater length of time.

Most anthropological and sociological studies of the community have been synchronic in nature. That is, they have been descriptions of relationships as of a given time. In synchronic studies, time may be considered as an important

resource in the synchronization of activities. This perspective is somewhat different from that implied in the distinction between diachronic and synchronic.

Time As A Scarce Resource

This second perspective on time evident in theory and research is also a combination of related concepts: "Time like space may be a facility, but as a factor in action it generally is inexorable and cannot be made to stand still or be completely controlled by man. It is therefore a condition of action" (Loomis 1960:38). As a facility or a resource time can be used in one way or another; but as a boundary condition of human behavior time is scarce, the uses of time must conform to certain rhythms. The uses of time in a community must be synchronized if certain patterns of life are to be retained.

The importance of synchronization is highlighted in Cottrell's (1939) account of the way in which the whole life of the railroader is adapted to a rigid time system. Regarding the importance of tempo and timing in social life, Cottrell says:

Time is an important factor in any social pattern. Social interaction requires time coordination, and to the degree that occupation determines time distribution, time limits all forms of social participation. As technology controls time for the railroader, it also determines the tempo and the interval of other social relationships and sets a pattern for the personality (1939:190).

Hawley (1950) devotes a chapter to the temporal aspect of ecological organization in his text on human ecology. He

elaborates on the concepts of rhythm (regular periodicity), tempo (number of events per unit of time), and timing (coordination of the events) as these concepts apply to community life in different settings.

In his survey of the community study method, Conrad Arensberg (1954) includes temporal description (traffic flow, work round, cycles of various kinds) as one of the field techniques to be employed by the researcher. In a more recent article (1961) he elaborates on the temporal element in a definition of community:

The community is not only a territorial unit and a unit table of organization; it is also an enduring temporal pattern of coexistences. . . . It is in dealing with the empirical discoveries of temporal process that perhaps the greatest gain for social science from developing understanding of the community and its sampling of sociological problem materials is to be won from now on (Arensberg 1961: 250 and 251).

With specific reference to the rhythms and periodicities of community life Arensberg comments:

Theory has yet to distinguish well between those rhythms which are inherent, natural concomitants of all social and cultural life in any of its variant expressions in particular societies and cultures, and those which instead mark new social and cultural change and new evolution. . . . We cannot compare societies, or treat their problems, like traffic or criminality or suicide, without confronting these rhythms and their time-rates of record from one community to the next, inside and outside their larger societies (Arensberg 1961: 251 and 252).

The importance of time as a determinant of behavior has recently received book-length treatment by Moore (1963) who views time both as a boundary condition of human action

and as the measure of persistence and change. In considering time as an important dimension in the ordering of interdependent activities, Moore analyzes the problems involved in the allocation of time as a limited entity. He also explores the temporal structuring of organizations and the importance of the temporal dimension in large-scale systems such as the city and the economy.

Time As Measurement

The quantifiability of time has made it a valuable asset in research since, as Hawley notes: "Time is a dimension on which all activities and their interrelations are measureable" (1950:314). In a sense this use of time in research occurs as a by-product of method or as part of the method itself to obtain other kinds of data. One very simple way in which time information is gathered is due to its convenience in serving as a reference point for the observer. This method was employed, for example, by Mead (1956) in her re-study of the Manus where accounts of behavior sequences were made with clock times recorded in one column and the observed behaviors recorded in another column.

Moreno and associates (1947) used time as a quantitative index of interpersonal relations. In attempting to sharpen the methodology of sociometry, they used time units as an index of attraction. Each subject was asked to allot units of time he would like to spend with various members of a group during a period of time at his disposal. Time units

were used because, according to the authors, they offered the following advantages: accuracy of measurement, inclusiveness (more than any other standard since each person has the same amount of time at his disposal), and universality.

Several other uses of time could be mentioned in the general context of time as measurement. In his highly mathematical theory of society, Dodd (1942) includes time as one of the indices of a social situation. Simon (1952) also illustrates how mathematization of a body of theory can help in the clarification of concepts and possibly suggest additional ways of empirically testing the theory. The variables Simon associates with a human group--interaction, friendliness, activity, and the external system--can all be treated as a function of time, that is, they are all potentially measureable in terms of time.

The most prominent use of time has been in applied research especially in connection with methods-engineering in the modern factory system. Time study in this sense is the "technique of establishing an allowed time standard to perform a given task, based upon measurement of work content of the prescribed method, with due allowance for fatigue and personal and unavoidable delays" (Niebel 1962:4). A few time studies had already been conducted in Europe in the eighteenth century, but Frederick W. Taylor is generally considered the father of modern time study in America. In

the late nineteenth century, Taylor evolved a system for timing the tasks of each employee so that production could proceed more efficiently. Together with the effort to eliminate waste motions, time studies have become an integral part of industrial engineering.

A number of different ideas have been presented in this section to illustrate the fact that a broad range of studies have somehow included time in terms of method or perspective. In the next section a somewhat different approach will be explored: studies of some particular uses of time.

The Focus on Time Allocation

The investigation of how people allocate their time to various activities has been the subject of many studies both within and outside of sociology and anthropology. Much of the research included here within the classification of time allocation studies has been focused either upon particular uses of time--such as work or leisure activities--or upon the use of time by certain categories of individuals. The two approaches have also been combined in many of these studies; and the separation of leisure activities, work, and time budget studies in this section simply indicates some of the major distinctions which have been made by researchers.

Studies of General Work Patterns

The desire to understand existing patterns in primitive economies led some anthropologists to include ethnographic accounts of the relative amounts of time spent in various activities connected with crop production and other work. Case materials on daily activities related to the quantitative measure of hours and days served as one means of recording the data, but this method also provided for possible cross-cultural comparisons. Firth's presentation of the seasonal calendar of work for the New Zealand Maori includes the following methodological suggestion.

As a note for the field worker, it may be here remarked that a most valuable ethnographic document would be a diary of native work from day to day, extending over a long period of time--say a complete year. This would provide most useful data in regard to the organization of activity and the seasonal distribution of occupations. (1929:56)

With varying degrees of detail a number of ethnographies began to include the kind of information which Firth suggested. In Chan Kom, Redfield and Villa Rojas (1934) recorded the division of time by days among various occupations in the cases of two men. John Provinse (1937) gave a detailed account of the kinds and amounts of labor connected with ricefield cultivation among the Siang Dyaks of Borneo. Firth himself gave an accounting of the number of days devoted to lift-net fishing during a six month observation period of Malay fishermen (1946:93-97). Herskovits (1952) summarized a number of such studies in an analysis of labor patterns in

Economic Anthropology, A Study in Comparative Economics.

Many of these materials represent only a bare beginning in the systematic observation and recording of primitive work patterns. One reason for a limited use of the method thus far is due, perhaps, to the low frequency of restudies of the same villages and people where such data are recorded.

While not dealing directly with time studies in this case, Firth (1929) gives an example of social change which implies the potential importance of using time as an index:

The social and economic organization, also, does not remain unaffected by a change in material culture. (Formerly) . . . a skilled weaver commanded a great social reputation . . . At the same time the weaving of various articles was one of the tasks which fell to the lot of nearly every woman. It was part of her share of the household duties. The decay of the art as a practical means of providing garments involved its disappearance from the woman's scheme of labor. Garments were obtained from another source, in exchange for other commodities, and in this manner the equilibrium of household duties was disturbed; the economic organization within the family was affected. Weaving reverted from the status of a necessary task to that of a leisure-time occupation. . . .(1929:476-477)

This discussion of work patterns has thus far mainly concerned anthropological findings among primitive and peasant peoples. However, the amounts of time spent in work activities has also been the subject of inquiry in a number of studies in the United States. Most prominent of such studies have been those begun and conducted under the general direction of Miss Hildegard Kneeland (1928 and 1932) and of the Bureau of Home Economics, U. S. Department of Agriculture. Beginning in the late 1920's a number of

studies were made of farm women and how much time they spent in various homemaking activities. This general type of study has continued to appear mainly in the form of theses and agricultural experiment station bulletins (for example, see Thorpe 1957).

Studies of Leisure Time

Leisure time as a subject by itself has been talked and written about much more than it has been scientifically studied. The interrelationship between work and leisure also requires much more extensive study. Much of the literature on leisure time has been normatively oriented and shows a concern for increased amount of time away from work which some industrialized nations have experienced since the nineteenth century. The interest in leisure time was given an impetus also by a concern for the problems of the unemployed during the economic depression of 1929-1939.

One of the early and most extensive of leisure time studies in America was carried out by Lundberg and his associates (1934) in which leisure is defined as "time we are free from the more obvious and formal duties which a paid job or other obligatory occupation imposes upon us." (1934:2) Their study was conducted in Westchester County, New York, an area composed mainly of residential suburbs and containing more than half a million people in 1930. The bulk of their information was obtained from diaries as voluntarily recorded by 2,460 different individuals and representing an

average of nearly two days for each individual. Leisure time was divided into nine categories: eating, visiting, reading, entertainment, sports, radio, motoring, clubs, and miscellaneous. The amounts of time spent in each of these was given in minutes for both males and females in several occupational groups. While major attention was paid to leisure time, some consideration was also given to the amount of time spent in sleep, work, care of self, transportation, and duties connected with the household and family.

In addition to this survey in amounts of time, Lundberg and associates "Attempted to learn something of the nature of the satisfactions man seeks from these pursuits and the more common behavior patterns which he has evolved to gratify his cravings" (1934:365). That is, they attempted to find out what was happening to civilization as a result of increased leisure time.

The sociological research which followed this study of suburban leisure has been largely a refinement of the methods employed by Lundberg, although later studies also applied to other areas of sociological inquiry. Social class and prestige differences in the uses of leisure have occupied the efforts of some sociologists (White 1955; Clarke 1956). There have also been concerns with the role of the family in leisure time (Scheuch 1960), the adaptations of older people to leisure time (Harlan 1954), the consideration of free time in non-Western cultures (Wax 1958), and various other approaches.

In their book, Mass Leisure, Larrabee and Meyersohn (1958) have compiled a representative selection of the literature on leisure and have included an extensive bibliography.

The concern with particular uses of time has resulted in a large body of collected data. Consideration of these studies is of particular relevance for the present study, partly because of the available comparative data and partly because of the various methods represented in these studies.

Time Budget Studies

In contrast to studies of leisure and studies of work patterns, time budget research involves accounting for whole units of time rather than the selection and study of a particular use of that time. In Meier's words:

A time budget describes when, where, and what, as well as how much. The accounting period of the budget usually reflects a common cyclical tendency in human activity, such as the typical day, week, season, or year. It represents an adaptation to physical realities (the day and the year) and national, even international, conventions (the week, month, and often even season). Thus the 40-hour week pattern has become dominant in the organization of manufacturing, the academic year in higher education, the harvest season in marketing, and the vacation period in tourism, all of which are subject to characteristic time allocations that can be studied in considerable detail in order to maximize returns either to the firm or to the public (Meier 1962:49).

It is not always easy to differentiate the time budget studies from those which study aspects of time use. Some of the studies of leisure (such as Lundberg, et al. 1934) also include an accounting of work time as a residual category. The reverse situation is also true for some studies of work

patterns and the accompanying attention to other uses of time.

The early time budget studies were conducted among certain categories of individuals, such as for workingmen or the unemployed. One of the first of these studies was Bevan's How Workingmen Spend Their Time, published in 1913. The depression between World Wars I and II also prompted interest in such time budget studies, resulting in the appearance in 1934 of Bakke's The Unemployed Man: A Social Study and Jones' The Social Survey of Merseyside.

During the 1920's there were studies of how college students spend their time (Gambrille, et al. 1926). Some of the studies of farm homemakers in the late 1920's were more comprehensive than others and a study such as J. O. Rankin's The Use of Time in Farm Homes became in actuality a time budget study of the farm family.

A summary of some of these early studies may be found in Sorokin and Berger's Time-Budgets of Human Behavior which appeared in 1939. In introducing their own study, the authors say: "The material on which this study is based represents a collection of systematic records of all activities and their aspects as kept by approximately one hundred individuals from day to day during a period of four weeks" (1939:4). Each activity that lasted at least five minutes had to be recorded as soon as possible after its occurrence. The hundreds of activities which were recorded by the participants were classified into fifty-five different kinds. These

latter were in turn classified under eight general categories of overt activities. These eight categories and the average time spent per member of the total group are shown in the following tabulation adapted from Sorokin and Berger (1939:76):

<u>Activity</u>	<u>Average Time Per Person Per Day</u>			
Physiological Needs	11	hours and	12.7	minutes
Economic	7	"	3.0	"
Societal	1	"	20.9	"
Religious			8.3	"
Intellectual	1	"	24.8	"
Artistic			24.9	"
Love and Courting			8.6	"
Pleasurable			30.6	"
Miscellaneous Activities			46.2	"
	24 hours			

Sorokin and Berger chose their sample of informants from persons in the Boston area who were either unemployed at the time or were working at relief jobs under the Works Progress Administration. Interest in their study at this point is mainly to give an example of categories which were chosen in one of the early time budget studies. Their categories are mainly of use for analysis of time spent by their sample of individuals; and it would be difficult to use their data in generalizing about time allocation in the Boston area.

As noted earlier in this chapter many studies of time can be divided into either the study of work patterns or the study of leisure. The past several years have witnessed the publication of at least three books which, according to their titles, attempt to consider both work and leisure under a common framework: Anderson (1961), Work and Leisure; de Grazia

(1962), Of Time, Work, and Leisure; and a book of selected articles edited by Smigel (1963), Work and Leisure. All three of these works attempt to deal in some way with problems of categorization in the use of time. In his preface, Anderson makes the following comment:

Writers about work rarely have much to say about leisure. . . [and] writers about leisure give very little attention to work. . . . That writers on work look in one direction and writers on leisure look in another should not surprise us. Rather, it emphasizes how work and leisure under industrial urbanism have been separated (1961:xi).

Anderson feels that this separation of research in work and leisure is a passing thing, and he notes that the trend in such research is to consider work and leisure under the common framework of time.

What we can hardly escape recognizing, once we examine work and leisure in relation to each other is that we are dealing with uses of time, and different dimensions of time. Because time has been used efficiently in work we get leisure. We sell time so that time not sold may be used as we like. We find that production and consumption are opposite uses of time and in both kinds of activity time may be measured in money values. But time as an abstraction becomes the measure of such other abstractions as space, distance and motion, so pertinent to technological and scientific development incident to more efficient production. Industrial urban man has moved out of the sphere of natural time into that of mechanical time, dominated and paced by the clock in both work and play (Anderson 1961:xi-xii).

One of the main conclusions of Anderson's book is that there needs to be a conceptual separation between leisure and non-work obligations. There are many off-the-job activities which occupy a person's free time; work in the garden, political activities, church work, community work, etc.

"There is good reason to believe that as people become more identified with non-work activity the less need they have for leisure and the more their leisure is linked with these activities" (Anderson, 1961:xii).

This division implies a three part conceptualization of time use: (1) time at work for economic purposes, (2) non-work obligations during the time away from the job, and (3) leisure time in which a person is free to do whatever he wishes. De Grazia (1962:91) suggests a somewhat similar revision of the work-leisure dichotomy. He divides the 24 hours of the day into four categories of time spent: (1) work, (2) work-related (travel to and from work, etc.), (3) subsistence, and (4) free time. Both Anderson and de Grazia present tables of data from various studies which illustrate these and other categorizations.

Social scientists in the Union of Soviet Socialist Republics have also been doing some time budget studies, and several translated reports of these have recently become available. An article by Patrushev (1962) includes some comparative data from 1922 in addition to reporting a 1959 study of working people. After reviewing categories of time used in other Soviet studies, he presents the following set which he feels is most satisfactory: (1) socially useful labor time (divided into productive and overhead, with overhead being travel, etc.); (2) time for household labor services; (3) time spent in satisfying psychological needs;

and (4) time spent in satisfying intellectual, physical, and social needs. The categorizations of time in these studies are essentially similar despite differences in the titles given to the categories and the way in which the categories are formed. The differences lie mainly in terms of refinement or subdivision of widely accepted categorizations.

Consideration of research in work patterns, leisure time, and the more inclusive time budget has shown that most such studies are related to aggregations of people other than at the community level. There have been studies of unemployed men, of homemakers, of ricefield cultivators, college students, fishermen, and many other occupational or status aggregates. Some of these have been carried out within the confines of what might be considered a community (for example, Lundberg, et al. 1934; and most of the anthropological studies), but such an application has not always been the primary concern. In the next section, attention will be paid to studies which are not only based in communities but also allow certain generalizations to be made about these communities in terms of time budgets.

The Community Time Budget

As indicated in Chapter I, the community time budget is a combined account of time allocation for all of the people in a community. Multiplying the number of people in a community by the number of hours in a day and by the number of days in a week or a month or a year results in a total number of

hours which respectively is the total weekly, monthly, or annual time budget for this community. By allocating their time to different categories of activity, the people of a community divide their total time budget in a characteristic way. There have been only a few actual studies of community time budgets.

Sociological studies of social participation in a community framework often provide a general picture of how the people in a community spend part of their time. Some of these studies are more complete than others in giving information on the actual number of hours spent in one activity or another. For example, Henry Burt (1929), in a study of public contacts in a small Missouri community, collected a large amount of data on time by making his definition of primary contact a function of time. A primary contact was defined as the exposure of one person to group influence for an hour during physical presence with that group. During the three months in which he studied this small village and its surrounding community, Burt found that the 439 adults (age 20 or over) had spent 9,410 hours within the boundaries of the community and 12,886 hours outside of the community in the following types of activities: religious, social, recreational, and educational. Burt also studied trading contacts, but his figures are not directly comparable to the ones given for the other activities. In totality, his information provides a summary statement of how the people of this

community spent their public time during three winter months in 1927-1928.

A more complete account of a community time budget appears in Penny Capitalism: A Guatemalan Indian Economy by Sol Tax (1953). In this anthropological description and analysis of a small agricultural community, Tax reports on the relative amounts of time which the people of Panajachel spent in a variety of ways. Economically devoted time is the main subject covered in a chapter on labor; but for comparative purposes, Tax includes estimates of how the total time was spent. An estimated summary of how the 780 persons of Panajachel spent the year, 1936, is as follows (Tax 1953:86):

Activity	Percentages of Total Community Time				
	Total	Men	Women	Children(4-15)	Infants
Economic Activities	31.7	13.4	13.1	5.2	
Community Services	1.1	1.1			
Personal & Social Activities	3.3	0.7	1.6	1.0	
Eating-Sleeping, etc.	60.2	17.5	18.9	10.2	13.6
Not Accounted	3.7		1.3	2.4	
Total	100.0	32.7	34.9	18.8	13.6

Each of the first three major categories of time use is further subdivided into subcategories, and the resulting outline of activities is used as a framework for discussing the amount and kinds of activities which occur throughout the year. While Tax's discussion centers around the use of time in relation to production, he notes that full documentation of

the time would require a complete description of the round of life including social, political, and religious practices and institutions (1953:85).

A third community study which involved the compilation of time data is Barker and Wright's (1954) Midwest and Its Children, the Psychological Ecology of an American Town. Their purpose was to describe the psychological living conditions and behavior of the children in a small Midwestern town; however, time records were used to anchor their observation of behavior patterns. In fact, "the basic data upon the extent to which a behavior setting was entered and occupied was the occupancy time, i.e., the total number of hours Midwest residents spent in the setting during the survey year" (1954:66).

Barker and Wright found that the inhabitants of Midwest (population: about 700) divided their time between "family behavior settings, community behavior settings, and foreign behavior settings (settings outside the borders of the town). During the survey year we estimate that Midwesterners spent 5,130,000 hours in family settings, 1,030,658 hours in community settings, and 330,620 hours in foreign settings" (1954: 97-98).

The part of their study which is of special note here is the section which deals with the "occupancy index" of the community settings. The "occupancy index" in this case would be the per cent of 1,030,658 hours which Midwest citizens

spent in community settings. For example, the following percentages of time were spent in various community settings: (Barker and Wright 1954:104)

<u>Community Setting</u>	<u>Per Cent of 1,030,658 Hours</u>
Business	51
Church	4
Government	9
Social Organizations	3
School	24
Miscellaneous	10

This table is one way of expressing how the people of Midwest allocate their time. Additional data given in other parts of the Midwest study make it possible to compile a much more complete and detailed list of time use in the community. The importance of such information, in addition to its use by Barker and Wright, is that these figures on the expenditure of time can be considered as the community time budget of the town.

The categories of the Midwest time budget are quite different from the major activities which Sorokin and Berger listed in the time budget of the one hundred individuals which they studied. This is partly due to a matter of choice since there are many ways of dividing a budget. However, an important difference is that a community is something different from the sum of its individual inhabitants and a community time budget is something different from the time budgets of individuals acting as individuals.

The trichotomy presented by Barker and Wright is in agreement with both past and current thinking on the ecological community. That is, community activity is public activity usually taking place within the bounds of the relevant community. Private activity within these same bounds may well be irrelevant to the community. "Foreign" activity--that which takes place outside the bounds of the community--is participation within a different community. This combination of observations is an important guiding concept for the following chapter in which the methodology of time budget research shall be considered.

Summary

Each type of the various studies reviewed in this chapter is related in some way to the concept of the community time budget. Studies of time perception indicate that people act with reference to a time orientation; and one of the important differences between cultures is that people respond to the realities of their environment in accordance with their perception of time. As an index or variable in theory and research, time has been used in many different ways. The temporal dimension has proved to be a convenient and objective tool for various kinds of measurement.

Studies of time allocation have involved the use and testing of many different methods for gathering time allocation data. In addition, these time budget studies have

resulted in the collection of information on how various categories of persons allocate their time. One of the problems raised in connection with time allocation studies was the question of how best to categorize human activities. In a financial budget, choice of categories is crucial to the control of fund allocation. In a similar manner the usefulness of a time budget will depend upon the kinds of categories which are selected. This problem will be discussed more extensively in the pages to follow.

In addition to serving as examples of the community time budget, the studies of community time allocation provide further indication of some of the methodological problems involved in studying the community time budget. These problems will be dealt with in the following chapters.

CHAPTER III

GENERAL THEORY AND METHOD OF COMMUNITY

TIME BUDGET STUDY

The discussion of theory and method in this chapter is intended to serve as the foundation for an empirical study of a community time budget. The major divisions of the chapter include (1) the discussion of a general framework for time budget studies, (2) a review of methods for gathering time allocation data, and (3) comments on the analysis of time budget data.

The Theory of Time Allocation

Civilization has been described as a process of binding time (Korzybski 1951:106). This is to say that a mark of culture and of civilization is the development of man's ability to summarize, digest, and appropriate the labors and experiences of the past. The process of time-binding becomes, in essence, a part of man's inherited ability to adapt to various environments. The utilization of this accumulated knowledge is also related to a somewhat different perspective of time since every act of man is in some way an allocation of his available on-going time.

Attention to the allocation of time is the focus of this study on the assumption that the analysis of time allocation should provide a convenient framework for studying certain characteristics of human behavior. It is proposed that the study of time allocation can be a convenient way for quantitatively measuring culturally-conditioned behavior. Specific attention is being paid to activities found in the human community.

The Economic Model as a Conceptual Scheme

In developing a conceptual scheme or theory of human time allocation it has already been suggested that the analogy of economics provides numerous leads. George Homans, for example, observes that the exchange model, which is fundamental to economic analysis, could prove to be quite useful in uniting various lines of social science research (Homans 1958:597-606). In the same vein, Kaspar Naegele writes: "Economics . . . provides, perhaps more than any other sister discipline of sociology, value and clear models for the study of social arrangements. It comes closest to precision about strategic matters" (Naegele 1961:12). While Naegele cautions that the core concerns of the two disciplines are different from each other, the point he makes concerning the precision of economic models is worth further exploration.

The utility of the economic model for anthropological and sociological research will depend in part on how economics

is defined. In his review of definitions of economics as used in anthropological literature, Robbins Burling (1962) states that there has been much confusion between various meanings of the term. This confusion has led to much misunderstanding as to what is and what is not economic behavior especially in other than Western societies. After reviewing five definitions of economics, Burling selects one which he feels is most suitable for a cross-cultural approach to economic systems. He follows the formulations of a British economist, Lionell Robbins (1935), in defining economics as "the study of the allocation of scarce means to multiple objectives, or more broadly 'the science which studies human behavior as a relationship between ends and scarce means which have alternative uses'" (Burling 1962: 810; *italics in the original*).

According to this definition there is no economic problem if unlimited means are available for achieving some goal. Furthermore, if there is no alternative use for something, there is no need to economize. The factor which makes a problem an economic one is that there are limited means available for achieving alternative ends. Neither ends nor means need necessarily be measured in monetary terms. Actually, we are economizing in virtually everything that we do since so many of our actions involve an element of choice. The woman who organizes her housework, the man who allocates his time between his family and his friends, and the peasant who decides whether to plant wheat instead

of rice are all making "economic" decisions, regardless of possible monetary considerations. This view of economics focuses on a particular aspect of behavior rather than on certain kinds of behavior.

By adopting this inclusive definition of economics it becomes possible to look upon a society

as a collection of choice-making individuals, whose every action involves conscious or unconscious selections among alternative means to alternative ends. The ends are the goals of the individual colored by the values of his society toward which he tries to make his way. They may include prestige, love, leisure, or even money. The means are the technical skills and knowledge at his disposal, including skill at oratory or endurance at the hunt as well as technical knowledge as such. There are no specifically economic techniques or economic goals. It is only the relationship between ends and means, the way in which a man manipulates his technical resources to achieve his goals, that is economic (Burling 1962: 811).

Obviously, the actual concern of most economists is much more limited in scope than this view of economics might imply. Nevertheless, in their study of how a society produces and distributes its goods and services in response to varying demands, economists are confronted with a multitude of diverse activities which are considered economic. Economists themselves are faced with an economic choice of how much time and effort they can expend in arriving at a basic understanding of their subject matter.

For various reasons and assumptions about what kinds of behavior are important or most easily analyzed, economists have chosen to study "those types of behavior in which the

economic aspect (choice and allocation) can to a certain extent be measured in money" (Burling 1962:811). Economists have found it useful to concentrate on price analysis, a convenient symbolic method of assigning values to goods and services in terms of monetary units. One of the most important reasons for dealing with money and price is that price allows a form of quantification of the value of these goods and services. One can specify whether their value is going up or down, and one can compare the values of various commodities on the basis of price. In short, money exchange value or price furnishes a simplified and objective factor for analyzing an extremely complex and elaborate system of human relationships.

Given the notion of monetary units, economic analysis has become a highly developed method for analyzing operational units of varying size from the individual family to national and international economic systems. This analysis is based on the systematic accounting of the financial activities within these operational units. Accounting has been defined as "an art or a science dealing with the recording, presenting, analyzing, and interpreting of the financial data of an enterprise. The enterprise with which accounting is concerned is a social unit with financial aspects" (Homburger 1962:215). The development of accounting has facilitated not only the keeping of records for analysis of a unit's condition, but the system of accounting also

enables the analyst to spot changes in the makeup or direction of the unit in relation to the rest of the economy of which the unit is a part.

The most complete economic accounts are kept for individual firms where the information is needed to make decisions regarding future activities. Information from individual firms is also collected with varying degrees of completeness on regional and national levels, a task often performed by the governmental units involved and with much of the information fully available only on a national level. The national accounts are helpful in providing an overall description of the economy; but due to variations in local and regional areas, it becomes difficult to generalize about a local community on the basis of most accounts which exist at present. Economists are beginning to rectify this situation by proposing the keeping of regional accounts (Hirsch 1962) in which local and regional activities become the basis for input-output analysis. An example of this kind of micro-economic analysis is the study conducted by the National Planning Association in which the local impact of foreign trade in individual communities was the object of study (Cleland 1959). The importance of local and regional accounts lies in the resulting information which can serve as a basis for making decisions on the community level.

Time Allocation and the Economic Model

It can be seen from the above summary of a few economic principles that monetary units and accounts are of central importance to economists in the analysis of their subject matter. The main theme of the present study is to demonstrate that the study of time allocation offers similar advantages to anthropologists and sociologists in their analysis of communities.

The Robbins' definition of economics as "the study of the allocation of scarce means to multiple objectives," applies to other resources equally as well as it does to the allocation of monetary units. The fact that economists have chosen to restrict their analyses to financial data does not mean that economic behavior is only that which is governed by monetary relationships. The allocation of scarce means may include time, space, energy, and other resources in addition to money. These resources do not all have the same definable, finite limits; but in several respects, time and money have similar characteristics.

Time is a resource in that it is one of the available means which we have at our disposal for attaining some goal. In his outline of the social system, Loomis (1960) illustrates how time may be considered as one of the available resources or facilities of each member in a group. The use of time, for example, may indicate rank. That is, the amount of time which a group member may take in expressing himself is

positively related to the rank which this member holds within that group (Loomis 1960:30).

Time, again like money, is also to be characterized by its scarcity. Moore (1963:4) observes that "In the world of common-sense experience the only close rival of money as a pervasive and awkward scarcity is time." The quantity of time available to any one person is limited and finite. If a person chooses to spend an hour in one type of activity, this choice means that many other activities are not possible during this same hour. The same choices have to be made for longer periods of time and even for one's lifetime.

Despite the finiteness of these resources, both time and money can also grow in quantity. Money can increase through the investment of capital in income-producing activities. Time can grow in quantity by adding more persons to an organization or a social system, or it can be increased with respect to certain activities by inducing an existing number of persons to spend more of their finite time in these activities.

One of the great advantages of money is that it is quantifiable. Through the use of common demoninators such as gold and silver, different monetary systems may be compared thus facilitating international trade. There is an even greater international agreement with regard to time. While the numerical designations may differ, for example, between the Jewish year, the Christian year, and the Muslim year,

members of these and other respective groups recognize a universal system of quantitative time based on diurnal and seasonal cycles. Although the concepts for smaller designations such as the hour, minute, and second were formerly less important, agreement on these, too, has become imperative with the increase in speed of travel and the need for exact scheduling of events.

In addition to being a resource which is scarce and quantifiable, the use of time also indicates values. The allocation of money to various items in a financial budget points toward certain underlying values which govern the selection of items and the amounts spent for each one. The allocation of time to various activities likewise implies certain values which govern the choice of the activity. Since individuals are usually free to choose how they can spend certain blocks of time, many studies of leisure time expenditure show an underlying concern with values implied in how people spend their time. Even when an individual does not feel that he has the freedom to choose how his time is spent, the very fact that he feels obligated to spend a certain number of hours at work indicates that he is acting on the basis of some kind of value system.

Changes in Time Allocation

Due to its quantifiability, time has an important potential use in the analysis of change. At first glance it may seem that time allocation is characterized more by stability rather than change. Studies of individual time

allocation indicate that people elect to spend their time in a fairly regular way. Each person normally lives within a certain routine. While there are variations in days of the week, one week is often spent much like the last or the next. Holidays offer a brief respite from the routine, while seasonal variations appear gradually to produce annual changes in time allocation. In spite of the regularity of such patterns, however, the use of time also changes from one year to another. One cause of variation is the difference in time allocation according to age and status of one individual. This type of change has relatively little effect on the community, since the routine of an individual in one particular status can be replaced by that of another individual.

Other types of change, however, can have a profound effect on time allocation in a community. In the move from a rural area to the city, the activities to which human time is devoted can change in a striking fashion. The evolution of communities from village to metropolis involves not only an increase in population, but also a tremendous growth in the number of alternatives available to the inhabitants.

Even aside from population increase, other changes result in differences in time allocation within a community. John Donoghue (1962:5) has reported how the introduction of new cash crops in a Japanese village resulted in a decline in communal activities. Various changes in technology have

had a similar effect on American farming communities. Time budget analysis could serve as a convenient documentation of these changes, just as changes in financial budgets document the growth or decline of an industrial firm.

The Methodology of Time Budget Study

Selection of budget categories and gathering the data on time allocation are two cardinal features of time budget methodology. Although categories and field methods will receive more extensive treatment in Chapter IV, their importance merits their consideration in connection with the theory of time allocation. The main purpose of this section is to review some of the problems in ordering and gathering time allocation data and to analyze why these problems have inhibited the study of time allocation. In addition, consideration will be given to the identification of communities and their boundaries.

The Selection of Budget Categories

Their use of money as a quantifiable measure of value has provided economists with a very useful means of setting up economic accounts. However, economic accounts are more than just lists of all the goods and services which require monetary exchange. Accounts are also made up of sectors or categories of activities. These categories are summaries of the multitude of diverse activities which come under the rubric of economic activity. Accounting in terms of monetary

units and categories has been carried on for many centuries; many of the categories or sectors which are used in financial accounting have developed through years of experience with finding out which categories are most useful. To be sure, units change in their organizational and financial aspects over time; and along with such changes come needs for different kinds of information and control. Nevertheless, the categories which are used in financial accounting tend to be those which represent sectors of a unit which are crucial for decision-making and control.

The selection of categories is also an important first step in time budget analysis. One of the major purposes of developing time budget accounts is to provide information about the structure and functioning of the community studied. For this purpose it is useful to identify several broad kinds of activities which are found in the community so that an accurate accounting can be made of the relationships observed. Following the practice of economists in setting up income accounts, it is possible to speak of "sectors," the term applied to broad breakdowns of the total economy. Depending upon the purpose of the analysis some sector breakdowns may prove more useful than others. For some purposes, it might be useful to divide community activities into two sectors--for example, time spent inside and time spent outside of the community. For other purposes, a much finer distinction might be needed.

Meier suggests that two principles should be observed in choosing the categories or sectors of the time budget.

One principle is

to accept the natural divisions into activities that are sanctified by tradition, experience, and prior social investigation. The second is to choose sector boundaries which maximize the utility and convenience of administrators and planners in their function of exploring the implications of possible policy changes (Meier 1959:30).

The first principle is important for obtaining reliable data. By using categories that are already developed and accepted the chances are greater that collected data will compare closely with previously collected data. There is also greater assurance that data can be obtained to fit categories which have already been proved useful. The second principle emphasizes the utility of the data once they are collected. The collection of census data, for example, provides basic information which is useful both for theoretical analyses by demographers and for more practical concerns such as the facilitation of tax projections. Economy in collection and analysis can be listed as a third principle to observe in choosing time budget categories.

There is no universally applicable typology of behavior categories, and various possibilities exist. Some studies have used "common sense" distinctions which are obtained from interviews with respondents. Basing an initial ordering of the data on these distinctions, it becomes possible to combine these categories to produce more general

ones, or to break these distinctions down into sub-categories for concentrated and specialized analysis. Other researchers have made use of categories designed to fit the framework of their study. In actuality, categories usually reflect a compromise among those who must use the data. For example, before choosing the categories to be used in obtaining and reporting census data there are consultations with the various administrators and professionals who will be using the data so that whatever is collected will be of maximum utility.

Thus far sectors and categories of the time budget have been used as if they were interchangeable terms. To a certain extent they mean the same thing, namely, breakdowns of the total time budget output. However, it should be emphasized that "sector" is the more restricted of the two terms. As used in national income accounting (Ruggles and Ruggles 1956:69) and in the forthcoming analysis of the time budget, "sector" refers to the broad breakdowns of the total block of activity. Separate accounts may be drawn up for each sector, but all the sectors taken together should equal all the activity that takes place. "Category" shall be used as a more generic term to refer to all kinds of breakdowns, whether according to sectors or subdivisions of sectors. In spite of its more restricted use, sector is not an absolute term. A sector is merely the first breakdown on one level of analysis.

The basic decision to study the time budget on a community level means that restrictions have already been placed on the collection and analysis of data. Categories for the community time budget are not necessarily comparable to the combined time budgets of an aggregate of individuals even though a community time budget could conceivably be built up from properly gathered individual time budgets. The essential ingredient of a community time budget is that the individuals who are included in the total must share a common element, that of general locality. The aggregate of individual time budgets may refer to a population as narrow as a family or as broad as a nation. The community time budget, however, is restricted by the definition of a community. In Chapter I the community was defined generally as a locality system of inputs and outputs with time as a major resource available for this flow of inputs and outputs. It is expected that not only will amounts of time spent in certain activities differ by community, but that the types of activities themselves will vary from one community to another.

Meier (1962:7-8) suggests that a beginning step in the formulation of the community time budget can be made by drawing upon the distinction between private and public sectors. By the private sector is meant those periods of time in which an individual is engaged in activities which are personal in nature and not ordinarily subject to community control. The public sector then would be those periods of

time during which an individual's activities are subject to community concern and control. Such a distinction does not fit all cases since there are private activities which become the concern of the community. Nevertheless, this is a distinction which is commonly made in everyday life and it shall be used as a beginning step in the present analysis.

Field Work Methods

A simple and efficient method for the study of time allocation does not yet exist. In the main, research on time has concentrated on lower-level descriptions of how people spend their time, in which activities, and for how long in each one.

The technical difficulties of ascertaining just the simple facts of present behavior have been such that even as yet there is no published study which displays the main patterns of time-use for a representative national sample of Americans. In recognizing the vast number of national surveys on other matters that have been done since the "thirties when social science sprang into such prominence, it is evident that there are special obstacles to obtaining this particular kind of information" (Foote 1961:156).

The comments apply to a lesser extent to community analysis. While studies of community time allocation have been made, a method such as that used by Barker and Wright (1954) is quite costly in terms of both personnel needed and time itself. Apart from observation studies like Barker and Wright's, most of the time data have been gathered by variations on the diary method. Individuals chosen are asked to keep an accurate record of all activities as defined by

the study for a certain period of time. Sorokin and Berger (1939) asked their informants to keep a record of each activity that lasted for five minutes or more. The recording was to be done each day and preferably immediately after a given activity was ended. They sent out more than 100,000 daily schedules and about 10,000 were returned. Many of those returned had to be discarded as inadequate, and the study was finally based on the records of 100 individuals who had kept daily records for at least four weeks. Obviously it was not easy to obtain respondents willing to keep detailed records for that length of time.

Nelson Foote (1961) notes that even though cooperative respondents can be found, diaries tend to concentrate on recording important happenings while routine activities are omitted. The routine activities tend to be especially sparse if records are kept for any length of time. Yet the routine matters probably make up the greater part of most time budgets. One way of remedying this difficulty is by intensive diary keeping for one to several days. The data presented by Lundberg and associates is of this kind. The bulk of their information was obtained from individuals who kept records for three consecutive days or less (Lundberg, Komarovsky, and McInerny 1934:374).

An alternative to the diary method is to settle for a log reconstituted from memory on the following day. Reiss (1959) obtained the time budget of working men for the

nearest previous workday and the last full day off. His interviewers were instructed to ask how the interviewee had spent these days. By probing and follow-up questions the days were reconstructed as intensively as the memories involved would permit. According to Foote, the reconstruction method has become the most frequent one to be used among recent studies. However, the validity of the data gained in this manner tends to be lowered drastically (Foote 1961).

Another major decision related to both diary and reconstructed-log methods is whether to precategory activities or use categories described by respondents. Depending upon what is done with the data, this is a decision which must be made for each study. On the one hand, lack of structure may tend to result in poor reporting. On the other hand, provision of structure may ignore important details. The problem is the same as that involved in the construction of any questionnaire.

Method of sampling is still another problem. Those who refuse to keep diaries or even be interviewed may be more representative of a population than those who cooperate. Judging from the low rate of returns--which Foote mentions may run as high as 80-90% on the diary method--generalization may be difficult.

The studies reviewed above and in Chapter II make mention of various other difficulties in obtaining time allocation data from individuals; only some of the major

problems have been recounted here. However, even this brief review should be sufficient to indicate some of the disadvantages of depending upon questionnaire data or verbal behavior for studying time allocation. Although Meier (1959:29) seems optimistic that methods are improving, it appears that we need some alternative methods of obtaining valid and reliable information on communities and uses of time. Foote (1961:173) has observed that too much of the research in the social sciences today is based on easily-obtained questionnaire data or verbal behavior, rather than actual behavior. In light of this criticism, the exploration of alternative methods should also move in the direction of possibilities which do not rely wholly on questionnaires and interviews. The implication seems to be that observational techniques need to be more highly developed.

Identifying the Community

In Chapter I the community was defined as a complex, integrated system of interacting individuals usually identified by a central place, and comprising an organization of social activities which enables these individuals to meet the needs of day-to-day life. Although the boundaries of such a system are not always easily established, most of the activities of this interacting population are relevant to a certain geographical locality. In many communities, the central place, village or town, serves as an important identifying factor for the whole locality. Furthermore,

within the village or town some places are areas of relatively high interaction. For example, the central business district which characterizes so many American towns also contains the bulk of public interaction which helps to create and preserve the character of a particular community. Although it is theoretically possible for a community to be made up of several scattered interaction centers, the fact remains that an identifying characteristic of many communities is its nucleus of various services and activities which tend to occur in a centralized location (Hillery 1961:348).

Identification of the community by its central place solves only a part of the problem in delineating community areas. An additional aspect of the problem stems from the fact that a great deal of overlapping occurs between communities; a host of districts for schools, fire protection, water, local government, and other units are all identified in different ways with one central place. The situation is further complicated by the daily movement of many people from one community to another. Identifying the continuities and discontinuities of a community is much more difficult than it was in the days before high-speed transportation. Many people actually participate in the activities of several communities; for example, the community of work is often different from the community of residence.

The complexity of community phenomena also makes it extremely difficult to simply delineate mutually-exclusive

community areas. Communities in complete isolation are extremely rare, and if the term is defined more and more comprehensively, a community can include the entire world's population. Although the focus of attention on central places or clusters of population and services avoids part of the problem, a realistic approach to the delineation of the spatial community must make use of the concept of hierarchies or levels of community (Starr 1954; Marquis 1963). Specification of community levels allows for inclusion of the local community in the larger region. In addition, the recognition of different types of activity on the local and regional levels has led to the formulation of concepts such as the horizontal and vertical patterns of the community (Warren 1963). Warren identifies purely local activities as the horizontal pattern, while the vertical pattern is made up of activities which may occur locally but are actually related to extra-local organizations or interests. Such concepts enable the continued use of the term "community" as a locality while recognizing the importance of outside relationships.

Summary

The economic model as presented in an earlier section of this chapter appears to be particularly suited to serve as a theoretical framework for the analysis of time allocation. By adopting an inclusive definition of economics, it becomes possible to view a community as a "collection of

choice-making individuals" who are acting out cultural rules with reference to the use of time. Time is analogous to money in that both are resources, scarce, and capable of certain kinds of growth. In addition, the use of time and the use of money indicate value orientations. Changes in the use of time and money can be easily noted since both are quantifiable.

One of the major problems in dealing with time allocation is connected with the actual gathering of time allocation data. Methodology includes the selection of appropriate budgetary sectors and categories as well as a concern with the techniques for obtaining information on time allocation. Applications of the time budget approach to a community also intensifies the problem of identifying this community since exact boundaries must be drawn for gathering the data. In essence, however, the necessity of dealing with boundaries simply forces the investigator to adopt a more realistic approach to the community as a spatial unit.

CHAPTER IV

FORMULATING A COMMUNITY TIME BUDGET-- PRE-FIELDWORK DECISIONS AND PLANS

The previous chapter consisted mainly of some general statements on the theory and method of time budget analysis. The present chapter carries the discussion of methods a bit further, raising some issues which were involved in the actual preparation for carrying out a field study of time allocation. The presentation will be in the form of some major decisions that were made before beginning field work and it will include a discussion of some of the alternatives faced in preparation and the decisions made regarding these alternatives. Five major choices will be considered: the general approach to formulating a time budget, the sectors of the time budget, the range of relevant variables, the community to be studied, and the method of obtaining the data.

Choosing the General Approach to Time Budget Formulation

One of the outstanding characteristics of a time budget is that it is based on quantitative data. The quantitative character of the data comes from two sources: (1) time itself as measured in hours, and (2) the number of individuals who spend these hours. The formula for obtaining total time in

one category of the time budget is the number of persons engaged in the activities of that category multiplied by the number of hours spent in those activities by those persons. The time budget method may be used to account for time expenditure of one person or for a group of persons. In the present study specific attention is being given to time budgets of communities, and the focus is restricted still further by concentrating on time spent in public activities.

The definition of community given in Chapter I was formulated to include the concept of central place. The relationship between central place and community was more fully explored in Chapter III, and it was noted that many communities are identified by the dominance of a central settlement where human population and activities are most densely clustered. Depending upon its size, a central place may be called a village, a town, or a city. Coupled with the decision to define community time as time spent in public activity, the concept of central place serves as a convenient way of restricting the limits of observation. Due to the concentrations of human activity in such central places, it is often true that public activity and central place may be delimited by roughly coincident boundaries. Not to be ignored, of course, is the fact that some public activity also takes place outside the boundaries of a central place or in other central places. It is assumed, however, that most of the public activities of most communities identified by a central place will occur within that central place.

Having chosen to concentrate on public activity which occurs in a central place, an important issue remains to be resolved. This issue lies mainly in deciding who are the members of the community. For example, if membership is based on residence within the boundaries of the central place, the community time budget is made up of the public activities of residents within those boundaries. The resultant community time budget is likely to exclude transients, temporary visitors, and persons who work there but live elsewhere.

The alternative approach focuses on activities which occur within the boundaries of the central place. Participants in these activities may be residents within these boundaries or they may be present because they work, shop, and carry on business there.

These two approaches are not unrelated to two dominant ways of viewing the community. If the community is seen as an interacting group of individuals who share certain ties, then a community time budget could conceivably be completed by aggregating the relevant portions of time allocation data obtained from individuals. Such an approach to community time budget analysis requires that each individual in the community be included in the study. This approach does not preclude sampling, but it does demand that time information be gathered for individuals by means of questionnaires, diaries, or some method which involves a census-type effort.

The second way of viewing a community is to see it as a place where human interaction occurs. Regardless of who the interacting persons might be, they are part of the public activity which occurs in the locality. Both of these approaches will be explored more fully. Employing a typology used by Robinson (1950), these two approaches will be called (1) the "individual" approach, and (2) the "ecological" approach. Although boundaries must be identified for either approach, the difference lies in who is counted and at what time.

The "Individual" Approach

The first step in this approach is to compile a list of all persons within the geographical boundaries of the community. Given the number of people, the total number of hours within a day or a week may then be computed. The next step is to find out how this total time is allocated to the various sectors of the time budget. For example, suppose we were to construct the time budget for one day in a community with 1,000 inhabitants. Multiplying 24 hours by 1,000 persons gives us a total input of 24,000 hours. If, in compiling the data from each person, it is found that the people of this community spent a total of 2,400 hours in work on that day it is possible to say that the people of this community allocated ten per cent of their total time to work. Notice that no specification has been made regarding place of work. The budget may include those who work in

other cities as well as those who work in their own homes. This method may be applied to a suburb, a village, a metropolis or any other group of persons designated a community. The essential feature of the method is that total time allocation data be gathered for each individual included in the population on which the time budget is based.

This approach has definite advantages in pursuing certain further types of analysis. Lundberg and associates (1934), Barker and Wright (1954), and others have used this general approach to correlate their time data with additional variables such as social class, age groups, and occupational groups. However, this method also has its limitations. Part of the problem stems from what is considered a community. The implied definition of community in the individual approach to time study is that a community is made up of the number of people living within the boundaries of a certain locality. The question raised here is whether total community activity and time allocation coincides with the total expenditure of time on the part of individuals who reside within the geographical boundaries of the community.

There are cases where such coincidence may be assumed. Primitive and peasant peoples, for example, often recognize well defined boundaries between their villages and the rest of the known world. If the presence of others within that recognized boundary is rare, visitors can usually be identified with relative ease.

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At the other extreme, metropolitan areas contain within their boundaries the residences of a relatively large percentage of individuals who allocate their time in that area. In the United States, many census reports and other statistics are available for such areas, and it becomes possible to make gross estimations on the basis of such statistics. The flow of population in and out can be accounted for by similar estimations. It becomes easier to make the assumption that the population base of the metropolitan area is also the population base to use for constructing a time budget.

The present study, however, is not immediately concerned with primitive villages or metropolitan areas. Following the tradition of many other students of the community, the initial concern is with towns and smaller cities--the clusters of population rather than the urban and metropolitan sprawl. The reasons for this initial restriction will be elaborated upon later. In the case of smaller towns and cities, however, the definition of community boundaries often becomes quite difficult. There is sufficient flow of population both in and out of such communities that any population base identified with a locality becomes rather difficult to specify. The question arises: Does one deal with the population which lives in the locality only? If so, then what should be done with the people who live elsewhere but come to this community to work and shop? And what about those who live in this locality but work and shop elsewhere?

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This is part of the dilemma connected with the community study method. This is why so many sociologists have avoided trying to deal with the community as a unit, and have turned toward the study of social class, power, and other interests. An advantage gained in these diversions from the strictly locality-oriented study was that the community could be assumed without having to deal with the continuities and discontinuities of its peripheries.

The "Ecological" Approach

This second approach to time budget study deals with the concentration of human activities in a central place. The time budget is constructed by finding out what kinds of activities occur and how many human-hours are spent in these activities. For example, if it is found that 10,000 human-hours (number of hours in the selected period multiplied by the number of people spending those hours) are spent in community activities, then the community time budget is based on a total of 10,000 human hours. If 5,000 of these hours are spent in work, then it can be said that work constituted fifty per cent of this community's time budget. This time budget is not tied to an exact population base. In fact, the actual population which participates in these community activities can only be estimated. It may not be known, in the example given, whether 500 people are working an average of 10 hours or 1,000 people are working an average of 5 hours. In reality a much closer estimate can be made, although such an estimate

may not be necessary to the construction of the time budget.

The advantage of this second approach lies in its implied definition of the community as a system in which the flow of population can be accommodated. This approach is consistent with the definition of community as a system with flows of input and output. By defining a community activity as a public event which occurs in a central place, or is related to this central place, the farmer who purchases his groceries in this central place is counted as participating in the activity of this central place. On the other hand, an industrial worker who lives in this central place but works in a different community would not be counted in the work sector of his residence community.

A major problem with this second approach is that one loses the advantage of knowing the population base, and it becomes more difficult to ascertain the total time budget. The investigator is faced with the necessity of making his observation as complete as possible and basing his calculations on the information which he can obtain.

Neither of these approaches is without its difficulties, and the selection of one of them does not imply its superiority. However, the "ecological" approach will be employed in the present study because this approach seems more suited to compiling the total amount of public time spent within a community. It is not necessary to contact each person

involved since much of the information can be obtained through other techniques. In addition, the "ecological" approach in itself implies a method worth trying. Much of the time data on communities have been obtained through questionnaires and diaries, and there is a need to explore other methods of obtaining information on time allocation in communities.

Adopting Time Budget Sectors or Categories

The basic concept of the time budget is simple to anyone familiar with the use of seconds, minutes, and hours in the division of on-going time. The time budget is merely the quantity in terms of time units of how a certain total amount of time is allocated to activities by certain individuals. Obtaining information on time allocation is essentially providing an answer for the classificatory question, "who does what, with whom, when, and where?" In its simplest form the time budget need describe only how much time in what activity although the information is made more useful by the inclusion of where, who, and when as well. That is, the place, the persons directly involved, and the relevant cycle (daily, weekly, monthly, seasonal, annual) should be identified in addition to the units of time and the activity. Elaboration on the nature of the time budget and some of its possible uses was made in previous chapters.

A Review of Possible Sectors

The units of time in a time budget account are fixed, stable, and reliable. The chosen categories of activity, however, may vary considerably depending on the focus of the study (see Guest 1960). The aggregated time budgets of individuals may include refinements of broad work and leisure categories such as sleep, reading, maintenance activities, eating, and numerous others. However, not all of these are equally applicable to a community time budget. Some possible community activity categories were suggested in Chapter II from the Barker and Wright (1954:104) study: business, church, government, social organizations, school, and miscellaneous. These are quite different from the categories listed for individuals. One important contrast between individual and community categories is that community activities, by definition in this study, are mostly public in nature, while a large portion of an individual's activities are private. According to estimates made by Barker and Wright (1954:97-98) Midwest inhabitants spent 79 per cent of their time in family settings, 16 per cent of their time in community settings, and 5 per cent of their time in settings outside the community. Some of the time spent in settings outside the community probably included public time spent in other communities; nevertheless, it is clear that most community or public time accounts for a relatively small portion of the total time of individuals.

Community literature contains many other potential categories for use in a time budget. In Middletown, the Lynds (1929) list the following major categories of activity: getting a living; making a home; training the young; using leisure; engaging in religious practices; and engaging in community activities such as government, health, caring for the unable, and getting information. The Lynds have a narrower definition of community activity than the one accepted for the present study; however, the categories they used have been widely employed by other students of the community.

Anderson (1959) lists a somewhat different set of activities in a chapter on "How Communities Get Things Done": private work and public work, action on community problems, public utilities, educational services, health services, sanitation and community appearance, safety and protection, and services for leisure and culture. Warren (1963) proposes still another list when he describes community activities in terms of five major functions: production-distribution-consumption, socialization, social control, social participation, and mutual support. Each of these lists could conceivably serve as major sector breakdowns of the community time budget. In addition, various other possibilities could be listed since the potential number of categories is great.

A Selection of Sectors

Before exploring other ways of listing community activity it might be well to review the three principles mentioned in Chapter III in connection with the selection of categories. Briefly stated these principles suggest that the following criteria be kept in mind in choosing time budget sectors: (1) degree of acceptance in other studies, (2) utility and convenience, and (3) economy in collection and analysis. To evaluate all possible categories in terms of these criteria would be a gigantic task which shall not be attempted here. Instead, suggestions of some categories which represent a possible first step will be formulated. At this point they are only suggestions which remain to be tested in terms of the criteria for choice.

Since the time budget is made up of quantitative data it seems reasonable that a search for categories should include consideration of economics and demography, two related disciplines which also make use of quantitative data. Thus, a first step in ordering time allocation data may be stated in terms of input and output. The total input is simply the number of persons involved multiplied by the total number of hours these persons spend in public activity. The input may be presented in a census-type list with various breakdowns such as age or occupation or place of residence if the respective inputs for these categories are known.

The total output should equal the total input, but the categories which are listed on the output side are in terms

of public activity rather than attributes of persons. It was the selection of sectors for the output side of the time budget which occupied much of the attention in previous chapters.

As noted in earlier chapters, one of the major purposes of developing the community time budget is to provide information about the structure and functioning of the community as a system. In obtaining and presenting this information many different kinds of sector breakdown of the community time budget are possible. There is nothing inherent in the concept that limits the number of sectors. For different kinds of problems, different sector classifications would be useful.

The specification of community time budget sectors in the present study is derived from divisions which have often been made in the description of community activities. The following sectors have been selected: (1) production and distribution of goods and services, (2) consumption of goods and services, (3) public administration and services, (4) social participation, and (5) travel.

Description of the Sectors

One of the major functions of the community is to provide the local organization of individuals which facilitate productive effort and provide for distribution and consumption of what is produced (Warren 1963:168). The organized ways of accomplishing these ends is often called the

economy of the community. The particular tools and techniques which are used in production and distribution have an important influence on its level of economic development, and various specializations of activity give a community its own particular characteristics. Much of the public time in a community is spent in the production and distribution of goods and services, and it was decided to make this type of activity a separate sector in the time budget.

The consumption of goods and services is listed as a separate sector largely because it represents a type of activity which is distinctly different from the production-distribution sector even though both are complementary to each other as economic activities. The consumption sector is considered the receiving end of the distribution sector, and it is composed of time spent as customers and patrons of units which distribute goods and services.

The sector of public administration and services is a type of activity which could technically be included under the production-distribution sector. It was decided, however, to make public administration a separate sector in order to differentiate between activities which are related to government and activities which are largely in the control of private nongovernmental individuals and corporations.

The social participation sector is the title given to a type of public activity which is largely voluntary in nature. Such activities may be related closely to the other sectors,

but they usually represent a distinct type of time expenditure.

Finally, travel time is also considered a separate sector of activity. The daily habitual movement of people is reflected in the flow of traffic in, out of, and through towns and cities. As central places, towns and cities become the focal points for a great diversity of activities; the daily convergence and divergence of populations is a synchronized effort to satisfy many fundamental needs of life. Information on traffic flow patterns can prove useful for various purposes in the study of a community. Traffic information may be used to document the daily cycle of activities in a community and to provide a basis for estimating a portion of the public time which is spent.

In accordance with the definition of community as a system, each of the above named sectors of activity may be expressed in terms of output of hours spent in public places. These sectors can also be defined to include all of the public activity which takes place in a community. The sectors are functional in that they classify the functions of activities rather than the nature of the individuals or units involved in the activities. For example, an industrial worker is in the producing sector when he is at work, in the consuming sector when he stops at a local bar on his way home, in the government sector when he is elected mayor, in the social participation sector when he attends a meeting of the

American Legion, and in the traveling sector when he uses public streets and roads to go from one place to another.

A simplified community time budget as described above could be expressed in the manner shown in Table 1. The example given is an estimated amount of public time spent by adults during one week in a hypothetical community. The general form of the table will be explained in Chapter V.

TABLE 1.--An Estimated Weekly Time Budget for the Adults of a Hypothetical Community.

Input (Source)		Output (Allocation)			
Number of Persons	Public Time (Hrs.)	Sector	Persons	Hours	Per Cent
Local Residents		Producing	300	12,000	60.0
200 males	12,000	Consuming	1,000	5,000	25.0
250 females	2,500	Public			
		Adminis-	20	800	4.0
		tration			
Other Persons		Social			
600 males	4,000	Partici-	400	800	4.0
350 females	1,500	pation			
		Travel	1,400	1,400	7.0
				20,000	100.0
<u>1,400 persons</u>	<u>20,000</u>				

The five sectors vary in terms of the number of further breakdowns which may be required. Producing and consuming, for example, may include the dozens of census categories which are often used in listing the goods and services available in a county, a city, or a state. Some of the major breakdowns which often appear in reports are the following: agricultural services; mining; contract construction;

manufacturing; transportation and public utilities; whole-sale and retail trade; finance, insurance, and real estate; and services. Each of these may be further subdivided to include the different units found in each one.

The social participation sector has no established set of sub-categories which may be used. The literature on social participation offers numerous possibilities, but the categories employed vary widely depending on the interests and orientations of the investigators. What is presented in this study is a composite of categories gleaned from various sources, and social participation shall be divided into the following three categories: (1) instrumental associations, including service clubs, labor unions, welfare groups, and other associations which are organized to perform some particular service to some members of the community; (2) leisure and other mixed groups, including churches, fraternal organizations, recreation groups, social clubs, and similar associations which meet for varied purposes but are not primarily oriented toward service to the community; (3) special ceremonies and events, such as marriages, funerals, athletic contests, concerts and plays--namely, those events which occur periodically but do not require formal membership in an association.

The governmental sector may be divided into categories appropriate to the activities of the community which are under public control or are the activities of agencies

responsible to public control: schools, police and fire protection, local government, post office facilities, and other similar services. The travel sector may be subdivided into the various kinds of transportation available in a community: automobile, bus, train, and plane.

This list of sectors and categories is a suggestion of how a time budget might be divided. It is only one of many possible such breakdowns. One way to evaluate them would be to review these sectors in terms of the principles of selection stated earlier in this chapter. The first principle suggested by Meier (1959:30) was "to accept the natural divisions into activities that are sanctified by tradition, experience, and prior social investigation." All of the sectors listed have appeared in the literature on community studies, and most have been widely used by social scientists.

Meier's second principle was "to choose sector boundaries which maximize the utility and convenience of administrators and planners in their function of exploring the implications of possible policy changes." It remains to be seen how useful time allocation data will prove to be for policy planning. However, the use of census categories should facilitate comparisons with data which have already been collected, and actually serve to enhance the census materials. The third principle--economy in collection and analysis--remains to be tested. Previous investigators of time allocation have employed fairly elaborate and expensive procedures,

and part of the purpose of the present study is to explore simpler methods of obtaining time allocation data.

Deciding on Other Relevant Variables

The adoption of sectors and categories is an important step in the development of any time budget study. Most studies of time allocation, however, have included further specifications of the kinds of data to be gathered. Some studies reviewed in Chapter II were restricted to certain types of individuals--for example, homemakers or unemployed persons. Other studies were devoted to an analysis of certain age groups or certain income groups. It is also possible to make some of these same distinctions in the community time budget.

In the present study observation was restricted to adult behavior. Thus age was made a major distinction in obtaining data on time allocation. Age is an important variable in the study of social organization because being in different age spans can have a great influence on behavior and status. A child of three, a teenager, and an adult live quite different lives even though eating and sleeping may include them in the same type of activity. A town made up mainly of young couples and children will have a time budget which is quite different from that of a town mainly inhabited by retired people (Harlan 1954). Studies of communities usually make a distinction between child and adult behavior in their analyses of social life. If this distinction is to

be made, some provision for differentiating "child" time from "adult" time must be provided for in the methods of gathering data. For example, Barker and Wright (1954) presented their general time budget without an age distinction, but they used methods of observation which allowed them to separate various age groups and concentrate on the analysis of child behavior.

Some of the other decisions which remain include specification of the study area boundaries, the definition of public activities, and methods of identifying locations of public activity. These points will be discussed in Chapter V in connection with a description of field work techniques.

Selecting a Community for the Sample Study

In selecting the site for an initial study of a community time budget two main factors were taken into consideration: the size of the community and the relation of the community to its environment.

Size was the first consideration. In a sample study such as this one, a small city or town serves as a more manageable site for obtaining relatively complete information on time allocation. The research site should be small enough to enable the observer to become acquainted with most public activities in a relatively short time. With this qualification in mind, the population of the selected town should certainly not exceed 10,000 inhabitants. On the other hand,

while no lower limit was actually set, a town of more than 2,500 inhabitants probably offers greater opportunities to test out methods which could be of use later in studies of larger towns and areas.

Regarding the relation of the community to its environment, the main qualification in mind was that the town chosen should be a central focus of business, financial, and social activity for the surrounding area. A suburb, for example, would not qualify for this initial study. The town selected should be the main service center for a surrounding hinterland. In addition, it should be of sufficient distance from any large city or other center to be a community in its own right. Furthermore, a history of relatively stable development was desired, indicating that the town has been participating in the general growth of the area.

Many towns of the size desired (2,500-10,000) are county seats or college towns. These were excluded from this initial study because of the special situations presented by each of these types.

After these preliminary considerations were formulated, a list of small towns in Michigan was compiled. Investigation finally focused on Eaton Rapids, a town of about 4,200 inhabitants located in south central Michigan. The advantages of this town for an initial time budget study will be discussed in Chapter V.

Obtaining the Data on Time Allocation

The decisions regarding data collection which were made in the field will be treated in Chapter V also. At present some of the general alternative methods will be reviewed and selection will be from among them.

Some of the studies reported in Chapter II used a variation of the questionnaire method in which subjects were asked how they had spent their time during a certain period. Other studies used a diary method, depending upon individuals themselves to record their activities and the respective amount of time spent. A third method used was to have an observer record activities and times as they occurred. All three methods apparently were workable and resulted in fairly complete information on how individuals spent their time during the period for which records were kept.

In the present study the primary interest was not in individual activities as such, and time allocation data were gathered for broad sectors of community activity. Interview and observation techniques seem more suitable for this type of investigation. The interview was the most appropriate method for obtaining information on hours of employment in the respective establishments, the total attendance and length of time spent in organizational meetings, the numbers of customers in various stores and business places, and other such information for which records might have been kept by merchants, organizational officers, and officials. The types

of information which required observation were counts of vehicle traffic entering and leaving the town or just driving within the boundaries, the approximate number of persons in establishments for which records were not obtainable, and the total number of persons in town at given times to serve as a check on the other data.

The question of sampling applies to this study only in a special way. One reason for choosing a small town was the desire to obtain data on community time allocation that was as complete as possible for the period specified. The resultant time budget could be only as complete as the data gathered for it. As was expected, however, a great deal of the total time in the budget had to be based on estimations and approximations. Nevertheless, there are at least two general areas in which sampling occurs. One of these is in the selection of a week to serve as the basis for monthly data. The other area in which sampling occurs is in obtaining traffic counts during the various times of the day. Both of these instances will receive further treatment in Chapter V. In addition it should be mentioned that the study itself is a sample of the yearly round of activities which can occur in a small town.

CHAPTER V

A COMMUNITY TIME BUDGET CASE STUDY--FIELD METHODS

This chapter consists of (1) a brief description of Eaton Rapids, the town selected for a case study; (2) a statement of some of the field experiences and decisions made in collecting the data on time; (3) a summary of the data on time allocation; and (4) some interpretations of the time budget data. .

General Description of Eaton Rapids

Eaton Rapids is an island of industrial and non-farm activity surrounded by the general farming and dairying area typical of its location in south-central Michigan. It is situated in the southeastern corner of Eaton County, about 75 air miles west-northwest of Detroit. Eaton Rapids is ten miles from Charlotte, a town of about 8,000 inhabitants which serves as the seat of Eaton County. Although it is within commuting distance of three metropolitan centers--Lansing, Jackson, and Battle Creek--Eaton Rapids is not located on major highways connecting these cities. Consequently the town is left with a high proportion of local traffic.

Eaton Rapids is far enough from any city to be more than a satellite community, but the town is far from isolated.

It is located on one state highway (M-99) which connects with Lansing and on another (M-50) which connects with Jackson. The town is about sixteen miles from Lansing, and in recent years the inhabitants of Eaton Rapids have become increasingly dependent upon the Lansing metropolitan center for jobs and services.

It is the inclusion in the Lansing trade area which makes it more difficult to define the outer boundaries of the Eaton Rapids community. However, two studies have delimited such boundaries in terms of the general area in which inhabitants depend directly upon Eaton Rapids for various goods and services. Both Thaden (1940) and Moots (1962) report figures which indicate that about 56 per cent of the Eaton Rapids area population who use Eaton Rapids as a major center of trade live outside the boundaries of the town.

An Historical Sketch

The history of Eaton Rapids reveals a number of decisive changes in the social and economic life of the community. In the early years of the nineteenth century, the area which became Eaton County, Michigan, was largely covered with forests and inhabited by various clans of the Algonquin Indian nation. Three of their trails converged near the junction of what were later named Spring Brook and Grand River, probably because the river broke into tumbling

rapids at that place, thus creating a natural portage point. When the pioneers began to settle the area, they followed these Indian trails, and as happened elsewhere, these trails were then widened and improved to make travel easier.

Between 1835 and the early 1840's two interdependent groups of pioneers began pouring into Eaton County. The farmers were looking for land, and millwrights were searching for water power. These early settlers were Yankees coming mainly from New York and New England, some of them pushing on to Michigan after having first located briefly in Ohio. Little settlements sprang up all over. One of the early store buildings in the county was erected in 1836 near the above-mentioned convergence of trails and streams. Indians and an ever increasing number of Yankee pioneers were the customers. This new settlement attracted other entrepreneurs, and the hamlet became known as Eaton Rapids. The name was selected in honor of John Eaton (secretary of war under President Jackson) and because of the river rapids which were a factor in its location. By 1838, a gristmill was in operation, Eaton Rapids was platted, and a post office was established.

Along with the settlers came the Methodist circuit riders, and the first religious group to organize in the Eaton Rapids area was a Methodist mission class. The first church to be organized in Eaton Rapids itself, however,

was the Congregational Society whose first meeting was held in 1843. By 1845, the Methodists had selected the site where their church stands today, and the Baptists were also organizing their own church.

During the early years of its history Eaton Rapids remained a pioneer settlement which served as an agricultural trade center for the increasing population which continued to migrate into the area. In the 1840's when the state capital of Michigan was moved from Detroit, Eaton Rapids was one of a dozen towns under consideration for its new site. The final decision for its location was Lansing.

In 1843, a dam was built across Grand River and millrace was dug to connect Grand River and Spring Brook. The center of the village was made an island. A carding mill, a foundry, and a cabinet shop, all built on the race, constituted the beginnings of industry in Eaton Rapids. It was organized as a village in 1859.

It was not until the post-Civil War period that Eaton Rapids began to experience some of the excitement of urban life. In 1869 a new well was dug to furnish a better water supply for a grocery and dry goods store. The drill tapped an artesian water supply high in mineral content, and Eaton Rapids was on its way to becoming a mineral spa, the "Saratoga of the West." Health and pleasure resorts were reaching the height of their popularity in other states of the East and Middle West, and Eaton Rapids participated

in this surge of popularity. In the village, fifteen wells were drilled in a short time; and within three years seven hotels and rooming houses were built in the business area. Two railroads started service to Eaton Rapids in the early 1870's, making the village that much more accessible for both invalids and pleasure seekers. Many of the buildings which line Main Street today were built during this era.

Eaton Rapids contained 1,221 resident inhabitants in 1870, and the influx of invalids more than doubled the population. It was estimated that for a period in the 1870's, when the main attraction was the spa, as many as 3,000 visitors were being accomodated at one time. In the decade, 1870-1880, the resident population increased 46 percent to a total of 1,785 persons.

In 1881 Eaton Rapids was incorporated as a city with the mayor and alderman form of local government. These were boom times for Eaton Rapids; ambition and high spirits characterized the period. In addition to being a trade center and a health resort, it became a recreation town; medicine shows, soap box orators, a racetrack and fairgrounds, a zoo, summer band concerts, saloons and a strong temperance organization--all these offer clues to the kind of life which prevailed. A series of disastrous hotel fires, however, dampened the enthusiasm of the town's promoters. Hopes of Eaton Rapids' becoming a large mineral

spa center began to wilt. When their biggest and best hotel burned in 1911, the health resort dream became history. Today a chiropractor does a thriving business on the site of one of the early hotels, but no one comes to Eaton Rapids to be cured by the water.

After the mineral spa era faded, Eaton Rapids settled down to become another small town. From its beginnings as an open country neighborhood it had become well established as a regional trade center, and merchants selling various lines of basic necessities settled in the growing town. It was also becoming a mill town. The first big woolen industry was started in 1880 and it grew to become the largest employer there for many years. It became a nationally-recognized producer of woolen products with blankets, yarns, upholstery, and auto robes as main products. Three other woolen mills were founded between 1917 and 1926, and Eaton Rapids seemed to be headed for a big future in the woolen industry. Although it was still an important rural trade center, it was also becoming a predominantly one-industry town. The only other important industry was ice cream manufacturing. In 1876 an Eaton Rapids dairy farmer started to make and sell ice cream. His business grew slowly at first, but this industry came to be central Michigan's largest producer of ice cream and other dairy products.

In 1914 Eaton Rapids became a home rule city with a commissioner system of government. This change symbolized the declining importance of town and township relationships. Eaton Rapids was becoming a community in and of itself. Immigration had largely ceased, and the population of the area was stabilizing. Social strata were becoming more evident with the industrialists and other prominent citizens comprising an upper class and the factory and farm workmen forming a lower class. The merchants and professionals were somewhere in between. During the 1920's Eaton Rapids became increasingly characterized as a small factory town which continued to offer important services to surrounding farm areas.

General economic conditions during the 1930's brought about important changes throughout the United States, and these changes were felt in Eaton Rapids. The depression, labor union expansion, and increased competition from other industries combined to result in the decline of the main woolen mill in Eaton Rapids. Many workers began commuting to other regional centers such as Lansing and Jackson when they were no longer able to find work in Eaton Rapids. The formerly dominant woolen mill almost entirely ceased operation, and diversified metal and paper industries have taken its place.

The main woolen mill formerly employed as many as 500 men, but in March, 1963, the 658 industrial jobs in

Eaton Rapids were divided among ten different plants. The largest of these plants, a manufacturer of small metal accessories and parts, provided work for 250 people. The ice cream manufacturing plant continued to expand operations, and it is still an important industry in the town, although it never attained the dominance of the woolen mill.

Demographic Characteristics

The population figures shown in Table 2 indicate that the population of Eaton Rapids increased steadily from 1830's to 1900. After a brief decline during the decade between 1900 and 1910, the town continued to grow at rates varying from 8.4 per cent per decade to 18.6 per cent per decade. Some of the growth was due to annexation; some of it was due to in-migration from the surrounding farm lands, and much of the growth was due to natural increase. In the decade after 1950, 4 per cent of Eaton Rapids' population growth was due to net migration, while 96 per cent of the increase between 1950 and 1960 was due to the excess of births over deaths (Beegle, et al. 1962:43).

The two rural townships which surround Eaton Rapids experienced a population **decline** from 1900 to 1920, but since that time the rural areas have been increasing in population, with much of the increase in a northerly direction toward the vicinity of Lansing. In 1960 about half of

the population in these two townships was designated as rural non-farm.

TABLE 2.--Population Change By Decade in Eaton Rapids and Eaton County Since 1860.

Year of Census	Eaton Rapids		Eaton County	
	Population	Per Cent Change	Population	Per Cent Change
1860	582		16,574	
1870	1,221	109.8	25,163	51.8
1880	1,785	46.2	31,225	24.1
1890	1,970	10.4	31,094	- 0.4
1900	2,103	6.8	31,668	1.8
1910	2,094	- 0.4	30,499	- 3.7
1920	2,379	13.6	29,377	- 3.7
1930	2,822	18.6	31,728	8.0
1940	3,060	8.4	34,124	7.6
1950	3,509	14.7	40,023	17.3
1960	4,052	15.5	49,684	24.1

Source: The population figures were obtained from various reports of the United States Census Bureau.

A comparison of the population growth in Eaton Rapids and in Eaton County may be seen in Table 2. The town grew faster than the county from 1910 to 1940. However, after 1940, Eaton County has experienced an even higher rate of growth, much of it due to in-migration to the townships near Lansing.

The Eaton Rapids racial composition figures in the 1960 United States Census reports indicate that there were only three non-Caucasians living in the community. Ninety-eight per cent of the population were native-born whites; two per cent were foreign-born. The great majority of the population were of Anglo-Saxon stock.

Thirty-nine per cent of the population were in the under 20 age group; 49 per cent were in the 20-64 age group; and 12 per cent were in the 65-and-over age group. The sex ratio was 93.2 men to every 100 women.

Twenty-three per cent of the Eaton Rapids population were enrolled in school in 1960. Of the persons 25 years old and over, 11.1 was the median number of school years completed, and 6 per cent were college graduates.

Of the persons five years old and over in 1960, 49 per cent had lived in the same house since 1955. Another 32 per cent had lived in a different house in Eaton County, and approximately 19 per cent of the 1960 population had moved to Eaton Rapids from outside of Eaton County between 1955 and 1960.

The 1959 median family income in Eaton Rapids was \$5,574. Of the 1,087 families in Eaton Rapids, 20 per cent reported an income of under \$3,000; and 13 per cent reportedly had an income ranging between \$10,000 and \$24,999. The remaining 67 per cent had incomes ranging from \$3,000 to \$10,000.

At the time of the census in 1960, 1,340 males and 1,478 females were 14 years of age or older. Of this total of 2,818 persons, 1,000 males and 543 females were employed, 34 males and 21 females were unemployed, and 306 males and 914 females were not in the labor force. The various occupations of the employed persons are shown in Table 3. Nearly half of the employed males were craftsmen or operatives and kindred workers. Thirteen and a half per cent of the employed males were managers and proprietors, about 9 per cent were sales workers, and 6.4 per cent were professional or technical and kindred workers. About a fourth of the employed females were clerical workers and 31.3 per cent of the females were in a category of occupations containing mostly service and private household workers.

Seventy per cent of the employed persons in Eaton Rapids in 1960 were private wage and salary workers, 11 per cent were government workers, and 17 per cent were self-employed. Of the total employed, 35 per cent were in manufacturing, 22.6 per cent were in wholesale and retail trade, 15 per cent were in professional and related services, 7.7 per cent were in miscellaneous services, 6.3 per cent were in construction, and the remaining 13.4 per cent were in other classifications.

TABLE 3.--Occupations of the Employed Persons, Fourteen Years of Age and Older, in Eaton Rapids, 1960.

Occupation	Males		Females	
	Number	Per Cent	Number	Per Cent
Professional, Technical and Kindred Workers	64	6.4	57	10.5
Farmers	12	1.2		
Managers and Proprietors	135	13.5	17	3.1
Clerical and Kindred Workers	46	4.6	135	24.9
Sales Workers	91	9.1	56	10.3
Craftsmen and Operatives	476	47.6	62	11.4
Other (Private Household, Service Workers, and Laborers)	114	11.4	170	31.3
Occupation Not Reported	<u>62</u>	<u>6.2</u>	<u>46</u>	<u>8.5</u>
Totals	1,000	100.0	543	100.0

Source: United States Census of Population, 1960; Final Report PC (1)--24C; Michigan.

Description of the Central Business District

The investigator's first visit to Eaton Rapids in early March, 1963, confirmed its selection as the site for an initial time budget study. A large percentage of Eaton Rapids stores are located compactly in a central business district along Main Street. The two state highways (M-99 and M-50), which lead to Eaton Rapids respectively from the north and west, converge just outside of the main business

district and follow Main Street through the rest of the town and on farther south to follow the old Clinton Trail. The Grand River and Spring Brook converge near the town center, and a channel dug between the two streams leaves the town center situated on an island. The island is visible in the air photograph of the town shown on the following page.

Entrance to and exit from the town center must be made over one of six vehicle bridges and one pedestrian bridge. These bridges provide convenient check points for observing the flow of people in and out of the town center at different times of the day. One of the advantages offered by such a situation is that it becomes possible to count the number of cars and people passing in and out of or staying within a naturally delimited area. It is in this town center that the bulk of community activity takes place in the form of shopping or just being "downtown." The activities which occur outside the center--manufacturing, schools, the hospital, and a variety of small businesses--tend to be those for which records are more easily obtained.

The fact that Eaton Rapids was not near any of the expressways which carry the bulk of long distance traffic was seen as an advantage for this initial study. It seemed more likely that the people driving in and out of Eaton Rapids were there because of some connection with the town itself rather than being there merely due to a location directly between two larger centers.



Aerial view of Eaton Rapids, Michigan
August 12, 1955
Scale: Four inches equals one mile.

Delimiting the Area of the Study

Boundaries of the Community as a Central Place

The decision to make the time budget for a community center rather than attempt to include all that occurred within community boundaries was made not only to avoid entanglement with the problem of boundary definitions. Since little community activity actually occurs on the periphery, a time budget based on activities in the community center should accurately reflect the structure of that community. This decision, however, does not remove the necessity to deal with boundaries.

In the case of Eaton Rapids, the question arose: Should the observation be limited to the central business district on the island, or should the boundaries of the town serve as the community boundaries? Actually, neither of these alternatives were entirely appropriate. Many activities occur outside of the central business district as well as outside of the town boundaries. Since a certain clustering does occur, however, it was decided to define the community center so as to include all commercial and public activities within and around Eaton Rapids to the extent that such activities are found closer to the town than the first farmstead encountered as one leaves the actual town boundaries. In no case does this extend the community center boundary for more than a mile beyond the actual town boundary. It does enable the inclusion of a factory, a

hatchery, several service stations, a church, and other fringe developments. Activities which were found well beyond this boundary, and therefore excluded, were rural schools, rural churches, farm auction sales, and several individually-owned small businesses.

Definition and Location of Public Activities

In Chapter III the public sector of the time budget was generally defined as those periods of time during which an individual's activities are subject to community concern and control. Greater specificity is needed to make such a definition operational in the study of public time.

A large number of activities are public by definition: meetings which are open to the attendance of any one, places of business which perform a service to the members of a community, local governmental activities and services, and many others in which the activity is open to the view of all who wish to see and attend. In fact, nearly all activity which takes place outside of one's home can be termed public activity.

Many other activities may be termed public, not only because they occur outside of the context of one's own home, but because they occur in a secondary or client relationship. Activities in the production and distribution sector, in the public administration sector, as well as in the consumption sector where persons are patrons or customers, may be considered public because of one or both of these reasons. The same

may be said for the social participation and travel sectors. Public activities, then, are those activities which are performed as part of the life of a community. In contrast private activities are those activities which are performed in the context of the home.

It has already been specified that the community time budget includes all public activities which occur within the boundaries of the central place. In a few cases, time was counted for the central location even though some of the activity occurred elsewhere. If a service or business establishment was based within the boundaries of the central place, work time was counted if at least some of it occurred within those boundaries. For example, firemen spend part of their time fighting fires outside of Eaton Rapids itself. The fire station, however, is located in Eaton Rapids. Since their base of operations is Eaton Rapids, their total fire-fighting time is included in the community time budget. Other cases in which this procedure was applied include veterinarians and gasoline-and-fuel-oil deliveries to outlying farms. Client or customer time in these cases was not included.

Delimiting the Extent of the Study

Time Budget Period

For several reasons the month of March became the time budget period. Many organizations meet only once or twice a

month, and it was thus possible to include all meetings during the month rather than attempt to choose one representative week. In addition, the interviewing was done over several weeks and it was felt that the data obtained were a more representative estimate of the monthly time budget than a weekly one. The monthly time budget actually represents four weeks. The weekly data were multiplied by four to make the monthly total. The month of March, 1963, had 31 days and five weekends, with the extra days being Friday, Saturday, and Sunday. The equivalent of these days was taken off whenever an organization met weekly on those days. Information on churches, for example, was limited to the equivalent of four Sundays rather than the actual five.

Restriction to Adult Behavior

The methods used in the present study do not necessarily demand an age distinction, but making such a distinction in the study of time allocation yields more valuable data if later comparisons are desired. In the case of Eaton Rapids the collection of data was limited to a broad category of adult behavior. For the purposes of this study, adults are defined as all those persons in the community who are fourteen years of age or older. The age of fourteen was selected because it is the beginning point for the classification of employment status in United States Census publications.

There were, however, several exceptions to the actual inclusion of all persons in the age category selected. If the activity involved was limited to teenagers or younger children, it was not made a category in the time budget. High school attendance, for example, was not considered an adult activity. The membership and attendance of strictly youth organizations were also excluded, although their adult sponsors were counted. On the other hand, if a high school student, age fourteen or more, had a part-time job at one of the business places, he was considered to have assumed an adult role, and his time on the job was counted. In making traffic counts, the driver of an automobile was also counted as an adult despite the fact that he may have been driving to school. In other cases, wherever possible, the distinction between adults and sub-adults was maintained.

In some situations the distinction became rather difficult to use. When high school students were customers and patrons a subjective judgment on the part of the investigator and/or the informants had to be made. In such instances the "individual" approach to time budget study would have produced greater accuracy.

Gathering and Compiling the Data

Preliminary Investigations and Interviewing

Interviewing was begun a few days after the initial visit. Preliminary plans called for attempting several

interviews to see if time data could be easily obtained. After a brief introduction to the kind of study it was, most informants were willing to talk freely about the hours of work which were spent in their establishments. Initial plans called for getting information as completely as possible on the number of hours of work for the last complete week previous to the interview. In addition, requests were to be made for estimates of time spent during various months during 1962 to get an idea of of seasonal variations and to check the typicality of March, 1963. Obtaining annual data in this way proved difficult in most cases, and the resulting estimates were very general. Getting information for the previous week, however, was relatively easy for most places. When actual records were kept, informants were usually quite cooperative in giving the recorded information. After a few preliminary interviews it was possible to construct a one-page form for recording time data during the interview. A copy of this form is included in the Appendix.

A week of preliminary investigation was assigned for the gathering of various kinds of collected data on Eaton Rapids: census reports, employment and labor statistics, and traffic information. It was assumed that much of this information would be available from various State of Michigan offices in Lansing, the state capitol. Unfortunately, the available information was rather sparse.

Much more information is available for Standard Metropolitan Statistical Areas than for towns with 4,000 inhabitants. Nearly all of the data had to be collected first-hand in Eaton Rapids.

Only two visits were made to Eaton Rapids during the first week, but the rest of March was intended to be a period of intensive survey. However, due to circumstances unrelated to data collection, the interviewing had to be extended into April. Nevertheless, most of the interviewing of business establishments in the central business district was completed by the end of March. Attention then turned toward gathering time data for outlying businesses and for organizations and various public events.

By the middle of April more than 250 interviews had been completed during 20 visits to Eaton Rapids. Each visitation lasted an average of five and a half hours. Interviews ranged in length from several minutes to nearly two hours. About one-third of the interviews were made by telephone. The number of interviews, however, is not the actual number of people contacted. Ordinarily an interview, as the term is used here, refers to completed information on one establishment or organization. Especially in telephone interviewing it was necessary at times to contact several people before adequate information could be obtained. On the other hand, a few telephone contacts

each took care of two organization. In several cases a number of organizations are included in one interview. Information on school activities, for example, was provided by several people; but the data were recorded on one form from which the information was later summarized and listed under the appropriate categories.

Much of the time spent by the investigator during these 20 visits to Eaton Rapids went into gathering general information about the town and taking traffic counts. The actual interviewing could possibly have been completed in about one week of very intensive work. However, it was felt that the various kinds of data should be gathered simultaneously so that traffic counts, downtown people counts, etc. could be made at the time the employment information was being collected. For a weekly time budget, ideally it would be best to first spend one week in observing and making the necessary count and then spend the following week in getting the recorded data. In this way the two methods of obtaining information could be used as checks on each other.

Estimates and Observations

Methods of gathering the data differed somewhat among the five sectors of activity which were discussed in Chapter IV. Some of the information was based on records and reports, some of it was based on estimates, and some of the data had to be gathered by direct observation.

Nearly all of the information for the production and distribution sector, for the public administration sector, and for the social participation sector was obtained by interviewing persons directly involved in these activities. In the majority of cases the informant was a proprietor, a manager, a supervisor, or an official of some kind who was in a position to look at records if any existed. On the basis of either his records or his experience or both, he was asked to state the number of hours and personnel involved in each activity. In many cases these quantities had to be estimated, but it was assumed that these estimates were relatively correct. On occasion, the local weekly newspaper also gave the times of meeting and the attendance of various voluntary organizations; these records were used when necessary. The figures for these three sectors appear to be fairly accurate and complete for the units which were covered.

Use of the "ecological" approach to the community time budget demands that complete data be obtained before input of hours is known. Especially with this approach, therefore, the investigator must make sure that he has obtained a relatively complete record of public activities. Part of the problem concerns identifying and locating all possible units, whether they be places of business or associations.

Many of the business units are obviously located along the main streets of the town. Checks with the local telephone

directory and a 1962 city directory provided a fairly complete inventory of the business and work places. Several local businessmen were also consulted with regard to units that had left the town or had come into the town since these directories had been published.

Obtaining a list of the associations and other social participation groups and events was facilitated by the local Parent-Teachers Association. The PTA had prepared a calendar listing meeting-times of various organizations during the year. The names of secretaries or presidents of these organizations were obtained from the working papers of the PTA and their original listings. Later on, a much more complete list of organizations was obtained from an officer of the Eaton Rapids Community Council, a body composed of representatives from nearly all active associations in the town. Calendars of events for churches were obtained during interviews with ministers and secretaries of the respective churches. The high school secretary was able to recall the activities in the school system with the help of the office calendar and several phone calls to others. With these as major contacts and the local weekly newspaper as a partial check on the informants, the coverage of units in the social participation sector appeared to be relatively complete.

Information on the consumption of goods and services was based almost entirely on estimates, many of which were

difficult to substantiate. Whenever possible the estimate of the week's customers was based on the recorded number of cash transactions made during the week. This is admittedly a low estimate since many people may enter a store, but not buy anything. But it is also much better than a simple guess. However, if such records were not available, the informant was asked to make such a guess at how many customers he had had during the week. Sufficient information of this kind was available so that estimates could be made for other stores where recorded information could not be obtained and where informants refused to even venture a guess.

Further estimations had to be made before the number of customers could be converted to actual time data. Some informants were asked to make estimates of how long the average customer stayed in his store. Several of the larger supermarkets had made studies of customer time, and the figures were readily obtainable. Such records were not obtainable for most other stores and business places, however, and arbitrary estimations were made in order to make the conversion. Some of the estimates which were used are as follows:

<u>Type of Establishment</u>	<u>Average Time Per Customer (Minutes)</u>
Hardware, Lumber and Coal	15 - 20
Department and Clothing	20
Variety Stores and Service	
Stations	10
Supermarkets and Eating	
Places	20 - 30
Auto Sales and Service	15
Savings and Loan	15
Real Estate	180
Dry Cleaning	10
Beauty Shops	90 - 120
Barber Shops	30
Medical Clinic	60

Figures on the consumption of services in the public administration sector were not obtained. School attendance was by far the largest item in the consumption of such services; however, in deciding on a cut-off point for gathering data, school attendance was excluded. In governmental offices, the library, and the police and fire station, informants were asked for estimates of how many people entered their offices in an average day and how long they stayed. But the informants were unwilling to make estimates, and there seemed to be no records on which such estimates could be based. It was decided, therefore, to exclude consumption of these services as a sector or category.

The travel sector differs from the others in the methods of observation and sampling. A reasonably accurate idea of how many people entered and left the Eaton Rapids island during a typical day was obtained by sample traffic counts taken at each of the bridges connecting the central business district with the outlying areas of Eaton Rapids

itself. In addition, an estimate of total internal traffic was obtained by comparing internal traffic counts with the counts of traffic on the main roads as the vehicles crossed the outer boundaries of the town. This plan is similar to the methods used in making estimates of day-time population and traffic movements in cities (see Paver and McClintock 1935).

Applied to Eaton Rapids the essential elements of the method included taking five-minute samples of both in- and out-traffic for each half hour period from 5:00 A.M. to 11:30 P.M. during a variety of working and shopping days. In addition to vehicle counts, the numbers of adults as defined in this study were also counted. The gathering of this information was facilitated by the use of two hand counters. Multiplying the sample counts by six (since there are six five-minute periods in each half hour) and combining the figures obtained at the various checkpoints resulted in an estimation of how many vehicles and persons entered and left the central business district each half hour.

Summary of the Time Budget Method

The first five chapters of this study have been focused on development of the theory and methodology of time budget analysis. The various steps involved in designing and carrying out a community time budget study have exposed certain problems and important decisions which are necessary in

formulating this kind of research and collecting data on time allocation. These problems and decisions have been discussed in several different chapters, and the purpose of this summary is to bring together some of the general considerations of time budget method. The method will be presented in terms of the range of decisions and some alternative selections which are possible. Some of these alternatives were discussed in the preceding pages, but others will be included as examples. The items demanding decisions, as well as some of the alternatives, are inter-related and are not necessarily mutually exclusive. The statements of alternatives preceded by an asterisk represent the decisions which were made in the illustrative case study of Eaton Rapids.

<u>Items Requiring Decision</u>	<u>Some Possible Alternatives</u>
I. Definition of Community	*A. A local system of complex, daily human relationships resulting in an enduring social structure. B. A local microcosm of social and cultural organization. C. Collective forms of action arising from local needs to achieve collective goals.
II. General Approach	A. Each individual person as the basic unit of the community. *B. The human activity as the basic unit of the community.

- III. Sectors and Categories of Time Allocation
 - A. Activities associated with major subsystems of the community: economic, political, religious, education, and family.
 - *B. Major types of community activity: production and distribution of goods and services, social control, social participation, and travel.
 - C. Types of individual activity such as work, recreation, travel, sleep, and eating.
- IV. Gathering and Compiling the Data
 - *A. Informant interviewing.
 - *B. Participant observation.
 - C. Diaries of individuals.
 - *D. Other existing reports.
- V. Length of Study Period
 - A. Week.
 - *B. Month.
 - C. Year.
- VI. Community Boundaries
 - A. Boundaries of political units, such as towns, townships, counties, or cities.
 - *B. Delineation of boundaries around area where most of the activities occur.
- VII. Limitation to Classes of Behavior
 - *A. Public (versus private) behavior.
 - B. Levels of community activity, such as locally-oriented (versus regionally-oriented) activities.
- VIII. Limitation to Classes of Individuals
 - *A. Certain age levels, such as adults.
 - B. Certain occupational groupings.
 - C. Certain social strata.

CHAPTER VI

A COMMUNITY TIME BUDGET CASE STUDY--

PRESENTATION OF THE DATA

The community time budget data presented in this chapter is one way of summarizing many of the public activities which occurred in Eaton Rapids during the month of March, 1963. After a summary statement of the time budget, each sector will be discussed separately. Finally, some interpretations of the data will be made.

The Eaton Rapids Community Time Budget

The information on time allocation, which was obtained as described in Chapter V, was compiled and tabulated according to units, categories of units, and sectors. The units represent different things according to the category under which they appear, and they will be explained in connection with the discussion of the sectors. Taken as a whole, however, each sector represents a major type of activity which occurs in the community.

Table 4 is a summary presentation of the Eaton Rapids community time budget during March, 1963. This is the "ecological" time budget, as discussed in Chapter IV, meaning that the output in hours is the primary data. However, in the case of Eaton Rapids sufficient information was available

TABLE 4.--Eaton Rapids Community Time Budget for Adults for Four Weeks in March, 1963.

	Input (Source) in Total Time		Output (Allocation) in Public Time			
	Number of:		Sector	Number of:		Per Cent
	Persons	Hours		Persons	Hours	
Eaton Rapids Residents	2,818	1,893,696	Production and Distribution of Goods and Services Consumption Public Administration Social Participation Travel Totals	1,475	232,612	51.0
Other Trade Population	3,534	2,374,848		6,352	141,003	30.9
Totals	6,352	4,268,544		193	24,741	5.4
				?	25,906	5.7
				6,352	31,528	6.9
			6,352	455,790	99.9	

to make broad estimates of the total population involved, thus providing some illustrative figures on input of hours.

The input of hours was obtained by estimating the number of persons, 14 years of age and older, who lives in the Eaton Rapids trade area. The 1960 United States Census reported 2,818 persons in this age group for the town of Eaton Rapids. This figure represents about 70 per cent of the total population of 4,052 persons. According to Moots (1962), the estimated 1960 trade area population for Eaton Rapids numbered 9,100 persons. This was 5,048 persons more than lived in the town itself. Assuming that the proportions of age groups are the same for the town and the rest of the trade area, 70 per cent of 5,048--or 3,534--should be the number of persons 14 years of age or older in the trade area outside of the town. The total trade area population in this age group then can be estimated to number 6,352 persons.

By multiplying the number of adults (6,352), by the number of hours in a day (24), by the number of days in four weeks (28), the total time budget of the trade area population is estimated to total 4,268,544 hours. According to the data on time allocation obtained for Eaton Rapids, the trade area population spent approximately 455,790 hours in public activity in Eaton Rapids. This portion of public time represents about 11 per cent of the total trade area population time budget. These input figures are

illustrative, and they are presented only to aid in the clarification of time budget analysis. No estimates of the trade area population were made specifically for the present study.

The collected data on Eaton Rapids consist primarily of time data for the output side of the community time budget. As outlined in Chapter IV, five general activities were chosen to make up the sectors of the time budget. The five sectors are: production and distribution of goods and services, consumption of goods and services, public administration and services, social participation, and travel. The relative portions of public time which were spent in these sectors are shown on the right side, the output side, of Table 4. These same proportions are illustrated in Figure 1.

According to the data obtained for the study the percentages of time spent in the various sectors are as follows: 51 per cent in production and distribution of goods and services, 30.9 per cent in consumption of goods and services, 5.4 per cent in public administration and services, 5.7 per cent in social participation, and 6.9 per cent in travel.

For purposes of discussion these sectors have been subdivided into categories as shown in Table 5. Where possible the number of units and persons involved in each category have been included. A more complete listing of the data may be found in the Appendix.

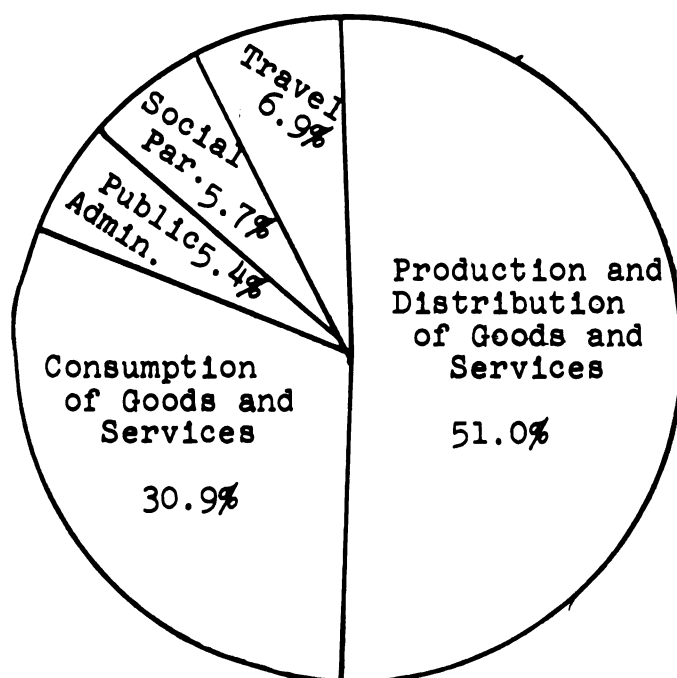


Fig. 1.--Proportions of Public Time Spent in Different Sectors of Activity.

TABLE 5.--Summary of Eaton Rapids Community Time Budget (Output) for Four Weeks in March, 1963, by Sectors and Categories.

Sector and Category		Number of Units	Number of Persons	Number of Hours	Per Cent of Total
I.	Production and Distribution	219	1,475	232,612	51.0
A.	Construction	18	77	10,620	2.3
B.	Manufacturing	10	658	111,284	24.4
C.	Public Utilities	2	8	788	0.2
D.	Trade--Wholesale and Retail	93	397	61,692	13.5
E.	Finance, Insurance, and Real Estate	14	67	9,232	2.0
F.	Miscellaneous Services	50	105	15,336	3.4
G.	Amusement & Recreation Services	4	16	1,316	0.3
H.	Professional & Related Services	28	147	22,344	4.9
II.	Consumption of Goods and Services	139		141,003	30.9
A.	Retail Trade	78		73,134	16.1
B.	Finance, Insurance & Real Estate	14		6,002	1.3
C.	Miscellaneous Services	32		9,715	2.1
D.	Amusement & Recreation Services	4		8,280	1.8
E.	Professional & Related Services	11		43,872	9.6
III.	Public Administration and Services	9	193	24,741	5.4
A.	Training and Education	4	134	17,962	3.9
B.	Social Control and Protection	3	41	4,395	1.0
C.	Special Services	2	18	2,384	0.5
IV.	Social Participation			25,906	5.7
A.	Instrumental Associations			2,158	0.5
B.	Leisure and Other Mixed Groups			19,302	4.2
C.	Special Ceremonies and Events			4,446	1.0
V.	Travel on Public Streets			31,528	6.9
TOTALS				455,790	99.9

Each of the sectors and categories will be treated separately in the discussion of the next sections. In this discussion of sectors and categories, all percentages which are given refer to the per cent of the total time spent in public activities.

Production and Distribution of Goods and Services

For the purposes of the present study this sector includes all activities which are primarily remunerative in nature. The production and distribution of goods and services involves an activity for which monetary payment is received. In many cases, this sector simply included production of goods, such as the manufacture of textiles or metal products. In other cases, the distribution of goods comprises the main activity. Clerking in a retail store would be an example of such distribution. And in still other cases, the performance of services is the most important activity of the people counted in this sector. Each of the categories of activity involved in this sector will be discussed briefly under the appropriate headings. In total, this sector includes data from 219 units involving 1,475 persons. During four weeks of March, 1963 it is estimated that these persons spent 232,612 hours in their work. This number of hours comprises 51.0 per cent of the time budget.

Construction

Eighteen units were involved in some phase of construction work. Most of these units were crews of men, but there were also several units each made up of one man working alone. A total of 10,620 hours comprised 2.3 per cent of the time budget and was divided as follows:

	<u>Hours</u>	<u>Per Cent of Budget</u>
Building Construction	6,004	1.3
Special Trades	<u>4,616</u>	<u>1.0</u>
Totals	10,620	2.3

The hours spent in special trades included the installation and repair of plumbing and heating equipment, electrical work, and well-drilling. Nearly half of the hours in the construction category were spent in connection with the building of Eaton Rapids' new high school which is located east of the town. Since construction of the high school involved contractors from Lansing, about half of the men were residents of places other than Eaton Rapids.

Manufacturing

This category comprised the largest single use of time, 24.4 per cent, of the Eaton Rapids time budget. Six hundred and fifty-eight persons working in ten units (factories and mills) put in a total of 111,284 hours. The plant with the largest employment in Eaton Rapids is a locally owned manufacturer of starters and air cleaners for small engines. At

the time of the investigation 250 people were working there. The three plants next in size are local branch operations of outside corporations. Respectively, these three plants produce metal stampings for automobile bodies, paper containers, and pickles. Together they employed 264 workers during March. There are two other units which employed more than 20 workers: the ice cream manufacturing plant and a woolen mill. The four remaining units include another woolen mill (formerly the town's leading plant), two machine parts manufacturers, and a saw mill. Manufacturing activities were divided into the following subcategories:

	<u>Hours</u>	<u>Per Cent of Budget</u>
Food and Kindred Products	19,344	4.2
Textiles	15,120	3.3
Wood and Paper Products	14,300	3.1
Metal Products	<u>62,520</u>	<u>13.7</u>
Total	111,284	24.4

The picture of manufacturing has changed greatly in Eaton Rapids during the past thirty years. Although formerly a woolen manufacturing center, Eaton Rapids industry is now characterized by diversification and dependence on several outside markets. Many administrative staff members of the non-locally owned plants prefer to live in towns other than Eaton Rapids; the close knit community life of work and leisure which formerly characterized the town is changing.

Public Utilities

The two units included in this category are a telephone company and a gas-and-electric company. Both units are local branch operations with main offices headquartered in Charlotte, the county seat of Eaton County. The eight people in these two units spent 788 hours, about 0.17 per cent of the total time budget.

Transportation would formerly have been included in this section. However, in contrast to only a few years ago, busses and passenger trains no longer serve Eaton Rapids. Freight trains pass through the town, but there is no local station and no time for train travel was counted.

Trade--Wholesale and Retail

The importance of Eaton Rapids as a trade center is reflected in the fact that 61,692 hours were spent working in trade activities. This number of hours represents 13.5 per cent of the time budget. Three hundred and ninety-seven persons worked in the 93 units listed under the category of trade. The time in this category was divided as follows:

	<u>Hours</u>	<u>Per Cent of Budget</u>
Wholesale Only	2,916	0.6
Building Materials, Farm Equipment and Fuel	6,388	1.4
General Merchandise	2,768	0.6
Food	11,988	2.6
Automotive Related	13,016	2.9
Apparel and Accessories	2,652	0.6
Home Furnishings	3,164	0.7
Eating and Drinking Places	10,304	2.3
Miscellaneous	8,496	1.7
Total	61,692	13.5

Only three of the 93 units listed under trade activities were engaged exclusively in wholesale trade, and one of these units became a retail business shortly after the end of the time budget period studied. However, a number of the retail businesses also carried on wholesale activities. Judging from the percentages of time spent working in food stores, automotive-related places, and eating-and-drinking places, these three categories of trade activity are the most important ones in Eaton Rapids.

Finance, Insurance, and Real Estate

Fourteen units in this category contributed 2.0 per cent to the Eaton Rapids community time budget. The total of 9,232 hours was divided into 2,420 hours spent in banking-and-credit institutions and 6,812 hours spent in activities connected with insurance and real estate. More than four thousand hours were spent in real estate activities, a fact which probably reflects the expansion of Eaton Rapids as a residential town.

Miscellaneous Services

This category comprised 3.4 per cent of the time budget, a total of 15,336 hours. The fifty units which are counted in this general category are listed under the following subcategories.

	<u>Hours</u>	<u>Per Cent of Budget</u>
Lodging	760	0.2
Personal and Special Services	9,464	2.0
Printing and Publishing	1,976	0.4
Auto Repair	1,416	0.3
Blacksmith and Welding	280	0.1
Miscellaneous Repair	<u>1,440</u>	<u>0.3</u>
Total	15,336	3.4

Amusement and Recreation Services

It is probably significant that only 1,316 hours, or 0.3 per cent of the time budget, were devoted to work in amusement and recreation services. This category is small partly because a large share of recreation time in Eaton Rapids is still uncommercialized, and thus it would not be included under this heading. In addition, many of the residents of the Eaton Rapids area probably go elsewhere for commercial recreation. The four units listed under this category are a dance studio, two bowling alleys, and a pool hall.

Professional and Related Services

Twenty-eight units contributed 22,344 hours, 4.9 per cent, to this category in the Eaton Rapids community time budget. Time spent in the following activities made up this total number of hours. Health related services comprise an important set of activities in the Eaton Rapids area. Most of the time in providing health services was spent in the doctors' clinic and in the new hospital.

	<u>Hours</u>	<u>Per Cent of Budget</u>
Health Related	17,420	3.8
Attorney	736	0.2
Accounting and Bookkeeping	1,264	0.3
Veterinarian	700	0.2
Pastoring	<u>2,224</u>	<u>0.5</u>
Total	22,344	4.9

Consumption of Goods and Services

The consumption of goods and services is defined as the time spent in obtaining these goods and services in relatively public places and when monetary payments are made by the consumer or the potential customer. Not all of the behavior counted in this sector is technically "consumption" behavior since the actual consumption of many products occurs in private circumstances. For the purposes of this study, "consumer" is simply a general term for customer, client, or patron--one who purchases goods and services for personal use in terms of needs or enjoyment. Consumption, in this sense, does not include the purchase of goods for further production of other goods. Wholesale patrons thus are not included in this sector since their time would already be included under the production sector.

The consumption sector is directly complementary to the parts of the production sector; where this complementarity exists, the same categories have been used. Whereas 219 units were included in the listings of the production sector, however, only 139 units have been listed under the

consumption sector. As was evident in Table 5, the difference in number of units is partly due to the exclusion of customer-hour listings for the categories of construction and manufacturing. Although such categories of activity could conceivably be a part of the time budget, the difficulties involved in obtaining such data for the present study seemed greater than the importance of the data warranted.

In addition to leaving construction and manufacturing entirely out of the consumption sector, the present time budget also excludes information on some of the units listed under trade, miscellaneous services, and professional services. The excluded units were either those stores and business establishments for which very few customer-hours exist, or for which information was not easily obtainable.

A large part of the total trade area population probably participated in the consumption sector. The total allocation of hours to this sector amounts to 30.9 per cent of the time budget.

Retail Trade

An estimated 73,134 hours, 16.1 per cent of the time budget, were spent by customers in trade activities during the March time budget period in Eaton Rapids. These hours were divided among types of business establishments approximately as follows:

	<u>Hours</u>	<u>Per Cent of Budget</u>
Building Materials, Farm Equipment, and Fuel	1,209	0.3
General Merchandise	5,645	1.2
Food	18,531	4.1
Automotive Related	6,292	1.4
Apparel and Accessories	1,840	0.4
Home Furnishings	713	0.2
Eating and Drinking Places	33,048	7.3
Miscellaneous	<u>5,856</u>	<u>1.3</u>
Total	73,134	16.1

Observations of the investigator confirmed the leading positions of food stores and eating-and-drinking places as locations for most of the customer activity in the town. Although the information on customer hours in most retail trade places is less reliable than the data on hours of work the percentages compiled here probably provide a reasonably accurate relative comparison.

Finance, Insurance, and Real Estate

One and three-tenths per cent of the time budget, 6,002 hours, was spent in customer-time with persons in bank and credit institutions or with persons working in insurance or real estate units. Although much of the trade area population is involved in some way with these services, a large portion of the financial services are carried on by mail. On the other hand, real estate and insurance represent activities which involve a smaller number of people for relatively long periods of time.

Miscellaneous Services

The time budget figures recorded for this category amount to 9,715 hours which is about 2.1 per cent of the time budget. Most of these hours were spent in patronizing a variety of places which offered various personal and special services. The figures for this category are incomplete because it was impossible to obtain thorough information. Time spent in self-service laundries was estimated at 4,000 hours. This figure is based on sample observations at these laundries; however, no records were available to check the reliability of this figure. The 3,294 hours spent by women in beauty shops indicate another important activity in this category.

No estimates were made of the time spent during March by patrons of lodging facilities. The majority of the occupied rooming-house and motel rooms were rented for periods of a week or longer. The time spent in these places was considered private activity.

Amusement and Recreation Services

Patrons of amusement and recreation services spent about 8,280 hours, 1.8 per cent of the time budget. Most of this time was spent in bowling alleys or in the pool hall. The time allocated to this category appears relatively low when compared to other activities in Eaton Rapids. Several factors help to account for part of this apparently low level

of recreational activity. The sector of social participation includes a non-commercial counterpart to amusement and recreational services, particularly for middle and upper class citizens of the town. In addition, the three bars in Eaton Rapids also serve certain amusement functions.

Professional and Related Services

Nine and six-tenths per cent of the Eaton Rapids time budget is devoted to the patronage of professional-and-related services. Nearly all of the 43,872 hours in this category were allocated to receiving services related to health. Most of the time spent in receiving health services was spent by persons who were patients at the hospital and at nursing homes.

Public Administration and Services

All activities which are directly subject to the control of agencies consisting of publicly elected officials are included in the public administration sector. While this sector also includes the production and distribution of services, the provision of these services is usually considered to be "public" in nature. That is, these services are available to a person because of his presence in the community and not due to his ability or lack of ability to make direct monetary payment for these services. Payment for them is often made in the form of taxes.

The public administration sector involved 193 persons and 5.4 per cent of the time budget. Activities in this sector include socialization in the form of educational services, and social control and protection in the form of local government and police-and-fire protection.

Training and Education

Eaton Rapids schools serve an area of about 116 square miles in Eaton County and Ingham County. Three and nine-tenths per cent of the time budget went into activities connected with educating approximately 2,500 children and youth of the school community. The town has three elementary schools and a high school. Two of the elementary schools have been built since 1957, and a new high school is to be ready for occupancy in the fall of 1963. This rapid growth in facilities has been due to increased needs resulting from the closing of many rural school houses in districts surrounding Eaton Rapids.

Social Control and Protective Services

One per cent of the Eaton Rapids time budget was allocated to social control and protection under the auspices of local government. This includes police and fire protection as well as the various officials and employees of the City of Eaton Rapids. Time allocated to fire protection includes the hours put in by three regular employees plus the number of hours spent by paid volunteers in fighting fires and in taking care of equipment.

Special Services

Approximately 0.5 per cent of the allocated time in the budget was spent by employees in the city library and the local United States post office.

Social Participation

Membership in various kinds of clubs and associations are important features of life in American communities. In contrast to the consumption sector which includes nearly everyone in the community in one way or another, the social participation sector does not encompass the entire population. Some people are included and others are excluded. An individual's membership and activity in these associations is often an important clue to his social rank in the community.

Social participation can refer to any voluntary community activity. Although activities in associations and organizations are most prominent in this sector, attendance at certain public events is also included. Ordinarily individual monetary profit is not directly involved in these activities, although an individual's participation may indirectly enhance his monetary gain and his social position. During March, 1963, 5.7 per cent of the Eaton Rapids time budget was devoted to this sector.

Instrumental Associations

One-half of one per cent of the time budget was devoted to the meetings and activities of instrumental associations.

Following definitions of Lundberg, Komarovsky, and McInerny (1934:126-127), instrumental associations are activities which constitute an extension of income-yielding activities and are often closely allied to a member's work. These associations are called instrumental because they exist for the attainment of specific goals either related to one's work or devoted to the general welfare and improvement of the community. Eighteen instrumental associations are listed in the time budget for Eaton Rapids during March, 1963.

The category of instrumental associations has been further subdivided into three major groups: political and welfare, service and social, and occupational. The political and welfare organizations include those whose main purpose involves the performance of some community service. The service performed is usually of specific importance for the community and its general welfare. The six associations in this group include: Eaton Rapids Businessmen's Association, Band Boosters, Citizens for Good Government, Community Council, Conservation Club, and Hospital Volunteers.

The service and social group of associations include those which have a strong interest in some type of community service but they include, in addition, a strong element of the purely social in their activities. The eight associations in this group include: Lion's Club, Jaycees, Kiwanis Club, American Association of University Women, Business and

Professional Women, Parent-Teacher Association, Hospital Auxilliary, and Rotary Club.

The occupational groups include a teachers' association and three labor unions. The unions are associated respectively with the three local plants owned by outside interests. The factory with the largest number of employees is locally owned; many of the workmen are part-time farmers from the Eaton Rapids area and the plant is not unionized.

Leisure and Other Mixed Groups

The Eaton Rapids community time budget included an allocation of 4.2 per cent to this category which is a composite of various kinds of activities. This category has been further subdivided into four major groups: churches, fraternal orders, recreation and study groups, and groups for children and youth.

Church-centered and church-related activities comprised 3.1 per cent of the time budget, the largest single item in the social participation sector as well as in the category of leisure and mixed groups. There are ten churches in Eaton Rapids; nine of them are Protestant and one is Roman Catholic. The Methodist Church is the largest church in the town with its 700 members and an average Sunday morning attendance of more than 200 adults. Its membership comes from the settled, long-time residents in the community. The Congregational Church is the oldest church in Eaton Rapids, and it includes many of the prominent families of the town.

The Baptist Church was the location of the most hours of activity spent in any one church during the month of March. This was partially due to a series of evening meetings. The Catholic Church has the largest Sunday morning attendance with about 400 persons at two Masses. Other churches in order of their historical appearance in the town include Seventh Day Adventist, Wesleyan Methodist, Pilgrim Holiness, Spiritualist Episcopal, Nazarene, and Assembly of God. In addition to these congregations, the Michigan State Holiness Camp Meeting Association owns a church camp in one corner of Eaton Rapids. The camp consists mainly of cottages and a meeting hall, and it is occupied by campers only in the summer months, especially July and August. Several other Protestant churches are located within a five mile radius of the town, but they are not included in the time budget since they are well beyond the selected boundaries.

Active affiliation in the larger churches in Eaton Rapids involves much more than the formal services themselves. Of the 14,119 hours spend in church activities, 3,994 hours (30 per cent of the total spent in church activities) were spent in business and social activities connected with church membership.

Fraternal orders or lodges include an element of ritual behavior along with definite restrictions of membership. Three-tenths of one per cent of the time budget was allocated to these fraternal orders and their associated

auxilliaries for the women. All of the Eaton Rapids lodges are associated with their respective national organizations. They include Masons, Veterans of Foreign Wars, Oddfellows, American Legion, Grange, Order of the Eastern Star, Rebekahs, and several other groups within these "parent" associations.

Some of the fraternal orders also perform certain service functions. The American Legion sponsors boys' summer ball teams, and the VFW conducts special projects for the children at the VFW Home about four miles from Eaton Rapids. The fraternal groups and their respective auxilliaries have their own meeting halls which are rented out to various other groups for regular meetings and for special events such as rummage sales and wedding receptions.

Time spent in recreation and study groups comprised 0.5 per cent of the Eaton Rapids time budget. Included here are athletic groups such as the adult basketball leagues and a square dancing club. Two primarily social groups are the Senior Citizens--an active organization of older people--and an insurance fraternity. Women's clubs include the Literary Club, the Home and Garden Club, the You and I Club, the Child Guidance Club, the Tuesday Musicale, and the Child Study Club. Most of these women's groups have meetings which include the discussion of some informative topic or the display of talent.

In addition to the organized social and recreation groups, two adult education classes met weekly in the high school during the month of March.

Time spent in serving as adult leaders and chaperones for various children and youth groups took about 0.3 per cent of the time budget. Many of the groups represented here were sponsored by the school although they met after the regular school hours. The non-school sponsored groups were mainly the scouting activities--Boy Scouts, Girl Scouts, and their associated groups. Of additional importance was the time spent in Teen Canteen, sponsored by the Community Activities Council, and held every Saturday night in Eaton Rapids for the young people of the community. Additional youth activities take place in the churches, but this time expenditure has already been included in the category of church activities.

Special Ceremonies and Events

This third category of the social participation sector includes irregularly scheduled events which occur from time to time, but do not necessarily represent the efforts of any one association. About 0.1 per cent of the public time was allocated to such events which included marriages, funerals, athletic contests, and concerts.

Travel on Public Streets

The sector of time spent in traveling on public trafficways is usually closely associated with other sectors of time expenditure. People travel in order to get to work, to provide or to obtain goods and services, to participate in

community life, or for recreation. Because of the close ties between travel and other activities it might be possible to assign travel time directly to the relevant sectors of activity. However, travel time is presented in this study as a separate sector not only because it is simpler to do so in an "ecological" community time budget but also because information on traffic can be useful in other ways.

Automobile-and-truck travel is the only category of travel included in the Eaton Rapids time budget, although travel by train, bus, or airplane are possible categories in other budgets.

Automobile-and-Truck Travel

This category of activity includes travel in all motor-driven vehicles with four or more wheels. Approximately 6.9 per cent of the time budget was devoted to travel within the boundaries of Eaton Rapids during March, 1963.

With no local bus or passenger train service, residents of the Eaton Rapids community are heavily dependent upon automotive transportation. Since nearly everyone who leaves or enters the town does so by automobile or truck, travel on public streets and highways represents a substantial portion of the community time budget. On an average day in Eaton Rapids cars and trucks make more than 10,000 entrances and as many exist from the central business district during the eighteen hours between 5:00 A.M. and 11:00 P.M. This total traffic volume varies during different hours of

the day as shown in Table 6. The left-hand IN and OUT columns in Table 6 represent number of vehicles entering and leaving the island. The right-hand IN and OUT columns of the same table represent the number of adults in these vehicles during the time the traffic counts were being made. Both sets of figures are based mainly on five-minute sample counts taken during each half hour on a variety of weekdays.

The figure of 377 vehicles for central business district traffic from 11:00 P.M. to 5:00 A.M. was obtained from Michigan State Highway Department traffic count records which were dated May, 1960. This figure was a count of traffic in both directions at one of the most traveled points in the central business district. Since it probably included most traffic on the island during those hours, the figure of 377 was used as a basis for making estimates of the number of persons who entered and left the island during this period. These estimates, shown in parentheses in Table 6, were altered slightly to equalize the IN and OUT column totals.

The total of 14,165 person-units listed as entering and leaving the central business district in Eaton Rapids includes short distance within-town travel as well as longer distance highway travel which also passes through the town. In order to differentiate between the two kinds of travel, Michigan State Highway Department traffic counts provided a basis for an estimate of how much of the vehicle traffic

TABLE 6.--Volume of Traffic In and Out of the Central Business District on a Typical Weekday.

Time of Day	Cars and Trucks		Persons in Cars and Trucks		Gain or Loss	Remainder
	In	Out	In	Out		
A.M. 5 - 6	144	126	167	158	+	9
6 - 7	300	282	398	407	-	9
7 - 8	546	492	701	622	+	79
8 - 9	564	480	661	568	+	93
9 - 10	540	498	655	635	+	20
10 - 11	486	552	641	731	-	90
11 - 12	684	630	881	804	+	77
P.M. 12 - 1	834	660	1126	809	+	317
1 - 2	636	864	862	1142	-	280
2 - 4*	1614	1560	2152	2040	+	112
4 - 5	1020	918	1304	1239	+	65
5 - 6	762	846	988	1091	-	103
6 - 7	690	762	967	1066	-	99
7 - 8	645	585	915	896	+	19
8 - 10*	792	888	1105	1206	-	101
10 - 11	216	264	290	328	-	38
Sub-totals	10,473	10,407	13,813	13,742		
11 P.M.- 5 A.M.**	(271)	337	(352)	(423)	-	71
Totals	10,744	10,744	14,165	14,165		0

* Inadequate sampling necessitated making a two-hour estimate for this period.

** Data from 5 A.M. to 11 P.M. are based on five-minute traffic samples taken in Eaton Rapids during the 1963 time budget study period. Figures on the number of cars and trucks leaving the central business district from 11 P.M. to 5 A.M. are based on traffic counts taken in May, 1960 by the Michigan State Highway Department. Figures in parentheses are estimates designed to equalize the numbers of incoming and outgoing vehicles or persons.

passes the outside boundaries of the town. Table 7 is a summary of total traffic volume on the major roads leading through Eaton Rapids. Most of the counts were made near the outside boundaries of Eaton Rapids as defined for this study.

TABLE 7.--Volume of In and Out Traffic on Main Roads Near Outside Boundaries of Eaton Rapids on a Typical Weekday.*

Location of Count	Date of Count	Total Number of Vehicles Per Day
State Street, East	May, 1960	2,994
M-188, South	June, 1962	985
M-50, West	June, 1962	2,370
M-99, North	May, 1963	3,360
M-50 and 99, South	May, 1963	<u>2,977</u>
Total		12,686

*Data are based on records of traffic counts by Michigan State Highway Department.

According to the State Highway Department traffic counts, the outside boundaries of Eaton Rapids are crossed by vehicles about 12,686 times each day. A car traveling from one border of Eaton Rapids to another takes about six minutes to make the trip in a north-south direction. In traveling through the town it is counted once at each border. If it traveled only to the center of town and then returned to its original starting point it would be counted twice at the same border, but the travel time would still be about six minutes. Each of the vehicle counts thus

represents about three minutes of travel time. Since the total of 12,686 vehicles represents both IN and OUT traffic, half of this number represents either IN or OUT traffic. The division of 12,686 by 2 leaves 6,343 vehicles coming IN or going OUT of Eaton Rapids. These vehicles are considered long-distance vehicles.

In estimating the number of vehicles coming IN or going OUT of the central business district, a total of 10,744 vehicles was obtained. By subtracting the number of long-distance vehicles entering or leaving the town (6,343) from the number of vehicles which enter or leave the central business district (10,744), an estimate of the amount of within-town or local traffic is obtained.

$$\begin{array}{r}
 10,744 \text{ vehicles} \\
 - \quad 6,343 \text{ long-distance vehicles} \\
 \hline
 4,401 \text{ local-traffic vehicles}
 \end{array}$$

Although an equivalent of six minutes was mentioned as the amount of time spent within the community by each long-distance vehicle, the amount of time spent in travel by each local-traffic vehicle is probably about three minutes.

The next step in estimating travel time was to convert the number of vehicles to number of adult persons and multiply the number of persons by the number of minutes spent in travel. The number of persons assigned to long-distance or local-traffic is in direct proportion to the number of vehicles in each of these groups.

	<u>Vehicles</u>	<u>Persons</u>		<u>Minutes/ Day</u>	<u>Hours/ Day</u>
Long-Distance	6,343	8,363	times 6	50,178	836
Local-Traffic	<u>4,401</u>	<u>5,802</u>	times 3	<u>17,406</u>	<u>290</u>
	10,744	14,165		67,584	1,126

Since the weekend traffic data were not complete, the figure of 1,126 travel hours for a typical weekday was assumed to be similar for Saturdays and Sundays as well. Multiplying the total of 1,126 hours by 28 days brought the total number of travel hours to 31,528 for the four weeks in the time budget.

Some Interpretations of the Time Budget Data

Activities Inside and Outside of the Central Business District

The time budget information in the present study may also be analyzed in terms of the areas in which certain activities usually take place. A matter of great concern in many cities is the decline of the central business district, and since Eaton Rapids has a clearly demarcated CBD it may be of interest to document the relative uses of time both inside and outside of this area. In Table 8 such information is compiled for the Production and Distribution Sector and the Consumption Sector.

Of the 2.3 per cent of the time budget devoted to Construction and Building, all of the activity took place outside of the central business district. Most of the construction in Eaton Rapids during this month was in connection

TABLE 8.--Percentages of Time Spent in Selected Categories of Activities
Inside and Outside of the Central Business District of Eaton Rapids.

Category of Activity	I. Production and Distribution		II. Consumption		Total
	Inside CBD	Outside CBD	Inside CBD	Outside CBD	
A. Construction and Building	0.0	2.3			2.3
B. Manufacturing	0.0	24.4			24.4
C. Public Utilities	0.2	0.0			0.2
D. Trade--Wholesale and Retail	8.8	4.7	12.6	3.5	29.6
E. Finance, Insurance, and Real Estate	1.8	0.2	1.2	0.1	3.3
F. Miscellaneous Services	1.0	2.4	0.4	1.7	5.5
G. Entertainment and Recreation Services	0.25	0.04	1.79	0.01	2.1
H. Professional Services	0.8	4.1	0.3	9.3	14.5
Totals	12.9	38.1	16.3	14.6	81.9

with the new high school on the outskirts of the town and with new homes in the residential areas. Although March is not necessarily typical of the year, few indications point toward an important expansion of the central business district in the near future.

In line with the usual ecological separation between manufacturing and business establishments, all of the manufacturing activity took place outside of the central business district. However, the formerly dominant woolen mill is immediately across a mill pond from the business district. In contrast to its former position of central importance in the town, half of this complex of factory buildings is now unoccupied. The major proportion of manufacturing activity takes place well away from the town center.

Public utility activities are listed with the "Inside CBD" activities because the bases of operations were there. In actuality, the activity took place throughout the town, and exact locations are not specifiable from the data obtained.

Trade activities took place mainly within the central business district. By combining the percentages listed under the "Inside CBD" column of both sectors, figures reveal that 21.4 per cent of the time budget was spent in trade within the central business district. In contrast, 8.2 per cent of the time budget was spent in trade outside of the town center. It is likely that the gap between these

percentages will be narrowing with the present development of small shopping centers in outlying areas of the town.

Activities connected with Finance, Insurance, and Real Estate constituted 3.3 per cent of the time budget when the hours for the Production and the Consumption sectors were combined. Most of these activities took place within the central business district. In contrast, most activities in the category of Miscellaneous Services occurred outside of the town center. Some of the activities included here took place in the homes of business persons. Beauty shops, for example, are often located in the owner's house rather than in a separate building elsewhere. Amusement and Recreation Services occurred mainly in the town center.

The percentage figures for Professional and Professionally-Related Services reflect the locations of the doctors' clinic, the hospital, and the nursing homes which are all outside of the central business district. Consequently, only 1.1 per cent of the time budget activities occurred under this category inside the CBD, while 13.4 per cent of the time budget hours were spent in professional services outside of the town center.

In combination, the Production and Distribution Sector and the Consumption Sector account for 81.9 per cent of the time budget. Of the total number of hours, 12.9 per cent were spent in Production and Distribution inside the central business district and 38.1 per cent were spent in this same

sector outside of the central business district. Sixteen and three-tenths per cent of the time budget hours were spent in the Consumption Sector inside the CBD, while 14.6 per cent were spent outside of the town center. The central business district of Eaton Rapids had a slightly higher number of hours in the Consumption Sector than in the Production and Distribution Sector. Outside of the central business district the Production and Distribution Sector was clearly dominant with more than twice the allocation of hours than were found there for the Consumption Sector.

Cycles and Synchronization of Activities

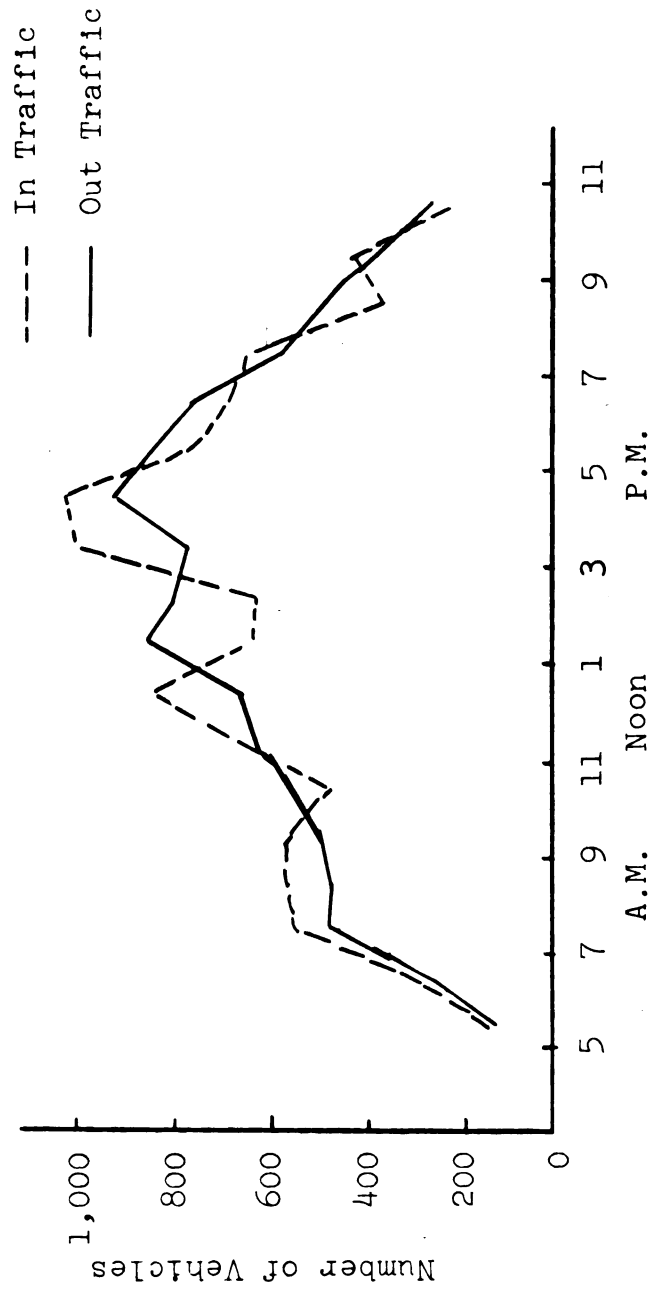
The pace of activity in Eaton Rapids undergoes variation according to daily, weekly, monthly, and yearly cycles. These activities do not occur independently of each other or even independently of activities in other sections of the county, the state, or the nation. In Amos Hawley's term, Eaton Rapids is a "dependent" community in that it is not self sufficient. The town obtains its sustenance materials through exchange with other communities. While dependence increases the number of action alternatives which can be chosen by Eaton Rapids residents, this same dependence exposes the community to the effects of events that occur anywhere within the scope of intercommunity relations (Hawley 1950:225).

The time budget data may be presented in terms of these various cycles and synchronizations. The primary unit in

the rhythm of community activity is the daily cycle. Each morning a significant portion of the population is redistributed as people engage in various activities. This redistribution continues until late in the evening. The pulsation of traffic flow in the central business district provides an index for these movements of the population. They are shown in Figure 2. The pattern of traffic flow in Eaton Rapids is in part a reflection of the town's spatial arrangement. The river restricts free directional movement of traffic and the central business district serves as a nexus for several arterial streets which carry traffic through the town. For this reason most of the traffic flow patterns of the town are reflected in the traffic patterns of the central business district.

As shown in Figure 2, incoming traffic and outgoing traffic nearly equal each other between 5:00 A.M. and 6:00 A.M. The volume is low and most of the travelers are on their way to early jobs elsewhere. By 8:00 A.M. the volume has increased markedly, but the outgoing traffic has increased at a lower rate as those who work in the central business district begin to come in. There is a midmorning lull before the morning shoppers again increase the volume. A midday increase in traffic volume is caused by a redistribution of population, some persons going to their homes from work and others coming to town to eat lunch.

Fig. 2--The Volume of Traffic In and Out of the Central Business District on an Average Day in Eaton Rapids, March, 1963.*



*The volume of traffic is based on data given in Table 6.

Traffic volume reaches its peak between 3:00 P.M. and 5:00 P.M. when school is out, factory workers leave their jobs, local residents who work elsewhere return home, and numerous other persons find it necessary to drive through town. The volume continues to decrease until about 8:00 P.M. when there is a brief rise which accompanies attendance of various evening meetings. The volume then continues to decrease until 11:00 P.M. The three bars are the only businesses still active in the town at that hour. Most of the traffic after 11:00 P.M. is similar to that before 5:00 A.M.; it is created by persons who are simply passing through the town center on their way to other points. This daily pattern was reasonably typical of most days in the month of March. However, the daily cycle was varied periodically by the weekly cycle. On Friday many of the stores are open until 9:00 P.M. and the volume of traffic after 5:00 P.M. decreases at a slower rate than is shown for weekdays. Saturdays are not unlike Fridays in this respect, but the evening activities are different. Shopping activities are important on Friday evenings, while the Saturday activities are more social in nature and usually involve more young people. The Sunday pattern is quite different with its high volume of church-going traffic between 9:00 A.M. and 1:00 P.M. A relatively low volume of traffic is the rule during the rest of the day with the exception of the transient traffic. Very few businesses of any kind are open on Sunday.

The weekly cycle is varied to some extent by the monthly cycle, although the monthly cycle is more a matter of synchronization of different activities within the same sector than it is the synchronization of activities from different sectors.

Yearly variations are caused mainly by changes in seasonal activities. Holidays are accompanied by a sharp increase in the number of hours spent in the retail category, while the rest of the Production and Distribution Sector may remain unaffected. All sectors are affected by differences between winter and summer. The Traffic Sector is probably least affected by seasonal changes.

Adjustments in Resource Allocation

In its simplest form time budget data is a presentation of the number of hours spent in selected activities. A significant extension of this basic data is information on how these activities are synchronized; this subject was explored briefly in the previous section. Of equal importance to the time budget of a community is the supply of input hours which are available to meet the output needs of a community and maintain its viability as a system of human relationships. To a certain extent many person-hour units are interchangeable. The roles of shopper, church member, or clerk could be and are filled by anyone of a number of persons without appreciably affecting the life of the community. Many other roles,

however, are of more limited interchangeability, and the output of hours in certain categories requires a specialized type of input. Specialized services in towns which are the size of Eaton Rapids are sometimes difficult to obtain. If they exist, they are often in limited supply. For example, a public opinion survey taken in Eaton Rapids by the local Jaycees indicated that the town needed more medical doctors than were available for the area served (Eaton Rapids Journal, January 24, 1963:6). If the supply of doctors is not maintained in sufficient quantity, local citizens will need to seek these services elsewhere.

A major adjustment has already taken place with special regard to the Production and Distribution Sector. With the decline of the woolen industry in Eaton Rapids, local residents began looking elsewhere for jobs. New skills were developed and applied to the production output of other centers such as Lansing or Jackson.

The United States census figures, as shown in Table 9, indicate that nearly 70 per cent of those residents of Eaton Rapids reporting place of work had jobs in Eaton Rapids or elsewhere in Eaton County. About 30 per cent of these persons had jobs outside of the county.

Further information on place of work was obtained from a 1962 city directory which listed name and place of work for some of the residents of Eaton Rapids. According to the compilations from the directory for the 1,232 persons whose place

of work is reported, 727 (59 per cent) residents worked in Eaton Rapids while 505 (41 per cent) residents worked outside the town. Of those working outside of Eaton Rapids, 376 (31 per cent of 1,232) residents were listed as working in Lansing. The contrast with the 1960 census data may have been due to incomplete reports on local jobs in the directory. However, the difference between the two sets of figures may also indicate that the percentage having jobs elsewhere had increased measurably in the two years between 1960 and 1962.

TABLE 9.--Place of Work Reported by Residents of Eaton Rapids in 1960 and 1962.*

Place of Work	1960		1962	
	Number	Per Cent	Number	Per Cent
Eaton County (includes Eaton Rapids)				
Eaton Rapids Only	1037	69.6	727	59.0
Outside of Eaton County			505	41.0
Lansing or Ingham Co. (Lansing Only)	312	20.9	(376)	(30.5)
Jackson or Jackson Co.	49	3.3		
Elsewhere or Not Reported	<u>93</u>	<u>6.2</u>	<u> </u>	<u> </u>
Totals	1491	100.0	1232	100.0

*The data for 1960 is from the United States reports. The data for 1962 is based on listings in an Eaton Rapids City Directory. Figures in parentheses are additional information taken from listings already included in the column.

Such trends suggest that Eaton Rapids is becoming more of a satellite town as time goes on. The skills and potential

manpower which the town has in its residents are not being used locally. Instead, many of the jobs in Eaton Rapids are being filled by residents from the greater Eaton Rapids trade area; this fact indicates that within Eaton Rapids itself there is a disequilibrium between available skills and available jobs.

The ease of long distance travel has made this disequilibrium a less serious matter than it might have been fifty years earlier. However, these same highways and automobiles put the residents of the Eaton Rapids area within reach of other trade centers and there is definite concern among the local retailers in Eaton Rapids with regard to their future in the town.

The "Typicality" of Eaton Rapids

The time budget of Eaton Rapids as presented in this chapter probably contains no startling variations from what one might expect in an American town of its size and location. While each community has its distinctive time-use patterns, there is also likely to be a similarity in such patterns among towns which are similar in other ways. When asked for a general evaluation of life in Eaton Rapids some informants replied that theirs was an average town with some advantages of small town life but also with problems that are typical of small towns all over the Middle West and much of America. Other informants stated their felt needs more

specifically: better recreational facilities for the youth, increased trade in the retail stores, more doctors and dentists.

No two informants had exactly the same mental picture of their town, but there was a thread of continuity running through their comments which points toward certain general characteristics often accompanying a town of this size. In terms of goods and services which are available, Eaton Rapids offered its citizens nearly all of the facilities which Keyes (1958) found to be typical in towns having a population between 2,500 and 5,000. In a general way the social structure of Eaton Rapids is not unlike the structure found in many other American communities which have been studied by sociologists and anthropologists. With certain allowances for geographical variations and changes since the 1930's, the description of Prairieton by Useem, Tangent, and Useem (1942) could also be a general introduction to Eaton Rapids. The social strata which has resulted from the course of its development also serve to differentiate the population of Eaton Rapids and provide an important means for analyzing community life. Perhaps a more accurate parallel to the town today can be found in some of the statements made by Lyford (1962) in his description of Vandalia, Illinois. With its 5,500 inhabitants Vandalia is dependent both on its surrounding agricultural population and its several small manufacturing plants. The citizens of Vandalia are neither

complacent in the surface appearance of unity nor torn asunder by the conflicts which become evident from Lyford's conversations with them. Eaton Rapids has faced and continues to be confronted with some of the same problems with which Vandalianians are living--namely, the long run effects of high speed transportation to larger urban centers and the threatened decline of local community life. In some ways Eaton Rapids has the advantage of being geographically close enough to Lansing to share in the economic growth of a metropolitan area while being far enough away to avoid immediate loss of its identity in the sprawl of urban boundaries.

Whatever its typicality, however, the Eaton Rapids community time budget is what it is because Eaton Rapids is a certain kind of town. The categories of the production sector indicate that manufacturing and trade are the two main activities which occur publicly in the town. Next in rank are various professional and professionally-related services with health services comprising a large part of this category. In relation to other categories of activity, commercial recreation comprises a small portion of the time budget. To some extent the low percentage of hours in commercial recreation is misleading since the social participation sector also includes activities which may be considered recreational in character. It may be that informal and private exchange of home visits between individual families takes up a large part of the time spent by residents of Eaton

Rapids. This type of activity is not shown on the time budget as explored in this study. Only by comparison with other towns of similar size and environment can the typicality of Eaton Rapids be demonstrated. Such studies do not yet exist.

CHAPTER VII

EVALUATION OF TIME BUDGET DATA FOR STUDYING COMMUNITIES

Previous chapters have dealt respectively with a review of time budget studies, the development of a theoretical framework for using the time budget as a basis for studying communities, and a report on designing and carrying out a pilot study of time budget analysis in a small town. In the present chapter, the method of time budget study will be evaluated on the basis of the experiences of the investigator in carrying out this study. The uses of time budget data will be explored in terms of several interrelated aspects of the community study method: as an ethnographic technique, as a framework for comparing communities, and as an index of community change. As a step in improving the methods and obtaining more comparative data on time budget study, several suggestions for further research will be made.

The Uses of Time Budget Method and Data

An Ethnographic Technique

As the term is used here, "ethnographic" refers to the primarily descriptive and non-interpretive study of a single cultural group. In attempting to gain an understanding

of a chosen culture, anthropologists have often focused their observations upon the ways of life found in specific communities--band, villages, towns--which are assumed to be representative of the culture to be studied. Ethnographic techniques thus become linked with the community study method as an important device for systematically observing cultural groups.

Although the community study method is often considered a basic anthropological approach to the study of culture, sociologists and other social scientists have also made widespread use of the method to study various aspects of human behavior in its natural setting (Arensberg 1954). The social scientist who employs the community study method is faced with the problem of choosing techniques which enable him to order his observations into an adequate description of what has actually taken place in the selected community. As Arensberg has pointed out, there are many techniques of observation and data collection on the community level:

Depth interviewing, participant observation, socio-metrics, collecting genealogies, house-to-house canvasses, collecting cases, content-analyzing documents, to name just a few techniques usable under the community-study method, have been used quite widely. . . . To explore the natural, living setting of a problem necessarily involves concurrent attacks upon all the relevant factors at a single time, the moment of observation (Arensberg 1954:111).

Any one researcher is not likely to make use of all the techniques available to him for the study of a community. He will find that some of these techniques are more useful

than others for his particular purposes, and he will choose the one or ones he considers most relevant. Time allocation data and the community time budget represent only one of these many techniques which can be selected. The study of time allocation is a technique which offers several advantages to the ethnographer and the student of communities.

As employed in the present study, the community time budget is a quantitative description of public life in a community. It is a basic assumption underlying the use of time data that time allocation is an expression of local culture and values. The time budget of Eaton Rapids, as outlined in the previous chapter, is what it is because Eaton Rapids is a certain kind of town. The high percentages of time spent in manufacturing, retail trade, and professional services, are indications that Eaton Rapids is much more a work and trade-oriented center than a recreation center. Although such an observation does not necessarily require the compilation of time data, such data offer the ethnographer a quantitative body of information which can serve as a convenient first step for further analysis into the local culture of the community. Due to its quantitative character, the validity of time data can be checked and established. This is an important factor in ethnographic materials where most observations are based on the perceptions of the field observer.

Compiling a community time budget demands the development of budget sectors and categories which meaningfully reflect the structure of the community to be described. The potential number of categories is great, especially at the lower descriptive levels; there are many systems of classification which can and have been used. The set of sectors and categories employed in the Eaton Rapids community time budget is one of many ways in which a community can be described.

There are many individual activities in a community which must be classified by the ethnographer, but a degree of consensus exists among anthropologists and sociologists concerning certain higher level classification systems. For example, in developing a model of the folk-village as a type of community, Hillery (1961) surveyed ten village studies in an effort to search for the elements which are common to all villages of the type presented. As a result of his pattern analysis, Hillery presented a list of elements which include a set of eight norms or institutions: family, economics, religion, mutual aid, government, stratification, socialization, and recreation. Each of these normative elements could conceivably serve as a sector of the community time budget. All but two of Hillery's elements were used either as sectors or categories in the Eaton Rapids time budget as described in Chapter V and Chapter VI. Since time spent in the home was designated as private, family activities

were not included. Stratification was omitted primarily because the time budget was based on activities in functional units. Although social stratification is an important dimension of the Eaton Rapids social structure, the inclusion of stratification as a sector or category would have required a different classification system since "stratification activities" cannot conveniently be kept separate from other activities in the ecological approach to the community time budget. The individual approach to the community time budget would be more fruitful for the study of the family and stratification elements.

As indicated by Hillery's study, most ethnographies and community studies include an analysis of social structural arrangements. Many of these arrangements can be conveniently quantified by noting how much time is allocated to the activities of each one. The structural designations can be used as sectors or categories for a community time budget as long as activities connected with these structures can be kept separated.

In addition to the use of time allocation data in analyzing the culture and social structure of a community, the gathering of the data itself has advantages. Information on time allocation is a neutral type of data to gather. In contrast to information involving finances, personal problems, and other sensitive areas, obtaining time data proved to be relatively easy in the Eaton Rapids study. There were no

refusals among the informants who were able to give the information. Several merchants immediately became friendlier when they were assured that the investigator was interested only in the number of hours spent in their establishment and not in their gross sales or the wages of their employees. Among the more than 250 informants, only four of them proved to be particularly uncooperative. Each of these four informants required more detailed explanations of the purposes of the study before providing partial information, but such hesitancy in itself can be revealing. These four informants were associated respectively with (a) the municipal government, (b) a woolen mill, (c) a tavern, and (d) a local union. In each case, the informant's hesitancy could have been due to some sensitivity related to his status in the community. Sensitivity in local government may have reflected the legal contest concerning a city charter revision which was at its height during the investigation. The woolen mill had suffered keenly from competition, and it had been reduced from its former position of major influence in the town. Taverns in Eaton Rapids are patronized mainly by working class citizens and a university investigator may have created suspicion in the mind of the bar-tender. Labor unions in Eaton Rapids were established only after a long and rather bitter struggle by townspeople. Even today they are associated only with the local branch plants of outside corporations.

In most cases asking for time budget data proved to be a good "opener" for an interview. If the informant was busy with other matters the interview could be kept short so as to take little of his time. If the subject of time allocation aroused their curiosity, informants usually became willing to talk about additional topics; they often volunteered other items of information about the town. It is from such additional comments that an ethnographer is often able to gain insight into the local culture of the community he is studying.

A Basis for Comparative Studies

The description and analysis of individual communities is only the first part of the anthropologist's task. After translating his field data he must compare it with data from other descriptive studies. As noted in the previous section, there is some agreement on general categories of description. These general categories have also proved crudely serviceable for certain meaningful comparisons. Genuine comparison is possible only with the use of nonculture-bound units. A related problem is the measurement of the selected units. It has been suggested that the community time budget can be a convenient descriptive technique. Once it is employed in several community studies the time budget can be a basis for comparing communities both within the same general cultural environment and between different cultures. By including

time allocation data with the other kinds of standard data to be collected in the community study method, lower level but real comparisons in the temporal dimension can be made between communities.

Community studies often include implicit comparisons of how much time is spent in various activities, but only a few of these observations are based on data which can serve as a basis for comparison with other communities. The comparative data is usually limited to members of units or kinds of activity rather than relative prominence of each of these units in some measureable framework. The time budget approach provides such a framework of measureable units.

An Index of Community Change

One of the major purposes of this study is to set up a system of accounts which may be examined for evidences of change. Ideally, communities should be studied for long periods of time so that the processes of change can be examined in more detail. Change is usually studied by taking "readings" of the community at two or more points in time. Where the comparison is based on population characteristics, the "readings" are made in a relatively simple manner. However, much of the information on social and cultural structure must be obtained in a different way. Some method of obtaining a social structural "reading" of the community is needed to facilitate comparisons. Since the time budget

can be expressed in social structural terms, it should provide an important means for making such comparisons.

Just as the characteristics of an individual person are reflected in his allocation of time, the characteristic structure of a community should be discernible in the community time budget. Sharp changes in one or more sectors would probably mean an important change in the patterns of life in the community. Certain universals--such as eating and sleeping--would become manifest in the total time budget of a community and probably remain fairly stable; other sectors may change over a period of time and perhaps indicate evolutionary changes in the life of that community.

One of the major problems facing sociologists in their study of leisure time is the changes in living patterns of American society that might be produced by a reduction of working hours. Changes in societal patterns also effect various changes on the community level, although just what these changes will mean on the local level is not entirely clear. Reduction in amount of work time is not a universal phenomenon. In some cases the change is toward a lesser amount of leisure time. In their study of Japanese villages, Donoghue and Ishino (Donoghue 1962) found that the adoption of new farming practices decreased the amount of time which remained available for participation in various community activities.

All endeavors which necessitated the gathering of people at specific times, such as religious rituals

and their preparations, meetings of the youth groups and women's organizations suffered poor attendance and the possibilities of dissolution. Individuals diversified their economic enterprises so that some were engaged growing some crops the year around; they changed their time budgets which excluded time for these other activities (Donoghue 1962:5).

Among the Fruitland Navaho, Sasaki (1958) found that participation in the wage-market economy of the larger society required changes in the scheduling of ceremonies and other communal activities. The result was a weakening of the old social organization, shifts in status and residence patterns, and other changes in the social structure.

The impact of technological change among peasant and tribal peoples seems perhaps more spectacular and abrupt than the processes of change found in the cities where the varieties of activity and the accompanying changes are expected as part of urban life. Although the task of assessing the urban changes may be much greater than that involved in looking at change in the small community, there are advantages which facilitate the analysis of larger places. Census-type data tend to be much more complete for cities than for villages, and combined with other types of collected data, urban time budgets should also become possible. The case study presented in Chapter V and Chapter VI is a beginning toward what might be done in larger towns and cities.

A Benchmark for the Evaluation of Planned Change

It is probable that the major use of community time budget information would be of a practical and applied nature rather than of purely theoretical interest. In local and regional planning and in community development, the time budget may indicate problem areas (such as recreation in Eaton Rapids), or it may serve as a base line to evaluate the effects of certain programs. Case studies such as those cited above (Donoghue, 1962; Sasaki, 1958) point toward important shifts in community time budgets, shifts which may or may not have been desired by the members of those communities.

It may be possible to develop an optimum time budget for any given community. That is, a community may be hindered in its development by an overload of certain activities or to a "misallocation" of the available time. Although the time budget may not provide the reasons for insufficient allocation of time in certain categories the data on time allocation should be useful for spotting potential problem areas. Other things being equal, the time budgets of a community with apparently few problems should differ in certain respects from the time budget of a community with many unsolved problems. Here again, the need for comparative data is great, but a few examples from the case study of Eaton Rapids may be illustrative.

In a community survey by the Eaton Rapids Jaycees (Eaton Rapids Journal, January 24, 1963) residents of Eaton Rapids were asked to give their opinions concerning various characteristics of the town. A majority of the respondents were satisfied with such things as water supply, fire protection, business district parking, and a number of other items. However, also included were several items which a large majority felt were quite inadequate for present needs. Included in the inadequate category were items such as law enforcement, public meeting place for teenagers, swimming facilities, and community development and planning. In addition, a number of respondents suggested that more doctors were needed in the community, although hospital medical service in general was considered adequate.

The results of the Jaycee survey suggest several observations concerning the time budget of Eaton Rapids. For purposes of discussion several sub-categories of the time budget are listed in Table 10.

Police protection.--Of the total public time in Eaton Rapids 0.3 per cent was devoted to police protection. A majority of Eaton Rapids citizens felt that law enforcement in their town was inadequate. Comparison with time budget allocations in the other towns of this size could indicate whether the problem was one of being understaffed or whether the problem was something else--perhaps a police force which

was inadequately trained or administered. It is probable that the concern with law enforcement is related to the problem of recreation.

TABLE 10.--Time Allocated to Selected Categories of the Time Budget.

Selected Categories		Hours in March	Per Cent of Total Public Time
1.	Police Protection	1,224	0.3
2.	Recreation		
	a. production	1,316	0.3
	b. consumption	8,280	1.8
3.	Organizations for Children and Youth	1,230	0.3
4.	Local Government	2,280	0.5
5.	Physicians	1,424	0.3
6.	Hospital Patients	16,512	3.6
7.	Clinic Patients	2,852	
		19,364	4.2

Recreation.--One of the problems expressed most frequently by informants during the time budget survey was related to recreation facilities for the youth of the town. Unfortunately, the restriction of data collection to adult activity renders this particular time budget inadequate for an analysis of youth activities. However, a few comments are possible on the basis of existing data and the observations of the investigator. Approximately 0.3 per cent of the time budget was devoted to the provision of commercial

recreation. About six times that amount, or 1.8 per cent of the budget, was allocated to the consumption of those recreational services. The main activity is bowling, and this is primarily an adult activity.

In the social participation sector adults allocated about 0.3 per cent of the time budget to organizations for children and youth. Most of this category was devoted either to activities connected with the high school or with Scouting activities of various kinds. Aside from high school activities and a weekly Saturday night dance there is very little for Eaton Rapids youth to do in the town. There is no movie theatre, and there is little in the way of commercial recreation for these youth. When the high school youth are not crowded into one of the two confectionaries frequented by those of their age groups, many of them are driving the streets of Eaton Rapids, or driving to other towns in search of amusement.

Local government.--The 0.5 per cent of the Eaton Rapids time budget devoted to local government does not include a planning board or commission. Although there are service clubs--like the Jaycees--which are attempting to ascertain the problems that residents feel are important, there is no organized provision for doing something about the problem. There is an association of businessmen who are concerned about the condition of retail trade in the town;

they hope that their organization will eventually become the town's Chamber of Commerce. Previous attempts at developing a Chamber of Commerce have ended in failure, the present attempt is not without a number of problems, including an apathetic response from many of the businessmen it is designed to help.

Physicians.--The five medical doctors in Eaton Rapids put in enough hours to account for 0.3 per cent of the time budget. These men had the major responsibility for providing health care in the community; each doctor averaged more than 70 hours per week in his work. In the hospital, patient time amounted to 3.7 per cent of the time budget, while other persons put in an equivalent of 0.6 per cent of the time budget in medical appointments at the clinic. Because of the complaints about "not enough doctors," one can hypothesize the inadequacy of the ratio of 0.3 per cent for doctors to the combination of 3.7 per cent and 0.6 per cent for patients.

None of the problems discussed above are immediately apparent from an examination of the Eaton Rapids community time budget. However, the time budget as it is compiled for March, 1963, could serve as a point of departure for evaluating these same problem areas in Eaton Rapids at some future date to see if changes had taken place.

Limitations of Time Budget Analysis

As one of the pervasive conditions of human action, time is a dimension on which all activities and their interrelations are measureable. This pervasive quality of time can be used to advantage in the study of human behavior, but it can also be a limitation to such studies if the proper perspective is not maintained. Conceived as the flow of events, the time dimension may be useful as a measuring device for inspecting a sample of these events. Time in this usage is simply a means toward the study of something else, and in itself time is not particularly crucial to the understanding of human behavior.

Time becomes important as a variable in the study of human behavior when it can be related in a meaningful way to that behavior. Viewed as a limited resource which may be allocated to various alternative uses, time becomes an expression of value in meeting both biological requirements and cultural norms.

However, the study of time allocation is not a substitute for other studies of social structure. It is a convenient framework which can point toward further study, but it does not "explain" the totality of human behavior. The time budget is first a descriptive device. It is one of a number of community survey methods, and along with other community survey data the study of time allocation can be criticized for the amount of interpretative analysis which can be made.

One of the important limitations of time budget study is the difficulty of sector and category selection. The selection of categories is crucial for the eventual use of budgetary data in any descriptive method. Nearly any activity can be chosen as a category, but the problem becomes one of choosing those categories which are not only meaningful for analysis, but for which data can be obtained with relative ease.

Time allocation may be used as a standard for comparison of communities, but this comparison is only as valid as the categories which make up the budget. This factor may be less important for comparing communities which share the same general culture, but it becomes crucial in cross-cultural comparisons. The danger involved in the use of quantitative data is that the importance of true comparability of categories between cultures might be obscured by the ease of quantification.

Suggestions for Further Research

The present study has been primarily an exploration into the theory and methodology of community time budget analysis. Many of the above statements concerning time budgets were actually hypotheses which need further testing. More studies are needed if the significance of community time budgets is to be conclusively evaluated. In addition to the basic need for time allocation data, further research

in this area should be devoted to (1) improving the methodology, and (2) clarifying the possible comparability of time budgets among communities.

The concern with methods should include a comparison and evaluation of the individual and ecological approaches to the community time budget. Although the ecological framework was chosen for the case study described in Chapter V and Chapter VI there are cases in which the individual approach would yield more useful data; this would depend upon the particular focus of study or theoretical interest. There seem to be two general types or "levels" of community in which the individual approach and the ecological approach would yield approximately equivalent time budgets. One of these types is the relatively isolated primitive community which is both territorially and culturally separate from other communities. Close to this particular type is the folk society described by Redfield (1947), which contains characteristics found in primitive and peasant communities. The other type or level of community in which the two approaches may yield similar time data is the large metropolitan area. Such an area contains a sufficient concentration of population in and around its center to make activities on the outer boundaries almost insignificant in terms of the overall time budget.

Many communities fall in the range between the isolated, primitive group and the metropolitan region and include

villages, towns, and cities whose members are dependent on other communities for jobs and various goods and services. The time budgets of these middle-range communities would show varying degrees of difference when gathered by different approaches to time budget study. Most of these differences arise from the flow of population between these communities. The set of relationships involved in the residence community is different from the set of relationships found within the larger community. Consequently the allocation of time would also be somewhat different. Further research should clarify the special potential uses of each of these approaches as tools for analyzing communities.

The problem of actually gathering the data for the community time budget has still not been entirely solved. This factor becomes especially important when making time allocation studies in a city or a region where small community techniques may not be practical. Sampling would have to be employed to a greater degree than was the case for the present study. It is also likely that a team of interviewers and observers would be needed to study time allocation patterns in large communities.

Since time budget data should prove to be useful for practical community concerns, the gathering of such information could be supported by interested community organizations. In many American communities the county extension service, home demonstration clubs, community development associations,

and service clubs are already organized to mobilize human effort for various projects. If they could be persuaded of its value, the collection of information for a time budget could be included as one of their community services.

The comparison of community time budgets themselves should also be considered in further research. The need for comparative data has been frequently mentioned in previous pages because an adequate evaluation of the method depends upon the compilation of more time budgets and the proof of their usefulness. In a general way communities may be compared in terms of the number of activities which take place within their boundaries. A city time budget would contain a much larger number of activities than would the time budget of a small isolated village. However, when size is held constant, it should be possible to make a more basic comparison of general allocation patterns. The time budget may even prove to be useful as an index of urbanization.

Cross-cultural comparison is another potential use of community time budgets. When satisfactory categories are formulated, time budgets can be compared and analyzed for the different temporal and activity patterns associated with differences in culture. A possible model for such comparison is the Harvard University study of five communities in the American Southwest. As reported by Kluckhohn and Strodtbeck (1961) the five communities included a Zuni Indian pueblo, a Navaho Indian community, a Spanish-American village, a

Morman village, and a recently established village of Texan and Oklahoman homesteaders. The study of values in these communities was especially significant for comparative purposes because the cultural variations were markedly distinct while the variations in physical environment were slight. Such a situation provided a good test for differential response to a given environment. Presumably, time budgets of these communities would be as distinct as the differences in value orientations found by the Harvard group.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

All human communities as systems of relationships are subject to the effects of time as a basic condition of action. Along with space and numbers, time pervades community relationships and becomes an important factor in the structure of these relationships. These three basic conditions--space, numbers, and time--have received varied treatment by social scientists. The spatial dimension has been studied in many ways; human ecology and human or cultural geography are the divisions among the social sciences most directly concerned with the study of spatial relationships. The problem of numbers has been dealt with primarily by demographers, and elaborate procedures have been developed to list and aggregate human populations in various ways. However, the study of time has not become the special subject matter of any discipline.

Ecologists have shown some interest in temporal patterns, but time is usually treated by social scientists simply as a necessary condition of all human behavior. Consequently the temporal dimension has been considered either as (1) a condition unworthy of special attention or (2) a convenient measuring stick for controlling the observation of other phenomena.

Despite its apparently monolithic and restrictive character, time is also subject to the effects of human ingenuity and the unplanned consequences of human behavior. Time is a resource which may be allocated to various alternative objectives, and it can be considered as a crucial variable in the lives of individuals or collectivities of individuals. The allocations of time are an index of how this resource is divided among various human activities. The time budget of a community is an account of how a certain group of people collectively allocate the total amount of time available to them. This dissertation is an addition to a slowly growing body of literature which deals with time as a resource in human behavior and makes use of a time budget approach for the analysis of community structure and change.

It is basically assumed in this study that a community may be viewed as a system of inputs and outputs of the total available time. A second assumption of the study is that human values are reflected in the allocation of time to various activities associated with the social structure of a community. The time budget of a community thus shows a pattern of relationships formed by persons acting out individual and collectively-help values. In addition to being a scarce resource and an indicator of values, time is also quantifiable and measurable. Data on time allocation can be used to measure an investigator's observations of

community life. It should become possible to measure changes in an objective manner by keeping a set of accounts on how people choose to spend their time.

The present study has included a discussion of the past and potential uses of time budget data; special attention has been given to community life. An investigation of the literature dealing with time showed that there are many perspectives concerning time and its utilization. A review of previous studies using time allocation as a means for describing human relationships showed that most of these studies are only of partial use in understanding the public life of a community. Consequently, a major part of the present study involved the development and testing of a method for the study of time allocation in a community.

Two general approaches to time budget study may be taken. One approach results in information on time allocation for each individual who lives in a community. The other approach involves an accounting of all the activities which take place in a community even though not all of the persons involved reside there. The essential component of this second method, the "ecological" approach, is the gathering of data on how many people are involved for how many hours in what activities. Exploration and development of time budget analysis in the present study included using the ecological approach for making a pilot study of the time budget in a small community. For this particular study

observations were restricted to the public activities of adults during the month of March, 1963, in the town of Eaton Rapids, Michigan.

Eaton Rapids is a small town of about 4,200 inhabitants. It functions as a trade and service center for the surrounding area which contains an additional 5,000 inhabitants. The growth of the town followed a pattern fairly typical of many Midwestern towns. Today the town continues to function as a "main street service center" with a diversity of small and medium-sized manufacturing plants.

The data on time were gathered mainly through interviews with persons connected with each unit or establishment where public activity occurred. Additional data were obtained through observation. When the gathering of data on time allocation was complete, the total number of hours of public activity was divided according to sectors and categories. The time budget was divided into five general sectors of activity: (1) production and distribution of goods and services, (2) consumption of goods and services, (3) public administration or governmental services, (4) social participation, and (5) automobile travel on public streets. Fifty-one per cent of the total hours were spent in the first sector, 30.9 per cent in the second sector, 3.4 per cent in the government sector, 5.7 per cent in the social participation sector, and 6.9 per cent in the travel

sector. Each of the first four sectors were further broken down into various categories and sub-categories.

Several general observations were made on the basis of the time budget data collected for Eaton Rapids. The time budget can be analyzed to see where activities occur most frequently. The traffic data can be combined with other information to provide a picture of the cycles and synchronizations of activities. Time budget data can also be analyzed for changes in different types of resource allocation.

The time budget method was found to be useful as an ethnographic technique for the study of communities. Although no comparative data were available the time budget was proposed as a useful tool for analyzing differences between communities and for documenting community change. More specifically, the time budget could also serve as a benchmark for the evaluation of planned change programs.

The main contribution of this dissertation is the spelling out of an idea--that of using time budget analysis for help in understanding community systems. The development of this idea included concern with the methodology of doing time budget analysis along with some pretesting of the idea and the method. As presented here, this is one development of an idea that could take various directions. This is a beginning and a small sample of what could be included.

This study is more hypothesis-generating than it is a test of any specific hypotheses. The case study was designed to be illustrative of the problems encountered in carrying out an empirical study of a community time budget in addition to serving as a basis for illustrating various points in the use of time budget data.

Many studies of time use have been little more than reports on (1) how selected samples of individuals have used their time and (2) the correlation of these data with conventional demographic variables. The studies of work and the studies of leisure activities have various practical uses, but in many such studies theoretical relevance has been largely missing. In contrast, community studies which contain information on time allocation link this information to a theory of community or class. Linkage with community theory makes these data more valuable even though community study data are usually presented in terms of general and unquantified statements. The thesis of the present study is that the community study data can be easily quantified and made more useful by employing the time budget approach. Combining the community study method with the collection of time allocation data provides (1) a theoretical relevance for time studies and (2) a quantitative description of community structure.

Many steps in the gathering and use of community time budget data remain to be worked out. One of the unsolved

problems is certainly that of choosing sectors and categories which will prove most useful for both theoretical and practical applications. For example, it may be that the use of the time budget by community planners will require categorization which is different from that useful for cross-cultural comparison. Further studies should clarify some of the issues with reference to time budget analysis and lead to other fundamental investigations. It is in this way that community time budget studies become a part of the larger attempt by anthropologists and sociologists to describe and understand men and their relationships.

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APPENDIX

TABLE 11.--The Eaton Rapids Community Time Budget (Output) for Four Weeks in March, 1963, By Number of Units, Number of Workers By Sex, Number of Hours By Sex, and Per Cent of Total Public Time.

Sector and Category	Units	Number of Persons			Number of Hours			Per Cent of 455,790 Hours
		M*	F*	Total	M*	F*	Total	
I. PRODUCTION & DISTRIBUTION								
OF GOODS & SERVICES	219	865	610	1,475	142,572	90,040	232,612	51.0
A. Construction	18	17		77	10,620		10,620	2.3
1. Building	10	48		48	6,004		6,004	1.3
2. Special Trades	8	29		29	4,616		4,616	1.0
B. Manufacturing	10	381	277	658	65,588	45,696	111,284	24.4
1. Food Products	2	65	48	113	11,652	7,692	19,344	4.2
2. Textiles	2	35	51	86	8,700	6,420	15,120	3.3
3. Wood & Paper Products	2	82	11	93	12,596	1,704	14,300	3.1
4. Metal Products	4	199	167	366	32,640	29,880	62,520	13.7
C. Public Utilities	2	6	2	8	580	208	788	0.2
D. Trade--Wholesale & Retail	93	255	142	397	42,416	19,276	61,692	13.5
1. Wholesale Only	3	13	4	17	2,244	672	2,916	0.6
2. Building Materials, Farm Equipment & Fuel	14	29	7	36	5,824	564	6,388	1.4
3. General Merchandise	4	4	13	17	852	1,916	2,768	0.6
4. Food	11	53	25	78	8,428	3,560	11,988	2.6
5. Automotive	16	86	2	88	12,796	220	13,016	2.9
6. Apparel & Accessories	7	5	15	20	644	2,008	2,652	0.6
7. Home Furnishings	7	14	6	20	2,368	796	3,164	0.7
8. Eating & Drinking	13	17	46	63	3,612	6,692	10,304	2.3
9. Miscellaneous	18	34	24	58	5,648	2,848	8,496	1.9

*M=Male; F=Female.

TABLE 11--Continued

Sector and Category	Units	Number of Persons			Number of Hours			Per Cent of 455,790 Hours
		M*	F*	Total	M*	F*	Total	
E. Finance, Insurance, & Real Estate	14	41	26	67	5,876	3,356	9,232	2.0
1. Bank & Credit	4	14	13	27	908	1,512	2,420	0.5
2. Insurance & Real Estate	10	27	13	40	4,968	1,844	6,812	1.5
F. Services	50	57	48	105	8,672	6,664	15,336	3.4
1. Lodging	4	1	9	10	100	660	760	0.2
2. Personal & Special	30	29	31	60	4,436	5,028	9,464	2.1
3. Printing & Publishing	3	6	8	14	1,000	976	1,976	0.4
4. Auto Repair	4	8		8	1,416		1,416	0.3
5. Blacksmith, Welding & Miscellaneous Repair	9	13		13	1,720		1,720	0.4
G. Entertainment & Recreation	4	10	6	16	1,036	280	1,316	0.3
H. Professional & Related Services	28	38	109	147	7,784	14,560	22,344	4.9
1. Health related	10	19	102	121	3,608	13,812	17,420	3.8
2. Attorneys	2	2	3	5	420	316	736	0.2
3. Accounting	4	4	4	8	832	432	1,264	0.3
4. Veterinary	2	3		3	700		700	0.2
5. Pastors & Priests	10	10		10	2,224		2,224	0.5
II. CONSUMPTION OF GOODS AND SERVICES	139						141,003	30.9
A. Retail Trade	78						73,134	16.1
1. Building Materials, Farm Equipment & Fuel	9						1,209	0.3
2. General Merchandise	4						5,645	1.2
3. Food	10						18,531	4.1
4. Automotive	16						6,292	1.4

TABLE 11--Continued

Sector and Category	Units	Number of Persons			Number of Hours		Per Cent of 455,790 Hours
		M*	F*	Total	M*	F*	
5. Apparel & Accessories	7						0.4
6. Home Furnishings	7						0.2
7. Eating & Drinking	13						7.3
8. Miscellaneous	12						1.3
B. Finance, Insurance, & Real Estate	14						1.3
1. Bank & Credit	4						0.4
2. Insurance & Real Estate	10						0.9
C. Services	32						2.1
1. Personal & Special	27						2.07
2. Auto & Miscellaneous Repair	5						0.06
D. Entertainment & Recreation	4						1.8
E. Professional & Related Services	11						9.6
1. Health Related	10						9.6
2. Attorneys	1						0.02
III. PUBLIC ADMINISTRATION AND SERVICES							
A. Training & Education	4						3.9
B. Social Control	3						1.0
1. Protective Services	2						0.5
2. Municipal Government	1						0.5
C. Special Services	2						0.5

TABLE 11--Continued

Sector and Category	Units	Number of Persons			Number of Hours			Per Cent of 455,790 Hours
		M*	F*	Total	M*	F*	Total	
IV. SOCIAL PARTICIPATION							25,906	5.7
A. Instrumental Associations	18						2,158	0.5
1. Economic, Political, & Welfare	6			156	242	252	494	0.1
2. Service & Sociability	8			295	918	503	1,421	0.3
3. Occupational	4			135	188	55	243	0.1
B. Leisure & Other Mixed Groups								
1. Churches	10			1,459	6,010	8,109	19,302	4.2
2. Fraternal	6			299	948	604	14,119	3.1
3. Recreational & Study	15						1,552	0.3
4. Groups for Children and Youth							2,401	0.5
							1,230	0.3
C. Special Ceremonies & Events	24						4,446	1.0
V. TRAVEL ON PUBLIC STREETS							31,528	6.9
A. Automobile & Truck Travel							<u>31,528</u>	<u>6.9</u>
GRAND TOTAL OF ALL PUBLIC HOURS							455,790	100.0

INTERVIEW FORM USED FOR GATHERING TIME BUDGET DATA IN EATON RAPIDS

A. Type of Unit _____ D. Data for Week of _____ Code
 B. Name of Unit _____ E. Date of Interview _____
 C. Location _____

F. Description of Members or Employees	G. Sex	H. Number	I. Schedule	J. Hours	K. Extra Hours	L. Total Hours
Informant _____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

M. Cycles of Activity: _____ N. Customer Counts or
 Daily _____ Attendance Records:
 Weekly _____
 Monthly _____
 Seasonal _____

O. Additional Information: _____

ROOM USE ONLY

