THE DISTRIBUTIONAL IMPACTS OF URBAN PUBLIC SERVICES: PARKS AND RECREATIONAL SERVICES IN ANKARA

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ABSTRACT

THE DISTRIBUTIONAL IMPACTS OF URBAN PUBLIC SERVICES: PARKS AND RECREATIONAL SERVICES IN ANKARA

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In this study, the main concern is evaluating the impacts of distribution of urban public services. The focus is on the concept of distributional justice which influences the citizens' welfare through the spatial allocation of public services in an urban area. General characteristics of public goods and services in the context of urban service provision are discussed to suggest clues for the distribution of urban public services as local public goods. The normative character of the decisions related to the service distribution necessitates a discussion on the mechanisms of collective consumption. Social welfare and public choice theories are dealt with in this context.

Due to the importance of the administrative structure on the distribution of urban public services, local governments as the providers of most urban services are analyzed with special reference to the Turkish metropolitan administration.

Factors influencing the distributional rules are also considered to complement the administrative and bureaucratic framework.

Parks and recreational services in Ankara Metropolitan City are surveyed by means of the historical development of service supply in the city and a questionnaire which is applied for the demand side. In this analysis, private possibilities for this service are also covered as well as the public provision. The results indicate that the determining factors in the utilization of parks and recreational services are the proximity, income level and car ownership and the need for this service is not adequately satisfied especially when the income level is low. It is concluded that the 'distributional justice' should be replaced with the 'territorial justice' which appears as the existing policy of metropolitan government. By this way, a higher and effective utilization of the service can be achieved.

Keywords: Distribution of Urban Public Services, Local Public Goods, Parks and Recreational Services, Metropolitan Administration, Performance Criteria for Public Services, Spatial Allocation of Urban Services.

Science Code: 601.05.01

ÖZ

KENTSEL KAMU HİZMETLERİNİN DAĞILIMININ ETKİLERİ: ANKARA' DAKİ PARK VE REKREASYON HİZMETLERİ

BELER, Feyzan

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Bu çalışmanın temel amacı, kamu kesimi tarafından sağlanan kentsel hizmetlerin dağılımının yarattığı etkileri değerlendirmektir. Yaklaşımın odak noktasını, servislerin mekansal dağılımı yoluyla kentlilerin refah düzeyini etkileyen, "dağıtım adaleti" kavramı oluşturmaktadır. Yerel kamusal mallar olarak ele alınan kentsel kamu hizmetlerinin dağılımı için ipuçları elde etmek amacıyla, kamusal mal ve hizmetlerin genel özellikleri, kentsel hizmetler bazında tartışılmıştır. Kamu tarafından sağlanan malların dağıtımıyla ilgili kararların normatif niteliği, toplu tüketim mekanizmalarıyla ilgili bir tartışmayı gerektirmektedir. Toplumsal refah ve kamu seçimi teorileri, bu çerçevede ele alınmıştır.

Kentsel kamu hizmetlerinin dağıtımında yönetsel yapının önemi nedeniyle, kentsel hizmetlerin çoğunun sunumunu üstlenen yerel yönetimler ve Türkiye' deki büyükkent yönetimi incelenmiştir. Dağıtımın kurallarını belirleyen etkenler de, yönetsel ve bürokratik çerçeveyi tamamlamak üzere ele alınmıştır.

Ankara'daki park ve rekreasyon hizmetleri, hizmet sunumunun tarihsel gelişimi ve talep faktörlerini inceleyen bir anket aracılığıyla araştırılmıştır. Bu analizde, hizmetin kamu tarafından sağlanan bölümünün yanısıra, özel hizmet olanakları da dikkate alınmıştır. Araştırma sonuçları, Ankara'da park ve rekreasyon hizmetlerinin kullanımını belirleyen temel etkenlerin fiziksel yakınlık, gelir düzeyi ve araba sahipliği olduğunu ve hizmet gereksiniminin özellikle alt gelir grupları için yeterince karşılanamadığını göstermektedir. Bu nedenle, büyükkent yönetiminin park ve rekreasyon hizmetleri için uygulamakta olduğu "mekansal adalet" yerine, "dağıtım adaleti" kavramının geçerli olması gerektiği sonucuna varılmıştır. Hizmetin daha yüksek oranda ve etkin biçimde kullanılması bu yolla sağlanabilir.

Anahtar Kelimeler: Kentsel Kamu Hizmetlerinin Dağılımı, Yerel Kamusal Mallar, Park ve Rekreasyon Hizmetleri, Büyükkent Yönetimi, Kamu Hizmetleri için Verimlilik Ölçütleri, Kentsel Hizmetlerin Mekansal Dağılımı.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I
INTRODUCTION

The urban decision-making process is an activity space in which political, economic and administrative structures play important roles that vary with the negotiating powers under the specific conditions of a country. The structure of local government and the provision of urban public services are determined by the interfaces among these macro structures. Apparently, there are various aspects of urban life which can be the unit of analysis in a research although they are strictly interrelated. This study aims at examining the allocation and distribution of urban public services in Turkish metropolitan cities by a case study that considers the impacts of service distribution on citizen groups with different characteristics. The service that is chosen for the case study is the parks and recreational services.

This study stemmed from the need to develop an analytical instrument as one of the performance criteria for local service distribution. The main reason behind this attempt is the lack of a systematic analysis on the provision of urban services in Turkey. This situation prevents the accumulation of relevant data. However, such analyses are important in many respects, especially for the countries with limited resources for urban services.

The practical importance of service distribution in urban areas is based on the need for services such as police and fire protection, water supply, sanitation and waste disposal and transportation for the viability of urban life.

> "Other public services such as paved streets, sidewalks, street lights, parks and recreational facilities; museums, zoos and libraries; education - while not essential to day-to-day life - are major sources of comfort, convenience, enjoyment and wealth to those who benefit from them". (Lineberry and Welch, 1974:702)

In an urban environment, especially in the metropolitan city, the spatial constraints are extremely important for service distribution. For most of the urban services with fixed facilities such as parks, libraries, public health facilities, physical proximity is required at a certain level. In any case, spatial distribution of services affects the distribution of wealth among citizens. As Lineberry (1977:14) states "urban politics is essentially a politics of spatial allocation of advantages and disadvantages". Urban public policies including the decisions on zoning, transport, housing and other urban services may be the means of redistribution of income. The locational choice of citizen groups and the production in the urban area is influenced by these mechanisms. (Lineberry, 1980) As Rich (1979) points out the access of different groups to these decision processes and the impacts of the resultant policies on their welfare should be studied by urban researchers.

This study concentrates on the distributional impacts of urban public services regarding the user preferences and satisfaction. The problem of distribution is analyzed particularly from the demand side through direct impacts of the service output on citizens. The indirect factors that influence or are influenced by the service distribution - i.e. above mentioned policies or land prices - are not considered despite their effects on the decisions related to the service provision. They are covered through a comprehensive approach to the demand analysis supported by the supply conditions of the service.

The links between the welfare economics and the distribution of urban public services are pointed out as the urban problems have primarily an economic basis. As Walker (1981:283) states;

> "they (urban problems) are regarded as problems precisely because they keep the welfare of the society below what it would otherwise be. Consequently, if welfare economics is going to be relevant anywhere, it is in the analysis of urban problems that this relevance needs to be shown".

However, there is a wide consensus over the welfare analysis that it offers relatively little on the "desirable distribution" and cannot give criteria for the "distributional justice". (Walker, 1981 and Bourassa, 1992) Toulmin (1988) defines the goal of city government as to provide services to maintain the livability for each neighbourhood. This brings out the question of service distribution that may correct the conditions of disadvantaged neighbourhoods. The normative character of the answers to such questions seems to be inevitable. The objectives of the society that are set with respect to the political, social and ethical considerations determine the resultant decisions on distribution. (Walker, 1981) This being the case, the nature of distribution of urban public services can only be understood by determining conditions of a particular society. In this study, specific conditions of supply and demand in Turkey are tried to be investigated to obtain clues for the distribution of urban public services.

The normative character of the decisions on service distribution leads to various answers depending on the conditions of each society. This part of the problem is mainly political. Yet, the questions of why some services should be provided publicly and who will be the provider of these remain unanswered. These aspects are related to the service characteristics and the administrative and bureaucratic structures that are established for the service provision. The theories of public goods and local public goods should be examined to understand the nature of urban service provision where the local governments appear to be the provider. This necessitates dealing with the economic aspects of the provision of urban public services on one hand, and with the organizational structure of local government on the other. The organization of this dissertation reflects the concern for an interactive approach of the above mentioned political, economic and administrative structures as it seems necessary to have a comprehensive framework on the analysis of the distribution of urban public services.

In Chapter 2, the theoretical background that consists of the theory of public goods on which the positive and normative theories of public choice are based takes place. In this chapter, the relationship between the economic and the political aspects of the urban service distribution is tried to be shown through the relation between the consumption of public goods and the social welfare.

In Chapter 3, the theoretical background considered in Chapter 2, is applied to urban public services through the theory of local public goods by which the spatial distribution of services is analyzed. The important factors that influence the distribution of urban public services and the rules of distribution are taken into consideration to discuss the performance criteria relevant for the urban public services. Output measures and local expenditure models are investigated as the analytical tools for this purpose. The discussions on the optimal level of provision and centralized versus decentralized provision also take place in this chapter to point out the spatial aspects of the service provision.

In Chapter 4, the structure of local governments is evaluated because of their determining role in the provision and distribution of urban services. As the political process of normative decisions on service distribution is reflected mostly by the local governments, their financial, organizational and bureaucratic structures have important implications that may even distort the public choice. In this context, dominant features of Turkish metropolitan government are summarized to ease the understanding of service distribution in the specific conditions of Turkey.

Chapter 5 consists of an empirical survey on the distribution of parks and recreational services in Ankara to exemplify the previously mentioned considerations. The demand and supply conditions of this service are investigated by means of a questionnaire. In this chapter, the analysis and results of the survey take place as well. Based on these results, policy implications are suggested with the expectation of improving the supply conditions. As the purpose of the analysis is to match the supply and demand conditions that are effective in the distribution of this service in Ankara, specific supply conditions and the development of supply are elaborated on, in addition to the characteristics of the parks and recreational services as an urban public service. However, it should be noted that the method of the analysis, rather than the analysis itself seems to be important due to the possibility of application for other service areas.

Chapter 6 concludes with a summary and discussion on the important aspects and contributions of this study. Suggestions for further research also take place in this chapter.

CHAPTER II

THEORETICAL BACKGROUND

In this chapter, a theoretical framework that may clarify the relationship between the distribution of public services and social welfare with the use of the theories on public choice is constructed. The issues of individual and collective choice in relation to the provision of public services and public decision-making process are discussed within this framework. Among various models which can be applied to the analysis of public choice, Atkinson and Stiglitz (1989:295) prefer to describe three main approaches as;

> "1) voting models, viewing public choices as the outcome of an explicitly specified political process, typically majority voting, 2) bureaucratic models, emphasizing the limited control of the electorate over many aspects of public decision- making and the goals of those who administer government policies; 3) interest group models, including as an important special case Marxist models based on class interests".

First (welfare or public choice) and third (Marxist or neo-Marxist) approaches deal with the demand side of public provision whereas the second (bureaucratic) may provide a proper basis for public supply. According to the welfare or public choice approaches, individual or community preferences should determine the level of public goods or services, whereas the divergence between market preferences and allocation of goods or services is explained by the governmental failures. In the approaches of interest group or Marxist theories, public and local politics, hence the allocation and distribution of services, are determined by interest groups and power structure of society. Although, both of them are widely used in urban economic analysis, they have some deficiencies when compared to empirical data on local public services. A more satisfactory model should combine them and extend it to include other factors (Gottdiener, 1986). It seems that a combination of all three models may serve a lot to explain various aspects of public service provision as an extension of the public behavior that reflects all possible trade-offs among different actors of a society. As stated by Atkinson and Stiglitz (1989:295), one can find "some degree of truth in all three of these views, and .... there is no real test of their validity". Here, it is preferred to explain the first model in detail as it seems to be more relevant for analyzing the demand and satisfaction level of users. Marxist approaches are considered as an extension of the first model as a different reflection of collective choice. Bureaucratic models, which are related to the supply side of service provision are dealt with in Chapter 3, so much as the distribution of services is concerned.

As a beginning point for relevant literature, the theory of public goods takes place in the following section.

2.1 The Theory of Public Goods

The theory of public goods is utilized to explain the relations between urban public services and social welfare. Before dealing with the problem of service distribution and its impacts on the welfare of citizens, characteristics of public goods are examined to give way to the discussion on the individual versus collective choice.

2.1.1 Types of Public Goods

Public goods are characterized by joint consumption of many citizen-consumers simultaneously; consequently no individual or group in the relevant service area can be excluded from the benefits. Public goods are defined as the goods "that cannot be divided into purchasable units". (Mushkin, 1972:23) For the comparison of public and private goods see Figure 2.1.

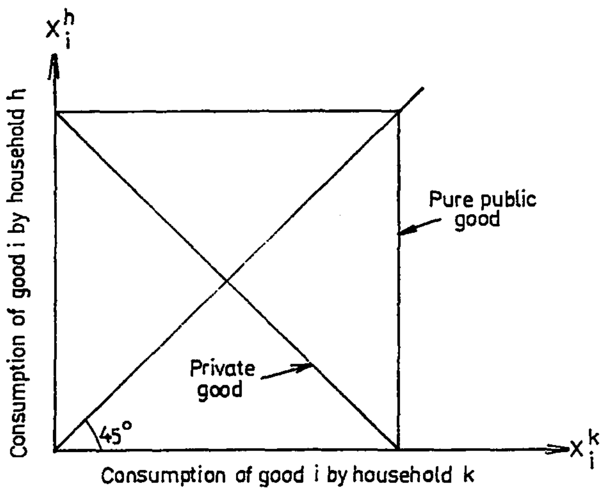

Figure 2.1 Private versus Pure Public Goods

Source: Atkinson and Stiglitz (1989:485)

Stemming from the definition, non-exclusion and non-rivalry which are considered as the inherent properties of public goods are derived by the public good theorists. (1) These characteristics also constitute the bases for the distinctions within public goods and lead to the description of different categories.

First category is defined as the polar case in which the pure public goods take place. Non-rivalness in consumption and non-excludability from the consumption are the main characteristics of a pure public good. Theoretically, these goods satisfy the condition for a Pareto-optimal supply which is discussed in the following section.

A few goods can fully meet the condition of non-rival consumption of public goods, whereas for the rest, a mix of internal and external benefits to a certain degree is always present. (Musgrave, 1970) Empirical studies on publicness degree of certain services justify that the non-rival consumption is not valid in most cases. (see Section 3.2.2 for the examples) Vohra (1987) suggests that the local public goods can be treated as indivisible commodities/private goods. Consequently, the concept of publicness is replaced by indivisibility which itself is determined by market conditions. A recent approach (Malkin and Wildavsky, 1991) entirely rejects the concept of public goods by falsifying basic assumptions of the theory. Some of these oppositions criticize the conditions of pure public goods which may not exist in reality. Most of the public goods have a mixed character between pure public and private goods. Thus, the second category of mixed cases - quasi-private goods - is the most valid one for practical situations. In this category, there are three different types of goods grouped according to their externality.

1) social (public) goods with limited spillovers: These are the public goods with a limited benefit on a geographical basis. In this case, exclusion is possible as the benefit of public goods can be consumed locally. Benefits may not be available for the people who live outside a particular location even if they are external to all consumers within the locality. Thus, non-exclusion from the consumption is also questionable for most cases. As Goldin (1977) claims the access for the public goods may be selective through the exclusion from the group or area receiving the service. Non-reciprocal spillovers of some public goods among the localities are the basis for the theory of local public goods. As it is the most relevant case for this study, this category is dealt with in Chapter 3 where the urban public services are examined. Local character of public goods provides the opportunity to discuss the distributional effects of services on a geographical basis.

2) non-substitute externalities: This case involves with different utilization of the same public good for different individuals. Musgrave (1969) uses education service as an example. For person A, education may be a public good to increase his income where B's education is also important for a better social environment. For this reason, A may be willing to subsidize B's education which is a non-substitutable externality

for B.

3) mixed benefit goods: In this case, the public good for the community may serve as a private good for a particular person. Person A may prefer to consume education as a private good, but it simultaneously contributes the society's overall education level as a public good. Thus, everybody in the society benefits from A's private education.

Third category is the merit goods or wants. In this category, consumer satisfaction replaces the consumer choice in accordance with widely accepted norms of a society about the distribution of public goods, a process which is also valid for some private goods. In the distribution of basic commodities such as the minimum food, shelter, health, a normative -sometimes equality- principle is tried to be achieved. (Musgrave,1969:143) (2) The normative character of subjective preference on satisfaction invites the imposed values which disturb the public choice analysis. Atkinson and Stiglitz (1989) call this kind of social preference which is not related to individual utilities, the 'paternalist' view of consumption. The principle of 'specific egalitarianism' discusses the social consensus on the allocation of particular goods. "A polar case is provided by items such as civil rights, the vote, essential foods in wartime, and possibly medical care, where strict equality of distribution is regarded as of crucial importance". (Atkinson and Stiglitz, 1989:341) According to Musgrave (1970), merit goods are provided on the basis of imposed social choice rather than individual choice. In this respect, determination of social welfare function by social contracts and the rules of distribution that are the basic concerns of the following sections, can also be evaluated as merit goods.

2.1.2 The Problems in the Provision of Public Goods

Public good characteristics invite problems in the provision and distribution. Some features of public goods that should be pointed out to obtain clues for the provision of public services can be summarized as;

1) the problem of equal versus selective access: Musgrave (1969:129) asks the question how public output is distributed since a set of feasible solution to meet the Pareto-optimal supply conditions exists. This is one of the core questions in the distribution of public goods. The debates on public goods are based on the selectivity in the distribution. (Meerman,1980; Goldin,1977) According to Goldin (1977), equal access is a normative concept and there are no goods or services which are inherently public. A natural consequence is that the exclusion is possible from all goods and services as far as the exclusion from the group receiving the service is possible. Goldin (1977:55) claims that "there is <u>always</u> a choice between equal vs. selective access, and that there is <u>generally</u> an additional cost to serve additional persons".

2) the problem of public versus private provision: The same service can be provided publicly or privately. Thus, an

empirical comparison of the costs and benefits of these two modes of provision is required to achieve an efficient provision. Moreover, their overall impacts on social welfare should be taken into consideration in the analysis of public provision. These are the technical aspects of provision with respect to the characteristics of the good in question. However, Ranson and Stewart (1989:8) point out that the technical definition of the public good may not be sufficient to exhibit the political character of the related decision stating that "what is a public good, which ones are needed in society and how they should be distributed to ensure fairness and equity are intrinsically political decisions and can only be decided collectively". This brings out the problems of collective choice which are to be dealt with by means of the theories of social welfare and public choice.

Here, the distinction between public production and public provision must be noted.

> "The two are often confused, though both logically and in practice they are distinct. The government provides for the National Defense, yet much of the production of the goods purchased for national defense is within the private sector". (Atkinson and Stiglitz, 1989:482)

3) the problem of free-ride: Since the contribution of a person is not significant in the total supply of a public good, he will prefer to take a 'free-ride'. This leads to one of the main problems in collective choice - the revelation problem. Individuals

tend to misrepresent their preferences if their payments for public goods depend on their declared principles. (Stiglitz, 1983:17)

Above mentioned characteristics of public goods make the decisions about their provision and distribution complicated. The theoretical route from the individual choice to the collective choice may help to explain the procedures for the provision of public goods and their relation to the social welfare through distribution. Following section explains these relationships.

2.2 From Individual Choice to Collective Choice: the Theories of Social Welfare and Public Choice

The theory of social welfare is developed on the basis of individual choices which reflect the utility functions of individuals. Each individual in the society is assumed to be a rational man who tries to increase his utility or satisfaction by choosing the available bundle of goods with the highest utility at a given level of income and prices. (3) This choice is apparently based on ordinal preference of the consumer which implies that the two utility functions with same ordinal preference comparisons would result in the same choice of commodity bundles at given prices and income. (Arrow, 1984:119)

As stated by Walker (1981:42);

> "a social welfare function specifies the degree to which particular factors - including the welfare levels of individuals - affect the welfare of society; it takes the form of a functional relationship between the dependent

> variable, which is some indicator of social welfare, and the set of independent variables on which it depends; both the independent variables included and the precise manner in which they affect social welfare depend on the ethical predilections of those responsible for constructing the function".

In order to derive a social welfare function from individual choices that stems from various utility functions of individuals in a society, the theory of social welfare is developed. The purpose is "to provide a normative rationale for making social decisions when the individual members of the society have varying options about or interests in the alternatives available". (Arrow, 1984:115)

Main difficulty in achieving this purpose is the measurement of individual choices on an objective basis. In Bentham's utilitarianism, social welfare function is calculated as an addition of individual utilities and hence results in a cardinal utility calculation. Arrow (1984:120) points out the lack of a common unit of utility which is interpersonally valid and a procedure to determine it. The sum of the individual utilities can not be justified even when the individual utility functions are alike. This kind of calculation is rejected by Pareto who builds an ordinal view of the social welfare function by introducing a condition for social optimality by which " a social decision is Pareto-optimal (4) if there is no alternative decision which could have made everybody at least as well off and at least one person better off". In this definition, each individual is expressing a preference for one social alternative against another, but no measurement of preference intensity is required. (Arrow, 1984:122)

However, the problem still remains "how are differing individual preferences to be reconciled in reaching results that must, by definition, be shared jointly by all members of the community?" (Buchanan, 1991:31)

These are the market related concerns of the welfare theory. When collective action is considered, public choice theory can be seen as the economic theory of non-market decision-making or the application of economics to political science. (Mueller, 1984:23). It has its roots in the social welfare theory. Buchanan (1991) names it as the economic theory of politics, claiming that (1984:111), public choice offers a 'theory of governmental failure' that is fully comparable to the 'theory of market failure' that emerged from the theoretical welfare economics of the 1930s and 1940s. Market failure occurs when private markets 'fail' in terms of the efficiency in resource allocation and distribution, whereas government fails when efficiency and equity criteria remain unsatisfied. (Buchanan, 1984:11-12)

The functions of the public sector which are defined by Musgrave (1973) as the allocation, distribution and stabilization which are summarized elsewhere (Heller, 1962) as the want satisfying service function, distribution and stabilization generally serve to cope with the governmental failure. It is argued that the allocation and stabilization functions are in the realm of economics whereas the distribution is in the politics due to its normative character. Public choice theories can be classified as positive and normative public choice, aiming to achieve at Pareto-optimal decisions related to the allocation and distribution functions, respectively. (Mueller, 1984) They are needed for utility calculations for different purposes. "If normative theory studies processes for revealing commonly held values regarding interpersonal utility comparisons, positive public choice studies processes for revealing intrapersonal utility comparisons". (Mueller, 1984:53) They are summarized in the following sections to get insight on their relations to the allocation and distribution functions of the public sector.

2.2.1 Positive Theories of Public Choice

The decision procedure on the allocation of public resources and goods is the main focus of analysis of the positive public choice theorists. As in the case of private market conditions, social welfare maximization is aimed, not through the monetary means but by the allocated public goods and services. In this process, the characteristics of public goods that are analyzed in Section 2.1 are dominant. Due to the indivisibilities in production or jointness of supply and impossibility or inefficiency of excluding some people from the consumption once the good is supplied, collective consumption is expected. (Musgrave and Musgrave, 1989) Given the jointness of supply, the decision on consumption should be based on a collective choice of community. How these decisions are made is the most important question for the positive theory. Pareto principle is widely accepted as the base since a pure public good satisfies the condition of Pareto-optimality in the consumption such that "each individual's consumption leads to no subtraction from any other individual's consumption of that good". This case is called the Samuelsonian public good. (Mueller, 1984) (5)

For making collective choices for public goods - in a direct or representative democracy - formal voting procedures are utilized. These procedures are based on majority rule in a direct and median voter choice in a representative democracy. (6) However, Buchanan (1991) points out 'the paradox of voting' since no majority motion may exist among community members. In this case, voting will result in a continuous cycling among the available alternatives. Thus, "the collective outcome will depend on where the voting stops, which will in turn depend on the manipulation of agenda as well as upon the rules of order". (Buchanan, 1991:32) Logrolling is another potential consequence of formal voting procedure which occurs "when voter preference intensities on each issue are not the same, the gains of a winning majority may be less than the minority's losses. To avoid this, intense minorities may engage in logrolling or vote trading". (Buchanan and Tullock, 1962)

Median voter hypothesis in a representative democracy to determine public outcomes corresponding the preferences of median voter had led to many studies especially related to the budgetary decisions of local governments. (Buchanan, 1984:18) All problems of majority voting are also valid for the median voter hypothesis. Buchanan (1984) points out the problems of multiple dimensions in the budgetary allocation procedures and claims that vote trading and logrolling are valid for simultaneous decisions on several issues such as education and police.

For mixed goods, where exclusion is possible, voting procedure is different since the condition of joint supply is disturbed. Tiebout (1956) is the first person who notes the possibility of changing communities in order to obtain public services. This procedure which is called 'voting with the feet' serves to achieve Pareto-optimality by clustering the individuals with homogeneous tastes in different communities. In this way, a locational homogeneity is attained. (7) This theory takes place in the discussion on local public goods in its relation to the provision of urban public services. (see Chapter 3, Section 3.1.1)

The same principle of homogeneous communities is applied to Buchanan's 'theory of clubs'. In this case, voluntary clubs in which members with identical tastes for public or private goods will work efficiently when the club size approaches to the optimum. Mueller (1984) finds the second theory more promising than voting with the feet since it does not require physical proximity of members. However, both are required to satisfy the conditions of Pareto-optimality with the right number of individuals with identical tastes.

The empirical public choice literature traces these two axes -median voter and homogeneous communities. One part employs median voter hypothesis to explain government expenditures. (see for example, Borcherding and Deacon, 1972; Bergstrom and Goodman, 1973) The other route searches the relations between local expenditures and community characteristics. (8)

2.2.2 Normative Theories of Public Choice

As stated by Mueller (1984), normative theories basically deal with the interpersonal utility comparisons to attain a social utility function. Rawls' Theory of Justice is one of the most controversial theories in this school. The core concepts of this theory can be summarized as; 1) the liberty which is prior to all other goods and can not be compensated by other goods, 2) among goods of a given priority class, inequalities should be permitted only if they increase the lot of the least well off. This is called the maximin principle -maximizing the minimum welfare level. (Rawls,1974; Arrow, 1984:99) Rawls (1974) defines the original agreement as a conception of social judgement which is determined by the basic structure of society - economy, social and political institutions. However, Arrow (1984) points out the operational problems of interpersonal utility comparisons and the determination of the original position that should be improved by the maximin principle.

Second track in the normative theory is developed by Buchanan and Tullock (1962) who assume that individuals would make collective choices on the predefined rules by constitutional agreements. This approach seems to get close to the further implications of Pareto-optimality which claim that interpersonal utility comparisons are done by each individual for social decisions on the basis of the 'constitution as a social contract'. (Mueller, 1984) Here, it should be noted that the necessary conditions for the maximization of social welfare constitute its relation to the public choice literature. However, the choice of the one of the possible Pareto points needs an explanation on value judgements or ethical postulates and "the possibility arises of there being as many social welfare functions as individuals in the community". (Mueller, 1984) Head (1970) discusses the rationale of these value judgements. (9)

Arrow (1970:20) defines ethical norms and values as the reactions of society to compensate for market failure in order to provide commodities to which the price system is inapplicable. Here, the social welfare function is defined according to the community norms and values about a fair or just distribution. His axioms on value judgements and collective rationality are considered as the basic principles of a community to construct the constitution or social contract. These are summarized by Mueller (1984) as; 1) unlimited domain - all possible orderings of individual preferences are allowed, 2) the Pareto postulate, 3) transitivity - the social welfare function gives a consistent ordering of all feasible alternatives, 4) non-dictatorship -no individual enjoys a position such that whenever he expresses a preference between any two alternatives and all other individuals express the opposite preference, his preference is always preserved in the social ordering, 5) independence of irrelevant alternatives -the social choice between any two alternatives shall not be affected by preferences over any other alternatives.

Arrow (1984:72-73) states that no social welfare function satisfies these 5 postulates simultaneously and finds the principles of collective rationality and independence of irrelevant alternatives questionable. (10)

As stated earlier, positive public choice is more relevant for the allocation decisions whereas normative is for the distribution. For the rules of distribution, a social welfare function which reflects the collective choice is needed. Arrow (1984) sees this need as the core of new welfare economics. According to him,

> "the positivist works within a set of fixed rules and value consensus, and favors maintenance of the existing rules in the absence of clearly expressed preferences for change. The welfare theorist - i.e. normative- attempts to define the rules to be imbedded in an ideal (perhaps new) constitution and sees no reason to give previous rules preference ". (Mueller, 1984:54)

2.2.3 Interest Groups and Marxist Theories

This group of theories assumes different weights of powers and interests of different groups in the society. Since it can be seen as a variation in the process of collective choice, it is preferred to be considered within the public choice theories considering its relations to the positive and normative public choice literature. This does not mean to undermine the theoretical potential of this group of theories. The simplification is required only to cover the relevant aspects for this study.

One aspect of this theory is the concept of 'differential voting' that indicates different voting powers of different groups. The voting power depends on economic and social factors in such a way that the upper income groups are more effective in the voting process. By means of bargaining power, a dominant coalition may affect the voting results. (Atkinson and Stiglitz, 1989)

The other aspect of the power of interest groups is their effects on the legislation and bureaucracy that influence the collective choices. It is more likely that organized interest groups can defend their interests better than the unorganized individuals. In this situation, the process reminds the Buchanan's theory of clubs mentioned in Section 2.2.1.

In Marxist class theories, group membership is defined by the individual's role in the production process. At one extreme of the Marxist theory "the state is simply a reflection of the power of the class elsewhere in the economy, and fiscal decisions are made in such a way as to further the interests of capital". (Atkinson and Stiglitz, 1989:319) This is an 'instrumentalist' view of the state. In this framework, O'Connor (1973) evaluates the growth of state "as a response to crises of capitalism" for the reproduction of capital. (11) He (1973:86) further states that the special group interests are even more powerful at the local level where local business and capital structure widely affect and even control the local government's action. Blankart (1983) suggests to simplify the problem of participating and conflicting groups in the collective decision-making process by analyzing the outstanding pairs in the process.

As stated before, these approaches can be seen complementary in the analysis of the distribution of public goods in relation to the social welfare. Since public choice theories - especially the distribution problem- will be distorted by inequitable distribution of power and different accesses to political system and wealth, theories on interest groups might be helpful to fill the gaps.

Although this is a limited survey on the extensive literature, it is referred to obtain some clues for further investigations on the allocation and distribution of public services.

It should be noted that most part of these theories are demand-driven and supply side is ignored until recently. According to Arrow (1984), there exists no basis for government action without a rule which is formed by bureaucracy. The theory of bureaucracy which is developed to explain the supply conditions of public sector (Buchanan, 1991) is discussed in Chapter 3, when the role of local bureaucracies on the distribution of urban public services is analyzed. (12) This problem is dealt with through its relation to the provision of urban public services, after a discussion on the allocation and distribution functions of public sector.

2.3 The Role of Allocation and Distribution of Public Goods in Social Welfare

Allocation and distribution of public goods refer to different functions of the public sector. The allocative function of budget policy includes the provision for public goods and resource allocated for this provision. How the total resource is divided between private and public goods and the mix of public goods are the main concerns in the allocation function. The distribution involves how income and wealth are distributed in the society. (Musgrave and Musgrave, 1989). For the public sector, the distribution of public goods and services serves the objective of a just distribution among the community members. (13) O'Connor (1973:159) notes the problems of the capitalist state in terms of allocation and distribution functions stating that,

> "unrestrained capital accumulation and technological change create three general and related economic and social imbalances. First, capitalist development imposes great stresses and strains on local and regional economies; second, capitalist growth generates imbalances between various industries and sectors of the economy (particularly, the monopoly and competitive sectors); third, accumulation and technical change reproduce inequalities in the distribution of wealth and income".

The theoretical distinctions between allocation and distribution are classified by Bergstrom and Corres (1983) by means of the differences in economic outputs of these functions. However, they are closely interrelated in terms of their consequences on each other. Musgrave and Musgrave (1989) point out the problems of accepting a given distribution to begin with the allocation of public services. Although the efficient use of resources and just distribution pose different policy problems, they have to be solved simultaneously. Musgrave and Musgrave (1989) find this procedure infeasible since these two functions require different criteria for the measurement of the performance of the decision-making body. Additionally, Musgrave (1970) proposes an allocation on the basis of individual preferences rather than the imposed ones of the governing bodies.

Buchanan and Tullock (1962:194-95) define redistribution as a Pareto-optimality at a different level of decision-making which is determined by the 'desirable' amount of the constitutional choice of the society. Apparently, this process requires established rules and values as the social contract which brings out the same problem of defining optimality in the Pareto criterion. In addition to the Pareto principle, Arrow (1984:27) proposes a second condition for the distribution of public services that is "a universally accepted ordering" of different possible welfare distributions in any given situation. This ordering may be one of the possible Pareto-frontiers as stated by Head (1970) and it usually takes an egalitarian form which Musgrave (1970) refers to as a Pareto-optimal state of distribution.

Furthermore, Arrow (1989:28) notices the differences in tastes of individuals who share the common value system. "Therefore, the given ethical system is a rule which selects a social state as the choice from a given collection of alternative distributions of goods as a function of the tastes of all individuals". He (1989) rejects to utilize a value judgement for tastes of individuals with the belief that the distribution should be based on tastes rather than the values about these tastes. However, the determination of distributional rule remains unsolved. This calls the government to become a second level of decision-maker on social welfare as a bureaucratic structure. In this framework, Jones and Kaufman (1974:337) claim that the "distribution concerns what kinds of people enjoy the benefits of governmental activity and what kinds suffer deprivation because of that activity".

At this point, the distribution is defined in relation to the allocation and social welfare. The distribution of urban services and the relevant distributional rules take place in Chapter 3.

NOTES

1) The situation which leads to market failure for private and governmental failure for public goods can be seen in the table below.

Table 2.1 Public and Private Good Characteristics

consumption	exclusion	
	feasible	not-feasible
rival	1	2
non-rival	3	4

Source: Musgrave and Musgrave (1989:44)

The goods in the first category are private goods where the consumption is rival and exclusion is feasible. Second and third categories represent the mixed-goods, whereas the goods in the fourth category are pure public.

2) Tobin (1970) qualifies some commodities "where the egalitarian objective is one-sided, not a strictly equal distribution but an assured universal minimum". (from Atkinson and Stiglitz, 1989:341) Food in peacetime, education, housing are used as the examples.

3) see Arrow (1984, pp.117,120) for a summary of the development of the theory.

4) Atkinson and Stiglitz (1989) referring to Koopmans claim that the Pareto-optimality is a misnomer and replaces the term with the concept of Pareto-efficiency. However, in this study, Pareto-optimality is preferred to be consistent with the literature reviewed.

5) Head (1970) argues that the Pareto criterion is just one of the possible varieties of the 'acceptable' welfare approaches that justifies the individual preferences in redistribution process.

6) see Mueller (1984) for a detailed analysis of voting procedures.

7) Zodrow (1983:3)in his overview on Tiebout model, summarizes the results of the model as such;

> "local public services were provided efficiently, since consumers revealed their preferences through their choice of residence and interjurisdictional competition assured that local public services were provided at minimum cost. Moreover, since jurisdictions were homogeneous with respect to tastes for public services, all local public choice problems were eliminated".

8) see Section 3.2.2 for this group of research.

9) see also note 5.

10) For the development of the theorem following the relaxation of the mentioned postulates see Mueller (1984).

11) According to Tekeli (1991:146-147), "the decision on the quantity, allocation and consumption of public goods are determined by the political process in a capitalist production system. Their role in capitalist reproduction is the key factor in this process".

12) Here, it would be sufficient to mention that the theory of public bureaucracies explains the distributional problems in the service provision as the "unintended consequences of bureaucratic activity". (Jones, et.al. 1980:229) Empirical evidences by Jones and Kaufman (1974), Jones (1977) and Mladenka (1989) can be seen in Section 3.1.2.

13) For the technical aspects of the distributional impacts of public goods, see Brennan (1967). According to Musgrave (1970), distributional justice basically relates to the distribution of welfare, rather than income which is more appropriate for public goods where the pricing mechanism is not relevant.

CHAPTER III

URBAN SERVICE PROVISION: CONTRIBUTIONS FROM THE THEORY OF PUBLIC GOODS

Urban public services can be considered as the elements of urban structure which is a complex system of economic, political and ideological processes. Before considering the problem of service distribution among citizens, a brief explanation on urban services in the urban system is required. Castells (1979) points out that the role of urban services in the urban structure is twofold, production and consumption. The production process of services provides the reproduction of objects of labor and the means of production in urban space, where the consumption serves to reproduce the labor power. He (1979:130) separates the simple and extended reproduction of labor utilizing the housing as an example for the first, and socio-cultural environment for the latter. The need of the reproduction of capital and labor in the urban system partly explains the public provision of urban services. However, most of the urban services are traditionally defined as public goods because of their impacts on income redistribution among citizens. Hence, they may be considered as the instruments for redistributive policies in the direction of collective choice. Jones, et.al. (1980) state that for historical and other reasons some services such as education and sanitation are in the public domain which could, in principle be provided privately. The historical trend in service distribution could also be related to the need for the reproduction of labor. Whatever the reasons of public provision, urban services exhibit some common features on the related policy structure it is based. In this chapter, these features are examined.

3.1 Characteristics of Urban Service Provision

Urban services are provided by different levels of public sector in various countries depending upon the organizational and hierarchical structure of central and local governments. Political and economic factors are also effective on the provision of services and providers. The conflict of public versus private provision of urban services that is on the agenda in recent years is a consequence of the negotiation between these factors rather than the service characteristics.

The distinction between provision and production of public goods mentioned in Chapter 2 has a great importance in an analysis on the provision of urban services. As Stein (1989:112) suggests,

> "Service provision refers to the choices of goods and services that will be made available to a city's citizens and the decision rules for financing and regulating the consumption and use of these goods and services. Service production identifies the method(s) chosen to fulfill this obligation".

The quantities and quality standards of services provided are the decisions related to the provision. (Parks and Oakerson, 1989:21) Major urban public services which are extensively agreed upon can be seen in Table 3.1.

Table 3.1 Major Urban Public Services

Protection services:
- Criminal justice system
- Fire protection

Human resources development services:
- Education
- Recreation
- Cultural activities
- Health
- Welfare

Sanitation services:
- Sewage disposal
- Refuse collection
- Water

Street services:
- Construction
- Maintenance
- Lighting
- Cleaning
- (Transportation system)

General government services:
- Executive branch
- Legislative branch

Source: Hirsch (1973: 302)

The most important aspect of urban public services is their distribution in urban areas which may vary due to the service characteristics. There are basically two types: fixed and immobile facilities like parks and libraries, and the services delivered directly to the citizens like police and garbage collection. First group is generally capital intensive whereas the second is labor intensive and mobile. Thus, for the first group of services user mobility has a greater importance. (Lineberry, 1977:105) A classification of urban services from this respect can be seen in the Table 3.2.

Table 3.2 A Basic Classification of Services

Type	Distribution system	Examples of services
1	From many origins to few destinations; single or multiple-purpose journey	1 Hospitals 2 Schools 3 Libraries 4 Clinics 5 Welfare offices 6 Voting areas
2	From few origins to many destinations; single purpose journey	1 Fire stations 2 Police stations
3	From few origins to many destinations; servicing several destinations on a single journey	1 Garbage collection 2 Mail delivery and collection 3 Police surveillance 4 Snow removal
4	Few central points which serve areas, linkages may be by physical transmission of goods or services, or by information networks including mail, telephone, radio or television.	1 Taxation units 2 Jurisdictional area 3 Pollution control 4 Planning districts

Source: Massam (1975:3)

As mentioned earlier, the apparent relationship between the welfare of the citizens and urban services makes the spatial distribution of services important. Lineberry and Welch (1974) point out that the 'quality of urban life' is determined by urban services. Moreover, Lineberry (1977:14) sees the public service decisions as "fundamentally redistributive mechanisms" or "hidden multipliers of income". As the distributional justice is a central theme in community welfare, the allocation of local public services to particular jurisdictions may lead to conflicts between equity and efficiency criteria, while in the raising of finance from local taxes, major disparities in taxable income (wealth) may prevent equity even if it might be efficient in aggregate terms. (Walker, 1981:204)

However, before elaborating on performance criteria, one needs to be informed about the theory of local public goods to clarify the spatial character of urban service provision.

3.1.1 The Theory of Local Public Goods

When the theory of public goods is concerned, the limits to benefits which are confined to a community is also mentioned. Despite the possible spillovers to neighbouring communities, the local public goods are mainly accessible to the local population of one community. The theory of local public good is developed over Tiebout's previously mentioned model - voting with the feet - in which the "consumer mobility and competition among local jurisdictions result in an efficient allocation of resources to the local public sector". (Zodrow,1983:1) This model has led to important developments in the public good literature. (1)

However, this model is still important for the analysis of local service provision. It assumes that the consumers have perfect information on local policies and are perfectly mobile. Another assumption is that there are no externalities. All communities are formed by individuals with homogeneous tastes for public services,

> "since consumers reveal(ed) their preferences through their choice of residence and interjurisdictional competition assures(d) that local public services are(were) provided at minimum cost. In this relation, each community try to attain and maintain its optimal size". (Zodrow,1983:1)

This approach seems to solve all problems of local public goods through the choice of homogeneous communities. (2)

However, Stiglitz (1983) notices that there are few pure local public goods as well as the pure public good (3) and he finds an element of 'privateness' in local public goods since the good may be purely public in a community where it is like a private good between communities since outsiders have no benefit. In searching the conditions of Pareto-efficient equilibrium for local public goods, he (1983:24) raises three questions; "a) whether the number of communities is correct, b) whether the allocation of individuals among communities is correct, and c) whether the level of expenditures on various public goods within a community is correct". (4)

According to Atkinson and Stiglitz (1989), there is no necessary reason why some services should be provided by local rather than central government although practically local governments are generally responsible for the provision of local public goods. Hochman (1990) claims that the efficiency of local governments necessitates the provision of local public goods.

Despite the extensive criticism on the assumptions of Tiebout's hypothesis, the model is very influential on the urban service literature. Lineberry (1977) calls attention to the role of service level and quality on the users tastes and preferences and figures out the options of consumers in which 'voting with the feet' is one of the possible alternatives. (see Figure 3.1 below)

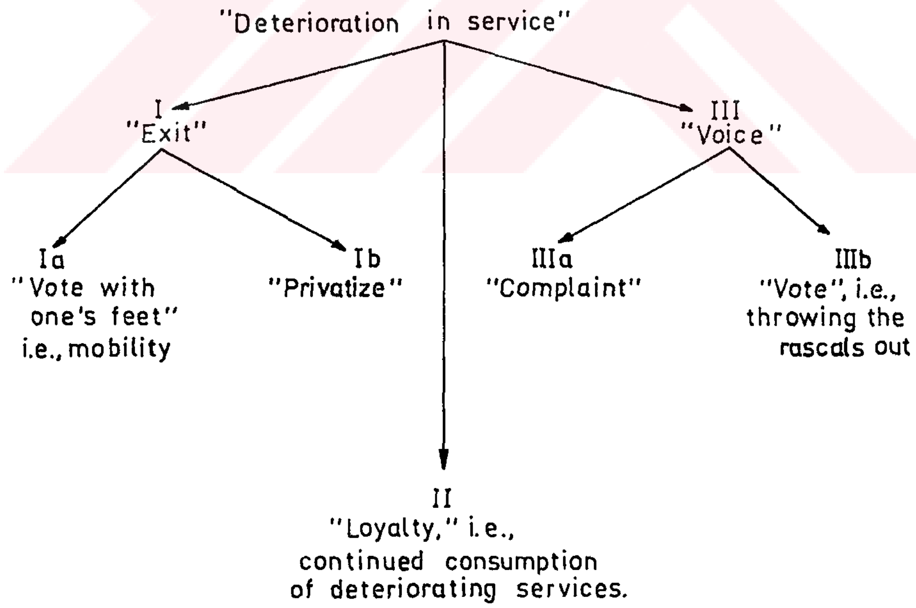

Figure 3.1 Exit, Voice and Loyalty Options of Consumers
Source: Lineberry (1977:170)

However, the distribution of urban services can partly be explained by the theory of local public goods as the decisions are rather political than being economic. Factors which influence the distribution of urban public services other than the local character of them take place in the following section.

3.1.2 Factors Influencing the Distributional Patterns of Urban Public Services

When the emphasis is on the distribution process, the performance criteria should be different than the production or delivery of the services. As the details of the performance criteria can be found in the Section 3.2, here, it is sufficient to mention the normative character of distributional patterns, needed for a political approach rather than an economic one. As mentioned by Lineberry (1977:708), there is "no distributional standard which does not involve normative considerations". Any decision of service distribution should first answer the question 'who gets what?', which is apparently a normative one. The problem lies in the contradiction between equality and Pareto-optimality since "any redistribution of services to maximize equality would be inconsistent with the optimality principle because it would necessarily make the advantaged worse off". (Lineberry, 1977:710) This contradiction brings out a need for a political decision on service distribution.

However, even political approaches are weak to explain the formation of distributional patterns. For the possible patterns of service distribution, Jones and Kaufman (1974:341) propose the service distribution as a function of:

> "1) the amount of resources available to the distributing governmental jurisdiction, 2) the composition and distribution of the population, 3) the number and intensity of political demands directed at decision-makers by the consumers of public services, 4) the needs of urban dwellers, and 5) the inclinations and 'service ideologies' of decision-makers and the institutional arrangements which constrain their actions".

Each of these factors can be evaluated separately to have further information on their influences on the service distribution;

1) The resources available affect the overall service level which may explain the allocation pattern rather than the distribution. As stated by Jones and Kaufmann (1974), overall level of services is a function of available resources where the distribution of services among neighbourhoods is not.

2) Geographical concentration of socio-economic characteristics of users may explain some part of the service distribution patterns. Tiebout model seems to be valid when the geographical areas with homogeneous populations are served by local governments.

3) Political demands of users explain a little of the service delivery patterns where the elected officials' role in the

service structure is limited in most cases. (5) Jones and Kaufman (1974:345) point out the relations between population characteristics and political demands. Upper-income and status people have more access to the political process that influences the pattern of service distribution. Thus, the power groups utilizing various means from voting to active intervention in policy-making are expected to be more effective in the distributional patterns. However, as indicated by various studies (6), the distributional pattern for most of the services appears to be unbiased. Rich (1979:145) referring to the empirical evidences suggests that "the factors other than class most often determine the distribution of municipal services".

4) Needs are also related to the population characteristics and must be reflected in the demand of citizens to be effective in the distributional patterns. Otherwise, the level of the need for a particular service is defined by the "real or anticipated deprivations associated with the absence of the service" (Jones and Kaufman, 1974). For instance, a high crime rate indicates a higher need for the police service. However, even when the need of citizens is considered in service distribution, they are defined by the providing organization.

Rich (1979) concludes that the population, neighbourhood and geographical characteristics are all effective in the distributional patterns, but their significances are interpreted by the municipal bureaucrats in such a way that the allocation decisions are kept unrestricted. Similarly, Lineberry (1977) points out the limits to sociospatial explanations for distributional pattern as the demand, need and pressure of citizen groups are the effective factors as well as the professional norms -i.e. equality. The rules of distribution that may clarify these norms are evaluated in the following section.

As a result, it is claimed that the study of urban bureaucracy is more important for understanding the distribution of urban services than the study of local politics. (Rich,1979) The rough equality in service distribution -or unpatterned inequality as called by Lineberry- seems to be the consequence of bureaucratic decisions rather than a product of political choice.

3.1.3 Rules of Distribution

For a broader understanding of the rules of distribution, principal hypotheses for the distributional patterns can be investigated. Lineberry (1977) proposes three basic hypotheses which may explain the distributional patterns;

1) The underclass hypothesis: It claims that the distribution of urban services are biased against the minorities -race preference hypothesis-, the poor -class preference hypothesis- and the powerless -power elite hypothesis- that are likely to be overlapping groups in the city.

2) The ecological hypothesis: Claims that the geographical properties of the area, such as the age, density and

some physical properties determine the distribution of urban services.

3) The decision-rule hypothesis: Claims that the routines of the politics or bureaucracy determine service distribution. Service delivery rules as the routinized allocation decisions affect the distributional pattern implicitly or explicitly.

Despite the multicollinearity among these hypotheses noticed by Lineberry (1977:67) himself, there is a wide consensus about the fail of the underclass hypothesis. Lineberry (1977) calls this the "limits to the power of the power structure". The decision-rule hypothesis seems to dominate the other two;

> "while the nature of the rules may be influenced by macropolitical considerations (the mayor's policy, council directives, positions taken by interest groups organized on a citywide basis, and so on) many rules seem to be set within the organization itself... The existence of a rule for service provision can even be a defence against disruptive citizen demand from the neighbourhoods". (Jones, 1977:301)

In this process, the ecological hypothesis and population characteristics may help to form the rules as a rationale for the routinized allocation of services. After a review of the factors underlying the distributional rules, the rules themselves may be more meaningful.

Musgrave and Musgrave (1989:75-82) define approaches to distributional justice with the following criteria;

1) endowment based criteria: market prices are taken as the basis for public provision.

2) utilitarian criteria: aim at the maximization of total or average welfare.

3) egalitarian criteria: which may aim at providing an equal welfare of citizens increasing the welfare of the lowest level (Rawls' theory of justice) or providing a minimum level of consumption for some services as merit goods (categorical equity).

4) mixed criteria: utilitarian and endowment or weighted welfares of different groups can be used together.

Jones and Kaufman (1974) propose four criteria for the distribution of urban services as; 1) the equality of service distribution (input equality) 2) the equality in condition (output equality) 3) pressure and response of the citizens 4) linear distribution (non-discriminatory) as a response to any needs and demands of citizens.

According to Lineberry (1977:187),

> "direct allocations follow a 'them that has gets' pattern, compensatory allocations advantage the least well-off in private sector resources; and equal patterns give proportionate shares to neighbourhoods regardless of their income or

status...Those who favor <u>redistribution</u> as a social value will support compensation".

Any criteria to be applied is a matter of normative judgement of decision-makers. Further information on the operational measures of service distribution, performance criteria take place in the following section.

3.2 Performance Criteria for the Provision of Urban Public Services

The difficulties in the measurement of urban public services are pointed out by many researchers referring to the complexity and normative character of the criteria chosen for measuring the service output. (7) For public services, efficiency, effectiveness and equity are the major criteria in measuring the performance. A simple approach that can separate equity and efficiency is not possible due to their implications on each other. At this point, performance criteria for public services should be investigated to clarify the relations among them.

Efficiency measures the ratio of service output to service inputs. When distribution is concerned, the allocation of the services that affects the overall welfare level and the spatial distribution of the services that affects the individual welfare are more important compared to the productive efficiency. As stated by Savas (1978:801-802) inputs are easily defined in this measurement whereas the output measurement necessitates multiple measures. (8) Efficiency and effectiveness sometimes coincide with each other. Effectiveness "measures how the need for the service is satisfied and the extent to which unintended adverse impacts are avoided. It is a measure of adequacy of service quality". Rich (1979) defines effectiveness as the fit between the services provided and the services citizens desire. It is difficult to measure effectiveness especially in public services. There are two ways of measuring effectiveness; one is to survey the level of citizen satisfaction, the other is direct observation of output, such as clearance rate for police effectiveness and number of fires per capita for fire prevention. The second way might be easily connected with efficiency. Yet, "a service can be efficient but ineffective: alternatively, it can be effective but inefficient". (Savas, 1978:802)

Equity is the third criterion. It refers to the fairness of the service. Its relation to the other criteria -efficiency and effectiveness- is rather weaker than their relation to each other. "A service can be efficient and effective but it could be perceived as inequitable if it fails to treat all segments of the population similarly". (Savas, 1978:803) He (1978) further claims that equity is a concern of political scientists, while efficiency and effectiveness are the important issues of management scientists. It might be due to the normative character of equity, even though the measures of effectiveness are sometimes normative. However, equality in service distribution is a popular issue in recent years since spatial distribution of a service is not meaningful disregarding the population it should serve. Four general principles can be applied to the allocation of public services in order to consider the equity: equal payments, equal outputs, equal inputs and equal satisfaction of demand. Each of them has some merits and deficincies in terms of equal distribution.

Principle of equal payment implies that the service is funded by user charges. Equal payment for equal services received is the formulae that should be applied for this principle. However, it is difficult to identify direct beneficiaries due to the existence of external costs and benefits. It is also debatable whether equal payment or ability to pay should be considered for the equal amount of service. (9) Equal output implies that unequal inputs are likely to be devoted to achieve equal outputs and justice in allocation of resources is not concerned. (Lineberry, 1977:709) This means the equality of condition after receipt of the service and may lead to complaints about the allocation of inputs that might be an important burden for the decision-makers. Equal inputs can be applied on three bases: per district, per unit area and per capita; each creating problems in equity since population, density, and population characteristics are determinant, respectively. (for the service examples of each case see Savas, 1978) Equal satisfaction of demand depends on the equal inputs per unit of demand, per complaint and per politically weighted complaints, all widely used in practice. The problems related to the last measure are the difficulties in determining the true indicators of demand and political pressures of interest groups.

According to Wolman and Goldsmith (1990:5), distribution of community well-being can be measured by two objective standards as;

> "the extent to which the distribution diverges from equality; the closer to equality, the more just the distribution of well- being. The second objective standard is the extent to which a community's distribution of well-being diverges from prevailing community norms about the appropriate distribution".

Thus, the first objective mainly deals with the equal distribution of well-being -i.e. local public services- regardless of how they are provided and financed, while the second one covers the community's expectations and norms about service provision. As a result, the first objective can be matched with the equal output principle, whereas the second with the equal satisfaction of demand.

Equal output can be connected to the equal satisfaction of demand since the performance is measured by the 'impacts' of the service on individuals with different needs and tastes. As stated by Rich (1979:148), "equal services to unequal consumers can produce extremely unequal outcomes". He (1979) points out the social implications of a given distribution.

Here, equality and equity should be differentiated to separate the output and outcome or impact equality. "Services are <u>equally</u> distributed when everyone gets the same service. They are <u>equitably</u> distributed when citizens are in a more nearly equal life circumstance after receiving the services than before". (Rich, 1979:152) (10)

The quality of the services provided should be another concern within the equality of service outcome. The service quality saliently influences the level of services received.

Lastly, when the need or consumer preference is evaluated, it is noticed that they help to rationalize the "deviation from egalitarian standards in the direction of compensating for private sector inequalities". (Lineberry, 1977:189) Thus, the private service opportunities should also be considered in the public service distribution.

However, since equity is a matter of values, application of the mentioned principles heavily relies on the expectations and beliefs of the decision-makers as mentioned in Section 3.1.2.

As a result, selection of performance criteria can be considered as a normative policy matter. Yet, whatever the distributional choice is, an output measure is required to evaluate the performance of the service provision and distribution. Various proposals on output measurement are summarized in the following section.

3.2.1 Output Measurement

Due to the difficulties in the measurement of service output especially when the provision is free or subsidized, some indicators are developed. These should be in units of output (approximately) for any meaningful comparison among different communities, since other conditions such as population and geographical characteristics are not given. Lineberry and Welch (1974) note the need for 'substitute measures' that might be correlated with service output or quality. In Table 3.3 the examples of these proxy indicators can be seen for various public urban services.

3.2.2 Local Expenditure Models

Since all public services are mixed (quasi-private) in character as mentioned in Chapter 2, publicness degree which is defined by the congestibility of the good is utilized as a tool to determine those services that should be in the economic domain of the public sector. In this respect, 'technical' definition of the public good may help to explain the consequences of the collective choice or political decision. Congestion level which is directly correlated with population size, is employed as an indicator of publicness degree in various empirical studies. (Oates,1988 and Mcmillan, 1989)

Table 3.3 Selected Local Public Service Output Proxy Indicators

A. **Indicators of Input Quantity (Relative to Potential Demand)**

Police patrolmen / population
Pumper companies / population
Pumper companies / sq. miles
Ladder companies / multistorey buildings (or population density)
Fire hydrants / miles of streets
Library books / population
Library staff / population
Park and recreational acreage / population
Park and recreational facilities / population
Park and recreational supervisory personnel / population
Maintenance personnel / park and recreational acreage
Housing units with access to public water supply / total housing units
Housing units with access to public sewage system / total housing units
Miles of storm sewer / miles of streets
Storm sewer inlets / miles of streets
Miles of drainage channels cleared / miles of drainage channels
Miles of paved streets / total miles of streets
Miles of streets resurfaced / miles of paved streets
Curb miles swept / miles of curbing
Miles of grading / miles of unpaved streets
Miles of sidewalks / miles of streets
Street lights / miles of streets
Lighted intersections / total intersections
Miles of bus routes / miles of streets (or sq. miles)
Maintenance personnel / public cemetery acreage

B. **Indicators of Input Quantity (Relative to Expressed Demand)**

Police patrolmen / reported crimes
Police patrolmen / calls for police assistance
Pumper companies / building fires
Pumper companies / fire alarms
Ladder companies / multistorey building fires
Teachers / students
Specialized staff / students
Classrooms / students
Library books / library books borrowed
Library staff / library users
Park and recreational acreage / park and recreational area users
Park and recreational facilities / park and recreational facility users
Supervisory personnel / park and recreational facility users
Bus seats / bus passengers (during peak hours)

C. **Indicators of Input Quality**

Caliber of police patrolmen (training, experience)
Caliber of school teachers (training, experience, verbal proficiency)
Non-temporary classrooms / total classrooms
Quality of public buildings (soundness, attractiveness, air conditioning)

Quality of recreational facilities (swimming pools, tennis courts, etc.)
High intensity street lights / total street lights
Quality of buses

D. **Indicators of Service Delivery Quality (from the Consumer's Perspective)**

Conduct of 'street-level' personnel
    effectiveness, carefulness, evenhandedness, etc.
Demeanor of 'street-level' personnel
    (friendliness, courteousness, respectfulness, etc.)
Frequency of service
    Frequency of preventive police patrols
    Frequency of library bookmobile service
    Frequency of trash and garbage collection
    Frequency of bus service ('headway')
Promptness of service
    Average police response time (to various types of calls for assistance)
    Average response time of first- arriving fire company
    Promptness of snow removal
Reliability of service
    Average water pressure
    Missed trash and garbage collections / total collections
Range of service
    Scope of educational curriculum and auxillary programs
    Range of library services
    Range of supervised recreational programs
    Range of recreational facilities (playing fields, swimming pools, etc.)
Proximity of service facilities
    Schools, libraries, parks, and recreational facilities
Direct service costs
    'One-way' vs. 'cross' bussing
    Facility user fees and admission fees
    Curb vs. rear - of -house trash and garbage collection
    Acres of land fills and garbage dumps / sq. miles
    Miles of expressways / sq. miles
    Bus fares

E. **Indicators of Community (Neighbourhood) Service Facility Condition**

Condition of public buildings (cleanness, state of repair)
Condition of park and recreational areas (cleanness, attractiveness)
Condition of park and recreational facilities (cleanness, state of repair)
Frequency of street flooding
Smoothness of streets
Cleanness of streets
Nighttime light level at street intersections
Condition of buses (cleanness, state of repair)
Condition of public cemeteries (cleanness, attractiveness)

F. **Indicators of Community (Neighbourhood) Conditions**

Victimization rates
Reported crime rates

Theoretically $Z_i^* = Z_i/N^{\phi}$

Where Z_i^* - local service i accruing to the individual

Z_i - aggregate amount of service i

N - population

ϕ - congestion parameter

and $0 <= \phi <= 1$

When $\phi = 0$, $Z_i^* = Z_i$ - the service is a pure public good

$\phi = 1$, $Z_i^* = Z_i/N$ - the service is a pure private good

The value for ϕ is calculated from the estimated elasticity of expenditure with respect to the population, α, and the estimated price elasticity β, such that:

$$\phi = \alpha/(1+\beta)$$

Here, the main concern should be the marginal cost of sharing -hence, allocative efficiency- rather than the productive efficiency since, as stated by Craig (1987a:333), "as population increases, for example the marginal cost of sharing (in terms of lost service) of the locally provided public service rises".

Municipal output is not always measured by service expenditure level due to the discrepancy between expenditure and service levels in terms of both allocated input and service output. Schmandt and Stephens (1960) in their distinguished analysis on service output, have made an attempt to define service output not in terms of expenditure level or inputs, but by the number of distinct "subfunctions" provided in the municipality. Thus, municipal services are separated into subfunctions in order to cover all possible levels of service output. Then, congestion measures could be more detailed since their approach permitted the measurement of congestibility of subfunctions as well as the main function. (for further details see Schmandt and Stephens, 1960 and Craig, 1987a, 1987b who utilizes a similar approach, by defining intermediate output of the services) In his empirical analysis on police and safety as the local public goods, Craig (1987a:333) defines a production process in which "the publicly purchased input (police) produces an intermediate output (arrests)". In this study, final service output is determined as safety and congestion is expected at one of these production levels. In the production process, the allocation of inputs is the determinant and a strong relation exists between the allocation of inputs and the output level. In the case of police service, production function of intermediate input (clearance rate) and final output (safety) is represented as:

$$F_i = f\ (L_i,\ Y_i,\ N_i)$$

where F_i is the clearance rate (percentage of crimes cleared), L_i is the level of police provided by the city, Y_i is a vector of physical environmental variables and N_i is the population level in the neighborhood. Consequently:

$$G_i = f\ (F_i,\ X_i,\ N_i)$$

where G_i is the level of safety per capita, X_i is a vector of environmental variables that produce safety that may not be same as those in Y_i.(Craig, 1987a:336) From the analysis, he concludes that final output (safety) is not contestable, whereas the intermediate input (clearance rate which is simultaneously an output of expenditure on service) is, since local public sector must increase its allocation of police in accordance with the population in order to maintain a constant clearance rate. The contribution of these empirical studies is to provide evidences on local public goods that are much beyond the expenditure analysis. As a result, a local public good is expected to be contestable at least at some production levels. A further contribution comes from Murthy (1987:270) who concludes that:

> "for a pure public good, and a quasi-public good, the elasticity of expenditure with respect to population is greater than unity. This implies that if population expands, expenditure on municipal services will increase more than proportionately. However, in the case of private good, the elasticity of expenditure with respect to population will be equal to unity".

Numerous studies on measuring congestion of local public goods indicate different results for the same services depending on the local conditions and population characteristics. (see Edwards, 1986 for New York; Mcmillan et al, 1981 and 1989 for Ontario and Swiss municipalities, respectively) Inman (1979:285) claims that "with only few exceptions, all local public services are price inelastic against the four alternative price variables. The estimated personal income elasticities of demand for local services are also generally less than one". Exceptions are housing and urban renewal ($\sim$1.1), parks and recreation ($\sim$1.0), welfare ($\sim$1.2) and investments in future public service ($\sim$1.1). However, the clues as to the publicness degree of certain services can be attained from Table 3.4 which indicates the income and other significant elasticities for certain services.

Table 3.4 Elasticities of Preference for Public Goods and Services

	Income elasticity	Other significant elasticities		R^2
Unemployment compensation	-4.1283 (1.9101)	Children Occupation	.0319 (1.8268) .0270 (1.593)	.9872
Hospital	-.0613 (.4214)	Age	.0933 (3.19211)	.6525
Welfare subsidies	-.6529 (.7165)	Occupation	-.2114 (2.327)	.7922
Highways	.6421 (.6142)	Age	-.1231 (2.3121)	.6129
Mass transit	-.0742 (2.2121)	Age Children	.2120 (2.057) (1.9128)	.5703
Prosecutor	2.9509 (3.6136)			.8002
Prison	2.0471 (5.2218)	Occupation	.0124 (1.8294)	.9162
Old-age home	.0317 (1.7212)	Age	.2915 (2.5941)	.4672
Sports facilities	- .1512 (1.8632)	Children	.2033 (2.191)	.5990
Museum	1.5231 (2.1327)	Education	.0829 (4.1642)	.7219
Educational expenditures	1.5826 (1.7313)	Education Children	.2172 (1.5272) .6171 (1.9597)	.7219
Foreign aid	.7172 (4.3191)			.8241

t-statistics in parentheses

Source: Noam (1982:277)

As can be seen from the table, the demand for some public services changes at various degrees with respect to the variables that affect this demand.

For an experimental research on local service performance, there are various methods depending on the performance criteria chosen as the basis of analysis. (11) When the publicness degree of traditionally determined public goods is considered, relevant empirical analysis is imperative. Oates (1988), points out that there are three general approaches for the estimation of congestion level and publicness degree. These approaches are basically depended on the service output index, service expenditure with respect to the population size and output measures. (12)

In order to search for the correlations between service output and population characteristics, service output and local expenditure models are appropriate. However, to represent the service level by expenditure data might be a deficiency. Two basic models that are widely used in the local service analysis are examined in order to derive a relevant combination. In the first model, local operating expenditure on a certain service is considered as a function of population. (McMillan, 1989) Thus,

$$\ln e_k = c + \alpha \ln h + \beta \ln t + \chi \ln y + S \Sigma_j x_j$$

where e_k = municipal operating expenditure on service k

h = number of households

t = tax share of average households

y = average income of taxpayers

x_j = socio-economic characteristics of households

In this formulae, α, β and χ represent the demand elasticities of population, tax share and income, respectively. Service quality is sometimes covered in this equation. Consequently, $\Phi = \alpha / (1+\beta)$ reflects the congestion level of the service. By using operating expenditure on a particular service, this model assumes the scale economies in service provision and/or production. Publicness degree represented by congestion level of the service indicates that the local expenditure increases in accordance with the local population. Hence, the locally provided service i is funded through the taxes gathered from households within the locality. When this assumption is not valid as the Turkish case, a general expenditure model might be preferred. (Gonzales and Mehay, 1985) In this model;

$$\ln E_{ik} = \ln A_o + \alpha \ln P_i + \beta \ln D_i + \chi \ln N_i + \delta \ln Y_i + \varepsilon \ln I_i + \ldots\ldots$$

where E_{ik} = total municipal spending for service K in municipality i

P_i = municipal population

Y_i = mean household income

I_i = intergovernmental aid per capita

D_i = population density

N_i = % change in city population

Here α, β, χ and δ represent the demand elasticities with respect to the variables in the model. It is possible to extend both models by additional variables that are relevant for the local characteristics.

However, the results of empirical studies on local expenditure patterns should be cautiously evaluated. Jones (1977:293) indicates the insufficiencies of local expenditure models in explaining the policy process by which the government's behavior leads to a certain allocation of services. Lineberry (1980) points out the differing reasons of high public expenditures on services.

However, without the spatial aspects of local service provision that are the results of both economic and political factors, the technical characteristics of the services -i.e. congestion and publicness parameter- can not reflect the true distribution pattern of services. In Section 3.3 the spatial aspects of the provision of services are elaborated on to complement the local expenditure models.

3.3 Spatial Aspects of Local Service Provision

3.3.1 Optimal Level of Provision

Externalities are defined as the consequences of jointness of public goods since the exclusion is not possible from consumption. Externalities or spillovers are unavoidable by definition. Yet, according to Goldin (1977), selected access is valid for externalities as well as the public goods. He claims that external benefits are contestable since the exclusion is possible from the group that receives the benefits. Besides, the benefits of local public goods are restricted with a geographical area.

In this context, the concept of spatial externality is proposed by Papageorgiou. (1987) He defines spatial public goods as intentional spatial externalities and congestion as a negative spatial externality. The concerns for external effects and related income redistribution force to seek an optimum urban form or size. He (1987:337-338) proposes two constraints for the optimal city; "first, the city should be self-sufficient, in other words, it should generate at least the income spent by its inhabitants. The second constraint is which expresses the idea that public expenditure cannot exceed a fixed amount". In short, optimal city must be Pareto optimal.

These ideas are directed to the evaluation of optimal jurisdiction size related to the economies of scale for certain public services.

> "If preferences for local public goods are given, the presence of economies of scale in the provision of such goods implies that up to a certain point the supply of them can be increased while each unit provided becomes subsequently cheaper; hence, goods and services exhibiting those characteristics can be provided to larger populations with lower costs for all, and the area served by the agencies providing them extended". (Walker, 1981:186)

In metropolitan areas, there are many jurisdictions where unavoidable spillovers are present in the provision of urban public services.

> "An interjurisdictional spillover occurs when the revenues and expenditures of one government unit are directly affected by decisions of one or more firms, households, or governments in another jurisdiction. These spillovers can cause serious distortions: inappropriate public investments and undesirable distributions of gains and losses among people within or between different urban jurisdictions". (Hirsch, 1973:299)

The most relevant guide in determining the administrative boundaries must be the boundaries of economic activities within the jurisdictions. If this match could not be achieved, administrative regulations of a specific jurisdiction could not cover any economic externality.

Rothenberg (1970:35) states the criteria to evaluate the optimality of local political jurisdictions as; "1) the minimization of political externalities within each jurisdiction, 2) the minimization of political externalities across jurisdictions, 3) the minimization of resource cost of providing public output, 4) the maximization of the achievement of social redistributive goals".

Thus, economies of scale and optimal jurisdiction size are closely connected. Then, the question is to find those services for which economies of scale exist. Hirsch (1973), differentiates urban public services with respect to their production processes.

> "Horizontally integrated services exist when there are a number of 'plants' (or a single

plant) that produce essentially the same service, <u>and a unified policy is pursued with respect to these plants or units</u>. Vertical integration exists when there are a number of successive steps in the production and delivery of the service and circular integration occurs when a number of complementary services are provided by different units". (Hirsch, 1973:327)

According to this categorization, police, fire, education, hospitals and refuse collection are included in horizontal integration, electricity generation and distribution, water production and distribution and sewage treatment in vertical integration and administration in circular integration. The classification of services in terms of scale economies can be seen in Table 3.5, constructed on the basis of empirical evidences.

Table 3.5 Presence or Absence of Economies of Scale in Urban Public Services

Horizontally integrated services:	
Police	No
Primary and secondary education	No
Refuse collection	No
High school education	Uncertain
Hospitals	Uncertain
Fire	Yes, but very minor
Vertically integrated services:	
Water	Yes
Sewage	Yes
Electricity	Yes

Source: Hirsch (1973:332)

Thus, economies of scale is more likely present for vertically integrated services rather than horizontally integrated ones and congestables rather than non-congestables. As stated by Craig (1987a,b), economies of scale might be possible for an intermediate good that is contestable rather than a final good that is non-contestable. Another contribution is Murthy's study (1987), that tries to determine publicness parameters of some local public services for a sample of 41 cities within the period of 1970-1980.

> "Statistical evidence implies that local public output in the forms of total municipal services, police protection, parks and recreation are private in nature. This evidence also points out that none of the expenditure categories and total municipal expenditure, there appear to be economies of scale to city sizes in the provision of these services". (Murthy, 1987:270)

Massam (1975) also points out the differences among services in the analysis of scale economies and referring to Alesch and Bougharty, classifies the services according to their complexity in the determination of scale economies.

These issues constitute a basis for the debates on optimal jurisdiction size and optimum number of jurisdictions for the provision of local public services. This calls the discussion on monopolization and decentralization of service provision.

3.3.2 Centralized vs. Decentralized Provision of Urban Public Services

This discussion should begin with the "decentralization theorem" of Oates (1972) that explains the conditions of Pareto-efficient (optimal) levels of output. The theorem claims that,

> "for a public good, it will always be more efficient (or at least as efficient) for local governments to provide the Pareto-efficient levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all jurisdictions". (Oates, 1972:35).

No scale economies is expected and demand is assumed homogeneous in the localities. Additionally, it is assumed that the residents in the jurisdictions pay for the provision of public services in their localities. Apparently, most of the assumptions are not valid for real cases. From this respect, empirical studies indicate different results in favor of both centralized and decentralized provision. According to Stein (1989:113), decentralized provision of many goods/services, including some redistributive social services, has been shown to be more efficient, effective and equitable than unitary and centralized modes of provision and production. Premus (1977:116) elaborates on the effects of increases in metropolitan population on the optimum number of communities within that region and concludes that;

> "one mechanism for correcting the underprovision aspects associated with positive externalities is for a larger governmental unit

> to subsidize consumption of the good until local demand functions reflect true demand (what demand would be in the absence of externalities)".

Gonzales and Mehay (1985:99) conclude from an empirical study that "other than park or recreation services, there appear to be no economies in consumption for local services nor any economies of density. Larger cities do not appear to be more efficient than smaller cities". A different approach to the problem discusses the effects of annexation on local fiscal power considering interjurisdictional competition among municipalities and concludes that annexation has a positive effect on local fiscal power. (Gonzales and Mehay, 1987) An opposing view comes from Dilorenzo (1981), who analyzes the case of special districts and competition in local public services. His result is that there is not an evidence in favor of annexation. However, Marlow's (1988) results are in favor of consolidation. Bahl and Linn (1992:389) conclude that "the efficiency case for fiscal decentralization is much stronger in industrial than developing countries" and point out the necessity of a relaxation in central control over local fiscal decision-making for the success of fiscal decentralization. Hirsch (1964) adds the importance of physical proximity of the administrative unit and the citizens for certain services.

Here, it should be pointed out that the organizational unit that provides the service need not be the same as the unit that produces it. The optimal (that is the most efficient, effective and equitable) scale of production (that is large versus small) varies with the service.

As a result, the factors behind the decision of centralized vs. decentralized provision of urban public services vary depending on the purpose of this choice. In other words, this issue has a wider scope than merely economic considerations. Hirsch (1973:381) determines 7 criteria for the scale of provision as:

1. Spillover minimization
2. Scale economy maximization
3. Geographical area sufficiency
4. Legal and administrative ability
5. Functional sufficiency
6. Controllability and accessibility by constituents
7. Maximization of citizen participation consistent with adequate performance

Regarding one or some of these aspects, empirical findings could be evaluated in different ways. Newton (1982), proposes the superiority of bigger units -i.e. metropolitan city- due to both economical and organizational advantages in addition to greater opportunity for participation of citizens.

The considerations on the provision of urban public services which are examined in this chapter are related to the characteristics of local government organizations as the providing institutions in Chapter 4.

NOTES

1) Hochman (1990:147) briefs these developments that are extensions of Tiebout's model.

2) Schwartz (1993) points out the limits to Tiebout's theory of voting with the feet indicating the differing tastes for public services in the same community.

3) see Pauly (1970) for various cases for different kinds of local public goods that permit the definition of equilibrium and optimality for each case.

4) Schwab and Zampelli (1987:246) stress the role of income and other socio-economic variables on the expenditures on publicly provided goods and investigate the Tiebout hypothesis claiming that the "efficient consumption may require homogeneous communities, while efficient production may require heterogeneity; overall efficiency would then require a balancing of these two conflicting objectives".

5) see for example, Mladenka and Hill (1977) for an empirical study on recreational services.

6) Lineberry (1977), Jones (1977), Mladenka and Hill (1977) provide examples of unbiased service distribution. Lineberry (1977) finds that the distributional pattern is rather equitable, other than what he calls unpatterned inequality. A comprehensive summary on the determinants of the distributional pattern of the services are also given by Mladenka (1989).

7) see Lineberry (1977), Shoup (1964) and Rich (1979).

8) Even the unit of measurement is debatable, for example, Rich (1979) proposes outcome while Fisk and Winnie (1974) impact, instead of the concept of output, whereas Jones and Kaufman (1974) use impact instead of effectiveness.

9) Equal payment for the equal amount of service will disturb the redistributive character of public services where it is difficult to determine the ability to pay of users.

10) For an application of an equitable distribution, see Toulmin (1988).

11) see, for example, Stein (1989) as an example of functional performance evaluation that compares the service performances of different cities. This approach is appropriate when great variations in service outputs are expected.

12) For further details of each approach, see Schmandt and Stephens (1960); Bradford, et.al. (1969), Gonzales and Mehay (1985), Mcmillan, et.al.(1981); and Craig (1987a,b).

CHAPTER IV

LOCAL GOVERNMENTS AS THE PROVIDERS OF LOCAL PUBLIC SERVICES

As mentioned in Chapter 3, Section 3.1.3, empirical studies on the distribution of urban public services indicate that the bureaucratic structure of local governments is one of the key factors in service distribution. It is extensively proposed that the internal structure of the local organization shapes the service delivery rules just for the sake of routinized procedures that guarantee the provision of services. (Lineberry, 1977 and Jones, et.al., 1980) In this process which heavily influences the distributional patterns, consequences of distribution are not taken into consideration unless a pressure from outside the organization affects the bureaucratic routine. (Jones, et.al., 1980)

The important problem of local bureaucracies in service distribution is the lack of incentive to follow the consequences of their routinized procedures. Lineberry (1977:194) states this problem as such; ".. bureaucracies have very little information about their own service outputs and very little incentive to develop any rationales for their decision rules ... they rarely know the distributive impacts of their decisions". However, this never means that the inequalities in service output are intentional. (see Section 3.1.3 for the empirical examples on the service distribution rules that indicate an unintended inequality (or equality) in service output levels) (1)

The organizational structure of local government plays an important role in the process of service distribution even when the other components that affect the distribution are effective. (see Figure 4.1 for the relationship between the organization and other determining factors in service output level)

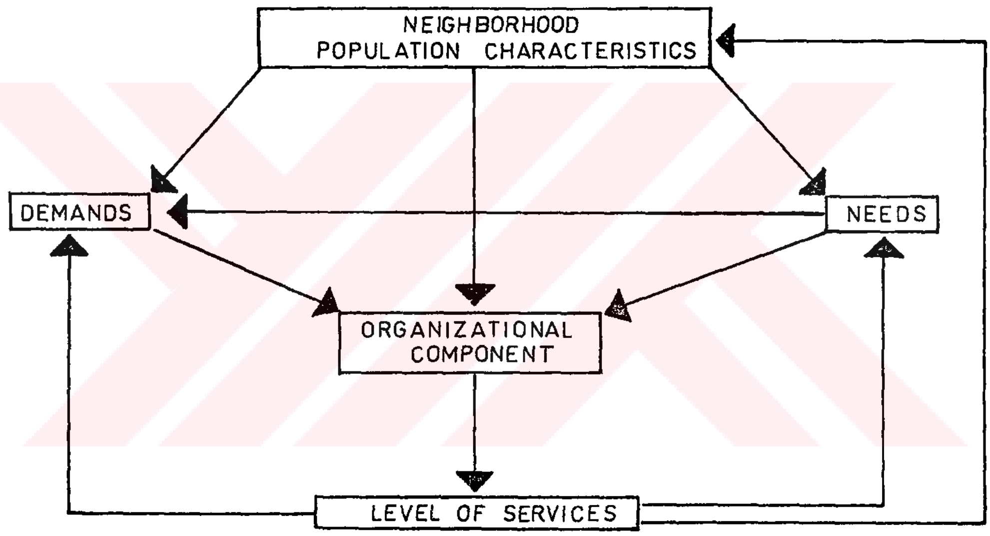

Figure 4.1 The Process of Municipal Service Distribution

Source: Jones and Kaufman (1974:351)

With these considerations, the general framework of financial and organizational structures of local governments takes place in the following Sections 4.1 and 4.2.

4.1 Financial Structure

One of the basic problem areas of local governments that affects their performance in service provision is their financial restrictions. Depending on the jurisdiction and responsibility of the municipalities and their relations with the central government, revenue sources and expenditure patterns may vary. However, there exists typical revenue sources and expenditures that are listed in Table 4.1, Table 4.2 and Table 4.3)

Table 4.1 Major Revenue Sources of Local Governments in Developing Countries

1. Local Taxes
1.1.Real Property
1.2.Personal Property
1.3.Per Capita (Head)
1.4.Business and Professional Services
1.5.Sales
1.6.Excise
1.7.Income or Graduated Personal Tax
1.8.Agricultural Production

Personal Tax

2. Licenses
2.1.Occupational
2.2.Vending
2.3.Business Premises
2.4.Vehicles
2.5.Special Events

3. Patrimony
3.1.Sale of Municipal Property
3.2.Municipal Enterprise Profits
3.3.Rent from Municipal Property

4. User Charges
4.1.Betterment Levies
4.2.Charges from Public Services Consumers

5. Other Non-tax Revenres
5.1.Fines
5.2.Payment for Services to Higher Level Govt
5.3.Interest Income on Invested Cash

6. Central Govt's Transfers
6.1.Shared National Taxes
6.2.Formula Grants
6.3.Ad Hoc Grants

7. Borrowing
7.1.Long-term Capital Investments
7.2.Short-term Debt
7.3.Local Interfund Borrowing

Source: McMaster (1991:17)

Table 4.2 Most Common Categories of Revenue Data

1. Property Taxes
2. Business Taxes
3. Other Local Taxes
4. Market Fees
5. Other License Fees
6. Utility User Charges
7. Central Government Grants
8. Borrowing
9. Miscellaneous (all other sources)

Source: McMaster (1991:18)

Table 4.3 Common Expenditure Categories for Local Governments

Program Area		Current Expenditures		Capital Expenditures
	Debt Service	Personnel	Materials Utilities	Fuel Services*
Administration				
Departments				
Health				
Water/sewer				
Roads/bridges				
Housing				
Education				
Fire				
Health/sanitation				
Parks/recreation				
Markets/salehouses				

* May not be assigned to individual departments

Source: McMaster (1991:19)

From the above information, important revenue sources of local governments can be summarized as; 1) local taxes, 2) user charges and fees, and 3) government grants. Generally, user charges are used to fund services such as electricity, water, sanitation that are directly paid by the beneficiaries. Taxes and intergovernmental transfers may be utilized for income transfers through such services as cultural and recreational facilities. (see Table 4.4 for the efficient assignment of local revenue authority with respect to the services)

Table 4.4 Efficient Assignment of Local Revenue Authority Classified by Type of Expenditure Responsibility

Services	Local taxes	Sources of finance (a) User charges	Transfers	Borrowings
Public Utilities				
Water supply	S	P		A
Sewerage	S	P		A
Drainage	P	P(c)		A
Electricity	P			A
Telephones		P		A
Markets and abattoirs	S	P		(A)
Housing	S	P		A
Land Development		P		A
Transportation				
Highways and streets	P	P(c)		A
Public transit	S	P		A
General Urban Services				
Refuse collection	P			
Parks and recreation	P			(A)
Fire protection	P			(A)
Law enforcement	P		S	(A)
General Administration	P			
Social services				
Education	P	S	P	(A)
Health	P	S	P	(A)
Welfare	S		P	

(a) P= primary source; S= secondary source
(b) A= borrowing is appropriate for major capital expenditures; (A)= borrowing is appropriate for capital spending, but likely to account for small share of social spending.
(c) Development charges (that is, special assessments, valorization charges, and so forth) are appropriate for drainage, highways and streets, especially when their benefits are geographically well defined within a jurisdiction.

Source: Bahl and Linn (1992:71)

The principle of redistribution or income transfer may prevent private pricing of public services. Because "it is believed that individuals will, if faced with a money price, choose to consume less of certain services than is considered socially desirable". (Mushkin, 1972:11) Thus, taxes and intergovernmental transfers are usually allocated to the services such as welfare, health, education and safety since everybody deserves to receive such services regardless their income levels. (2)

In terms of equality, all methods of financing have some shortcomings. As stated by Hirsch (1973:398,405);

> "user charges can be inequitable because they do not take into consideration ability to pay. Intergovernmental transfers affect the expenditures of the urban governments which receive them and distort the allocation of resources between different government services offered by the recipient urban government ".

As far as equality is concerned, income transfers through cross-financing among different levels in user charges can be considered as the tools to serve this purpose. Bahl and Linn (1992:72-73) summarize the advantages and disadvantages of these various revenue sources.

Expenditure level and categories are extensively affected by the amount and composition of revenue which is a function of the degree of local autonomy. The greater the degree of autonomy of local government, the higher the level of expected local revenue. (3) Expenditure categories may differ depending on the degree of local autonomy. Low level of local autonomy and local resources usually result in a limited jurisdiction and service area that emphasizes the infrastructure and physical planning services. This can be verified by a comparison between revenue and expenditure patterns of local governments in various countries including Turkey. Table 4.5 indicates that Turkey is one of the weakest countries in generating local revenues.

Table 4.5 Sources of Recurrent Municipal Revenue, Selected LCDs (in percentage)

	*Local Taxes**	*Local Fees and Charges*	*Central Transfers*
India	65	10	25
Indonesia	8	9	84
Kenya	39	55	6
Tunisia	32	13	54
Turkey	9	29	62
Brazil	23	9	68
Colombia	44	14	42
Mexico	12	25	64

* Includes property taxes collected by central government and returned to municipal governments on the basis of origin.
Note: Excludes receipts from borrowing, and capital grants.

Source: McMaster (1991:35)

The proportion of local revenues is higher in the United States, United Kingdom and Japan than most of the above listed developing countries. (Wolman and Goldsmith (1990), and Glickman (1976)) As can be seen from the Table 4.6. below, the ratio of tax revenue, particularly the property tax constitutes an important income source within total local revenues which determine the service capability of local government.

Table 4.6 Own-Source Revenue by Source, Percentage Distribution, United States and Britain

General Revenue	United States		England and Wales	
	1975-76	1985-86	1975-76	1985-86
Tax	70.5	59.9	47.2	54.2
Property	42.8	17.3	47.2	54.2
Sales	15.4	17.3	-	-
Income	8.2	8.3	-	-
Other	4.1	4.8	-	-
Fees, charges and miscellaneous	29.5	40.1	52.8	45.8

Source: Wolman and Goldsmith (1990:21)

Although the limitations in the financial structure of local governments usually prevent them having a successful organizational structure for the provision of services, there are some features of local organizations that can complete the structural frame. In the following section, these features are considered.

4.2 Organizational Structure

In this section, issues pertaining to the organizational structure of metropolitan administration are examined to complement the fiscal frame of local government operations. Bahl and Linn (1992:421) propose that "3 systems of horizontal fiscal relations seem to have emerged in the governance of metropolitan areas". These are the jurisdictional fragmentation -many municipalities operating within a single urban area-, a metropolitan government overlapped by one or two autonomous agencies (i.e.

a water or a bus company) and functional fragmentation -in which services are delivered by a set of independent public service agencies. Turkish metropolitan government structure consists of both first and second systems. These organizational systems are strictly related to fiscal structure of metropolitan governments where the public service orientation (4) is not a decisive factor in this choice.

Wunsch (1991:433) claims that the issue of;

> "administrative performance has been misanalyzed as primarily organizational level issues and this has led to reactions which were ineffective in discerning exactly why underperformance occurred and what might be done to improve performance".

He (1991:434) further proposes that the organizational arrangements should vary with respect to the goods and services desired of these organizations. (5) Without this concern, a 'holistic' attitude that ends up with a broad organizational level -decentralization, privatization, participation, etc.- or increasing organizational resources (personnel, training, budget) has tended to be favored. This attitude ignores the dominance of the centralized -hierarchical- bureaucratic model in the Third World that prevents the diversity of organizational forms.

> "An organizational level focus has tended to lead seemingly dramatic 'reforms' which in reality have tended to change little, and which have probably slowed the experimentation with more moderate, appropriate and realistic changes that typically occurs quite naturally

among the more diverse organizations found in developed societies". (Wunsch, 1991:434-435)

The existing tendency of decentralization in the organization of metropolitan governments can be explained by the fiscal and administrative bottlenecks of metropolitan cities. At the organizational level, the gains expected from decentralized decision-making process can be listed as;

> "1) saving in the amount of information which must be transmitted between units
> 2) instead of a big complex problem, smaller and less complex problems to be solved
> 3) a rapid feasible allocation program because of information procedure
> 4) top management may easily recognize successes and failures
> 5) greater participation in decision-making". (Freeland, 1973:7-8)

However, the distinction between the origins of functional and jurisdictional (geographic) fragmentation is important as stated by Bahl and Linn (1992:409) such that;

> "functional fragmentation is often a deliberate and rational decision... In contrast, geographic or jurisdictional fragmentation often is just a natural consequence of urbanization - the expansion of metropolises beyond old core cities into surrounding minor centers and formerly rural areas without changes in jurisdictional boundaries".

According to Parks and Oakerson (1989:18) two basic questions in the debate over metropolitan organization are;

> "1) what patterns of public organization are more likely to be responsive to citizen preferences, efficient in the way services are produced, and equitable in the way services are financed and delivered? and 2) what patterns of governance are more likely to enable individuals to establish and maintain such patterns of organization in view of changing preferences, technologies and other circumstances of metropolitan life?".

In the choice of organizational arrangement for metropolitan governments, the distinction between service provision and production seems to be imperative. The responsibility of the metropolitan government is the provision of services that deals with much broader decisions beyond the production of services. Parks and Oakerson (1989) additionally differentiates the governance and government levels in metropolitan areas. This distinction provides the opportunity to distinguish levels of governance that are not necessarily reflected in metropolitan organization. (6) Similar to Wunsch's (1991) objection to blame the organizational structure for administrative underperformance, Parks and Oakerson (1989:26) oppose to the normative choices and research on the level of governments instead of "seeking corrective measures at the appropriate level of governance". However, the political influences on the domain of public services force the metropolitan governments to be cautious and conservative to develop and apply future-oriented plans since "there may be considerable differences within the public domain about which values should have priority in determining the scale and distribution of public resources". (Ranson and Stewart, 1989:12)

In addition to these structural constraints, local governments have to be reliable -to provide services on a regular and reliable basis- to avoid risk and to provide a uniform standard of services for the area of responsibility that may somehow conceal varying need. (Greenwood and Stewart, 1986:47)

Within this framework, in order to meet the requirements of public provision, local governments may rely on central government and may also utilize private sector through various organizational arrangements.

Savas (1986:19) summarizes possible arrangements by examples of common service types. (see Table 4.7) for common urban services.

However, the choice of arrangement for service provision is structured by the broader political and economic forces of the country that is concerned. A wide perspective for the policies that can give clues for different programs and relevant organizational structures takes place in Table 4.8. Although it is developed to increase the access of urban poor to the public services, it is applicable to all urban services and population segments.

Development of metropolitan cities in developing countries necessitated new organizations for service provision that "were assumed to be beyond administrative, financial and technical capabilities of local governments". (Cheema, 1988:250) Newly

Table 4.7 Examples of Different Institutional Arrangements Used for Common Urban Services

Institutional arrangement	Functional Areas Education	Police protection	Streets and highways	Fire protection
Government service	conventional public schools and state universities	traditional police department	municipal highway department	traditional fire department
Intergovernmental agreement	pupils from one town attend school in a neighboring town; first town pays the pays the second	town purchases patrol services from county sheriff	county pays town to clean and plow county roads located in town	city purchase services from special fire district
Contract	city hires private firm to provide training or to conduct vocational education prog.	city hires a private guard service to protect government buildings,garages	city hires private contractor to clean plow and repair street	city hires private fire protection firm
Franchise				
Grant	private colleges receive a grant from the government for every student who attends			
Voucher	tuition voucher for elementary school GI Bill, government scholarships good for any college			
Market	private school	banks hire private guards	local merchants' association hires workers to clean commercial street	
Voluntary Association	parochial schools	block association forms a citizens' crime watch unit	homeowners association arranges to clean and repair local private streets	volunteer fire department
Self-Service	reading books at home, learning	individual installs locks	storeowner cleans street in front	property owner practices fire

Continuation

Parks and recreation	Hospitals	Housing	Refuse collection	Transportation
municipal parks department	municipal hospitals	public housing authority	municipal sanitation department	public transit authority that runs bus service
city joins special recreation district in the region	city arranges for residents to be treated at county hospital	town contracts with County Housing Authority	city establishes independent solid-waste utility	city is part of a regional transportation district
city hires private firm to prune trees and mow grass		housing authority hires private firms for repairs, painting grounds, custodial services	city hires private firm to provide service	schoolboard hires private firm to provide school bus service
city authorizes firm to operate cty-owned tennis courts and to charge fees			city gives exclusive franchise to private firm to provide service for a fee	government gives a private firm the exclusive right to provide bus service along a route
	capital construction grant to expand a non-profit hospital	government grant to private builder to construct and operate low-income housing	city has user fee for service but subsidizes elderly and low-income households	government grant to private company to subsidize the acquisition of new buses
	medicare/medicaid cards permit patients to seek service anywhere	housing voucher to enable low-income tenants to rent any acceptable, affordable unit		transportation vouchers that special users can use for taxis private cars, etc
commercial tennis courts	proprietary (for-profit) hospitals	normal private housing market	household hires private firm to provide service	free-market for jitneys, private cars for hire
tennis club for members	non-profit hospitals	housing cooperative	neighborhood association hires firm to provide service	car pools, van pools, commuter buses chartered by groups of sub urban neighbor
private tennis courts at home	accident prevention, selfmedication, chicken		household brings refuse to town disposal site	driving in one's own car, cycling, walking

Source: Savas (1986:18-19)

Table 4.8 Policy Alternatives, Program Implications and Organizational Focus for Increasing Access of the Poor to Urban Services

Policy alternatives	*Programme Implications*	*Organisational focus*
Policies that expand direct government provision of urban services	Strengthen authority of municipal governments to raise adequate revenues Increase transfer payments to municipal and local governments Expand revenue base of city and local governments Assist municipal governments to strengthen their technical, administrative and organisational capability for service delivery	International assistance agencies Central government ministries Municipal and local governments
Policies that use market surrogates for increasing institutional efficiency and responsiveness	Encourage direct competition among service agencies Encourage active marketing of government services Use performance agreements and subcontracting for public service delivery	Central agencies and ministries Public enterprises and corporations Municipal governments and authorities Private organisations
Policies that lower the costs of providing services through changes in regulations and methods of delivery	Eliminate or modify building, zoning and land development regulations that inappropriately increase the costs of service delivery Adopt urban development and service delivery regulations that are tailored to local conditions and appropriate to needs of poor Control land uses, prices and speculation practices that drive out low-income families from city core that drive up the prices of service extension Design service extension programmes for multiple purposes and to local standards	Municipal governments Public service agencies Private organisations
Policies that actively support self-help and service improvements by the poor	Provide support for neighbourhood groups to engage in service improvement, sites-and-services and housing upgrading programmes and projects Provide minimal services and physical precoditions to allow selp-help programmes to operate effectively Provide tenure, access to credit and technical assistance	International agencies Central government ministries Municipal governments Neighbourhood and community groups Voluntary organisations
Policies that promote public-private co-operation and private sector participation in service delivery	Encourage administrative practices and organisational arrangements that allow community groups and voluntary organisations to participate in improving services in poor neighbourhoods Design service extension programmes to create opportunities for private sector participation and to use market mechanisms to deliver services	Central government ministries Municipal governments Private business Co-operative organisations Informal sector participants

Continuation

Policies that increase the effective demand among the poor for services	Design service extension and improvement programmes to generate employment for beneficiaries Develop programmes that increase the capacity of the "informal sector" to deliver appropriate services Strengthen informal sector as a source of employment and income for poor households Provide assistance to small-scale enterprises in and near low-income communities Give preference in procurement and contracting to small and medium sized industries that employ the poor	Central government ministries Municipal governments Community groups Voluntary organisations Private businesses
Policies that change urban population distribution	Channel migration to small and intermediate-sized cities Promote employment-generating activities in cities outside of largest metropolitan areas Distribute investments in services, facilities and infrastructure more widely among cities in middle and lower levels of urban hierarchy	Central government ministries Local governments Private organisations

Source: Rondinelli (1988:53)

established organizational structures are generally the results of the choice of central governments in favor of private or autonomous bodies that are directly responsible to central governments instead of powerful and self-sufficient local governments. Teymur (1991) points out this tendency by investigating the decreasing role of local governments in Britain as an indicator. (see also Cochrane (1991) on this matter) This, apparently is a political preference of central governments. In the Third World countries, seven main types of organizational structure that define the governance of metropolitan cities exist. (see Table 4.9)

In Turkey, metropolitan city administration is similar to the two-tier system with the recent changes despite its similarities to the centrally controlled system. (see Section 4.3 for the details) Besides the changes in governmental structure and hierarchy, private sector's role has also increased. Yet, this role is limited with the production or delivery of the services. Thus, urban service provision still remains within the public domain. (7) The issue of privatization is considered to investigate its relation to the distribution function of the public sector.

Since the main concern of this study is the provision of urban public services, private production might be kept out of the context. (8) However, alternative ways of delivering urban services can be evaluated by the terms of efficiency in production. (Savas, 1986) Even in this case, it is argued that private sector is more efficient than the public sector not because of the privateness of production but the competitive market

Table 4.9 Types of Organizational Structures in Selected Cities

Type	*Examples*	*Characteristics*
Centrally controlled	Shanghai, Beijing, Ho-Chi-Minh City	The central government directly controls metropolitan government
Special Province	Bangkok, Jakarta Seoul, Montevideo	The metropolitan area is designated as a special province in which local governments and provincial government are merged into one.
State or municipal commission or council	Rio de Janeiro, Mexico	The metropolitan area is managed by a commission or council comprised of representatives of state and municipal governments.
Two-tier system	Manila, Tokyo	While local governments continue to exist, some of their key functions are transferred to a metropolitan organization which is empowered to control and supervise local governments in the area.
Development authority	Delhi, Bombay, Karachi, Colombo,	Development authorities with metropolitan wide jurisdiction are created by statue in Chittagong to undertake regional planning, and co-ordinate multisectoral programs.
Single-tier city or metropolitan government	Kuala Lumpur, Surabaya, Nairobi	The metropolitan area is managed by the city government.
Inter-municipal co-operation	Calcutta, Asuncion, Bogota	Municipalities co-operate with each other in providing some services.

Source: Cheema (1988:251)

conditions. (Donahue(1989), Vickers and Yarrow(1991), Voytek(1991)) Efficiency of production, the basic argument of privatization, has not much relevance to this study. Yet, some considerations on privatization are covered in the context of urban service distribution due to the popularity of the issue.

Distributional implications of privatization and regulatory role of public provision are neglected by the proponents of private sector in service delivery. Privatizing provision would as an example, involve the decision by a government to no longer provide a service such as health care for the poor. Critical point is that the issues of equity and efficiency could conflict. "If production is privatized, efficiency (or effectiveness) may be improved, but if provision is privatized, equity may be imperiled". (Voytek, 1991:158) (9)

The reasons of public provision are twofold: 1) public good characteristics -non-exclusion and non-rivalry- that are the technical properties related to scale economies in production and provision, 2) distributional objectives. (Atkinson and Stiglitz, 1989:486)

If the responsibility for the provision still remains with the public sector, allocative efficiency and distributional justice also remains as the problems of public bodies that are responsible for the service. Distributional implications of privatization are stated by Lineberry (1977:196) as "the advantaged groups have always had the option of private sector providers. It has been the poor who have most relied upon the public sector". Similarly, Atkinson and Stiglitz (1989) points out the distributional function of public provision in relation to the social welfare or egalitarianism. As a result, it should be noted that, for most of the urban services, a true privatization should be based upon the local sectoral characteristics and be limited by the production of services. The same principle is true for the intergovernmental service contracts between various government levels. (Morgan and Hirlinger, 1991)

The service characteristics might give important clues for the choice of producer. The expected level of scale economies in production is a key factor in determining appropriate producer -public or private- for urban public services. The provider is rather decided by the factors other than productive efficiency. The allocative efficiency and distributional justice require a public decision-making process that considers the political constraints of service provision. Hence, the most important point in the decision-making process is to provide equal opportunities to all groups to transform their needs and tastes into distributional policy that requires an 'institutional fairness' according to Rich. (1979)

The financial and organizational features of local governments that are common for most of the countries in spite of the slight differences of varying conditions are discussed in Section 4.1 and Section 4.2. The dominant features of Turkish metropolitan administration are discussed in the following section in order to understand the specific conditions that determine service provision.

4.3 Turkish Metropolitan Administration: Dominant Features from the Viewpoint of Service Provision

Local governments are considered as important instruments of redistributive policies in many countries. Thus, a wide range of duties including health, education, police and security that might serve for a better income distribution among citizens is defined in the realm of local -particularly metropolitan- governments. This relation between local public services and welfare policies had been discussed in Chapter 3.

In Turkey, provision of local public services is not utilized to support redistributive policies since the above mentioned services -mostly called social services such as education, health and police- are excluded from the main local service responsibility. (see App.A.1 for the duties of metropolitan municipalities and Table 4.10 for the division of responsibility between central and local governments in Turkey) Additionally, some of the duties that are considered as optional by legislation are neglected by the municipalities due to the limited financial resources. According to the "Municipalities Law" (# 1580) that has been in effect since 1930, municipal duties consist of basic urban infrastructure and services, construction activities, economic, social, cultural services and administrative works. Within this general conceptualization, social and cultural aspects of the municipal services are ignored. (see App.A.2 for a comparison with the examples from various countries)

Table 4.10 Division of Responsibility between Central and Local Governments in Turkey

	Investment	Maintenance	Operations
Infrastructure Roads, squares	M C	M	-
Sewerage	M C	M	-
Parks, cemeteries	M	M	M
Water	M C E	M C E	M E
Electricity	C	C	M
Gas	M E	M E	M E
Telephone	C E	C E	C E
Urban Services Garbage collection	M	M	M
Street cleaning	M	M	M
Fire fighting	M	M	M
Police	-	-	C M
Traffic control	M C	M C	M C
Public transportation	M E	M E	M E
Social & Cultural Functions Education	C M	C M	C M
Health services	C M	C M	C M
Old age homes, orphanages	M C	M C	-
Low cost housing	M C	M C	-
Religious services	C M	C M	C M
Historical preservation	C M	C M	C M
Libraries & cultural centers	M C	M C	M C
Playgrounds & stadiums	M C	M C	-

Key: M- Municipal government
C- Central government
E- Economic enterprise, public or private

Source: Danielson and Keles (1985)

One of the reason behind this tendency is the strict control of central government over local responsibility generally through centrally allocated resources that constitute a major part of municipal budgets. Data on financial resources does reflect this phenomenon. Local revenue sources -mainly property and other local taxes- that are the basic sources for many countries have a small share in total municipal revenues. (62% central transfers, 29% local fees and charges and 9% local taxes) (WB, 1991:35) For a comparison, see Table 4.5.

These features of local responsibility and finance can be traced in the organizational arrangements of metropolitan administration in Turkey. In recent years, responsibility and jurisdiction of local governments seem to be expanded together with a salient increase in their financial resources. Yet, even more important than the financial aspect, a structural change was also proposed to modify the metropolitan governments' structure. By the Law No.3030 that was passed in 1984, district municipalities were established as a new level in the metropolitan government structure which had formed a 2-tier system. District municipalities have the responsibility of some services within their jurisdictions, whereas the metropolitan municipality has the right of coordination and control over them besides its own duties for municipal areas of the metropolitan city. Thus, the previous hierarchy between central and local governments turned out to be a three level hierarchy for the metropolitan cities of Turkey. (see Figure 4.2)

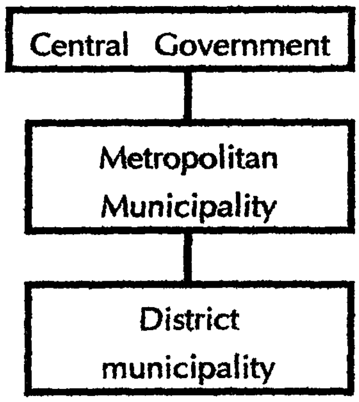

Figure 4.2 Three Level Hierarchy of Metropolitan Administration in Turkey

The three biggest cities, Istanbul, Ankara and Izmir were initially covered by the "Metropolitan Law". Currently, there exists 8 metropolitan cities -Ankara, Istanbul, Izmir, Adana, Bursa, Gaziantep, Konya and Kayseri- in Turkey. Since the definition of the metropolitan cities is depended on the number of districts within their borders and the coverage of the law has been extending without reference of the demographics or service structures of the urban areas, recent additions are expected. This being the case, definition of metropolitan cities is a debatable issue.

Here it should be noted that newly established hierarchical organization does not reflect the needs of metropolitan areas. Since this debate is out of the context of this work, it is sufficient to point out that the modifications in metropolitan government structure in Turkey did not stem from a need in service provision or allocation. Up to now, a remarkable change in resource/service allocation was not observed which could have been expected from the mentioned structural change. However, financial resources of metropolitan municipalities increased by an additional share from the general budget and a 3% share (5% in 1985) was allocated by the central government. The increase in financial resources emphasized the problems in the allocation and distribution of the services. (see Section 4.1 for the details) Although a new structure was developed for metropolitan cities, it was restricted by the financial and administrative structures. (see App.A.3) Decentralization in metropolitan cities is not on the service basis but on the administrative basis. In other words, this is a *jurisdictional fragmentation* with a *two-tier system* rather than a functional fragmentation that were mentioned in Section 4.2. Thus, the jurisdictions of metropolitan and district municipalities are determined by the service size rather than the service and population characteristics. (for the division of responsibility see, Law no.3030, items 6 and 7)

The functionality of new metropolitan structure in Turkey should be tested for specific service areas. The case of parks and recreational services in Ankara can be seen in Section 5.2.1, where the effects of organizational structure on service distribution are evaluated. Here, *it is sufficient to note that, for this service* area, the role of district municipalities is limited due to their financial dependence on metropolitan municipality to provide services for the population in their jurisdiction. In addition to the financial problems, the spatial allocation of this service requires a central program that should be consistent with the decisions related to the development of the city. Thus, the service size, that is used to define jurisdictions of metropolitan and district municipalities has not much relevance for the services like parks and recreation.

The above mentioned limitations are even stronger for Turkish metropolitan governments due to the immense and urgent service need in metropolitan areas that can not be provided by the limited revenues and responsibilities. Although it might have been expected that the new arrangements in metropolitan administration would lead structural changes at organizational level, current structure of Turkish metropolitan governments does not represent neither the service need nor the necessary components of hierarchical organizations. (10)

The same reason -centrally controlled and provided local revenues- affects the structure of demand so that the demand for local services is formed independently from the local revenue sources. This being the case, demand is determined through political and social choices of both citizens and metropolitan government. Thus, the provision of local services including the choices on service allocation turns to be the result of a negotiation process between citizen groups and local bodies. Citizen groups are represented in this process by means of their political power rather than their contribution to the service provision. (11) Since the income levels of citizens determine their locational choices in the metropolitan city, public services are distributed according to these choices. This means that the income level of citizens has not a direct impact on service provision through demand. Rather, it seems that their service demand is transformed to a demand for location in the metropolitan area which might be served better by the local government. According to Bahl and Linn (1992:416);

> "this problem usually arises with jurisdictionally fragmented structures. High income families will be pulled toward those jurisdictions with good public services and (because of the concentration of wealth) relatively low tax rates. Low-income families, zoned-out of these areas by high property values, will tend to cluster in jurisdictions which have become less wealthy and have higher tax rates and lower public service levels. The more municipalities within the metropolitan area, the greater potential for this problem".

This observation is similar to those of Schwab and Zampelli (1987:246) who argue that "local communities use zoning and other land use controls as a tool to exclude lower-income households whose tax payments will be less than the cost of providing the services they consume". They (1987) also claim that local zoning regulations can also serve to control the composition of a community's population in order to increase the production of local public goods -a process which is called 'public-good zoning' by Oates.

In the light of these considerations, previous service provision and allocation in a region may give clues for the expected service levels. Once it is established, it makes harder to achieve allocative efficiency since it urges a predetermined allocation. However, income level of citizens indirectly affects the process, not by the demand for the services but by the demand for probable service areas. In Turkish metropolitan cities, rather than fiscal zoning, public-good zoning seems to be valid by means of a process like 'voting with the feet' of Tiebout. Access to any service can likely be increased by the choice of jurisdiction where population characteristics are considered in the service provision, hence distribution.

NOTES

1) There is even evidence on the inequality aversion in some cases. A model by Behrman and Craig (1987) that "distinguishes the inequality aversion and unequal concern in the social welfare function of local government" have produced interesting results. Their empirical study provides evidence that "some aggregate production is sacrified for equity goal" and "compensation" is preferred for some neighbourhoods. They (1987) propose a "multi-output" survey to find the rationale which they believe that it exists, for unequal concern for different citizen groups.

2) see also Blankart (1983) on private pricing of public services and Bahl and Linn (1992:280) for the politics of public service pricing.

3) As stated by Bahl and Linn (1992:48):

> "in cities where per capita expenditure increased, locally raised resources were the largest contributors, whereas in cities where per capita expenditure declined, a slowdown in locally raised resources was evident... On the basis of a small sample, changes in locally raised resources appear to have determined the ability of urban governments to increase the services they provide".

4) Stewart and Clarke (1987) propose to build up an organizational system oriented towards the public service provision.

5) Wunsch (1991) gives further details on institutional alternatives to increase administrative performance. These alternatives are discussed in Chapter 3. (see Table 3.2 that illustrates various institutional arrangements for common urban services and Table 3.4 showing the organizational structures in selected cities)

6) These levels are summarized as;

Level 1. Given a set of provision units, local officials make arrangements for production.

Level 2. Given a set of rules, citizens and officials make arrangements for provision by creating, and over time, modifying a set of provision units.

Level 3. Within the constraints and opportunities afforded by local political geography and by institutional hierarchy, state and local decision-makers choose (over time) a set of rules for creating provision and production arrangements. (Parks and Oakerson, 1989:24-25)

7) In Turkish metropolitan cities, urban transportation and garbage collection are the service areas where private enterpreneurs operate, yet the conditions of their service delivery are determined by the local government.

8) see Atkinson and Stiglitz (1989:502-505) for a theoretical explanation of the choice between private and public provision of services.

9) The concept of privatization is utilized to define two different processes that should be differentiated. First involves removing certain responsibilities, activities, or assets from the collective action. Second involves retaining collective financing but delegating delivery to the private sector. (Donahue, 1989:215)

10) The limits of optimization models in public sector planning that are stated by Brill (1979) are extremely valid for Turkish metropolitan governments.

As an organizational system, two properties are imperative for a decentralized hierarchy; resource allocation and goal decomposition among units. Barras (1976), for example, defines the local governments as the resource allocative systems whereas Freeland (1973, 1975, 1977) investigates the decision-making process in the decentralized hierarchies and Cassidy, et.al. (1971) apply the resource allocation model to the hierarchical levels of government.

11) Decentralization theorem that is discussed in Section 3.3.2 assumes all localities provide the financial requirements of their service provision. Turkish case is very far from the situation of financially self-sufficient communities.

CHAPTER V

THE IMPACTS OF THE SPATIAL DISTRIBUTION OF SERVICES: THE CASE OF PARKS AND RECREATIONAL SERVICES IN ANKARA

Up to this point, the subjective character of the decision-making on the distribution of public services is clarified. In this chapter, spatial distribution of an urban public service - parks and recreational services in Ankara- is evaluated to have a clear understanding of its distributional impacts that might vary with socio-economic and demographic characteristics of user groups. As Walker (1981:189) states "allocation of a facility to a particular point in space might be expected to have different welfare implications for different groups within a local government area". Here, an attempt is made to apply two systematic approaches in the field of local service distribution. Jones, et.al. (1980:228) define them and their problems in a very comprehensive way.

> "One (approach), utilizing survey research, has examined the perceptions of citizens of the absolute and relative adequacy of the city services they receive. A second has studied government records of service delivery associating them with demographic data on neighbourhoods... The attempt to ascertain the level of services which a demographically

> definable area of a city receives according to governmental records provides an objective mapping of the distribution of services, while the survey research approach offers a perceptual mapping of the incidence of those same service efforts. Both approaches suffer defects. Perceptions of service quality are not adequate indicators of the actual level consumed, although dissatisfaction with the current level may be more adequately assessed. The objective approach is limited by the character of government records, and ... by the lack of satisfactory knowledge concerning the impacts of the services delivered to a geographic area of a city".

A complementary analysis that utilizes both approaches together may avoid the deficiencies of both. (1) As Lineberry (1977:164) points out "raw rates of consumption or delivery tells us little about actual citizen preferences. People's tastes for services are partially a function of the services they are aware of... When services are seen as unsatisfactory, people's taste for them may diminish inhibiting service consumption". Thus, consumption patterns are determined by both demand and supply conditions. That is the main reason of such efforts to use measures of allocation and distribution together in an analysis. This objective is tried to be achieved in this thesis by means of objective data for the allocation and a survey for the distribution. For this purpose, allocation and distribution of parks and recreational services in Ankara are examined. In the following sections, the results of the empirical study can be found which are expected to give clues for further policies in this service area.

Before the analysis on service, socio-economic and demographic characteristics of Ankara are investigated to understand the nature of service need and demand.

5.1 Socio-economic and Demographic Characteristics of Ankara Related to Service Provision

Ankara was approved as a metropolitan city in 1984 and divided into 5 districts as the new municipal jurisdictions. These districts were Cankaya, Altindag, Kecioren, Mamak and Yenimahalle, all being formed within the metropolitan city boundaries. For the timebeing, the number of districts has reached 8 with the addition of Sincan, Etimesgut and Golbasi. (see Figure 5.1) The population, population density and geographical area of all districts are given in Table 5.1. Since most of the available data is limited to firstly established 5 districts, this study is based on these districts.

The urban population of Ankara has reached 2,836,719 according to the latest census (1990). Being the capital of Turkey, the city has a significant place in the country which partly explains the high rate of population increase through migration from rural areas that had started in the 1930s. It is quite early when compared to the general trend of migration in Turkey in 1950s. Until 1975, the rate of population growth of Ankara was above the national average. (Tekeli and Guvenc, 1987:16) This phenomenon created a dual structure in the population of Ankara, the old inhabitants and newcomers who were mostly inhabited in

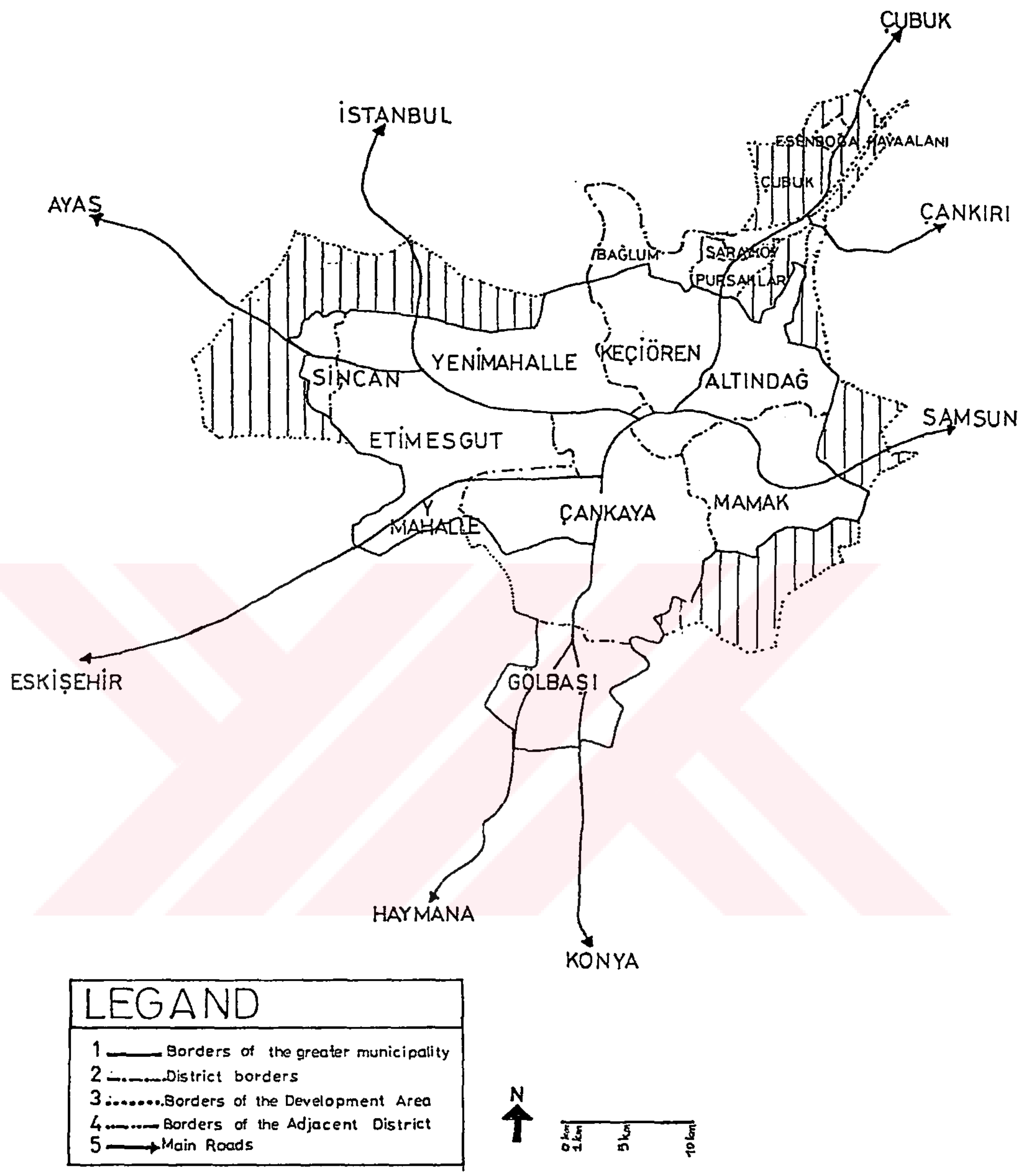

Figure 5.1 Borders of the Greater Ankara Municipality and the Development Area

Table 5.1 Population, Area and Density of the District Municipalities of Ankara

Districts	(1) 1990 population	(2) Municipal area(ha) *	(1/2) Density
Altindag	417 616	7 400	56.4
Cankaya	712 304	13 700	52.0
Etimesgut	69 960	10 300	6.8
Golbasi	25 123	5 700	4.4
Kecioren	523 891	5 800	90.3
Mamak	400 733	7 700	52.0
Sincan	91 016	1 600	56.9
Yenimahalle	343 951	8 700	39.5

* Development areas of the districts are not taken into consideration in the density calculations throughout this study including this table.

Sources: compiled from Greater Ankara Municipality and SIS Census of Population (1990)

squatter settlements (gecekondus). This duality is reflected in the economic structure of the city and newcomers have contributed to the urban economy by their dominance in informal sector.Besides, the service sector became important since the industry is rather weak. In the period of 1945-1982, working population of Ankara was basically concentrated in the service sector. (Bademli, 1992) This trend might be observed in recent years as well. "According to the available data, 65% of the active population in Ankara work in public services, trade, transportation, communication, etc.". (Greater Ankara Municipality, 1992a) This trend is expected to continue also in the years 1995-2015 unless a new economic development policy affects the existing situation. (Bademli, 1992:39) However, a slight increase in the shares of trade and industry is recorded in 1992. (Greater Ankara Municipality, 1992a:10)

The same duality determines the socio-economic characteristics of the district populations. (see Table 5.2) For income calculations, 1985-1995 predictions are utilized and districts are classified according to 5 income levels.

According to the available data general characteristics of the districts can be summarized as follows. District of Cankaya is inhabited by the highest two income groups that prefer only this district. However, due to the existence of squatters in this district, district population is not homogeneous in character. That explains the existence of all income levels in this district. The Cankaya District has a high status of being the location of all central administrative institutions and high income levels. This situation affects the service provision in the district and provides an advantage for both authorized and squatter housing populations. Besides, the rate of working population is fairly high compared to other districts. One of the important work centers of the city -Kizilay-, public buildings of central administration and high-standard housing are the distinguishing characteristics of the district. Yet, high density around Kizilay and the tendency of decentralization of residential areas tend to limit the development of Cankaya District. (Altaban, 1987 and Bademli, 1987) Thus, the rate of increase in population might become stabilized in the 1990s.

Altindag District has the second important business center -Ulus- and has a tendency to develop around this area. The population density is rather high in the district which is inhabited

Table 5.2 Population Characteristics of the Districts in Ankara (1985, 1990)

Districts	Population		Annual Rate of Population Increase (%)	Average Household Size		Age Groups (%)			
						1985		1990	
	1985	1990		1985	1990	0-14	15-64	0-14	15-64
Altındağ	403,871	417,616	0.67	4.82	4.63	33.87	63.37	32.17	64.95
Çankaya	665,128	712,304	1.37	4.23	3.95	26.53	69.27	24.42	70.97
Keçiören	433,559	523,892	3.80	4.65	4.34	34.51	62.87	32.04	65.29
Mamak	371,904	400,733	1.50	4.83	4.52	35.61	61.86	32.81	64.62
Yenimahalle	360,753	343,951	3.00	4.85	4.49	30.95	66.60	28.45	68.84
Etimesgut (*)		69,960							

Districts	Education Level (%)						Active Employment (%)		Average Employment per Household		Population Density (person/ha.)		Income Levels (**)
	1985			1990									
	Illiterate	Primary + Second	High + University	Illiterate	Primary + Second	High + University	1985	1990	1985	1990	1985	1990	
Altındağ	13	72	14	12	73	15	43.20	44.70	1.32	1.54	54.60	56.40	4-5
Çankaya	8	55	37	6	54	40	45.50	44.80	1.33	1.44	48.50	52.00	1-2
Keçiören	10	71	17	9	70	20	39.90	41.90	1.17	1.36	74.80	90.30	3-4
Mamak	13	74	12	12	74	14	41.20	42.90	1.23	1.44	48.30	52.00	5
Yenimahalle	9	69	22	8	68	26	46.90	46.50	1.52	1.63	18.90	21.80	2-3
Etimesgut (*)													

(*) This district was seperated from the Yenimahalle District after the 1985 Census. Thus, in order to be consistent, it is covered in Yenimahalle in 1990 calculations.

(**) Prepared by using the data on car ownership in the neighbourhoods of Ankara within various districts. Different income levels can be seen in the same district due to the heterogeneous character of the neighbourhoods. However, the dominant income levels are given in a decreasing order from 1 to 5.

Source: SIS, 1985 and 1990 Census of Population.

mostly by the people of 3, 4, and 5th income levels.

Yenimahalle has the largest geographical area among the districts. (2) Although population density seems to be low, it is very high in residential areas such as Demetevler which are mostly built as high-rise unauthorized settlements. Due to the geographical potential, this district is proper for the mass housing development. In 1985, the share of residential areas in total area was 49.67% and it is expected that this potential might be utilized in the 1990s. Thus, an important amount of investment in infrastructure services might be required in this district. Income groups in the district vary from 3 to 5.

Altindag and Mamak, as the main squatter areas of Ankara, exhibit similar characteristics in terms of population, number of households and income levels. Yenimahalle, Mamak and Altindag have high averages of household size -4.85, 4.83 and 4.82, respectively- where Mamak has the lowest income levels.

Sincan is the district with the highest population increase between 1985 and 1990, among dense residential areas. Most of the residential areas in the district are planned by municipality and this district has a development potential as a satellite town. The rapid increase in population will require large-scale infrastructure and transportation projects. Sincan, and other districts which were established after 1990 -Golbasi and Etimesgut- are not covered in this study to provide a common basis for comparison and prevent overlaps since some of them are separated from the previous districts.

As a general evaluation it can be claimed that population density in the city center became stable in the 1990s due to the dense residential areas in the periphery. (Tekeli and Guvenc, 1987:152) According to this situation, Sincan and Yenimahalle have the highest potential of population increase. (see Table 5.3 for the development of housing and workplaces by districts)

In addition to the district populations who need urban services with respect to their various characteristics, Ankara is the center of all public and many financial institutions besides being a cultural and educational center for all the country. Universities, health services through public and private hospitals are also located in the city. These features create an immense service need and necessitates a well organized service structure that could not be achieved by the 1990s. In a recent report, this fact is stated by the Greater Ankara Municipality (v.2, 1992a:4) as:

> "Ankara's basic infrastructure facilities have not been able to keep pace with the rate of development of this rapidly growing and dynamic city. Indeed, the capacities that have been achieved in terms of potable water supply network, sewerage and ways and means of transportation have always fallen behind the rapidly increasing requirements and it is a fact that this gap between the requirements and the capacities have reached very serious dimensions by the 1990s".

Table 5.3 Total Number of Dwelling Units and Workplaces with Construction Permits by the Greater and District Municipalities(1988-1991)

	1988		1989		1990		1991	
	Dwel.	Work pl	Dwel.	Work pl	Dwel.	Work pl	Dwel.	Work pl.
Greater Ankara	-	-	6,006	774	1,729	1,459	775	402
Altindag	800	1,850	526	2,828	771	1,176	488	1,410
Cankaya	7,535	885	5,644	1,235	6,462	943	7,585	1,024
Etimesgut	-	-	-	-	-	-	478	39
Golbasi	-	-	-	-	-	-	25	13
Kecioren	9,552	558	6,142	371	6,310	613	3,785	329
Mamak	1,824	140	693	116	1,452	159	1,151	90
Sincan	2,188	380	2,371	417	2,084	456	2,389	408
Y.mahalle	359	146	371	56	6,611	552	2,079	884
Total	22,258	3,959	21,753	5,797	25,419	5,349	18,775	4,599

Source: Greater Ankara Municipality (1992a)

The resource need of municipality for these functions is also mentioned. (A summary of the present organizational and financial structure of Ankara Metropolitan City Municipality can be found in App.B.1)

Although this judgement is valid for all the services and citizens who utilize these services, there are important differences among jurisdictions in terms of required and provided services. Above mentioned socio-economic and demographic characteristics of the districts might explain the differences in service needs. For instance, variables like number of working population, locations of housing and workplaces, number of students determine the need for transportation service. Sewage disposal and garbage collection are directly related to the number of households and workplaces in the districts. (3)

Thus, urban services should be provided according to the needs of districts and the characteristics of the service in question -i.e physical proximity is more important for certain services such as parks than the others, i.e. sewage disposal. For an efficient allocation and distribution of services, the characteristics of district population should be considered in the provision. The Greater Ankara Municipality (1992a:4) claims responsibility for urban economic activities besides the existing responsibility of "local production of public and semi-public goods and services". It seems that Ankara Greater Municipality defines its role as the provider rather than the producer of services in order to keep pace with the ever increasing needs of citizens. Whatever the practical situation is, the problem of service distribution appears to be dominant when the service is produced by either public or private bodies. The decisions related to the urban development of Ankara will have impacts on service need and provision. (For the criteria of these decisions see App.B.2)

5.2 Methodology for the Analysis of Distribution of Parks and Recreational Services

To begin with, a general statement of objectives regarding recreational services can be utilized to clarify its relation to social welfare as a merit good:

> "Recreation services should provide for all citizens to the extent practicable, a variety of adequate year-round leisure opportunities which are accessible, safe, physically attractive, and provide enjoyable experiences. They should, to the maximum extent, contribute to the mental and physical health of the community to its economic and social well-being and permit outlets that will help decrease incidents of antisocial behavior such as crime and delinquency". (Hatry and Dunn, 1971:13)

Despite the prosperity of normative concepts such as adequacy, accessibility, attractiveness, enjoyability in this definition, it reflects the merit character of recreation services very well. That is the basic reason of free supply of this service by the public sector. (4) As stated by Knetsch (1969) demand and supply or price/quantity relationship should be ignored in the provision of recreation service.

Before evaluating distribution of parks and recreational services, this service should be considered according to the public good characteristics. It is not a pure public good since the congestion affects its utilization. "For example, an attractive public park is not a pure public good because it may become so crowded that its enjoyment is impaired". (Bourassa, 1992:34) There is evidence on the private nature of park services since the publicness degree (see Section 3.2.2 for the technical definition) is close to 1 as in the case of private goods. (Inman, 1979:285) Thus, technically this is a private service area in which scale economies exist. However, as noted earlier, congestion parameter may be different for the same service area depending on the local service conditions and population characteristics. Forster (1989) notes the need for a specific survey on congestion level in different recreational sites.

The reason of public provision is its acceptance as a merit good from which the exclusion is impossible or infeasible. As it is considered as a merit good, the exclusion through private financing -i.e. by user charges- is not valid. It is treated as a public good since the external benefits such as the aesthetic quality of a neighbourhood can not be controlled by the price of the service. There is always the problem of free-riding in the provision of parks and recreational facilities. Musgrave and Musgrave (1989:177) evaluate the external benefits of outdoor recreation as the benefits to the surrounding community and preservation of a natural beauty. Therefore, in this service area "efficient allocation must embrace not only amounts of the product produced, but also quality, diversity and distribution of the product among users" as stated by Goldin. (1972:114) As the other fixed facilities (library, firehouse, etc.), parks could "never be identically accessible to family units unless there were a park, library or firehouse on every doorstep". (Lineberry, 1977:37) This brings out the distribution problem for these services. For this kind of services, neighbourhoods or geographical areas become the unit of analysis to equalize the service to areal units rather than to individuals. (Lineberry, 1980:185)

However, attempts to support the inequality in the service distribution generally fail in empirical studies on park distribution which provide less evidence on intended inequality in this service. (5)

The reasons behind this fact are twofold; the "incremental" character of the service allocation and the "distributional uncontrollables" in the provision. The first involves in a distributional pattern which is "more a function of past decisions than present ones". (Jones, et.al. (1980:241) Lineberry (1977) points out the contradiction between the past allocations and recent consumption patterns for such services. For these services that are tied to the costly capital developments and land units, distributional pattern can only be changed incrementally. (6) This feature and the movement of population among communities result in an uncontrollable distributional pattern.

Besides, the impacts of the service allocation vary with the citizen characteristics, including socio-economic variables, needs, demands and preferences of citizens. In addition to the difficulties in measuring equality of service outcome, "resources may actually be intrinsically valued differently by different groups", as stated by Walker (1981:192) such that the existence of an available park in the neighbourhood may not be an indicator of social welfare when it is not perceived as such by the inhabitants. Harvey (1973:84) ironically explains the situation stating that;

> "the provision of large parks for inner city dwellers who may not (perhaps) be technically equipped or culturally motivated to make use of them will do absolutely nothing for them from the point of view of (welfare) distribution

> -it may in fact be equivalent to giving ice-cream mixers to the Boro Indians of Brazil".

The question of 'to whom' requires a distinction between the territorial justice -distribution through the appropriate areas of the city- or distribution with respect to the needs of citizen groups. Harvey (1973) notes the 'overriding values' that widely affect the distributional principles such as the needs or territorial justice. The social values may accept some services - as the merit goods - should be equally distributed.

All these considerations on the park and recreational services are applied to Ankara case. The distributional rule for this service area in Ankara seems to be rather close to the territorial justice when the distribution pattern is considered. In the empirical analysis of this study, by means of the spatial distribution of the service and a survey on its impacts on citizen satisfaction, characteristics of park services related to both supply and demand sides are tried to be matched. As stated by Knetsch (1969:86),

> "recreation demand studies to be useful for planning purposes must consider the effect of both supply and demand factors on recreation use or participation... The emphasis should be placed on determining and explaining patterns of use which emerge, given an availability of opportunities and the characteristics of using populations".

In the following sections, the allocation and spatial distribution of park services in Ankara are analyzed since both of them are required to complement the objective service measures with normative citizen satisfaction. This is extremely important as a little relationship observed between objectively measured service levels and citizen satisfaction. Rich (1979:145) investigates this problem stating that "satisfaction can reflect ignorance and should not be taken as an indicator of material distribution". The reverse may also be true; material distribution may not reflect the satisfaction of citizens when there is no concern for citizen preferences in the service allocation decisions.

5.2.1 Development of Supply of Parks and Recreational Services in Ankara

In the context of this study, recreational areas are considered as limited with parks, playgrounds for children, open sport facilities and green areas that can be used for recreational purposes. (7) Green areas of public institutions other than municipalities are not taken into consideration in order to cover merely the municipal provisions.

Almost all of the green areas in Ankara are inherited from the Republican period. (Ates, 1985). He quotes from the discussions held in Parliament in the early period of the Republic to indicate the effects of power groups on land prices and land use. Urban planning efforts of that era were resulted in an international competition which was won by H. Jansen in 1928. Despite the concern for the creation and preservation of green areas, Ates (1985:78) claims that the problems related to the green areas in Ankara first emerged by that approach that emphasized the importance of land prices and commercial development in the city. Jansen resigned in 1938 during the application of his plan because of the disputes on land speculation. Per capita green areas were 15.5 m^2 (with an 12.14 m^2 active green) after the Jansen period, the highest amount in the Republican Period. However, when the distribution is concerned, they were concentrated around the city center -Maltepe District and Boulevard. (Celik, 1991:96) For this reason, distribution of the green areas was one of the concerns of the Jansen Plan. (Ates, 1985)

From that period, per capita green areas in Ankara has been on decline due to the unpredicted increase in population through migration and uncontrolled development of the city. Most of the planned park areas turned to be residential and commercial sites. Power groups that have benefited from this development affected the application of the plans in favor of speculative uses of land. Ates (1985: 84) concludes that the squatter settlements, shared ownership (condominium) and demand for increasing the building height limitations have forced today's problems of Ankara. Unfortunately, the demand for housing -authorized or unauthorized- that increased land prices have attracted even the municipalities to sell the public land. Financial problems of the municipalities must have been a rationale for this trend. As a result, public land owned by the municipality fastly declined by 1955 and municipality began to use green areas for other purposes. (Ates, 1985:85) (8) The consequence of this attitude can be seen in Table 5.4 that shows the amount and distribution of parks and green areas in Ankara in 1965.

Table 5.4 Distribution of Green Areas in Various Districts of Ankara in 1965

District	Population (1960)	Parks and Green Areas (m^2)	m^2/person
Altindag	148,420	4,100	0.003
Cebeci	145,591	224,200	1.50
Bahcelievler	40,725	15,200	0.40
Yenimahalle	67,636	13,557	0.20

Source: Celik (1991:101 from Oztan, 1968)

As can be observed from table, per capita park area has tremendously decreased by 1965, although 1960 Census of Population results were used as a base for the calculations.

Yucel-Uybadin Plan, the winner of a new competition in 1955, proposed 12.02 (m^2) active green area/person for the year 1985. This amount was never realized as the 1985 population forecasted (as 750 000) was exceeded in 1962. Another reason for the failure of the plan is the lack of sufficient endownment of public land that can be utilized for plan purposes. (Ates, 1985:101)

In the period of 1955-1970, urban development of Ankara was dominated by interest groups and unplanned development of squatter and high-rise settlements that added to the problems of Ankara. This period can be seen as an era of unplanned development despite the existence of various institutions in an uncoordinated decision structure. (Ates, 1985)

Ankara Metropolitan Master Plannning Bureau was established in 1969 as a new planning effort under the above mentioned conditions. This bureau produced comprehensive plans by using realistic forecasts of population and concerning the socio-economic factors behind the urban development. This approach resulted in a defensive strategy for public land against speculative interests. (Ates, 1985:108)

Since 1985, Greater Ankara Municipality has undertaken the responsibility of development decisions due to the formation of metropolitan municipalities. Recent situation of parks and recreational services in Ankara can be seen in Table 5.5. However, this service is apparently far behind the international standards. (9)

Law of Metropolitan Municipality Administration (no.3030) proposes the size of parks as a criterion to divide responsibility among Greater and district municipalities. Other recreational areas and facilities are shared among district municipalities according to their locations in the city. Thus, parks bigger than 30,000 m^2 that are assumed to provide service for the whole city are owned by Greater Municipality whereas the smaller ones by district municipalities. However, most of the construction and maintenance of the small parks are also carried out by Greater Municipality due to the resource problems of district municipalities.

Table 5.5 Distribution of Green Areas in the Districts of Ankara (1985 and 1991)

Districts	1985 District Parks (m^2)		Parks owned by Greater Municipality	1991 District Parks (m^2)		Parks owned by Greater Municipality
	Total	Per capita		Total	per capita	
Altindag	70,150	0,17	260,000	180,910	0,43	388,000
Cankaya	280,635	0,42	314,300	438,130	0,61	564,300
Etimesgut	-	-	-	4,000		-
Gölbasi	-	-	-	10,000		-
Kecioren	85,972*	-	-	246,342	0,45	-
Mamak	17,199*	32,800	32,800	126,840	0,31	32,800
Sincan	-	-	-	144,700		-
Y.mahalle	107,129	-	-	331,246	0,77	76,000
Total				1,482,168		

*For Kecioren and Mamak 1986 figures were obtained.

Source: personal computations on the data compiled from Greater Ankara Municipality

Green areas are usually planned with respect to the urban development decisions. Although, there is a division of responsibility between greater and district municipalities, there are exceptions of this division. Besides, districts' approvals are also expected for green areas in addition to the approval of the responsible organs of Greater Municipality. The main obstacle encountered related to the park decisions is the lack of urban land for recreational purposes due to rapid urbanization and extensive squatter areas, that restrict the use of urban land for other purposes. For this reason, it is stated that the price of expropriation is very high and only the areas that are not suitable for other purposes are considered as green areas. In most cases, they are not suitable for this purpose either. However, at least one greater park is aimed at for each district. (10) Despite the delays in the program, the increase in the amount of district parks between 1985-1992 indicates an effort of Greater and district municipalities to improve the standard of green areas in Ankara. Especially when the externality of greater parks is considered, this improvement can easily be noticed.

Theoretically, physical proximity is an important factor in the utilization of parks and recreational services. Scale economies and externalities are affected also by the scale and range of activities offered by these areas. (11) Principally, the utility of small parks is more affected by the physical proximity whereas the activity range is determinant on the utility of bigger parks. (see Bakan and Konuk (1987) for the criteria for evaluation of parks and other recreational areas at various sizes)

For Ankara case, the criterion of city-wide provision is not very clear and operational. It seems that only the size is taken as a criterion to determine the responsibility of Greater and district municipalities. According to the above mentioned criterion, the parks that are owned by Greater Ankara Municipality are given in Table 5.6.

Table 5.6 Parks Owned by the Greater Ankara Municipality(1992)

Parks	Area (m^2)	Construction Year	District
30,000-60,000 m^2 Adnan Otuken	30,000	1984	Cankaya
Abdi Ipekci	37,000	1981	Cankaya
Hisarpark	50,000	1988	Altindag
Ornek Park	35,000	1991	Altindag
Hacettepe Park	43,000	1991	Altindag
Safaktepe Park	32,800	1957	Mamak
60,000-120,000 Kurtulus Park	111,000	1965	Cankaya
Seymenler Park	65,000	1983	Cankaya
Botanik Park	72,300	1971	Cankaya
Demetevler Park	76,000	1986	Yenimahalle
120,000-250,000 Genclik Park	260,000	1935	Altindag
50. Yil Park	250,000	after 1985	Cankaya
250,000+ Altinpark	630,000	continuing	Altindag

Source: Greater Ankara Municipality, Directorate of Parks and Gardens ,1993

Problems related to the parks and recreational services in Ankara can be summarized as:

1) quantitative: insufficiency of green areas per capita,

2) distributional: distribution of green areas within the metropolitan city,

3) qualitative (functional): lack of a service system that defines the characteristics and functions of green areas. (Celik, 1991:127 from Kaymakli, 1988)

In the context of this study, second problem is analyzed as an indicator of first and third characteristics. This means that all the problems are covered in the analysis on the distribution of service output. Thus, the distribution of green areas provided by the municipality is the main concern in the analysis. (see Section 5.2.2) As stated by Yildizci (1991:27);

> "the amount of green areas is usually calculated as m^2. park area per capita. A measurement as such depends on the assumption that the green areas are distributed homogeneously in the settlement areas. The distribution of green areas in Turkish cities is random with imbalanced external effects".

He adds that the limitation on appropriate land that leads to high expropriation costs is the basic reason of this problem. For the same reason, planned green areas may turn to be the settlement areas in the application phase.

The data indicate that the municipal investment on green areas are concentrated in urban center and basically the districts of Cankaya and Altindag when the bigger parks are considered. A comparison between the years of 1985 and 1990 shows that this tendency continues except the fact that Altindag leads in 1990 because of the construction of Altinpark within the borders of the district. However, due to the delays in the construction of this park, it is difficult to evaluate its utility for the citizens.

Although a salient increase in green areas is observed between 1985 and 1990 (see Table 5.5 and App.B.3), the gap between Cankaya -Altindag (central districts) and the other three districts (Kecioren, Mamak and Yenimahalle) seems to have expanded. However, it should be noticed that the amount of green areas per capita is fairly below the international standards. (see note 9) Although the largest increase in green areas, achieved by Yenimahalle District Municipality between 1985 and 1990, made this district the leader in per capita terms, Cankaya District still keeps its leading position in total area of parks. (see App.B.4 for the names and locations of district parks)

When the distribution of urban population to residential areas and spatial distribution of green areas in 1985 are examined together, it can be observed that relatively dense residential areas -Mamak, Kecioren, Yenimahalle and partly Altindag- have comparably less green areas. As mentioned before, the decentralization of residential areas mostly as high-rise mass housing construction in the districts of Yenimahalle and Sincan tends to continue in 1990s. Besides, most of the publicly owned greens -other than municipality- take place within the borders of Cankaya District which may mean that the other districts must have a greater need for green areas. (12) Mainly because of the financial limitations of district municipalities, new investments that are mostly realized by the Greater Municipality concentrated near the city center. In the mentioned period, only Demetevler Park was constructed far away from the center, nearby a dense residential area. It might be expected that Sanatoryum Park would provide the same opportunity for Kecioren population. However, the construction could not be initiated due to the problems in the expropriation of the land. (Greater Ankara Municipality, 1991:34) The utilization of the bigger parks is evaluated by the survey. (see Section 5.2.2.3)

All these arguments are rough evaluations of the data related to the green areas and need to be tested by other demographic and socio-economic data. For instance, one can claim that the central districts -Cankaya and Altindag- attract people during daytime as business centers and hence people from the other districts might utilize green areas in these districts. For this reason, these considerations on parks and green areas and their distribution in the city are tried to be verified by a survey.

5.2.2 Survey on the Distribution and Utilization of Parks and Recreational Services in Ankara

In this survey research, the impacts of the spatial distribution of parks and recreational services in Ankara are evaluated by means of a questionnaire. The distributional impacts of the service are measured by a park-distance based sampling. The user characteristics and preferences are considered as well as the private possibilities of the same service.

Before introducing the details of the empirical research, determining factors in the service utilization are examined to give information about the underlying effects. Determining factors of

Service utility are based on either service or user factors. Service-based factors are;

1) Distance and accessibility: The physical proximity and accessibility to the park facilities are the most important factors in the utilization of the service. "The geographical accessibility of potential users is a principal factor in the adequacy of recreation opportunities in any community. Other things being equal, the further away a person lives from the service, the less likely is he to use it". (Hatry and Dunn, 1971:25) (13)

The travel time -walking or riding- is proposed as the best measure rather than the distance to cover the subjectivity in the evaluation. The frustration factors such as the geographical barriers like rivers or freeways should also be considered. The relation between distance and effectiveness can be seen in Figure 5.2.

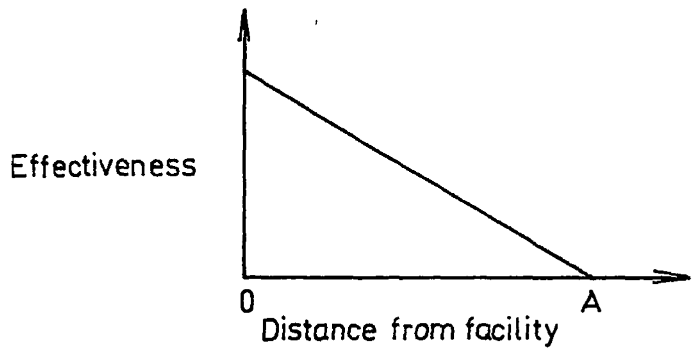

Figure 5.2. Effectiveness and Distance

Source: Massam (1975:37)

2) Crowdedness: It determines the waiting times for various facilities and the user's comfort level. As a public service, the use of parks and recreation services is expected to be congested. Besides, user's feelings about the crowdedness is another determining factor.

3) Variety of activities and facilities: It is a quality indicator that should vary with the personal needs and preferences.

4) Safety: Security level especially for children and young users is an important determinant on park use.

5) Physical attractiveness: It can be defined as 'the total visual impact' of the facility.

These are the main service-based factors to determine service utility. All these aspects have to be considered together since the quality of the service plays an important role in the utilization as well as the proximity. Lineberry (1977) claims that the role of quality is more dominant than the distance in the consumption of recreational services. Forster (1989:187) further states that the "individuals may travel further for increased quality of the site". To obtain an overall idea on the user satisfaction requires the views of non-users as well as the active users. Since the "citizens are not passive recipients of services" and "they can attempt to shape the services", user characteristics should not be ignored. (Rich, 1979) Other factors in the service utilization which are determined by user characteristics can be seen below.

Differing needs, values and tastes of users are needed to be known for an effective supply of recreation service. The service need may vary with:

1) Neighbourhood characteristics: If the neighbourhood is rather homogeneous, it may reflect other socio-economic characteristics.

2) Age group: Age is one of the most dominant factors in the utilization of recreation services. Different ages indicate different needs.

3) Sex: Participation forms and leisure of two sexes may lead to different utilization of the service.

4) Handicaps: Handicapped people have special needs to be satisfied by the facility.

5) Income level of household: It affects the opportunities for the park and recreation services. For example, low income families with fewer private opportunities need more public service as stated by Lineberry. (1977:189) "Because they are less mobile and have less amenities among their own resources, low income families on the whole have a greater need for community supported recreation services".

6) Density: It may lead to fewer possibility of recreation due to the effect of congestion.

7) Family composition: Related to the age factor, families with children tend to use recreation services more.

8) Education: May influence the values and preferences of individuals.

9) Car ownership: It is a very important factor both as an indicator of income and higher mobility to increase the accessibility of the service.

10) Individual interests: Individual interests are effective in the utilization of the service. Perception on the service output and other users, awareness on service opportunities may encourage or discourage the utilization of the service. Massam (1975:47) notes the importance of awareness and familiarity in the utilization of urban public services.

Within this framework, typical service output measures are given in Table 5.7.

Table 5.7 Service Output Measures: Recreation

Selected service functions	Illustrative "workload" measures	Illustrative quality factors	Illustrative local condition factors
Recreation	Acres of recreational activities Attendance figures	Participation rates Accessibility to recreational opportunities Variety of opportunities available Crowdedness indices Citizen's perceptions of adequacy of recreational opportunities	Amount of recreation provided by the private sector No. of individuals without access to automobiles; and the available transit system Topographical and climate characteristics Time available to citizens for recreation activities

Source: Massam (1975:159-160)

5.2.2.1 Sampling and Questionnaire

The quota sampling is chosen as the appropriate method for sampling in order to compare citizen groups with respect to the distance to the nearest park. Thus, a quota is applied on the basis of the nearest park distance. Besides, according to different socio-economic levels, a stratification is applied within the sample.

Having equal number of responses from each distance category, total area of parks in each division (see App.B.5 for the allocation of parks to divisions) is divided the density (population/area) of that division in order to equalize the divisions in terms of population and area. These indeces are grouped to represent each distance categories. Since the aim is to compare the utilization of parks according to proximity, quota includes 50 persons from the divisions with 0 or negligible amount of parks within the division (first stratum), 50 persons from divisions with moderate amount of parks (second stratum) and the remaining 100 from divisions with more local parks than the 2nd stratum. In this selection, socio-economic characteristics of the population are also considered to be able to cover all income levels in the sample since the sociological homogeneity is more important than geographical homogeneity. (Rich, 1979) Afterwards, responses are collected by a random selection of streets and dwellings in the divisions to be surveyed. Every third building is entered for the interview, no matter if it is an apartment building or a single dwelling and the questionnaire is carried out with the first volunteer who can be any person above 15. Only one questionnaire is applied in each building. The sampling from the houses allows survey to cover the responses of non-users as well as the users as required by a survey on park utilization and satisfaction.

Although the sample size seems to be small to represent all citizens in Ankara, quota sampling gives a greater opportunity to have a comparison with limited responses than random sampling. (Singleton, et.al. 1988) After the application of 200 questionnaires, a new sample of 23 persons is added to have an adequate amount of responses in each stratum. The list of divisions covered and the number of responses in the divisions can be seen in App.C.1. Lastly, it should be added that a time sampling is not utilized despite the importance of seasonal variations in park use. It is assumed that the maximum utilization period allows more information about service conditions and preferences. Since questionnaire is applied in a high utilization period (15 May-15 June), this expectation is satisfied.

The questionnaire contains 19 questions on socio-economic characteristics of household, park distance, park utilization and satisfaction. The questionnaire used is given in App.C.2. The questions are formed in a way that the subjects can easily comprehend and respond. For the ease of evaluation, various aspects of the recreation services are tried to be handled separately by means of "if yes", "if no" questions. When necessary, subjects are guided by the interviewers to make the purpose of questions clear. The questions can be grouped with respect to the determining factors of service utilization that are mentioned in Section 5.2.2.

The questions 1-6 are directly related to the socio-economic characteristics of households; 11 and 19 directly reflect personal preferences and needs; where all the others -except 7 that measures service-based factors- are influenced by both service and personal characteristics.

5.2.2.2 Hypotheses

The hypotheses are developed to relate user characteristics with service utility as the efficiency in service distribution can be increased through the provision of services in accordance with user characteristics. (see Section 5.2.2 for the relevant service and user characteristics that are important for the distribution)

The hypotheses that depend on service and user characteristics are given below. The relevant question(s) for each hypothesis are also indicated.

1) It is expected that the number of persons and age groups in the household may reflect different needs of individuals and affect the level of park utilization. (Question 2)

2) The leisure time of the household members affects their use of parks. Number of working people in the household is taken as an indicator of leisure time. (Question 3)

3) Home ownership may indicate both a higher household income and "higher involvement in the neighbourhood" that may affect the utilization of the nearest park. This hypothesis can be tested by the use of the nearest park and the information about it (i.e. name of the park) (Questions 4 and 8)

4) Car ownership indicates a higher mobility of family

members and a higher opportunity for other possibilities. This can be tested by the relation between car ownership and the utilization of other alternatives. (Question 5 and 19)

5) Income level of the household is an important variable in the park utilization. Lower income groups with fewer opportunities for private recreation and lower mobility are expected to use neighbourhood parks more. (Lineberry, 1977, 1980). It should be tested by the relation between household income level and the utilization of the nearest park. (Question 6)

6) According to the extensively approved hypothesis, distance is a very important factor in the utilization of parks. Proximity is expected to increase the use of the park that should be tested with the data obtained by the questionnaire. (Question 7)

7) The aesthetic quality of the neighbourhood is expected to be considered in the park utility. (Bourassa, 1992) (Question 10)

8) It is expected that a relation exists between the household characteristics and purpose of park use. (Question 11) This relation gives information on the needs and demands of different citizen groups.

9) The factors causing unsatisfaction are both quantitative and qualitative. The choices can be classified in relation to 1)

distance/proximity, 2) maintenance level, 3)aesthetic quality, 4,5) facilities available, 6,7) safety considerations, 8,9,10) noise and congestion, 11,12) services offered, 13) perception about the other users. (Question 13)

The satisfaction of users from the service is needed to measure the service outcome when it is taken as the perceived level of service. As Hatry and Dunn (1971:12) point out "recreation satisfaction is essentially subjective... tastes vary greatly among individuals and may change with time". Thus, the subjective evaluation of users are assumed to reflect satisfaction level with the complementary questions about the purpose of use and reasons of unsatisfaction. (Questions 11 and 13)

All the choices other than distance can be accepted as quality indicators. Lineberry (1977:133) states that "distance plays a less dominant role in the consumption of recreational facilities (than quality)". With this question two important dimensions of park services are measured together - the accessibility and the facilities available. (Jones, et.al. 1980) These are basically the service-based factors that are mentioned in Section 5.2.2.

10) The personal preferences and constraints are important in the utilization of parks as well as the service-based factors. The reasons of not using the service are grouped as; 1) leisure, 2) need, 3) financial opportunities, 4,5) taste, and 6) proximity. (Question 14) Here, service-based factors except the distance are not covered to differentiate the reasons of non-using

as a consequence of distance and personal preferences and constraints. Since the individual interests are important in park utilization, non-users' attitude may be more indicative.

11) For a better or expected quality of the park service, people tend to travel more. For only the non-users, other parks that are used by the household are asked to complement the user's attitude and to test the hypothesis of increasing distance with quality. (Question 16)

The reasons for the utilization of other parks are asked to learn the quality components. The choices are comparative to the nearest park as; being 1) more beautiful and better maintained, 2) more appropriate for the purpose, 3) more quiet and 4) more crowded. 3 and 4 are asked to measure the effect of congestion. (Question 18)

12) The degree of private possibilities for recreation is expected to influence the utilization of public facilities. For this reason, comparable recreational activities in open spaces are asked to determine the private opportunities of users that are expected to vary with respect to the socio-economic conditions of households. (Question 19) This is an important point to be tested for Ankara case as most of the low-income households in squatters have private alternatives (such as private gardens). Additionally, work places may also offer recreation. (Stiglitz, 1983). This aspect is covered under the other choices.

13) The externalities of bigger parks with extended facilities may offer a choice for the recreation service as in the case of private alternatives. The utilization of the parks of Greater Ankara Municipality that theoretically provide service to all citizens is examined by means of a matrix including information about use, travel mode, frequency of use, duration of use, purpose of use and cost of use. Since some of these parks offer greater variety of facilities, people may prefer them to the neighbourhood parks. Then, the demand for various activities and facilities may be discussed. Moreover, the utilization of these parks may indicate their external effects with respect to the location of users. By asking the users' perception about the other users, the role of social values on service utilization is tried to be measured.

5.2.2.3 Analysis and Results

Hypotheses are tested by an analysis on the expected relations between the utilization of the nearest park and other independent variables. The questions with multiple responses are evaluated to explain the reasons of certain relations and the weights of the reasons in total responses.

First, the adjustments that are done to increase the reliability of the analysis are listed below.

1) An adjusted income is calculated for the households that includes the home and car ownership in order to have an index for income and prevent multicollinearity among these

variables. In this calculation, every income level is extended to cover home and car ownership as can be seen in below list of adjusted levels.

1st level: less than 2 millions/month, car and/or home ownership in addition to 2 millions/month, 2-4 millions/month

2nd level: 2-4 millions/month + car and/or home ownership, 4-8 millions/month

3rd level: 4-8 millions/month + car and/or home ownership, 8-15 millions/month

4th level: more than 8-15 millions/month including car and/or home ownership.

By this way, 4 income levels are obtained and unknowns are not considered in income related calculations. (see Table 5.8.d)

2) Park distance categories are reduced to 4 including unknowns. 2nd and 3rd categories are evaluated together since important differences are not observed in these groups. This change serves to equalize the number of subjects in each group. (There are 70, 72 and 66 households in the formed distance group 1, 2 and 3, respectively.)

3) Household sizes are grouped under three categories as 1-2 persons, 2-5 persons and more than 5 persons to obtain sufficient number of observations in each group. (see Table 5.8.a)

Table 5.8 General Characteristics of the Households

Table 5.8 a) Household Size Table 5.8 b) Working People

No. of observations	No. of observations	%	No. of working people	No. of observations	%
1	7	3.14	0	34	15.24
2	36	16.14	1	106	47.53
3	58	26.00	2	64	28.69
4	53	23.77	3	15	6.72
5	32	14.35	4	3	1.34
6	13	5.83	5	1	0.48
7	6	2.69			--------
8	10	4.48			100.00
9	3	1.35			
10+	5	2.24			

		99.99			

Table 5.8 c) Number of Children

Table 5.8 d) Adjusted Income

No. of children	No. of observations	%	Income level	No. of observations	%
0	107	47.98	1	53	23.77
1	58	26.00	2	59	26.46
2	34	15.25	3	67	30.04
3	13	5.83	4	39	17.49
4	4	1.79	unknown	5	2.24
5	3	1.35			--------
6	2	0.90			100.00
7	1	0.45			
8	1	0.45			

		100.00			

Table 5.8 e) Home and car ownership

	Homeowners	%	Carowners	%
YES	128	57.40	100	44.84
NO	95	42.60	123	55.16
Σ	223	100.00	223	100.00

4) The data on the number of working people in the household is used as the ratio of working people to the household size in order to determine the total leisure and user potential per household.

General characteristics of the sample are summarized in Tables 5.8.a to 5.8.e.

After having a general information about the sample of this survey, the results of the analysis that tests the hypotheses listed in Section 5.2.2.2 are given below. (see App.C.3 for the list of variables used in the analysis and App.C.4 for the statistical analysis)

1) No significant relationship is found between the number of persons in the household, age groups, number of children and the utilization of the nearest park. Thus, hypothesis 1 is not verified. (see Tables C.4.1 to C.4.10) In the test of age versus utilization, all age groups -children (0-7), children (7-15), elder people (65+) and all these groups together- are tested separately to evaluate different needs of them. However, the result is the same for having children and/or elder people or not.

2) Number of working people in the household seems independent from the utilization of the nearest park. The test is repeated with the ratio of number of working people to household size and the same result is obtained. (Tables C.4.11 and C.4.12) Hypothesis 2 is not verified by the analysis.

3) Home ownership is also appeared as independent from the utilization of the nearest park and being informed about the park. Among 106 persons who know the name of the park -which is more than the users- the homeowners constitute 57.5 % where the remaining 42.5 % is the group of tenants. Thus, hypothesis 3 is not verified. (see Table C.4.13)

4) Car ownership and utilization of other alternatives (Hypothesis 4) is found statistically dependent, as expected. (Table C.4.14) Here, from the alternatives in recreational choice (Question 19), the choices 6, 7, 8, 9, 10 which may indicate a higher mobility are tested against car ownership.

5) Income level is also found statistically dependent on the utilization of the nearest park. (Hypothesis 5) However, a reverse relationship seems to appear between the income level and utilization, where the increasing income indicates a higher rate of utilization of the park. (see Table C.4.15) This is probably because of the lack of a nearby park in the low-income neighbourhoods due to the quota sample that may create a bias in terms of park allocation with respect to the income level. Another possible explanation may be the higher rate of having private gardens in the lowest income level. (see also result 12 in this section for this aspect)

6) Distance and park utilization are significantly dependent and the relation indicates the lowest utilization for the maximum distance category. (Table C.4.16) Thus, hypothesis 6 is

verified.

7) Aesthetic quality does not appear as an important factor in the utilization and the modes of using other than active use (i.e. viewing the park or passing through the park) remain very limited. Since these modes are rarely mentioned, sufficient number of observation could not be attained to test the hypothesis on the importance of aesthetic quality in park utilization. (Hypothesis 7) However, the quality consideration is evaluated in the responses related to the reasons of unsatisfaction for the user group and the reasons of not using for the non-users. (see the results 9, 10, 11 later in this section)

8) Since the number of observations is not sufficient to test the usage objective against household characteristics (responses of the 79 users are divided into several choices for this question), some indications of the responses can be mentioned here. Another reason of not applying the statistical test is the problem of double counting as the users may choose more than one alternatives. However, some clues are obtained such that; the main objective of park use appears as refreshment through resting (3rd choice), which is stated by 56 % of all users. Together with the choice of viewing the landscape and greenery (31 % of users), it indicates a high involvement in passive outdoor recreation. The objective stated by 30 % of users is carrying the children which is an equally stated objective with the use of sport facilities. Other objectives (entertainment (11 %), gathering with friends (11 %), leisure (13 %) are stated by the users with

similar frequencies. Since a bias is expected toward the higher income groups or lower rate of children in the sample, the objective of use is also evaluated against the income levels. As a result, it can be concluded that children and sport are more frequently stated objectives in the lowest income group than the higher levels. It seems that there is a tendency to point out the need for the basic facilities in lower income levels. Although these are slight indicators with limited number of observations, it seems that the supply conditions affect the structure of demand as expected.

9) The problem of limited observation is even more valid for the reasons of unsatisfaction as only the unsatisfied users (42 persons) responded to this question. However, the mostly stated reason is the lack of facilities (4th and 5th choices in Question 13) which is stated by 50 % of unsatisfied users. Congestion and noise (8th and 9th choices) are stated as the second reason of unsatisfaction (49 %), services offered (11th and 12th choices) has the third place with 40 % of users stated this reason. Except the distance and quietness, all other reasons are stated by about 20-25 % of unsatisfied users. Since the question asks the unsatisfaction from the nearest park, it is expected that the distance does not appear as an important reason. Quietness is not a problem for the users.

10) The reasons of not using the nearest park are asked only to non-users.(144 persons) Distance is stated by 63 people (43.8 %) as the first reason of not using the park. It

supports the importance of proximity for park utilization. Limited leisure time follows with 39 responses (27 %) and stating no need (18 responses, 12.5 %), dislike the park (20 responses, 13.8 %) and dislike the other users (21 responses, 14.5 %) are the other factors in not using. Lack of money is stated by only 3 non-users which is 0.02 % of all non-users. This must be because of the public character of park services in Turkey.

When the stated reasons are examined with respect to income levels, leisure is less frequently stated by lower income groups than higher levels. (7 persons out of 40 state leisure as a factor in not using the park in the lowest income level, where 10 out of 23 in the highest income level find leisure as a reason of not using). As expected, distance is stated by the lowest income group more frequently. (50 % of non-users from this level states distance as the reason). The percentage of persons who state dislike the park and other users is saliently higher in the highest income group despite the insufficiency of the observations to conclude a significant difference between higher and lower income levels. However, it may indicate that people with higher income and higher status are more involved in taste probably because of the higher satisfaction of the need for the service than the lower income levels.

11) The increasing distance with quality is not verified since the most frequently stated reason for using other parks instead of the nearest park is the suitability for the purpose (49 % of the other park users) that may be due to the lack of

facilities in the nearest park. Going to a more beautiful and maintained park is the second important reason of using other parks. (36 %) Other reasons are preference for a more crowded park (21 %) and a more quiet park (14 %). Variances between the income levels that exist in this respect can also be mentioned. Suitability for the purpose seems to be more important for the lower income groups where the higher levels find the maintenance and aesthetic quality more important. Requirement for a more quiet park is never mentioned by the lowest income level.

12) Private possibilities are expected to affect the use of public facilities. This is found dependent on the income level and car ownership. The recreational choices require a higher mobility - 6, 7, 8, 9, 10 in Question 19 - are used increasingly in the upper income levels as in the case of car ownership. (see the results of Hypothesis 4) Surprisingly, the most frequently stated recreational choice is the private garden -3rd choice- with a rate of 42.6 % of the sample. Even more surprisingly, although the income level and having a private garden are statistically dependent, this relation indicates a higher rate of private gardens in lower income levels. (Table C.4.17) In the total responses of using private garden as a recreational choice, 33 % comes from the lowest income level where only the 9 % from the highest. This may be one of the reasons of lower utilization of the nearest park by the lowest income in addition to not having a neighbourhood park at all. Second important choice is using balconies (0.40 %) for all income levels. Picnic areas outside the

city are stated as the third choice (37 %), increasing incrementally with income level. This is also related with the higher mobility of higher income groups. Picnic areas in the city and using doorsteps are stated with the same frequency (0.19 %), yet the lowest income people use their doorsteps at a saliently higher rate. (33 % of all responses for this choice)

13) The utilization of bigger parks owned by the Greater Ankara Municipality is evaluated by a separate matrix. Their rate of utilization can be seen in the Table 5.9.

Since the sample sizes of the districts are noticeably different than each other, instead of number of users, ratios of number of park users to the district sample and number of users to all users of the park are preferred. The ratio of all park users to the total sample (223) is also given to illustrate the utilization rate of the bigger parks that are planned for all citizens.

The figures conclude that Genclikparki and Seymenler are the most used parks in the city, followed by Kurtulus and Botanik with the same rate of utilization. Proximity appears important for the bigger parks as in the case of neighbourhood parks. However, the park itself must be important as Safaktepe, Ornek, Hisarpark, Hacettepe and 50.Yil are never used by even the district population. Another interesting point is that although Seymenler and Botanik are used by all citizens at various degrees -here again proximity seems to be dominant as 63 % of Botanik and 67 % of Seymenler users are from Cankaya District-

Table 5.9 Utilization Rates of Bigger Parks by District Populations

	ÇANKAYA		ALTINDAĞ		Y.MAHALLE		MAMAK		KEÇİÖREN		ALL CITY
PARKS	A*	B**	A	B	A	B	A	B	A	B	C***
Gençlikparkı	0.19	0.37	0.40	0.32	0.33	0.16	0.47	0.23	0.30	0.11	0.28
Altınpark	0.03	0.28	0.25	0.36	0.06	0.14	0.03	0.07	0.09	0.14	0.06
50. yıl	0	0	0	0	0	0	0	0	0	0	0
Kurtuluş	0.14	0.55	0.05	0.03	0.17	0.16	0.23	0.23	0.04	0.03	0.14
Botanik	0.17	0.63	0.10	0.06	0.20	0.19	0	0	0.17	0.13	0.14
Seğmenler	0.26	0.67	0.10	0.04	0.27	0.17	0	0	0.22	0.11	0.21
Demetevler	0.02	0.18	0.10	0.18	0.06	0.18	0.10	0.27	0.09	0.18	0.05
Şafaktepe	0	0	0	0	0	0	0	0	0	0	0
Hacettepe	0	0	0	0	0	0	0	0	0	0	0
Örnek	0	0	0	0	0	0	0	0	0	0	0
Hisar	0	0	0	0	0	0	0	0	0	0	0
Abdi İpekçi	0.04	0.29	0.05	0.06	0.13	0.24	0.13	0.24	0.13	0.18	0.08
Adnan Ötüken	0.03	0.60	0.05	0.20	0	0	0	0	0.04	0.20	0.02

* User/District sample

** User/All users

*** Users/All sample

nobody from Mamak uses them. Since the utilization of bigger parks is not found statistically dependent on the income level and car ownership (Table C.4.18), the relation between the use and perception about the other users is tested and a significant relation is observed such that a positive perception encourages the utilization whereas a negative one discourages. (Table C.4.19) The perception may be used as a justification of utilization or not.

As a result, income, park distance and car ownership appeared as the dominant factors in park utilization in Ankara. Demographic variables are not important as much as expected. Quality is not very important both for the users and non-users mainly because of the inadequate service level to meet the need for this service, especially for the lower income groups.

5.2.3 Policy Implications

The results of the analysis may provide some clues for the related policies in this service area.

The utilization of the nearest park and other recreational facilities are determined by the income level and distance to the service. Here, the reverse relation between income and use should be noted. This may be because of the lack of near parks in lower income neighbourhoods -it is expected as the quota sample is distance-based- and their possibility of having their own garden. This is a feature that can be related with the squatter houses with private gardens. However, this reason is not very effective in not using the park since most of the lower income households complaint about the lack of a neighbourhood park and prefer to use bigger parks as well as the citizens from other income levels. (Table C.4.18) Additionally, as the demand for this service is a function of supply, it is expected that an increase in supply will stimulate the demand.

Another important point is the low level of involvement in quality in both low and high income groups. Only the perception about other users is found effective in quality consideration. It is also surprising that the demographic characteristics and leisure time are not the determining factors in service utilization. Especially number and age of children are expected to be strongly related with the use of the nearest park. The result may indicate the bias of the sample since the households without children are higher than expected. However, the tendency of lower income families with more children can be understood in their usage objective of carrying the children to the nearest park.

Further policies in this service area should consider the income levels of neighbourhoods and the importance of the distance to target users. As the proximity appears more important for the low income groups with less mobility, their access to the service is encouraged by equalizing the service output through the city. The utilization and quality can be increased by the supply since the results for Ankara verify that demand is usually satisfied just by having a nearby park. Perhaps, the quality considerations are postponed due to the lack of minimum service in quantitative terms. This is verified by the fact that lower income groups are more concerned with park facilities and security where the higher levels are more with maintenance and then facilities. The congestion is a problem stated by higher income groups more that may indicate that the service is more public for the low income groups. Furthermore, the level of satisfaction from the nearest park is very high in the highest income level (only 5 persons are unsatisfied out of 39). This may mean that quality is also considered by the providers when the minimum level of service output is achieved. Since the usage objectives differ for different income levels, the minimum level of the service relevant to the need should be provided instead of standardizing the service distribution. For low income neighbourhoods, sport facilities and playgrounds for children are important where landscape and greenery -with a proper maintenance- for high income neighbourhoods. Thus, small-scale, single purpose facilities and a regular maintenance may solve most of the problem of all income levels.

The results indicate that the parks owned by the Greater Municipality are also used on a distance base but with more concern for the quality. Here, the quality appears more important than the neighbourhood parks since the travel time and expectation of users are higher. Data show that the users can travel more for a better service or quality in the case of bigger parks. Thus, investment should be directed to regularly maintained bigger parks with a wide range of facilities and services without much concern for their location in the city. The parks that are not used by even the district population -Hisarpark, Ornekpark, Hacettepe, Safaktepe and 50.Yil- support this claim. Citizens prefer to use Botanik or Kurtulus (23 % of Mamak population uses Kurtulus and this is the 23 % of total users of this park) because of the facilities provided and services offered. The neighbourhoods from low income groups need more neighbourhood parks within their reach for everyday use.

The small scale investments for the parks may also make district municipalities more functional in the provision of this service both through the production and cooperation with the district population that may have a higher potential of participation in service provision. Otherwise, district municipalities will remain ineffective in this service area due to the problems mentioned in the supply conditions. (see Section 5.2.1)

As a result, the main policy should aim at achieving distributional justice -by which the satisfaction of different user groups is aimed- rather than a territorial justice, the current policy applied by the municipality. For low income groups small service facilities are required where the bigger parks are used by all income levels. The utilization of bigger parks can be increased by a higher quality and maintenance. Lower income might be supported by additional policies such as cheaper or free transport services from the neighbourhood to bigger parks. These are a few examples of what can be done to increase the utilization of the service and satisfaction of the users. More can be added when the importance of the distribution of service is considered by the providing bodies.

NOTES

1) Numerous obstacles against a systematic analysis on the distribution of urban public services are stated by many authors. (see Lineberry (1977,1980); Lineberry and Welsch (1974); and Knetsch (1969)) Especially Lineberry (1977) gives details for each obstacle. However, other than the availability of records (i.e. hard data), all the others are related to the survey type research. The method of coping with these problems can be found in Section 5.2.2. where the methodology of the survey used in this study is presented.

2) In this study, the population and area of Etimesgut District are incorporated into Yenimahalle in order to be consistent with 1985 figures.

3) see the study on the waste management issues of the Greater Ankara Municipality by Kirca, et.al. (1990)

4) Goldin (1972) discusses positive and negative aspects of free provision of parks. The efforts to measure the demand for this service (see Forster,1989 for example) support the private nature of this service. However, the reason for public provision is not directly related to service characteristics.

5) see Table 5.10 below which summarizes the results of the selected studies on park services.

Table 5.10 Selected Studies on Urban Service Distribution: Parks

Study,Place,Date	**Dependent Variable**	**Findings**
1.Community Council of Greater New York (1963)	Park facilities	Favoured higher income areas
2. Gold,Detroit(1974)	Park facilities expenditures	Favored low-income areas
3. Fisk,Washington, D.C. (1973)	Park facilities	Favored low-income areas
4. Lyon,Philadelphia (1970)	Capital expenditures on parks	Equal by neighborhood
5. Mladenka and Hill, Houston(1975)	Facilities,proximity	Equally distributed by neighborhood with a slight tendency to favor disadvantaged neighborhoods

Source: Lineberry (1977:185)

6) Park distribution in Ankara reflects the same character with the trend between 1985-1992.

7) These greens are covered under the public open areas in the classification and referred as "active green areas" because of their utilities. (Odabas, 1990:19)

In the general typology, active areas can directly be used by the citizens for recreational purposes, such as parks, playgrounds, etc., where the semi-active areas have a limited access for the organized citizen groups and the passive areas have no accessibility for recreation. They are established with the purposes of preservation, environmental and aesthetical considerations. (Greater Ankara Municipality, 1992:36)

8) Between 1953-65, green areas have been decreased not only in terms of per capita amount, but also the total amount. This prevents to accept the population increase as the only reason for the decrease in green areas. (Celik, 1991:100)

9) In Ankara, amount of municipal green areas at the city scale is only the 14% of the expected standard in 1970. (Tekeli, 1987) This ratio was even lower at the district level as 5%. Today, it is approximately 15% of the standard at the district level and 2.78 m^2/person in Ankara whereas the standard level is 20.0 m^2/person. (Tekeli, 1987) When the active green areas are considered, this amount is 1.21 m^2/person in 1991. (Greater Ankara Municipality, 1992)

10) Personal communication with Mufit Hatat, the Director of Parks and Gardens of the Greater Ankara Municipality, January 1993. It should also be noted that the item 18 of the Urban Development Law devotes a share of 35% from the urban development arrangements to Municipality for public uses. It appears that it is not used effectively in the case of parks and recreational services.

11) Hirsch (1973:377) proposes variety and distance as two of the indirect output measures for park services. Among others attendance per participant hour, participation, non-participation, crowdedness, safety, physical attractiveness, perceived satisfaction, delinquency and crime reduction, health, economic impact are listed.

12) In addition to the variations in park areas in favor of Cankaya District, the inhabitants in this district seem to have a greater chance to reach green areas around the city due to their higher mobility. A good example for this mobility might be the percentage of users of Beynam Forest which is about 40 km. from the city center. About 44% of all population who knows this forest is from Cankaya District. It is interesting that the percentages with respect to the districts are in the same order with their income levels. (Kurum, 1992) This verifies the relation between socio-economic structure of population and access to green areas.

13) see Mladenka and Hill (1977) for an empirical example of a survey on the utilization of the nearest park.

CHAPTER VI

CONCLUSION

In this study, the distribution of urban public services is evaluated by means of a survey on parks and recreational services in Ankara. The distributional justice is considered important since the distribution of urban services influences the wealth of the citizens at varying degrees. In order to clarify this relationship, the public goods theory and the theory of public choice which is based on social welfare are elaborated on as the theoretical background of this dissertation.

To relate the theory of public good to urban services, the theory of local public goods is considered in the context of urban service distribution. Urban services are classified with respect to their spatial distribution and parks and recreational services with fixed facilities are chosen as the case for urban public services. Although the publicness degree of urban services varies with the specific conditions of local population, services and providing bodies, parks and recreational services are generally exhibit private good characteristics rather than public good. Here, the reasons of public provision other than economic considerations -i.e. economies of scale- should be considered in order to understand the merit character of such services. The reason of public provision for some services including parks and recreation, is political rather than being economic. This may be related to the normative decisions on the distribution of public services. Especially when the private alternatives are accessible to an advantaged group of citizens, public provision is required to balance the distribution of wealth among citizens.

However, the problem stems from the normative feature of decisions on distribution. Since it is inevitable to apply a distributional rule either intended or unintended, "whatever one thinks about the importance of distributive justice or the correct theory of justice, it is necessary to employ some concept of justice, either explicitly or implicitly, before one can say that any given efficient allocation is in fact desirable." (Bourassa, 1992:35)

Being aware of the complexity of the problem which is dealt with in this study, the purpose is defined as to develop a tool for the measurement of service performance of local governments at metropolitan scale. The factors influencing the distribution of urban public services and distributional rules are evaluated to be informed about the performance criteria for certain services. Although the literature on the distribution of urban public services do not indicate any bias in the distribution, there are unintentional inequalities. Thus, the equality concern itself should be investigated since the population served by the urban governments is not equal in conditions - demographic, socio-economic, cultural. For this reason, the equality is defined as the equality of conditions after receiving the service rather than equal distribution of the service at the city scale. Thus, the choice between the territorial and distributional justice is an important beginning point.

The supply conditions do not generally permit the distributional justice since the "goal" of the city government is affected by the organizational and bureaucratic structure of the local government and the other social forces which are effective on the service provision and distribution. However, it is claimed that the structure of providing organization is more important than the negotiation between citizen groups. For this reason, the financial and organizational structure of local governments which are the providers of urban public services are investigated to find the restricting forces in service distribution. Here, it should also be pointed out that the economic efficiency can be provided by a system of governance which can represent the local citizen's choices with local fiscal autonomy and technical capability "to reflect voter preferences in its budget and service delivery". (Bahl and Linn, 1992:411)

Recent structure of Turkish metropolitan cities reflect a jurisdictional fragmentation which has not much to do with service provision that requires a functional fragmentation. The issues of optimal level of provision and decentralization are discussed to point out the differences between the Turkish structure and the examples of functional fragmentation.

The optimization theorem which assumes local finance and no externalities in the provision of local public goods is not valid for Turkish case in which demand is reflected in the spatial distribution of population through locational choice. This process can best be explained by the Tiebout's hypothesis -voting with the feet- which relies on homogeneous communities with similar preferences. Thus, the demand for services is related with the supply which leads the formation of homogeneous neighbourhoods within metropolitan city. The provision of services are also influenced by this locational choice of citizens. The park and recreational services are suitable from this respect since the demand is saliently affected by the supply. This feature is valid for such services that are not crucial for the viability of the urban life, but for the reproduction of labor.

In the analysis of parks and recreational services in Ankara, both demand and supply are tried to be covered to connect the data on spatial allocation and distribution of this service. For the supply side, the 'hard' data (m2 park in the divisions of Ankara) are utilized where a questionnaire survey is applied for the demand side to measure the impact of service distribution on citizen's satisfaction. 223 people from various neighbourhoods are chosen by a quota sampling which covers the spatial allocation of service on a distance base. The distance to the nearest park is taken as the data to reflect the amount of service area in the neighbourhood. On this basis, divisions are grouped to have approximately equal number of observations with respect to the distance categories and income levels. Some adjustments are done in the data for increasing the reliability of the analysis.

Some biases inevitably distort the results such that the number of children (less than expected since the sample is spatially biased by the districts) and low rate of utilization of the service in lower income groups due to the lack of service in their vicinity. These problems are mentioned together with the related hypotheses. However, despite them important results are obtained from the analysis.

Distance, income level and car ownership appear as the most important factors in the utilization of parks and recreational services in Ankara. The relation between the use of the nearest park and distance is even more important for the low income groups with less mobility in the city. It seems that higher income levels have more access to both public and private possibilities for this service which may be an indicator of unpatterned inequality since the supply is mostly determined by spatial limitations and relies on incremental allocations. Besides, the amount of green areas owned by the Greater Ankara Municipality and district municipalities increased saliently after 1985. It is difficult to evaluate this development as a result of the decentralized structure of Ankara metropolitan government as the limited financial resources and decreasing investments of district municipalities do not support this claim. Both the financial resources and the responsibility for most services - including parks and recreation - are provided by the Greater Municipality through financial transfers to district municipalities. (Kepenek, 1992)

Other important factors which are expected to be dominant in the park utilization (demographic characteristics of the household, homeownership, aesthetic quality of the park) are not statistically significant for Ankara case. However, number of children might be dominant in the park use of lower income groups as supported by other responses such as the usage objective. Aesthetic quality seems to be more important for the upper income levels according to the responses on the usage objective and the reasons of unsatisfaction. It can be concluded that aesthetic quality is a concern that emerges after the basic facilities attained. This is also supported by the fact that the mostly stated reason of unsatisfaction is the lack of required facilities.

The main reason of not using the park is dominantly the distance, where the leisure time is more of a problem for high income levels. Financial restrictions are stated very seldom which indicate the public character of this service in Ankara. The results on the crowdedness of the park also illustrate that this service has a public character for all income levels since the congestion is not perceived as a problem in park use. The local expenditure on this service does not reflect the technical features of the service as it is not directly based on the user charges or local taxes. Yet, there is a higher tendency to complaint about the crowdedness and the other users in high income levels. This may be explained by their access to private alternatives more easily. However, a distinctive result related to private alternatives is that the private gardens are more frequently owned by the lower income groups probably living in squatter settlements.

All income groups use their balconies at an equal rate where the other private alternatives such as the picnic areas outside the city and private park facilities are more used by higher income groups.

When the bigger parks owned by the Greater Ankara Municipality are concerned, the utilization rates indicate a higher relation between use and quality than the neighbourhood parks. It might be because of the longer travel time and higher cost of using these parks. Genclikparki (28 %) and Seymenler (21 %) emerge as the parks used by all citizens from each district, but they are used more by the district population which they belong to. Thus, the proximity seems to be important even for the utilization of the bigger parks. Since quality is another concern some of them are not used by anybody from the sample - Hacettepe, Hisarpark, Ornekpark, Safaktepe and 50.Yil. Another interesting point is that the income level appears dominant again. Seymenler and Botanik Parks are never used by Mamak population and Adnan Otuken is not used by both Mamak and Yenimahalle. Here, the relation between the utilization of the parks and the perception about the other users should also be mentioned. The utilization of the parks is accompanied by a positive perception about the other users where negative perception discourages the utilization.

As a result, the implications of the results for future policies can be summarized as follows;

1) Since the need of low income groups is not satisfied for this service, small-scale, single-objective facilities (playgrounds for children, sport facilities) are required for such neighbourhoods in the short-run.

2) The regular maintenance of parks should be provided especially for high income neighbourhoods that have a quality concern. Because of the higher mobility and private alternatives, they do not require new neighbourhood parks as much as the lower income groups. Small-scale green areas -not necessarily with additional facilities- may serve to provide suitable service for this group of citizens.

3) Bigger parks with a wide range of facilities may provide service for all citizens. Results verify that the higher quality is more important for bigger parks. Thus, instead of aiming to have bigger parks in each district, regularly maintained parks with multi-purpose facilities for various activities should be provided.

4) Needs and demands of citizen groups should be considered in the distribution as well as the spatial and financial considerations. This requires a distributional justice instead of the territorial justice which is dominant in the park policy of Ankara Municipality. If the distributional justice is aimed, the objective of an equitable distribution can be achieved by supporting the lower income groups with cheaper transportation for their access to the

bigger parks while providing smaller parks in their vicinity.

Despite the low level of this service in Ankara when compared to the international standards, variances among districts are important as the utility of the service units is expected to be higher especially for the low income groups with less private alternatives. An increase in the rate of utilization of the parks can be achieved through an investment plan that considers the demand characteristics. This can only be done with the empirical research on service output and citizen satisfaction from the service provided. As Lineberry states (1977:194), "unless urban governments improve their own measurement of what they are doing -and we have in mind more sophisticated measurement than the number of cubic yards of asphalt used in street repairs- there is scant hope of improvements in their distributive attention rules". This is even more important for the countries like Turkey with higher opportunity costs associated with their financial resources.

With these considerations, in this study, the impact of distribution of an urban public service on citizen satisfaction is evaluated considering the factors influencing the demand and supply. However, the method rather than the analysis is pointed out to obtain clues for further research in the field of urban service distribution. This is expected to be the contribution of this study in addition to the implications in the analyzed area of service. Thus, as a concluding remark, potentials for further research should be mentioned briefly.

The analysis in this study may be repeated for other urban public services with different output measurements. There are more to do in the same service area stressing different aspects of service provision. User and park based comparisons can be made between the users and non-users of various parks. The utilization of different parks can be compared on the basis of quantity and quality considerations. User perception related to parks can be evaluated in a more detailed analysis with the help of the sociological characteristics of the user groups.

External effects of the parks with different qualifications - i.e. the level of maintenance, range of services, facilities and activities- can be measured and compared. Lastly, a user satisfaction index can be developed to be applied for the utilization of the service output.

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APPENDICES

APPENDIX A

METROPOLITAN GOVERNMENT STRUCTURE

A.1 Rights & Duties Of Metropolitan City Municipalities

Metropolitan city municipalities and district municipalities perform the municipal services within the context of division labor defined by the laws. Duties of the metropolitan city municipalities which have been defined by laws are shown in detail. As it can be seen from these duties general planning and programming on the whole city level, public transportation, distribution of gas and water and sewerage services are totally within the responsibility of metropolitan city municipalities. The construction and maintenance of avenues, boulevards and squares, the realization of services which require big investments and the other activities which concern the whole of the city also belongs to the metropolitan city municipalities.

Duties of the metropolitan city municipalities have been listed by law as the following:

- To draw up metropolitan city investment plans and programmes,
- To draw up or commission and then approve and implement metropolitan city plans, to approve and supervise the implementation of urban development application plans prepared by district municipalities in keeping with the master plan,

- To undertake construction of boulevards, avenues, main roads and squares within the metropolitan city, and to ensure their maintenance and repair,

- To undertake construction and management of passenger and cargo terminals, and multistorey car parks,

- To ensure environmental health and protection,

- To create green commons, parks and gardens, and to provide social and cultural services,

- To undertake water, sewerage, all types of gas and public transport services,

- To undertake health control on foodstuff,

- To allocate, construct and manage cemeteries,

- To carry out all work for giving numbers to buildings and names to avenues, streets and squares,

- To undertake construction and management of wholesale markets and slaughter-houses,

- To run fire-fighting and similar other protective services,

- To provide for the realization of those services that require joint financing and investments across the metropolitan city,

- To provide municipal warden and other services, and to issue licenses in those areas that are administrated by the metropolitan city municipality,

- To provide coordination between district municipalities and to solve all the problems among them.

Source : Greater Ankara Municipality (1992a:27-29)

APPENDIX A.2

Table A.2.1 Local Public Responsibility for Services in Selected Cities with Little Responsibility

Function	Tehran, Iran 1974	Kingston Jamaica 1973	Lagos, Nigeria 1960s	Gujranwal Pakistan 1975	Lima, Peru 1982	Davao, Phillippine s 1980	Tunis, Tunisia 1972	Valencia, Venezuela 1960s	Kinshasa, Zaire 1973	Bukaru, Lumbumbashi 1973
Public utilities										
Water supply	S	S	S	S	P	N	N	N	N	N
Sewerage & drainage	S	N	S	S	P	P	P	N	N	N
Electricity	N	N	N	N	N	N	N	N	N	N
Telephone	N	N	N	N	N	N	N	N	N	N
Social services										
Primary education	N	N	P	P	N	S	S	S	N	N
Health	S	S	S	S	S	S	S	S	S	N
Social welfare	S	S	N	S	N	N	N	N	S	S
Housing	S	N	N	N	N	N	S	N	N	N
Transportation										
Highways & roads	P	P	P	S	S	P	P	S	P	S
Street lighting	P	N	P	P	P	P	N	P	P	P
Mass transportation	N	N	S	N	S	N	N	S	N	N
General Urban Services										
Refuse collection	P	P	P	P	P	P	P	P	P	P
Parks & recreation	P	P	P	P	P	P	P	P	P	P
Markets & abattoirs	P	P	P	P	P	P	P	P	P	P
Cemeteries	P	P	P	P	P	P	P	P	P	P
Fire protection	P	P	P	n.a.	P	P	P	P	P	P
Law enforcement	N	N	S	N	S	S	N	N	N	N

n.a. Not available

Note: P, primary responsibility; S, secondary reponsibility; N, no responsibility.

Table A.2.2. Local Public Responsibility for Services in Selected Cities with Extensive Responsibility

Function	Francistown Botswana 1974	Bogota, Colombia, 1970-72	Cali, Colombia, 1975	Ahmadabad India 1971	Bombay, India 1972	Calcutta[a], India 1977	Delhi, India 1970	Jakarta, Indonesia 1972	Nairobi, Kenya 1976	Seoul, Rep.of Korea 1965-71
Public utilities										
Water supply	P	P	P	P	P	P	P	P	P	P
Sewerage & drainage	P	P	P	P	P	P	P	P	P	P
Electricity	P	P	P	N	P	N	P	N	N	N
Telephone	P	P	P	N	N	N	N	N	N	N
Social services										
Primary education	S	P	S	P	P	P	P	P	P	P
Health	S	S	S	P	S	S	S	S	P	P
Social welfare	N	S	N	P	S	P	S	S	S	S
Housing	S	S	S	S	P	S	S	P	P	S
Transportation										
Highways & roads	P	P	P	P	P	P	P	P	P	P
Street lighting	P	P	P	P	P	P	P	P	P	N
Mass transportation	N	S	N	P	P	N	P	S	N	P
General Urban Services										
Refuse collection	P	P	P	P	P	P	P	P	P	P
Parks & recreation	P	P	P	P	S	P	P	P	P	P
Markets & abattoirs	P	P	P	P	P	P	P	P	P	N
Cemeteries	P	P	P	P	P	P	P	P	P	N
Fire protection	N	P	N	P	P	P	P	P	P	P
Law enforcement	N	S	N	N	N	N	N	S	N	N

Note: P, primary responsibility; S, secondary reponsibility; N, no responsibility.

a. Calcuta corporation

Table A.2.3 Local Public Responsibility for Services in Selected Cities with Moderate Responsibility

Function	Cartagena Colombia 1972	Madras. India 1976	Casablanca, Morocco 1970s	Karachi, Pakistan 1976	Manila, Philippines 1980	Bangkok, Thailand 1974	Lusaka, Zambia 1974
Public utilities							
Water supply	P	P	P	P	P	P	P
Sewerage & drainage	P	P	P	P	P	P	P
Electricity	N	N	N	N	N	N	N
Telephone	P	N	N	N	N	N	N
Social services							
Primary education	S	P	N	S	S	P	N
Health	N	S	S	P	S	P	S
Social welfare	N	S	S	S	S	N	S
Housing	N	S	N	N	S	N	P
Transportation							
Highways & roads	P	P	P	P	S	N	P
Street lighting	P	P	P	P	S	N	P
Mass transportation	N	N	P	N	N	S	N
General Urban Services							
Refuse collection	P	P	P	P	P	P	P
Parks & recreation	P	P	P	P	S	P	P
Markets & abattoirs	P	P	P	P	P	P	P
Cemeteries	P	P	P	P	P	P	P
Fire protection	P	P	S	P	P	P	P
Law enforcement	N	N	S	N	N	N	N

Note: P, primary responsibility; S, secondary reponsibility; N, no responsibility.

Source: Bahl and Linn (1992: 20-22).

A.3 Financial Framework of Turkish Metropolitan Administration

Until 1981, local government finance was arranged by the Municipal Revenue Law which was passed in 1948. Rapidly increasing demand for urban services necessitated an increase in local revenues especially in metropolitan cities. Before 1981, local governments' share in state budget had never reached 10%. By the new laws which were approved in 1981 (Law. no.2464 and no.2380) a salient increase in local revenues was achieved.

Besides, by Law no.3239 local taxes and user charges were also increased 2 to 10 times in 1985. With the help of other rate changes, a continuous increase in revenues of municipalities was provided. As an example, share of municipalities in the general budget tax revenues increased 97.9% in 1984-85 and 49.19% annually between 1981 -1986. (Ustunisik, 1987, p.20). Other regulations on local revenues (Property Tax, Oil Consumption Tax and Property Tax) also supported the increase in local revenues.

Sources of revenues of metropolitan city municipalities may be summarized under four main topics:

a) Shares from national budget tax revenues,
b) Taxes collected directly by the municipalities,
c) Municipal charges collected from various economic and social activities,

d) Contribution shares collected from the citizens who benefit from the investments of road, water and sewerage realized by the municipality.

The major source within above is the shares from national budget tax revenues. These revenues are divided into two:

a) 5% of all tax collected in the city of the metropolitan city municipality, and

b) 35% of the proportion allocated for district municipalities within the boundaries of metropolitan city municipality from the national tax revenues relative to their population.

Taxes collected directly by the municipalities are the property tax, announcement and advertisement tax, entertainment tax, communication tax, electricity and gas consumption tax and fire insurance tax. Of these taxes 17% of property tax and 50% of electricity and gas consumption tax and 100% of the rest belong to the metropolitan city municipalities.

Municipal charges and contribution shares which are the other sources of revenue for the metropolitan city municipalities totally belong to the metropolitan city municipality". (Greater Ankara Municipality, 1992a: 29).

However, all these changes in local revenues could not affect the traditional structure of local finance. Ersoy (1989) claims that all regulations that increase financial resources of municipalities are kept under the control and dominance of central government and supports this claim giving examples of central agencies and actions which regulate local revenues. Almost every increase in local revenues is followed by a reduction through central institutions. Additionally, the allocation of new financial resources is always controlled by central government, either by means of an approval procedure or a cut-off for previous debt accounts. Main revenue source of local governments is still the transfers from central government. 80% of the municipalities' share in the general budget tax revenue (5 % of the total) is controlled by a state agency (Iller Bank) which is responsible for the allocation of this fund with respect to the population of municipalities, and the remaining 20% is controlled by the Ministry of Reconstruction and Settlement. Besides, the responsibility of electricity and water charges that were previously collected by municipalities were transferred to central institutions.

Total budget of Turkish municipalities was about 9% of the state budget in 1980. This percentage is very low compared to European countries like France (16.7%) or West Germany (19%) and moreover the 9% share has basically remained unchanged since 1950, in spite of the pace of urbanization. The 1980 level of municipal spending per urban inhabitant was, in real terms, no more than that of 1950. Between 1977 and 1980, investments declined by 40%. (WB, 1983). The percentage of municipal budgets in state budget was even lower between 1980 and 1985. New regulations increased this share to 12.7% in 1985 and 17.7% in 1986. (add recent data). Despite the increase in municipal revenues, the decrease in the weight of general budget in public economy led imbalances in the budgets of municipalities. According to Ersoy (1989:53), the reason behind the central control of local resources can be found in the needs of capitalist reproduction.

However, when the strong relation between local revenues and service provision is considered, Turkish municipalities seem to be restricted by the local revenues. For a comparison at the metropolitan scale, local revenues of selected cities can be seen in the table below.

Table A.3.1 Local Revenues by Source

Cities	Central(%)	Local(%)
Cairo	59.4	40.6
Sfax	25	75
Toronto	20	80
Ankara(1976)	55	45
Ankara(1990)	82	18

Source: compiled from IULA-EMME (1991), Danielson, Keles(1985) and Greater Ankara Municipality(1991)

Data indicate that the share of local revenues in total municipal revenues of Ankara Municipality has decreased at a great extent since 1976 despite the increase in revenue sources. The continuous decline in the rate of investments of Ankara Municipality supports the limiting effect of centrally allocated sources on local service provision. This rate is realized as 31.42% in 1990 and 28.32% in 1991. (Greater Ankara Municipality, 1992)

APPENDIX B

PARKS AND RECREATIONAL SERVICES IN ANKARA METROPOLITAN CITY

B.1 Ankara Metropolitan City Municipality

Municipal services in Ankara city are run by the Greater Ankara Municipality and seven district municipalities which make up a municipal system. Greater Ankara Municipality fulfills its duties through the following administrative units:

a) Central Organization,
b) General Directorate of Electricity, Gas and Bus Services (EGO),
c) General Directorate of Ankara Water and Sewerage Authority (ASKI),
d) Affiliated Companies

The Greater Ankara City Municipality's central organization is directed by the Mayor and the General Secretariat. A total of 6,900 people work in 15 units under the General Secretariat. Most important of these units are the departments of Public Works, Financial Services, Urban Development, Warden and Fire Brigade. Another organ of the Greater Ankara Municipality is the Municipal Council which consists of elected members.

The Metropolitan City Council has 49 members, who have been elected according to the relevant legislation governing local elections. As a result of the latest municipal elections held on 26th March 1989, the current Council is composed of 29 members from the Social Democratic Populist Party, 7 members and the Metropolitan City Mayor.

The Municipal Council has such duties and powers as discussion and adoption of the budgets of EGO and ASKI , and approval of borrowing, sale of immovables and the urban development plans.

The Mayor or a member of the Council may be removed from office upon an administrative court ruling or a 3/4 majority decision of the Metropolitan City Municipal Council. One of the most important duties of Metropolitan City Municipalities is the execution of public transport, gas, drinking water supply and sewerage services. To this end two separate organizations are in operation under Ankara Metropolitan City Municipality. These are the General Directorate of Ankara Water and Sewerage Authority (ASKI) and General Directorate of Electricity, Gas and Bus Services (EGO).

The mayor submits the income and expenditure budget to the Municipal Council after preparation of the related departments. The budget is adopted through a decision of the Council after studies of the budget committee and discussions of the Council. Additional expenditures are also ratified by decisions of the Council within the financial year. All budget figures are estimated on the base of current prices of the financial year within which the budget is valid. Accounts of the municipality are closed at the end of each financial year and submitted to the Council's approval. Examinations and approval of the accounts should be completed until the end of the following financial year.

Source: Greater Ankara Municipality, 1992b: 30-31,35.

B.2 Development Criteria For Ankara Metropolitan City

The Greater Ankara Municipality has basically adopted the policy of decentralization. Within the context of this policy, the following are the plans and projects made and decisions taken by the Greater Ankara Municipality that may have an impact on the Ankara metropolitan macro-form.

1. The development of Ankara outside the topographical bowl will be encouraged.
2. No increase will be allowed to population and building density in the main topographical bowl.
3. Priority will be accorded to preservation, upgrading and assessment efforts that do not lead to an increase in density in built-up areas. In this context:
   a. Kazikiçi Bostanlari will be considered as the new metropolitan business district of Ankara.
   b. Ulus historical city center will be re-evaluated in the context of a project based upon historical preservation.
   c. The Citadel will as a whole be preserved in the context of a project that attributes the main role to cultural activities.
   d. In squatter areas density decisions proposed by the "upgrading plans" will be revised and efforts will be made to minimize the adverse impacts of such decisions.
4. A Transportation Master based upon mass transportation plan will be prepared considered in connection with the investment plans, programs and projects of Directorate-General of State Highways Authority. In this context, in

addition to the subway along the North-South axis, a new light rail system will be proposed along the East-West axis and bus operations will be rearranged.

5. New settlement areas with a population not exceeding 300,000 will be realized in Mamak and Sincan outside the main topographical bowl and some unplanned and "de facto" developments, such as Çayyolu/Beytepe will be re-evaluated. Furthermore, attempts will be made to materialize the belt of new settlements 35 to 40 km away from the city, as well as searching for the pre-conditions of such an attempt.
6. The balance between residential areas and work places at the metropolitan area which seems to have been worsened will be re-established through setting up new industrial, storage and specialized urban, regional, national and international service units.
7. With the purpose of preventing air pollution and eliminating the threads on the sensitive ecological balances of the region, as well as increasing the number of green areas available, efforts will be expended to ensure that:
   a. The valleys of Ankara are opened up for public use,
   b. The studies concerning the metropolitan green belt are accelerated,
   c. Water basins such as Imrahor and Mogan are preserved,
   d. Large park areas are built in and around the city.
8. Physical and management systems will as a whole be restructured for urban water, sewage, waste water treatment, gas, solid wastes and urban infrastructure services of a similar kind which seems to have been neglected so far.

The dream of a capital city of 5-million, decentralized along the main transportation corridors, where in the year 2000 the infrastructural problems have been solved to large extent, new settlement and employment have been created outside the main topographical bowl, will no longer be an impossible dream.

Source: Bademli, 1992.

APPENDIX B.3

Table B.3.1 Population, Area And Service Output Of Districts

Districts[a]	Years	Population[b]	District Area (ha) [c]	Park Area (m^2) *
CANKAYA	1985	665,128	13,700	280,635
	1986	674,306		298,588
	1987	683,611		324,556
	1988	693,044		340,000
	1989	702,608		344,860
	1990	712,304		394,020
	1991	722,133		438,130
ALTINDAG	1985	403,871	7,400	70,150
	1986	406,583		77,450
	1987	409,313		108,830
	1988	412,062		140,220
	1989	414,829		145,020
	1990	417,616		171,370
	1991	420,520		180,910
Y.MAHALLE	1985	360,573	19,000	107,129
	1986	371,729		122,101
	1987	383,230		173,271
	1988	395,087		224,441
	1989	407,310		267,821
	1990[d]	419,911		305,946
	1991	432,902		335,246
KECIOREN	1985	433,559	8,150	**
	1986	450,284		85,972
	1987	467,654		11,082
	1988	485,694		136,192
	1989	504,430		140,892
	1990	523,891		167,342
	1991	544,101		246,342
MAMAK	1985	371,904	7,700	**
	1986	377,499		17,199
	1987	383,178		36,629
	1988	388,943		56,060
	1989	394,794		66,790
	1990	400,733		97,790
	1991	406,762		126,890

App. B.3 (contn'd)

* Park area figures shown in the table are taken from Greater Ankara Municipality (1992). These figures are saliently different than the calculations in this study probably because of the frequent changes in district parks and the exclusion of green areas other than active greens.
** could not be found

a. Only the above 5 districts which were created in 1985 are considered due to lack of complete data for other districts.
b. District populations are calculated by using growth rate of each district with the help of the below formulae:

$r=(\ln x_t - \ln x_o)/t$

where x_t = 1990 population and x_o = 1985 population of the districts (SIS, 1985 Census of Population and 1990 forecasts)
c. Even though the current district areas are not the same as those in 1985 due to the overlaps and modifications caused by the formation of new district municipalities since then, the most recent figures are used for the time frame of analysis to achieve a basis for comparison.
d.The population, area and parks of Etimesgut -a district that was formed in 1990 as a separation from Yenimahalle District- are added to Yenimahalle from 1990.

Sources: SIS, 1985 Census of Population and 1990 forecasts
Greater Ankara Municipality, 1992
Greater Ankara Municipality, Directorate of Parks and Gardens,1991

B.4 The Name and Location of District Parks within the Divisions

1. ALTINDAĞ MUNICIPALITY

NO	NAME OF THE PARK	LOCATION OF THE PARK	DIVISION
1	AKALAR IL PARKI	TURAN MAH.ENGIN SOK.	36
2	VILAYET ÖNÜ	HÜKÜMET MEYDANI	1
3.	ALTINDAĞ PARKI	ATIF BEY MAH. 9.SOK.	38
4.	ZIRAAT PARKI	IRFAN BAŞTUĞ CAD.	39
5.	YEĞENBEY 1	DENIZCILER CAD.	1
6.	YEĞENBEY 2	DENIZCILER CAD.	1
7.	ZAFER PARKI	ÖRNEK MAH.H.REIS CAD.	60
8.	ŞÜKRIYE MAH.PARKI	DERNEK SOKAK	36
9.	HACIBAYRAM PARKI	HACIBAYRAM CAMII YANI	1
10.	BAŞPINAR MAH.PARKI	BAŞPINAR MAH.	43
11.	NASRETTIN HOCA PARKI	SEL SOKAK-ISKITLER	40
12.	ATILLA PARKI	1 VE 2.ATILLA MAH.	31
13.	SITELER PARKI	KAVAKLAR SOKAK	43
14.	NASUH AKAR PARKI	4479/3 ADA HARMAN, ÇAĞDAŞ	42
15.	GÜNDOĞDU MAH.PARKI	FIDAN SOK.	35
16.	NAZIMBEY PARKI	ULUCANLAR CAD.	39
17.	DIŞKAPI UZUN OTEL ÖNÜ	YILDIRIM BEYAZIT MEYDANI	38
18.	AYDINLIK V.PARKI	SEYFI DEMIRSOY MAH.	42
19.	CELAL ATIK PARKI	4497-4487-4491 A.ARASI	42
20.	ULUCANLAR PARKI	2302 ADA ULUCANLAR CAD.	39
21.	AKALAR L PARKI	KESTANE SOKAK	36
22.	KORE PARKI	KAZIM KARABEKIR CAD.	1
23.	CAMLIK PARKI	HÜSEYIN GAZI MAH.	43
24.	YUNUS EMRE	Y.EMRE MH.139.SK.4.DURAK	45
25.	ISMET PAŞA PARKI	ISMET PAŞA MAH.	1
26.	ATEŞ PARKI	ALI ERSOY MAH.	45
27.	FERIDUN ÇELIK PARKI	F.ÇELIK MH.4.CD.ÜZERI	44
28.	YILDIZ 2 PARKI	SOLFASOL CD. YILDIZ TEPE MAH.	46
29	ALI ERSOY 1 PARKI	C.ESAT ARSEVEN CAD.	45
30.	GÜLPINAR 2 PARKI	G.PINAR MH.KOOP.INŞ.YANI	45
31.	YEŞILÖZ PARKI	YEŞILÖZ ANA ÇOCUK SAĞ.YANI	72
32.	KIZILELMA PARKI	ANAFARTALAR CAD.	1
33.	YILDIZ 1 PARKI	YILDIZTEPE MAH.	45
34.	GÜLPINAR 1 PARKI	25. SOKAK	45

35.	BEŞIKKAYA PARKI	8.CAD.154.SOK.	43
36.	GÖKYÜZÜ SOK. PARKI	AYDINLIKEVLER	42
37.	PAMUKLAR PARKI	BARAJ MAH.1.CAD.15.SOK.	46
38.	SOLFASOL MAH.PARKI	66.SOKAK	46
39.	IÇKALE 1 PARKI	IÇKALE MH.ITFAIYE YANI	36
40.	AYDINLIK 2 PARKI	2728 ADA DEFINE ARAMA SOK.	42
41.	BABAHARMAN PARKI	IRFAN BAŞTUĞ CAD.	39
42.	KESTANE SOK. PARKI	SAKARYA MAH.	36
43.	IŞBAŞI SOK.PARKI	SAKARYA MAH.	36
44.	FAZIL AHMET PAŞA PARKİ	FAZIL AHMET PAŞA MAH.	39
45.	23 NISAN PARKI	ÖNDER MAH.1.CAD.ÜZERI	44
46.	IÇKALE 2 PARKI	İÇKALE MAHALLESİ	36
47.	PINOKYO PARKI	SEYFI DEMIRSOY MAH.	42
48.	ALI ERSOY 2 PARKI	CELAL ESAT ARSEVEN CAD.	45
49.	HASAN ESAT IŞIK PARKI	AYDINLIKEVLER ÇAĞDAŞ SOK.	42
50.	RECEP KULAK PARKI	ÖRNEK MAH.	60
51.	GÖKÇEN EFE PARKI	ALTINDAĞ CAD. NO 104 YANI	38
52.	DOĞAN ÖZ PARKI	DENIZ MAH. MALAZGIRT CAD.	42
53.	MUAMMER AKSOY PARKI	ÇAMLIK MAHALLESI	44
54.	HACI BAYRAM VELI PARKI	KARAKUM MAHALLESI	45
55.	BAŞKANLIK SARAYI	SAMAN PAZARI	1

2. ÇANKAYA MUNICIPALITY

NO	NAME OF THE PARK	LOCATION OF THE PARK	DIVISION
1.	AYRANCI I	6081/1-2 PARSEL ÖNÜ HOŞDERE CADDESI	12
2.	AYRANCI II	7045/7047 ADALAR ARASI HOŞDERE CADDESI	12
3.	AYRANCI III	6103-6104 ADALAR ARASI PORTAKAL ÇIÇEĞI	12
4.	AYRANCI IV	2688-2689-2690 ADALAR UÇARLI SOK.	12
5.	AYRANCI V	2686 ADA 1 PARSEL ELÇI SOK. KARS SOK.	12
6.	ANNEANNEM	6002 ADA GÖKÇELI, DOLUNAY SOK.	?
7.	BAHÇELI I	1485 ADA BAHÇELIEVLER 5.CAD.	7
8.	BAHÇELI II	2757 ADA 10 PARSEL BAHÇELIEVLER 27.SOK.	7
9.	BAHÇELI III	4035 ADA ÖNÜ AKDENIZ CAD. FEVZI ÇAK.SOK.	7
10.	BAHÇELİ IV	2612-4301 ADA AKDENIZ CAD. ESER SITESI	7

11.	BALGAT II	6909 ADA ZIYABEY CADDESI	14
12.	ÇALDIRAN	2503 ADA LIBYA CAD.ÇALDIRAN SOK.	21
13.	DIKMEN I	7419 ADA DIKMEN 4 MEVSIM	69
14.	DIKMEN III	6155 ADA DIKMEN ATA MAHALLESI	17
15.	DUTLUK	KURTULUŞ 2992 ADA 1 PARSEL C.GÜRSEL CAD.	24
16.	EMEK I	5285 ADA 2 PARSEL 62. 59 SOK.	8
17.	EMEK II	6210/17 PARSEL 17 SK.80 SOK.	8
18.	EMEK III	5309-5930-5932 ADALAR ARASI 75 SOKAK	8
19.	ETI BASINPARK	1147 ADA ETI MAH.TOROS SOK.	6
20.	G.O.P.II	5240/II-14 PARSEL NENEHATUN CAD.KADER SOK.	20
21.	HANIMELİ	1157/1 HANIMELI SOKAK	3
22.	KÜTLUGÜN I	CEBECI 6042/7 CEBECI CAMI ARKASI	24
23.	KÜÇÜKESAT I	2891 ADA İTFAIYE YANI	22
24.	KÜÇÜKESAT II	5430-5339 ADALAR ARASI BAŞÇAVUŞ SOKAK	22
25.	KÜÇÜKESAT V	KÜÇÜKESAT PAZAR KARŞISI	22
26.	ÖZVEREN	1246-1182 ADA ÖZVEREN SOK.	6
27.	NAMIK KEMAL	5363/5366 ADA AR.NECATIBEY CD.Y.GAL.SK.	4
28.	ÖMER SEYFETTIN	7761/14 PARSEL ÇANKAYA YILDIZ	19
29.	SAĞLIK	1054 ADA SAĞLIK SOKAK SIHHIYE	3
30.	TANDOĞAN	4260 ADA ŞEREFLI SOKAK	6
31.	UZUN GEMICILER	2873-2874 ADA ARASI UZUNGE-MICILER SOK.	69
32.	SEHA MERAY	6484-3 PARSEL BÜKREŞ SOK. KILIS SOK.	11
33.	YÜCETEPE I	5110 ADA 9.SOK.YÜCETEPE	6
34.	ZAFERTEPE	7704 ADA SEYRANBAĞLARI	21
35.	ILKADIM	G.O.P.İLKADIM SOKAK	20
36.	ÖZGÜRLÜK	UMUT MAH.7726-7725 ADA SEYRANBAĞLARI	21
37.	100.YIL	100.YIL IŞÇI SITESI	14
38.	50.YIL	50.YIL MAHALLESI	15
39.	BOZTEPE ŞENLIK	BOZTEPE MAHALLESI	20
40.	BÜKLÜM	BÜKLÜM SOKAK	10
41.	SEDAT SINAVI	SEDAT SIMAVI SOKAK	11
42.	MILLI PIYANGO	DIKMEN CADDESI	69
43.	AŞIK VEYSEL	DIKMEN CADDESI	69
44.	GÖRKEM PARKI	ÇANKAYA YILDIZ	19

45.	SEDAT SIMAVİ (PINOKYO PR)	SEDAT SIMAVI SOKAK	11
46.	EMEK AYDIN SÖNMEZ	EMEK	8
47.	AYRANCI VI	2705 ADA 1 PARSEL GÜVEN SK. PARIS CAD.	12
48.	AYRANCI VII	5409 HOŞDERE CAD.SÜLEYMAN NAFIZ SOKAK	12
49.	AYRANCI VIII	5409 ADA KUZGUN-NAZILLI SOK. KÖŞESI	12
50.	BAHÇELİ VI	2617-2662 ADA ARASI ÇIFTLIK CAD.54.SOK.	7
51.	BALGAT I	6927 ADA BALGAT II SOKAK	14
52.	ÇAY BAHÇESI	6037 ADA ÇANKAYA ŞEHIT ERSAN CADDESI	11
53.	DIKMEN II	7750 ADA KEKLIK PINARI MAH.	69
54.	BARIŞ	7276 ADA DIKMEN HÜRRIYET CAD.	69
55.	EMNIYET PARKI	7588 ADA EMNIYET GN.MD.YANI	69
56.	EMEK IV	7560 ADA 8.CAD.KONYA KAVŞAĞI	8
57.	EMEK V	6463/1 60 SK.ÇIFTI CAD.4.CAD.	8
58.	G.O.P.I (YEŞIL VADI)	6123 ADA G.O.P.KIRLANGIÇ SOK.	20
59.	GÜVENPARKI	9441 ADA KIZILAY	3
60.	GÜLBAHÇESI	4859/3 PARS.ATATÜRK BULV. ÇELEBI SOK.	11
61.	INCESU REFÜJ	8130-8131-5331 ADA.ARASI ÇAYIRLI SOK.	23
62.	KUĞULUPARK	6047/17-18 PARSEL T.HILMI SK.	10
63.	KUTLUGÜN II	KUTLUGÜN SK.	24
64.	KÜÇÜKESAT III	KÜÇÜKESAT PAZAR ARKASI	22
65.	MALTEPE II	6097 ADA NEYZEN TEVFIK SK.	6
66.	MALTEPE I	1237-1240-1245-5875 SÜLEYMANBEY SK.	6
67.	MALTEPE IV	CAMI YANI (MALTEPE)5583 ADA	6
68.	MALTEPE V	4267 ADA YEŞILIRMAK SK. GÖLBAŞI SIN.YANI	6
69.	MALTEPE VI	1237 ADA KIRAĞI SOKAK	6
70.	MALTEPE VII	5446 ADANIN BITIŞTIREN SOK. GENÇLIK CAD.	6
71.	MALTEPE VIII	MALTEPE IŞIK SOK.	6
72.	YÜCETEPE II	2944 ADA ILK SOK.2.CADDE	6
73.	ZAFER I	KIZILAY ATATÜRK BULVARI	3
74.	ZAFER II	KIZILAY ATATÜRK BULVARI	3
75.	KONSERVATUVAR	MAMAK BELEDIYESI KARŞISI	

		(REVIZE)	24
76.	NAIM SULEYMANOĞLU	CEBECI DUMLUPINAR	24
77.	ILHAN ERDOST	BALGAT 100.YIL	14
78.	DIKMEN II	7469 ADA DIKMEN	69
79.	KUÇUKESAT IV	ALI FUAT BAŞGIL MAHALLESI	22
80.	YEŞILYURT II	2821 ADA BÜKREŞ SOKAK	11
81.	ESAT	ESAT ITFAIYE KARŞISI 2890 13-14 PARSEL	22
82.	TIREBOLU	AYRANCI TIREBOLU SOK.2690/1-14	12
83.	MESNEVI	MESNEVI SK.6441/7 PARSEL AYRANCI	12
84.	BAHÇELI IV	2643-4307-4306 ADA.ARASI 10.SK.	7
85.	BALGAT III	BALGAT TÜRK-IŞ BLOKLARI	14
86.	CEBECI DORUĞU	CEBECI DORUĞU SOKAK	24
87.	SAĞLIK MERDIVEN	SAĞLIK SOKAK (ÇOCUK BAHÇESI)	3
88.	ŞILI MEYDANI	ÇANKAYA ŞILI MEYDANI	11
89.	ÇEVRE SOKAK	KAVAKLIDERE ÇEVRE SOKAK	10
90.	ÜZÜMCÜ SOKAK	SEYRANBAĞLARI ÜZÜMCÜ SOKAK	21
91.	KUYUCAK SOKAK	KÜÇÜKESAT KUYUCAK SOKAK	22
92.	BILLUR SOKAK	KÜÇÜKESAT BILLUR SOKAK	22
94.	BÜRÜMCÜK SOKAK	ÇANKAYA BÜRÜMCÜK SOKAK	11
95.	NENEHATUN	G.O.P.NENEHATUN CADDESI	20
96.	TANDOĞAN MEYDANI	TANDOĞAN	6
97.	ÖREN SOKAK	TANDOĞAN SOKAK	6
98.	IRAN CADDESI	IRAN CADDESI ÇANKAYA	11
99.	TURGUT REIS	TURGUT REIS CADDESI MALTEPE	6
100.	ŞIMŞEK SOKAK	ŞIMŞEK SOKAK ÇANKAYA	11
101.	MECLIS ÜSTÜ	MECLIS ÜSTÜ (REFUJ)	12
102.	ÇATAL SK.NIGAR SK. KÖŞESI	TURGUT REIS CAD. ÇATAL SOKAK NIGAR SOKAK	6
103.	ADAKALE-ATAÇ SK.	KIZILAY	3
104.	ETIBANK ÖNÜ	SIHHIYE	3
105.	CEVIZLIDERE PAZAR ÜSTÜ	BALGAT	14
106.	ŞEHIT DANIŞ TUNALIGIL ÜSTÜ	MALTEPE	6
107.	8.CAD.60.SOK ARASI	EMEK	8
108.	TANYELI CAD-HOŞDERE CADDE KÖPRÜLÜ SOK.	AYRANCI	12
109.	HOŞDERE CAD.ILE SELIMIYE KÖŞESI	AYRANCI	12
110.	1.CD.ILE AKDENIZ CD. KÖŞESI	BAHÇELI	7
111.	ESKI ANKARAEVI ÇEV.	G.O.P.	20

112.	BAŞAK ILE AKYÜZ SOK.KÖŞESI	KÜÇÜKESAT	22
113.	NACI ÇAKIR MAH. KÜLTÜR BINASI ÇEV.	DIKMEN	69
114.	IV.CD.ILE 90.SK. KÖŞESI	EMEK	8
115.	7492 ADA YANI YEŞIL YOL	DIKMEN	69
116.	1.CD.VE M.FEVZI ÇAKMAK AR.	YÜCETEPE	6
117.	IZMIR CADDESI	IZMIR CAD.KIZILAY	3
118.	SAKARYA CADDESI	SAKARYA CAD.KIZILAY	3
119.	OLGUNLAR SOKAK	OLGUNLAR SK.BAKANLIKLAR	3
120.	YÜKSEL CADDESI KONUR-KARANFIL	KIZILAY	3

3 KEÇIÖREN MUNICIPALITY

NO	NAME OF THE PARK	LOCATION OF THE PARK	DIVISION
1.	GÜMÜŞDERE	GÜMÜŞDERE MAH.	48
2.	BAĞLARBAŞI	BAĞLARBAŞI MAH.	47
3.	ESERTEPE	ESERTEPE MAH.	52
4.	HÜSEYIN ALP SPOR TESISI	AKTEPE MAH.	47
5.	ORHANGAZI	AKTEPE MAH.	47
6.	GAZINO-FATIH	NURI DEMIR CAD.	47
7.	AŞAĞI EĞLENCE BARIŞ	AŞAĞI EĞLENCE	52
8.	FOÇA	FOÇA SOK.	48
9.	KUYUBAŞI SPOR TES.	KUYUBAŞI BUKET S.	47
10.	RUHI SARIALP SPOR TESISI	AKTEPE MAH.	47
11.	NENE HATUN DINLEN ALANI	KALABA MAH.	48
12.	BARBAROS DINLENME ALANI	AKTEPE MAH.	47
13.	INCIRLI	INCIRLI MAH.	52
14.	SÖĞÜTLÜ	KALABA MAH.	48
15.	ULUBATLI HASAN	TEPEBAŞI MAH.	46
16.	KURTDERELI SPOR TESISI	FOÇA SOK.	48
17.	ÖZGÜRLÜK	AŞAĞI EĞLENCE	52
18.	SEÇUKLU SPOR TESISI	ETLIK	52
19.	KARARGAHTEPE	KALABA MAH.	48
20.	ATAPARK SPOR TESISI	ATAPARK MAH.	49
21.	DEMOKRASI	AŞAĞI EĞLENCE	52
22.	KARDEŞLER DOSTLUK PAR.	KARDEŞLER KOOP.	52
23.	ŞEHIT KUBILAY	ŞEHIT KUBILAY MAH.	52
24.	NASRETTIN HOCA	TEPEBAŞI MAH.	48

25.	UYANIŞ	DUTLUK	49
26.	BAŞBANLIK YANI SPOR TESISI	TEPEBAŞI	48
27.	YILDIRIM BEYAZIT CO.BAH.	FOÇA SOK.	48
28.	BUKET SOK.SPOR TESISI	BUKET SOK.	47
29.	ÇIÇEKLI	ÇIÇEKLI MAH.	48
30.	ADNAN MENDERES(AKTEPE 2)	AKTEPE MAH.	47
31.	KOCA YUSUF (AKTEPE 4)	AKTEPE MAH.	47
32.	KELOĞLAN	ETLIK	52
33.	SUBAYEVLERI II	SUBAYEVLERI MAH.	48
34.	SUBAYEVLERI III	SUBAYEVLERI MAH.	48
35.	KALABA III	KALABA MAH.	48
36.	BASINEVLERI	BASINEVLERI MAH.	50
38.	GÜMÜŞSOY KIBRIS	PURSAKLAR YOLU	47
40.	HASKÖY	HASKÖY MAH.	48
41.	ERENLER	KAMILOCAK MAH.	47
42.	UYANIŞ ÇAMLIK	UYANIŞ MAH.	49

4. MAMAK MUNICIPALITY

NO	NAME OF THE PARK	DIVISION
1.	ŞEHITLIK D.P.BALKIRAZ MAHALLESI	16
2.	ŞEHIT OSMAN SOKAK DINLENME VE ÇOCUK PARKI	62
3.	CENGIZ HAN MAH.6.CAD.DINLENME VE ÇOCUK PARKI	72
4.	ASIM GÜNDÜZ CAD. DINLENME VE ÇOCUK PARKI	82
5.	TÜMEN ÇEŞMESI DINLENME VE ÇOCUK PARKI	92
6.	60 EVLER DINLENME VE ÇOCUK PARKI	13
7.	EKENLER SOKAK 4 (SERA, FIDANLIK)	62
8.	EKENLER SOKAK 1.DINLENME PARKI	62
9.	EKENLEK SOKAK 2.DINLENME VE ÇOCUK PARKI	62
10.	EKENLER SOKAK 3.DINLENME VE ÇOCUK PARKI	62
11.	EGE MAH. 179.SOKAK DINLENME VE ÇOCUK PARKI	82
12.	BAĞLARBAŞI SOKAK 1.DINLENME PARKI	62
13.	BAĞLARBAŞI SOKAK 2.DINLENME PARKI	62
14.	KIRKAĞAÇ SOKAK DINLENME VE ÇOCUK PARKI	62
15.	KARAAĞAÇ MH.MEZARLIK YANI D.C.P.VE SPOR SA.	13
16.	PLEVNE CADDESI DINLENME VE ÇOCUK PARKI	03
17.	KAYAŞ ASK.ALTI DINLENME VE ÇOCUK PARKI	92
18.	ÜREĞIL PTT KARŞISI ÇOCUK PARKI	92
19.	TÜRKÖZÜ 57.SOKAK DINLENME VE ÇOCUK PARKI	52
20.	KARADENIZ SOK.BASKETBOL-VOLEYBOL SAHASI	23
21.	KAYALAR SOKAK BASKETBOL-VOLEYBOL SAHASI	62

18.	DEMETEVLER III.ÇB+DP.	HAVACILAR SITESI YANI	55
19.	DEMETEVLER IV.DP.ÇB.	S.S.K.BLOKLARI ARASI	55
20.	KALETEPE	ŞENTEPE KALETEPE MAH.	45
21.	KAYALAR I.ÇB.	KAYALAR 217.SOK.TAŞ OC. UZUNLUĞU	45
22.	AVCILAR I.ÇB+DP.	ŞENTEPE AVCILAR MAH.KARA HÖYÜK CAD.132.SK.ARASI	45
23.	GÜVENTEPE I.ÇB.	ŞENTEPE GÜVENTEPE MAH.	45
24.	GÜVENTEPE II.ÇB.	ŞENTEPE 196.SOKAK	45
25.	23 NISAN ÇOCUK BAHÇESI	ŞENTEPE SELIM CADDE	45
26.	BURÇ I. ÇB.	ŞENTEPE BURÇ MAH.	45
27.	BARIŞ I.ÇB+DP.	BARIŞ MAH. 96. SOK.	45
28.	BARIŞ II.ÇB+DP.	BARIŞ MAH.99.SOK.	45
29.	BATI I.ÇB+DP.	MESA BATI SITESI	36
30.	MUZAFFER ÖZKAN PARKI ÇB+DP.	BATIKENT ÖZGÜR YAPI KOOP. ARASI	36
31.	9 EYLÜL PARKI ÇB+DP.	HARBIŞ BLOKLARI ÖNÜ	36
32.	BATIKENT III.PARKI ÇB+DP.	BATIKENT BULVARI	36
33.	BATIKENT I.PARKI ÇB+DP	KENT KOOP ŞANTIYESI KARŞ.	36
34.	BATIKENT VIII.PARKI	TEK.BANK.YAPI KOOP.ARASI	36
35.	BATIKENT II.PARKI	MEKAN KOOP.ARASI	36
36.	BATIKENT IV.PARKI	56.YAPI KOOP.YANI	36
37.	ÇIFTLIK II.PARKI	DERS ALETLERI MERKEZI ÖNÜ BANKACILAR SOK.	55
38.	ÇIFTLIK III.PARKI	BELEDIYE PERSONELI YAPI KOOP. ÖNÜ	55
39.	KARANFIL PARKI DP+ÇB	YÜKSEK GERILIM ALTI	55
40.	BEŞTEPE I.CTP+DP	BEŞTEPE MEKTEP SOK.	75
41.	BEŞTEPE II.ÇB+DP.	BEŞTEPE MEKTEP SOK.	75
42.	BEŞTEPE III.ÇB+DP.	BEŞTEPE MUCIZE SK.MECNUN SK.DESIYAP LOJ.KARŞISI	75
43.	BEŞTEPE V.DP.	BEŞTEPE ATLI SPOR KULÜBÜ KARŞISI	75
44.	GAZI I.ÇB+DP.	GAZI MAH.DILMEN SOK. ÖZERLER SOK.KEŞISIMI	65
45.	GAZI II.ÇB+DP.	GAZI MAH. MÜMTAZ GÜMÜŞ SK.	65
46.	GAZI III.ÇB+DP.	GAZI MAH.SILAHTARLAR CAD. ROL YANI	65
48.	GAZI V.DP.	GAZI MH.SILAHTARLAR CD. REFÜJ YANI	65
49.	EMNIYET I.ÇB.	EMNIYET MAH.ATEŞ SOKAK.	65
50.	EMNIYET II.ÇB+DP.	EMNIYET MAH.FIRIN KARŞISI	65
51.	EMNIYET III.OP.	SABANCI YURDU KARŞISI	65

52.	ETIMESGUT I.ÇB+DP.	ETIMESGUT PTT KARŞISI	95
53.	ETIMESGUT II.ÇB+DP.	ETIMESGUT 30 AĞUSTOS MAH.	95
54.	ETIMESGUT II.ÇB+DP.	ETIMESGUT ZABITA KARAKOLU	95
55.	MACUN I.ÇB+DP.	MACUN MAH.	55
56.	HÜRRIYET PARKI ÇB+DP.	HÜRRIYET GAZETESI ÖNÜ	55
57.	YAHYALAR I.ÇB+DP.	YAHYALAR YOLU	45
58.	YEŞILEVLER I.ÇB+DP.	ELIF SITESI	45
59.	VARLIK II.ÇB+DP.	VARLIK MAH.	15
60.	VARLIK II.ST.	VARLIK MAH.	15
61.	YEŞIL ALAN SOSYAL TESIS BAHÇESI	TERMINAL YANI	35
64.	DEMETGÜL II.ÇB.	DEMET LALEGÜL 9.SOK.	55
65.	DÜNYA ÇOCUKLAR PARKI	FAHRI KORUTÜRK BULVARI ÜZERI	55
67.	MIMOZA PARKI (DP)	KARŞIYAKA POLIS KARAKOLU KARŞISI	45
68.	YEŞIL ALAN	IVEDIK CAD.-VATAN CAD. KEŞISIMI	47
69.	YEŞIL ALAN	IVEDIK CAD.-SERIN SOK. KEŞISIMI	47
71.	YEŞIL ALAN	AOÇ KAVŞAĞI 25 MART MEY. ARASI	55
72.	ANADOLU I.Ç.B.	ANADOLU MAHALLESI	35
73.	ÜMITKÖY I.Ç.B.	ÜMITKÖY SITESI IÇERISI	86
74.	YEŞIL ALAN	FAHRI KORUTÜRK BULVARI ÜZERI	55
75.	YEŞIL ALAN	DEMET 12.CAD.-VATAN CAD. KEŞISIMI	55
77.	ETIMESGUT IV.Ç.B.	ETIMESGUT TANSA YANI	95
78.	ANADOLU II.Ç.B.	ANADOLU MAH.124.SK.	35
79.	30 AĞUSTOS	30 AĞUSTOS MAHALLESI	76
80.	BAHÇELER ARASI	ERYAMAN MAHALLESI	46
81.	ERYAMAN-DEREYATAĞI	ERYAMAN MAHALLESI	46
82.	ERYAMAN DEVLET MAH.	DEVLET MAHALLESI	46
83.	27 ARALIK	BATIKENT ILK YERLEŞIM MERKEZI	36
84.	MESA PAZARYERI VE ÇOCUK OYUN ALANI	MESA II	46
85.	KOŞU YOLU	ÇIFTLIK BEŞTEPELER	55-57
86.	ÖĞRETMENLER PARKI	AVCILAR MAHALLESI	45
88.	KARAYOLLARI LOJMANLARI ÖNÜNDEKI YEŞIL ALAN	YENIMAHALLE I	35
89.	BATIKENT ÖZGÜR SITE.YANI	BATIKENT	36
90.	51 NO.LU YAPI KOOP.YANI	BATIKENT	36
91.	HÜLYA KENT ALANI	BATIKENT	36

22.	ŞAHAPGÜRLER M.35.SOKAK DINLENME VE ÇOCUK P.	92
23.	YEŞILBAYIR MAH.TRAFO YANI DIN.VE ÇOCUK P.	92
24.	YEŞILBAYIR MH.1.SOK.DINLENME VE ÇOCUK PARKI	92
25.	YEŞILBAYIR MAH.50.SOKAK DINLENME VE Ç.PARKI	92
26.	MÜNZEVILER SOKAK DINLENME VE ÇOCUK PARKI	62
27.	MAMAK SON DURAK DINLENME VE ÇOCUK PARKI	?
28.	TEPECIK M.DINLENME-ÇOCUK PARKI VE SPOR SAH.	92
29.	TIP FAKÜLTESI HASTANESI YANI DINLENME PAR.	82
30.	ŞADIRVAN SOKAK DINLENME VE ÇOCUK PARKI	62
31.	KÖSTENCE 1.CADDE DINLENME VE ÇOCUK PARKI	92
32.	C.YURDAKUL KARAAĞAÇ K.DEP.YANI D.C.P.VE S.S	13
33.	HARMAN MAHALLESI DINLENME VE ÇOCUK PARKI	23
34.	KÖSTENCE MAH.TREN IST.YANI DINLENME VE Ç.P.	92
35.	TÜZLUÇAYIR MH. FEYZULLAH ÇINAR.D.VE Ç.PARKI	82

5. YENIMAHALLE MUNICIPALITY

NO	NAME OF THE PARK	LOCATION OF THE PARK	DIVISION
1.	YENIMAHALLE I.DP.	BELEDIYE BAŞKANLIĞI ÖNÜ	35
2.	YENIMAHALLE II.DP+ÇB	PTT YANI	35
3.	YENIMAHALLE VI.VI+X	YUNUS EMRE ILKOKULU YANI ÇATALKAYA SOK. GÜN SOK.	35
4.	YENIMAHALLE IV.	OĞUZLAR SOK.DAMLADOL SK. ARASI	35
5.	YENIMAHALLE V.ÇB+DP	MIRALAY-NAZIMBEY-ASKIN-DAMLADOL SOK.	35
6.	YENIMAHALLE VIII.ÇB+DP	CENGIZ SOK. ANIL SOK.	35
7.	YENIMAHALLE VIIII.DP.	RAGIP TÜZÜN CAD.GIRIŞI	35
8.	YENIMAHALLE VI.ÇB.	MIRALAY-NAZIMBEY	35
9.	YENIMAHALLE XII.ÇB+DP	ÖZGEN SOKAK	35
10.	YENIMAHALLE XIII.DP.	CENGIZ SOK.-TUFAN SOK. KEŞISIMI	35
11.	YENIMAHALLE XIV.ÇB.	SERDAR SOK.-TUFAN SOK. KEŞISIMI	35
12.	YENIMAHALLE XV.ÇB.	TUFAN SOKAK	35
13.	YENIMAHALLE XVI.ÇB.	KAYNAK SK.-DEREBOYU SOK. KEŞISIMI	35
14.	YENIMAHALLE XVII.DP.	AŞAN SOK.-DEREBOYU SOK. KEŞISIMI	35
15.	YENIMAHALLE XVIII-XIX.	8.DURAK -9.DURAK ARASI	35
16.	DEMETEVLER I.ÇB.	DEMETEVLER 1.CADDE	55
17.	DEMETEVLER II.ÇB.	ATAKENT SITESI ÖNÜ	55

B.5 The Areas and Dates of Construction of the District Parks within the Divisions

ALTINDAĞ

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)		TOTAL 1990 Area (sq.m.)	TOTAL 1985 Area (sq.m.)
A1	2 - ?	5 - 1986	6 - 1986	9 - 1971	22 - 1972	25 - 1986	32 - 1987	55 - 1989			
	1,000	2,100	1,300	5,300	9,700	1,000	1,800	1,700		23,900	16,000
A2											
										0	0
A35	15 - 1987										
	880									880	0
A36	1 - 1987	8 - 1987	21 - 1986	39 - 1982	42 - 1988	43 - 1988	46 - 1984				
	600	2,500	800	2,000	835	550	800			8,085	2,800
A37	12 - 1986										
	3,600									3,600	0
A38	3 - 1969	17 - 1987	51 - 1989								
	6,400	800	1,600							8,800	6,400
A39	4 - 1986	16 - 1988	20 , 1959	41 - ?	44 - 1987						
	600	650	5,400	17,500	4,200					28,350	22,900
A40	11 - 1968										
	1,700									1,700	1,700
A41											
										0	0
A42	14 - 1968	18 - 1979	19 - 1967	36 - 1987	40 - 1963	47 - 1986	49 - 1989	52 - 1989			
	4,200	2,500	2,500	1,500	3,800	2,700	1,500	1,700		20,400	13,000
A43	10 - 1987	13 - 1987	23 - 1987	35 - 1987							
	4,000	2,000	1,600	5,300						12,900	0
A44	27 - 1987	45 - 1985	53 - 1989								
	7,200	2,800	7,500							17,500	2,800
A45	24 - 1986	26 - 1978	29 - 1987	30 - 1987	33 - 1987	34 - 1986	48 - 1957	54 - 1989			
	3,400	2,000	1,200	800	2,000	2,000	3,100	3,150		17,650	0
A46	28 - 1987	37 - 1987	38 - 1987								
	3,000	4,000	1,500							8,500	3,000
A60	7 - 1987	50 - 1989									
	2,500	1,500								4,000	0
A71											
										0	0
A72	31 - 1987										
	2,400									2,400	0
									TOTAL	158,665	68,600

ÇANKAYA

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)
Ç3	21 - 1978	29 - 1978	59 - 1935	73 - 1977	74 - 1977	87 - 1978	103 - 1989	104 - 1990	117 - 1980	118 - 1979	119 - 1982	120 - 1989			
	700	558	26,000	3,000	1,900	558	5,000	1,500	9,000	27,000	1360	12,000			
Ç4	27 - 1968														
	2,500														
Ç5															
Ç6	19 - 1987	26 - 1956	30 - 1958	33 - 1970	65 - 1965	66 - 1964	67 - 1956	68 - 1981	69 - 1981	70 - 1981	71 - 1981	72 - 1977	102 - 1988	106 - 1990	116 - 1990
	4,944	2,900	640	2,450	10,500	20,000	2,000	700	1,500	1,600	1000	950	800	1,000	1,500
Ç7	7 - 1954	8 - 1954	9 - 1976	10 - 1970	50 - 1982	84 - 1976	110 - 1990								
	5,250	1,100	5,600	6,250	3,250	2,625	800								
Ç8	16 - 1958	17 - 1976	18 - 1987	46 - 1990	56 - 1976	57 - 1977	107 - 1990	114 - 1990							
	600	2,200	1,300	1,330	6,000	750	1,800	600							
Ç9															
Ç10	40 - 1990	62 - 1958	89 - 1988												
	960	10,000	50												
Ç11	32 - 1969	41 - 1990	45 - 1990	52 - 1965	60 - 1976	80 - 1981	88 - 1988	94 - 1988	98 - 1989	100 - 1989					
	1,600	640	2,500	20,000	2,000	1,000	950	50	2,000	3,500					
Ç12	1 - 1975	2 - 1975	3 - 1978	4 - 1978	5 - 1981	47 - 1974	48 - 1987	49 - 1987	82 - 1982	83 - 1982	101 - 1989	108 - 1990	109 - 1990		
	3,287	3,298	2,500	8,864	530	600	475	1,444	2,165	2,938	660	3,000	450		
Ç13															
Ç14	11 - 1976	37 - 1987	51 - 1974	77 - 1990	85 - 1976	105 - 1989									
	1,920	1,000	2,400	5,000	4,000	500									
Ç15	38 - 1986														
	3,300														
Ç16															
Ç17	14 - 1969														
	8,500														
Ç18															
Ç19	28 - 1978	44 - 1990													
	2,370	3,900													
Ç20	20 - 1978	35 - 1982	39 - 1988	58 - 1968	111 - 1990	95 - 1989									
	1,000	2,100	2,500	11,000	2,500	500									
Ç21	12 - 1968	34 - 1980	36 - 1988	90 - 1989											
	4,278	1,400	2,467	300											
Ç22	23 - 1974	24 - 1979	25 - 1979	64 - 1979	79 - 1979	81 - 1982	112 - 1990	91 - 1988	92 - 1988						
	829	750	1,000	3,000	2,300	2,180	300	15	10						
Ç23	61 - 1987														
	4,000														
Ç24	15 - 1974	22 - 1968	63 - 1987	75 - 1988	76 - 1988	86 - 1987									
	1,620	900	1,500	4,000	2,500	1,500									
Ç69	13 - 1977	31 - 1976	42 - 1990	43 - 1990	53 - 1977	54 - 1988	55 - 1979	78 - 1987	113 - 1990	115 - 1990					
	2,750	945	1,080	700	9,600	2,500	4,250	5,500	30,000	660					
Unknown	6 - 1974														
	1,100														

ÇANKAYA (cont'd)

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)		TOTAL 1990 Area (sq.m.)	TOTAL 1985 Area (sq.m.)
Ç3					88,576	70,076
Ç4					2,500	2,500
Ç5					0	0
Ç6	96 - 1988 1,000	97 - 1988 100	99 - 1989 2,500		56,084	44,240
Ç7					24,875	24,075
Ç8					14,580	10,850
Ç9					0	0
Ç10					11,010	10,000
Ç11					34,240	24,600
Ç12					30,211	24,182
Ç13					0	0
Ç14					14,820	8,320
Ç15					3,300	0
Ç16					0	0
Ç17					8,500	8,500
Ç18					0	0
Ç19					6,270	2,370
Ç20					19,600	14,100
Ç21					8,445	5,678
Ç22					10,384	10,059
Ç23					4,000	4,000
Ç24					12,020	2,520
Ç69					57,985	17,545
Unknown					1,100	1,100
				TOTAL	408,500	284,715

KEÇİÖREN

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)
K47	2 - 1986	4 - 1986	5 - 1976	6 - 1986	10 - 1987	12 - 1969	30 - 1975	31 - 1977	38 - 1988
	1,250	1,242	1,200	3,700	1,000	2,500	3,000	5,500	7,000
K48	1 - 1986	8 - 1978	11 - 1987	14 - 1987	15 - 1987	16 - 1987	19 - 1978	24 - 1987	26 - 1987
	850	2,040	1,200	1,250	1,700	1,000	2,490	2,000	850
K49	20 - 1977	25 - 1987	42 - 1976						
	1,200	2,000	2,700						
K50	36 - 1968								
	3,000								
K52	3 - 1986	7 - 1974	13 - 1979	17 - 1987	18 - 1987	21 - 1987	22 - 1987	23 - 1987	32 - 1968
	750	13,350	1,650	2,100	3,000	8,000	4,200	1,800	1,800
K73									

KEÇİÖREN (cont'd)

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)		TOTAL 1990 Area (sq.m.)	TOTAL 1985 Area (sq.m.)
K47	9 - 1987	28 - 1987	41 - 1988						
	1,200	1,800	957					30,349	12,200
K48	27 - 1987	29 - 1975	33 - 1988	34 -1988	35 - 1978	40 - 1988			
	1,200	11,000	1,200	1,500	1,800	1,650		31,730	17,330
K49									
								5,900	3,900
K50									
								3,000	3,000
K52									
								36,650	16,800
K73									
								0	0
							TOTAL	107,629	53,230

MAMAK

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)
M25	19 - 1987							
	1,360							
M26	2 - 1986	7 - ?	8 - ?	9 - ?	10 - ?	12 - ?	13 - ?	14 - 1987
	1,300	1,050	1,300	850	1,020	410	480	550
M27	3 - 1986							
	900							
M28	4 - 1986	11 - ?	29 - 1988	35 - 1989				
	760	1,100	700	3,630				
M29	5 - 1986	17 - 1987	18 - 1987	22 - 1987	23 - 1987	24 - 1987	25 - 1987	28 - 1988
	1,700	2,630	530	540	1,310	2,000	630	2,820
M30	16 - 1987							
	800							
M31	6 - ?	15 - ?	32 - 1989					
	1,620	4,420	4,000					
M32	20 - 1987	33 - 1989						
	240	250						
M33								
M34								
M61	1 - ?							
	2,800							
M70								
Unknown	27 - 1988							
	2,175							

MAMAK (cont'd)

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)		TOTAL 1990 Area (sq.m.)	TOTAL 1985 Area (sq.m.)
M25						
					1,360	0
M26	21 - 1987	26 - 1988	30 - 1988			
	540	480	650		8,630	5,110
M27						
					900	0
M28						
					6,190	1,100
M29	31 - 1988	34 - 1989				
	2,000	3,000			17,160	0
M30						
					800	0
M31						
					10,040	6,040
M32						
					490	0
M33						
					0	0
M34						
					0	0
M61						
					2,800	2,800
M70						
					0	0
Unknown						
					2,175	0
				TOTAL	50,545	15,050

YENİMAHALLE

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)
Y51	59 - 1974	60 - 1989									
	7,000	1,500									
Y53	1 - 1954	2 - 1986	3 - 1970	4 - 1977	5 - 1954	6 - 1985	7 - 1985	8 - 1986	9 - 1986	10 - 1986	11 - 1986
	4,000	2,000	1,580	350	4,000	1,069	1,350	564	1,778	400	350
Y54	20 - 1978	21 - 1986	22 - 1986	23 - 1986	24 - 1986	25 - 1988	26 - 1988	27 - 1977	28 - 1978	57 - 1988	58 - 1986
	2,490	1,500	1,170	260	200	1,024	600	3,820	1,000	3,000	6,000
Y55	16 - 1978	17 - 1985	18 - 1985	19 - 1987	37 - 1984	38 - 1985	39 - 1990	55 - 1987	56 - 1990	64 - 1990	65 - 1989
	600	1,500	6,000	1,000	4,740	2,500	1,500	3,250	13,000	1,500	3,000
Y56	44 - 1968	45 - 1968	46 - 1985	49 - 1985	50 - 1985	51 - 1985	48 - 1975				
	1,560	1,500	1,500	700	1,500	3,000	1,500				
Y57	40 - 1985	41 - 1985	42 - 1985	43 - 1985	85 - 1990						
	2,500	600	3,000	7,000	12,500						
Y58											
Y59(ETİ.)	52 - 1968	53 - 1976	54 - 1986	77 - 1989							
	2,350	2,030	3,000	1,000							
Y62											
Y63	29 - 1978	30 - 1989	31 - 1989	32 - 1989	33 - 1977	34 - 1989	35 - 1989	36 - 1989	83 - 1990	89 - 1990	90 - 1990
	1,750	5,000	18,000	1,500	1,500	500	1,000	2,000	3,000	1,900	1,600
Y64(ETİ.)	80 - 1990	81 - 1990	82 - 1990	84 - 1990							
	1,000	1,000	1,000	5,000							
Y67(ETİ.)	79 - 1990										
	2,000										
Y68	73 - 1989										
	4,000										
Y74	68 - 1990	69 - 1986									
	2,000	450									

YENİMAHALLE (cont'd)

DIVISION	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	Park No./year Area (sq.m.)	TOTAL 1990 Area (sq.m.)	TOTAL 1985 Area (sq.m.)
Y51											
										8,500	7,000
Y53	12 - 1986	13 - 1986	14 - 1986	15 - 1988	61 - 1975	72 - 1990	78 - 1990	88 - 1991			
	500	750	800	8,200	5,000	400	1,500	3,750		38,341	17,349
Y54	67 - 1990	86 - 1990									
	350	1,000								22,414	7,310
Y55	71 - 1988	74 - 1990	75 - 1990	85 - 1990							
	6,500	900	2,000	12,500						60,490	7,840
Y56											
										11,260	7,560
Y57											
										25,600	13,100
Y58											
										0	0
Y59(ETİ.)											
										8,380	4,380
Y62											
										0	0
Y63	91 - 1990										
	1,400									39,150	3,250
Y64(ETİ.)											
										8,000	0
Y67(ETİ.)											
										2,000	0
Y68											
										4,000	0
Y74											
										2,450	0
									TOTAL	230,585	67,789

APPENDIX C

EMPIRICAL ANALYSIS ON PARKS AND RECREATIONAL SERVICES IN ANKARA

APPENDIX C.1

Table C.1. Spatial Distribution of the Sample

District	Neighbourhood	Number of Responses
Yenimahalle	Demetevler	10
	Varlik	10
	Bestepe	10
Mamak	Gulseren	10
	Akdere	10
	Mutlu	10
Kecioren	Aktepe	13
	Asagi Eylence	10
Altindag	Onder	11
	Aydinlikevler	9
Cankaya	Kocatepe	10
	Cankaya	12
	GOP	14
	Kavaklidere	10
	Maltepe	10
	Kucukesat/Seyra	12
	n	10
	Devlet	11
	Kizilay	21
	Dikmen	10
	Balgat	

C.2 Questionnaire Form

1. Home address:
2. Number of people living permanently at home:

   Children aged(0-7) Children aged(7-15) Adults Elders aged (65+)
3. Number of permanently working members of the household:
4. Homeownership: Yes No
5. Car ownership: (specify if more than one) Yes No
6. Amount of the total average monthly income of the household:
   1. Less than 2 millions
   2. 2-4 millions
   3. 4-8 millions
   4. 8-15 millions
   5. More than 15 millions
7. Specify the distance to the nearest park: (the walking distance)
   1. Less than 5 minutes
   2. 5 to 10 minutes
   3. 10 to 20 minutes
   4. More than 20 minutes
   5. I don't know
8. Give the name of the park if you know it:
9. Do you use this park: (if no, pass onto qst. #14) Yes No
10. Specify your mode of use:
    1. I only see it
    2. I walk by or throughout it
    3. I go to it

11. Specify the usage objective: (you may check more than one)

1. To take the children
2. To do sports
3. To take a rest and fresh air
4. For entairtainments
5. To look at the greenery
6. To meet and chat with friends
7. To pass the time
8. To take the dog
9. Other (specify)

12. Do you find the park suitable for your requirements? Yes No

13. If not, state the reasons: (you may check more than one)

1. It is too far from my house
2. It is usually dirty and unkept
3. It isn't green enough
4. There isn't any playground
5. There is no sport facilities
6. The way to the park isn't safe
7. The park isn't safe
8. It is too noisy
9. It is too crowded
10. It is too empty and quiet
11. There aren't any or enough toilets
12. There is no tea or coffee service
13. I dislike the users of the park

14. If you don't use the park state your reasons:

1. I have no time
2. I have no need
3. I have no money
4. I dislike the park
5. I dislike the users
6. It's too far away

15. Do other members of the household use the park independently? Yes No
(If yes, which members do?)

16. Do you go to other parks? Yes No

17. If yes, specify them.

18. For which reasons do you go to other parks?

1. They are better maintained and more beautiful
2. They are more suitable for my requirements
3. They are more quiet and peaceful
4. They are more crowded and lively

19. Specify the areas outside your home that you like to spend your free hours:

(you may check more than one)

1. My balcony
2. My doorstep
3. My garden
4. My neighbours' garden
5. Garden of the apartment
6. Bigger parks
7. Picnic areas in Ankara (such as(AOC)
8. Picnic areas around Ankara (such as (Eymir)
9. Private clubs(such as Atlispor)
10. Private tea gardens
11. Other
12. None

20. Give the required information about the parks listed below:

Name of the bigger parks

- Check the ones that you are using
- Travel mode
- Frequency of use (per year)
- Average lenght of time spent in the park
- Usage objectives
- Approximate cost (for travel and other expenses)
- In your opinion, this park is mostly used by.........

APPENDIX C.3

Table C.3.1 List of Variables

Var	Name	Comment
1	Household	Household Size
2	Children	Number of children in the household
3	WorkingP	Number of working people in the household
4	HomeOwn	Home Ownership (1 for YES, 0 for NONE)
5	IncomeA	Adjusted Income Level
6	Distance	Distance to the Nearest Park
7	ParkUsage	Nearest Park usage (1 for YES, 0 for NO)
8	@ChildYN	Child (1 for YES, 0 for NONE)
9	Chil17	Child, Age 1-7 (1 for YES, 0 for NONE)
10	Chil815	Child, Age 1-15 (1 for YES, 0 for NONE)
11	TParkUsag	Any Park Usage (1 for YES, 0 for NO)
12	House65	Elderly, Age over 65 (1 for YES, 0 for NONE)
13	@ChilHo65	Child or Elderly, Age over 65 (1 for YES, 0 for NONE)
14	TWorkingP	Truncated Number of WorkingP (2 if >2)
15	@EmpDIVHou	Number of Working People/Household Size
16	CarOwn	Car Ownership (1 for YES, 0 for NONE)
17	RecChoice	Recreational Choice (1 for one of 6 to 10, 0 o.w.)
18	UsageBigP	Usage of Bigger Parks (1 for YES, 0 for NO)
19	Percept	Perception (0 for negative, 1 for neutral, 2 for positive)

APPENDIX C.4

Table C.4.1 Household Size vs. Park Usage

Crosstabulation of QUES.Household vs. QUES.ParkUsage

	0	1	Row Total
1	27 12.1	16 7.2	43 19.28
3	68 30.5	43 19.3	111 49.78
5	49 22.0	20 9.0	69 30.94
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.Household vs. QUES.ParkUsage

	0	1	Row Total
1	27 62.8	16 37.2	43 19.28
3	68 61.3	43 38.7	111 49.78
5	49 71.0	20 29.0	69 30.94
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
1.84	2	0.3978

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.2 Children vs. Park Usage

Crosstabulation of QUES.@ChildYN vs. QUES.ParkUsage

	0	1	Row Total
0	67 30.0	40 17.9	107 47.98
1	77 34.5	39 17.5	116 52.02
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.@ChildYN vs. QUES.ParkUsage

	0	1	Row Total
0	67 62.6	40 37.4	107 47.98
1	77 66.4	39 33.6	116 52.02
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.34	1	0.5573
0.20	1	0.6550 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.3 Children (1-7) vs. Park Usage

Crosstabulation of QUES.Chil17 vs. QUES.ParkUsage

	0	1	Row Total
0	98 43.9	58 26.0	156 69.96
1	46 20.6	21 9.4	67 30.04
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.Chil17 vs. QUES.ParkUsage

	0	1	Row Total
0	98 62.8	58 37.2	156 69.96
1	46 68.7	21 31.3	67 30.04
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.70	1	0.4035
0.47	1	0.4948 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.4 Children (1-7) vs. Total Park Usage by the Household

Crosstabulation of QUES.Chil17 vs. QUES.TParkUsag

	0	1	Row Total
0	89 39.9	67 30.0	156 69.96
1	43 19.3	24 10.8	67 30.04
Column Total	132 59.19	91 40.81	223 100.00

Crosstabulation of QUES.Chil17 vs. QUES.TParkUsag

	0	1	Row Total
0	89 57.1	67 42.9	156 69.96
1	43 64.2	24 35.8	67 30.04
Column Total	132 59.19	91 40.81	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.99	1	0.3208
0.71	1	0.3985 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.5 Children (8-15) vs. Park Usage

Crosstabulation of QUES.Chil815 vs. QUES.ParkUsage

	0	1	Row Total
0	94 42.2	55 24.7	149 66.82
1	50 22.4	24 10.8	74 33.18
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.Chil815 vs. QUES.ParkUsage

	0	1	Row Total
0	94 63.1	55 36.9	149 66.82
1	50 67.6	24 32.4	74 33.18
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.43	1	0.5101
0.26	1	0.6100 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.6 Children (8-15) vs. Total Park Usage by the Household

Crosstabulation of QUES.Chil815 vs. QUES.TParkUsag

	0	1	Row Total
0	92 41.3	57 25.6	149 66.82
1	40 17.9	34 15.2	74 33.18
Column Total	132 59.19	91 40.81	223 100.00

Crosstabulation of QUES.Chil815 vs. QUES.TParkUsag

	0	1	Row Total
0	92 61.7	57 38.3	149 66.82
1	40 54.1	34 45.9	74 33.18
Column Total	132 59.19	91 40.81	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
1.21	1	0.2712
0.91	1	0.3392 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.7 Elder People (65+) vs. Park Usage

Crosstabulation of QUES.House65 vs. QUES.ParkUsage

	0	1	Row Total
0	113 50.7	63 28.3	176 78.92
1	31 13.9	16 7.2	47 21.08
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.House65 vs. QUES.ParkUsage

	0	1	Row Total
0	113 64.2	63 35.8	176 78.92
1	31 66.0	16 34.0	47 21.08
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.05	1	0.8234
0.00	1	0.9589 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.8 Elder People (65+) vs. Total Park Usage by the Household

Crosstabulation of QUES.House65 vs. QUES.TParkUsag

	0	1	Row Total
0	103 46.2	73 31.7	176 78.92
1	29 13.0	18 8.1	47 21.08
Column Total	132 59.19	91 40.81	223 100.00

Crosstabulation of QUES.House65 vs. QUES.TParkUsag

	0	1	Row Total
0	103 58.5	73 41.5	176 78.92
1	29 61.7	18 38.3	47 21.08
Column Total	132 59.19	91 40.81	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.16	1	0.6936
0.05	1	0.8205 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.9 Children or Elder People (65+) vs. Park Usage

Crosstabulation of QUES.@ChilHo65 vs. QUES.ParkUsage

	0	1	Row Total
0	50 22.4	32 14.3	82 36.77
1	94 13.9	47 7.2	141 63.23
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.@ChilHo65 vs. QUES.ParkUsage

	0	1	Row Total
0	50 61.0	32 39.0	82 36.77
1	94 66.7	47 33.3	141 63.23
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.73	1	0.3916
0.51	1	0.4767 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.10 Children or Elder People (65+) vs. Total Park Usage by the Household

Crosstabulation of QUES.@ChilHo65 vs. QUES.TParkUsag

	0	1	Row Total
0	48 21.5	34 15.2	82 36.77
1	84 37.7	57 25.6	141 63.23
Column Total	132 59.19	91 40.81	223 100.00

Crosstabulation of QUES.@ChilHo65 vs. QUES.TParkUsag

	0	1	Row Total
0	48 58.5	34 41.5	82 36.77
1	84 59.6	57 40.4	141 63.23
Column Total	132 59.19	91 40.81	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.02	1	0.8791
0.00	1	0.9914 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.11 Working People vs. Park Usage

Crosstabulation of QUES.TWorkingP vs. QUES.ParkUsage

	0	1	Row Total
0	19 8.5	15 6.7	34 15.25
1	69 30.9	37 16.6	106 47.53
2	56 25.1	27 12.1	83 37.22
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.TWorkingP vs. QUES.ParkUsage

	0	1	Row Total
0	19 55.9	15 44.1	34 15.25
1	69 65.1	37 34.9	106 47.53
2	56 67.5	27 32.5	83 37.22
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
1.44	2	0.4868

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.12 Working People/Household Size vs. Park Usage

Frequency Tabulation for QUES1.@EmpDIVHou

Class	Lower Limit	Upper Limit	Midpoint	Freq.	Rel. Freq.	Cum. Freq.	C.Rel. Freq.
1	-0.0001	0.2500	0.1249	71	0.3184	71	0.3184
2	0.2500	0.5000	0.3750	108	0.4843	179	0.8027
3	0.5000	0.7501	0.6250	33	0.1480	212	0.9507
4	0.7501	1.0001	0.8751	11	0.0493	223	1.0000

Frequency Tabulation for QUES1.@EmpDIVHou

Class	Lower Limit	Upper Limit	Midpoint	Freq.	Rel. Freq.	Cum. Freq.	C.Rel. Freq.
1	-0.0001	0.1999	0.0999	51	0.2287	51	0.2287
2	0.1999	0.4000	0.3000	89	0.3991	140	0.6278
3	0.4000	0.6000	0.5000	43	0.1928	183	0.8206
4	0.6000	0.8001	0.7000	30	0.1345	213	0.9552
5	0.8001	1.0001	0.9001	10	0.0448	223	1.0000

Frequency Tabulation for QUES1.@EmpDIVHou

Class	Lower Limit	Upper Limit	Midpoint	Freq.	Rel. Freq.	Cum. Freq.	C.Rel. Freq.
1	-0.0001	0.3333	0.1666	106	0.4753	106	0.4753
2	0.3333	0.6667	0.5000	102	0.4574	208	0.9327
3	0.6667	1.0001	0.8334	15	0.0673	223	1.0000

Table.C.4.12 - continued

Crosstabulation of QUES1.@EmpDIVHou vs. QUES1.ParkUsage

	0	1	Row Total
-0.0001-0.5	114 51.1	65 29.1	179 80.27
0.5-1.0001	30 13.5	14 6.3	44 19.73
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES1.@EmpDIVHou vs. QUES1.ParkUsage

	0	1	Row Total
-0.0001-0.5	114 63.7	65 36.3	179 80.27
0.5-1.0001	30 68.2	14 31.8	44 19.73
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.31	1	0.5765
0.15	1	0.7020 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table.C.4.12 - continued

Crosstabulation of QUES1.@EmpDIVHou vs. QUES1.ParkUsage

	0	1	Row Total
-0.0001- 0.3333	66 29.6	40 17.9	106 47.53
0.3333- 0.6667	69 30.9	33 14.8	102 45.74
0.6667- 1.0001	9 4.0	6 2.7	15 6.73
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES1.@EmpDIVHou vs. QUES1.ParkUsage

	0	1	Row Total
-0.0001- 0.3333	66 62.3	40 37.7	106 47.53
0.3333- 0.6667	69 67.6	33 32.4	102 45.74
0.6667- 1.0001	9 60.0	6 40.0	15 6.73
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.81	2	0.6685

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table.C.4.12 - continued

Crosstabulation of QUES1.@EmpDIVHou vs. QUES1.ParkUsage

	0	1	Row Total
-0.0001- 0.24995	45 20.2	26 11.7	71 31.84
0.24995- 0.5	69 30.9	39 17.5	108 48.43
0.5- 0.75005	24 10.8	9 4.0	33 14.80
0.75005- 1.0001	6 2.7	5 2.2	11 4.93
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES1.@EmpDIVHou vs. QUES1.ParkUsage

	0	1	Row Total
-0.0001- 0.24995	45 63.4	26 36.6	71 31.84
0.24995- 0.5	69 63.9	39 36.1	108 48.43
0.5- 0.75005	24 72.7	9 27.3	33 14.80
0.75005- 1.0001	6 54.5	5 45.5	11 4.93
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
1.51	3	0.6802

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.13 Homeownership vs. Park Usage

Crosstabulation of QUES.HomeOwn vs. QUES.ParkUsage

	0	1	Row Total
0	63 28.3	32 14.3	95 42.60
1	81 36.3	47 21.1	128 57.40
Column Total	144 64.57	79 35.43	223 100.00

Crosstabulation of QUES.HomeOwn vs. QUES.ParkUsage

	0	1	Row Total
0	63 66.3	32 33.7	95 42.60
1	81 63.3	47 36.7	128 57.40
Column Total	144 64.57	79 35.43	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
0.22	1	0.6394
0.11	1	0.7437 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.14 Car Ownership vs. Recreational Choice

Crosstabulation of QUES.CarOwn vs. QUES.RecChoice

	0	1	Row Total
0	70 32.1	50 22.9	120 55.05
1	17 7.8	81 37.2	98 44.95
Column Total	87 39.91	131 60.09	218 100.00

Crosstabulation of QUES.CarOwn vs. QUES.RecChoice

	0	1	Row Total
0	70 58.3	50 41.7	120 55.05
1	17 17.3	81 82.7	98 44.95
Column Total	87 39.91	131 60.09	218 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
37.79	1	0.0000
36.10	1	0.0000 with Yates correction

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is less than 0.05, the assumption of indepedence is rejected. Consequently, there is a statistically significant dependence between rows and columns.

Table C.4.15 Adjusted Income vs. Park Usage

Crosstabulation of QUES.IncomeA vs. QUES.ParkUsage

	0	1	Row Total
1	40 18.3	13 6.0	53 24.31
2	42 19.3	17 7.8	59 27.06
3	35 16.1	32 14.7	67 30.73
4	23 10.6	16 7.3	39 17.89
Column Total	140 64.22	78 35.78	218 100.00

Crosstabulation of QUES.IncomeA vs. QUES.ParkUsage

	0	1	Row Total
1	40 75.5	13 24.5	53 24.31
2	42 71.2	17 28.8	59 27.06
3	35 52.2	32 47.8	67 30.73
4	23 59.0	16 41.0	39 17.89
Column Total	140 64.22	78 35.78	218 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
8.82	3	0.0318

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is less than 0.05, the assumption of indepedence is rejected. Consequently, there is a statistically significant dependence between rows and columns.

Table C.4.16 Distance vs. Park Usage

Crosstabulation of QUES.Distance vs. QUES.ParkUsage

	0	1	Row Total
1	40 19.2	30 14.4	70 33.65
3	32 15.4	40 19.2	72 34.62
4	57 27.4	9 4.3	66 31.73
Column Total	129 62.02	79 37.98	208 100.00

Crosstabulation of QUES.Distance vs. QUES.ParkUsage

	0	1	Row Total
1	40 57.1	30 42.9	70 33.65
3	32 44.4	40 55.6	72 34.62
4	57 86.4	9 13.6	66 31.73
Column Total	129 62.02	79 37.98	208 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
26.75	2	0.0000

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is less than 0.05, the assumption of indepedence is rejected. Consequently, there is a statistically significant dependence between rows and columns.

Table C.4.17 Adjusted Income vs. Having Private Garden

Frequency Tabulation for QUES.ChoiceRec

Class	Value	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
1	0.0000	121	0.5654	121	0.5654
2	3.0000	93	0.4346	214	1.0000

Crosstabulation of QUES.ChoiceRec vs. QUES.IncomeA

	1	2	3	4	Row Total
0	21 9.8	32 15.0	39 18.2	29 13.6	121 56.54
3	31 14.5	27 12.6	26 12.1	9 4.2	93 43.46
Column Total	52 24.30	59 27.57	65 30.37	38 17.76	214 100.00

Crosstabulation of QUES.ChoiceRec vs. QUES.IncomeA

	1	2	3	4	Row Total
0	21 17.4	32 26.4	39 32.2	29 24.0	121 56.54
3	31 33.3	27 29.0	26 28.0	9 9.7	93 43.46
Column Total	52 24.30	59 27.57	65 30.37	38 17.76	214 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
12.02	3	0.0073

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is less than 0.05, the assumption of indepedence is rejected. Consequently, there is a statistically significant dependence between rows and columns.

Table C.4.18 Adjusted Income vs. Usage of Bigger Parks

Crosstabulation of QUES.UsageBigPa vs. QUES.IncomeA

	1	2	3	4	Row Total
0	28 12.8	23 10.6	29 13.3	12 5.5	92 42.20
1	25 11.5	36 16.5	38 17.4	27 12.4	126 57.80
Column Total	53 24.31	59 27.06	67 30.73	39 17.89	218 100.00

Crosstabulation of QUES.UsageBigPa vs. QUES.IncomeA

	1	2	3	4	Row Total
0	28 30.4	23 25.0	29 31.5	12 13.0	92 42.20
1	25 19.8	36 28.6	38 30.2	27 21.4	126 57.80
Column Total	53 24.31	59 27.06	67 30.73	39 17.89	218 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
4.83	3	0.1849

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is greater than or equal to 0.05, the assumption of independence is not rejected. Consequently, there is not a statistically significant dependence between rows and columns.

Table C.4.19 Perception vs. Usage of Bigger Parks

Crosstabulation of QUES.UsageBigPa vs. QUES.Percept

	0	1	2	Row Total
0	33 14.8	62 27.8	0 0.0	95 42.60
1	24 10.8	100 44.8	4 1.8	128 57.40
Column Total	57 25.56	162 72.65	4 1.79	223 100.00

Crosstabulation of QUES.UsageBigPa vs. QUES.Percept

	0	1	2	Row Total
0	33 34.7	62 65.3	0 0.0	95 42.60
1	24 18.8	100 78.1	4 3.1	128 57.40
Column Total	57 25.56	162 72.65	4 1.79	223 100.00

Summary Statistics for Crosstabulation

Chi-square	D.F.	P Value
9.66	2	0.0080

Warning: Some table cell counts < 5.

The chi-square test tests the null hypothesis that the row and column classifications are independent. The assertion of independence implies that there is no relationship between the row which a data points falls in and the column in which it falls. Since the P value is less than 0.05, the assumption of indepedence is rejected. Consequently, there is a statistically significant dependence between rows and columns.

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