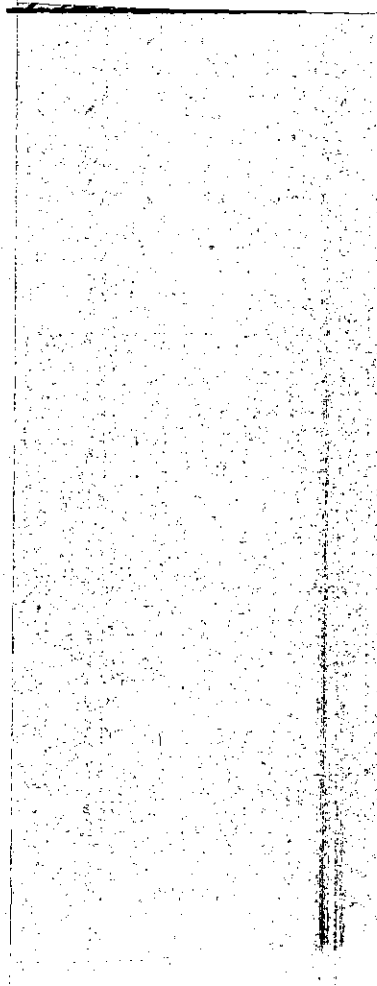


"In presenting the dissertation as a partial fulfillment of the requirements for an advanced degree from the Georgia Institute of Technology, I agree that the Library of the Institution shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to copy from, or to publish from, this dissertation may be granted by the professor under whose direction it was written, or, in his absence, by the dean of the Graduate Division when such copying or publication is solely for scholarly purposes and does not involve potential financial gain. It is understood that any copying from, or publication of, this dissertation which involves potential financial gain will not be allowed without written permission.



DETERMINATION OF THE NEED FOR AND THE LOCATION  
OF CEMETERIES IN THE COMMUNITY

A THESIS

Presented to  
the Faculty of the Graduate Division

by  
Thomas David Eskew

In Partial Fulfillment  
of the Requirements for the Degree  
Master of City Planning

Georgia Institute of Technology

September, 1963

12 R

DETERMINATION OF THE NEED FOR AND THE LOCATION  
OF CEMETERIES IN THE COMMUNITY

Approved: JA

Date Approved by Chairman: Nov. 11, 1963

### ACKNOWLEDGMENTS

The author wishes to express his thanks to Professors Howard K. Menhinick and Malcolm G. Little, Jr., for their invaluable guidance and counsel concerning the organization and writing of this thesis. Appreciation is also expressed to Professor Maurice R. Brewster for his assistance in supervising this thesis.

Gratitude is also due Miss Natelle Isley and other personnel of the Architecture Library of Georgia Institute of Technology for their aid in obtaining information necessary for this paper.

Much appreciation is given to the author's family and especially to his sister, Frances, for their continuing encouragement. Special gratitude is due the author's wife, Anne, whose untiring effort and patience have made the completion of this thesis possible.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS . . . . .	ii
LIST OF TABLES . . . . .	v
LIST OF ILLUSTRATIONS . . . . .	vi
SUMMARY . . . . .	vii
 Chapter	
I. INTRODUCTION . . . . .	1
Problem	
Purpose and Scope	
II. THE CEMETERY AND ITS CHARACTERISTICS . . . . .	4
Background of Cemetery Development	
Decline of the Churchyard Cemetery	
Shift to Larger Monumental Cemeteries	
Trend to the Lawn Designs	
Important Features of Contemporary Cemeteries	
Ownership	
Perpetual Care Fund	
Special Services	
Impact on the Community	
Traffic Generated	
Tax Exemption	
Influence on Adjoining Property Values	
Summary	
III. PLANNING FOR THE CEMETERY . . . . .	17
Recognition of the Problem	
Establishing the Need for Additional Cemetery Land	
Planning Period and Population Projection	
Death Rate	
Trends in Burial Practice	
Religious and Racial Influences	
Available Space	
Site	

Chapter	Page
Locating the Cemetery in the Urban Community	
Site Conditions	
Access	
Related Land Uses	
Compatible Land Use Situations	
Trade Area Survey	
Summary	
IV. TOOLS FOR CARRYING OUT THE COMMUNITY PLAN FOR CEMETERIES . . . . .	60
License	
Health and Safety Codes	
Cemetery Ordinances	
Zoning Ordinances	
Subdivision Regulations	
V. INCORPORATING FUTURE CEMETERY DEVELOPMENT IN THE COMMUNITY PLANNING PROGRAM . . . . .	96
Determining the Need	
Determining Optimum Size and Site Conditions	
Determining Location of Cemeteries in the Community	
Zoning Ordinance	
Subdivision Regulations	
APPENDIX . . . . .	107
BIBLIOGRAPHY . . . . .	110

## LIST OF TABLES

Table	Page
1. Cremations in the United States . . . . .	22
2. Statistical Analysis of Cremations by Sections of the United States . . . . .	24
3. Summary of Questionnaire on Funeral Data . . . . .	35
4. Original Location of Property Owners in Relation to Distance from Cemeteries . . . . .	44
5. Regulations Presently Being Used to Control New Cemetery Development in Selected Cities . . . . .	62
6. Number of Zoning Ordinances Surveyed, by State and Region . . . . .	71
7. Zoning Districts in Which Cemeteries Are Permitted Under City or City-County Zoning Ordinances . . . . .	73
8. Use of Administrative Controls to Govern Cemetery Development by Regions . . . . .	74
9. Authority Issuing Use Permits and Special Exceptions . . . . .	75
10. Districts Permitting the Location of Cemeteries in County Zoning Regulations . . . . .	77
11. Specific Requirements for Cemeteries in Zoning Ordinances . . . . .	80
12. Crematories Allowed Only in Cemeteries and Approval of Crematories Required Elsewhere, by Regions . . . . .	88
13. Highest Zones Permitted for Crematories . . . . .	90

## LIST OF ILLUSTRATIONS

Figure	Page
1. Location of Cemeteries Surveyed in Atlanta . . .	47
2. Trade Area Survey Map of Westview Cemetery . . .	48
3. Trade Area Survey Map of Georgia Memorial Park Cemetery . . . . .	50
4. Trade Area Survey Map of Decatur City Cemetery .	52
5. Trade Area Survey Map of Lincoln Cemetery . . .	54
6. Trade Area Survey Map of Westview Abbey Mausoleum . . . . .	55



## SUMMARY

Cemetery lands in urban areas often present serious problems to communities. Due to the permanency of these lands, they are difficult and frequently impossible to relocate; excessive amount of cemetery land free from property taxes can become a financial burden to communities; and cemetery land often interferes with needed public improvements and economic development for cities. Because of these problems, cemetery development should be given serious consideration in the city's future development plans.

This study was undertaken to outline a feasible method by which a community may incorporate this land use in its comprehensive planning program. Planning for cemetery development requires, first, that the future needs for cemetery land be determined. This can be done by establishing an extended planning period for cemeteries of from 50 to 100 years and projecting the population trends for this period. The results of this projection are adjusted by the estimated local death rate, burial practices, and religious and racial influences to reveal the number of anticipated interments for the planning period. From this number of interments the land area needed for cemetery use is determined.

Second, factors are presented which help locate and determine the best site for cemeteries in the community. Those having the most influence on locating this land use are site conditions, access to the site, location of the public to be served, related land uses and compatible land use situations. The results of analyzing the factors influencing the need for and the location of this land use have a vital role in arriving at a future plan for cemeteries.

Various measures employed to regulate cemetery development were examined. Zoning ordinances and subdivision regulations were found to be the most effective. A detailed analysis of these regulations was made for this study. It revealed that most of the zoning ordinances including provisions for cemeteries restrict this land use to agricultural, residential, and open type use districts. They also included provisions for governing over-all site development. Subdivision regulations were found to be used only to a limited degree. Nevertheless, they are important controls over the cemetery's physical design and site improvements. Recommendations are made for the drafting of cemetery provisions in zoning ordinances and subdivision regulations.

## CHAPTER I

### INTRODUCTION

The cemetery is such a significant land use that today it can no longer be the victim of inadequate consideration in urban community development plans. This land use, of course, provides a vital service to all communities. Yet, many municipalities in the past have excluded cemeteries from their jurisdiction and have forced this development to locate in adjoining unincorporated areas. Later the municipalities expanded their boundaries to such an extent that these cemeteries have restricted or even jeopardized needed development.

Although cemeteries do not frequently present planning problems to a community, the permanence of this land use makes policies and decisions regarding it unusually important. For example, other land uses, such as office buildings or apartment houses, which have outlived their usefulness, may be removed for new development. The legal procedure is relatively simple, even though the cost may be high. For the cemetery, removal or relocation is not as easy. Not only can the cost be excessive, but legal obstacles may very well make removal impossible. Therefore, new cemetery developments that are permitted today may have a substantial effect on the city's growth in the future.

Planning for the cemetery is unlike planning for the more conventional types of community development. There are pressures, ideas, and laws that have little or no parallel to those related to other land uses. The disposal of the dead is enmeshed in religious doctrines, customs, superstitions, complicated statutory laws, and crusading burial reforms.

The planning for cemetery development in the community requires determining first, whether additional burial spaces are needed, and if so, how much land is required. The answer to this is becoming increasingly important today for local governments. Along with the growth in population and development many urban centers are enjoying comes the demand for more and larger facilities which occupy land exempt from taxes. In order to provide these facilities, cities cannot afford to allow unnecessary tax-free developments to occur at a rate that could jeopardize their property tax base.

The next requirement is to locate the new cemetery where it will not interfere with but will aid community growth. Such a location also gives reasonable assurance that the cemetery will be a successful development. Some of the cemeteries today, because of their poor locations, interfere with urban expansion by obstructing desirable traffic routes. The new cemetery then should be placed so as to avoid impeding the opening of future streets, particularly, possible arterial routes.

It is the purpose of this study to present and discuss practical methods by which a community may determine its cemetery needs and properly locate any required facilities where they will best serve the population. The results of the research for this study are utilized to prepare general recommendations for integrating the cemetery in the planning program. It is the intent of this study to benefit those who are interested in planning for cemetery development in the urban community -- especially the city planner in his role of advising the local officials as to the need for and the location of new cemetery development.

The information for this study was obtained by an extensive search of available literature; interviews with cemetery officials, designers, and an engineer; correspondence with cemetery organizations and a designer; correspondence with attorneys and planning directors of several cities concerning the types of regulations used to control cemetery development; a survey of the location of the residences of owners of property in the local cemeteries; and a survey of 494 zoning ordinances.

The second chapter discusses the cemetery and its characteristics. The remaining chapters are concerned with the problems of urban community planning for cemeteries and of successfully accomplishing the plans.

## CHAPTER II

### THE CEMETERY AND ITS CHARACTERISTICS

The cemetery built today has changed considerably from the one established over a hundred years ago. This change is the result, as it is in most enterprises, of the evolution in mobility and social customs, and of the increase in operating costs. Even though the purpose of the cemetery remains the same, its general appearance, operation, and effect upon the adjoining property and community have changed significantly.

Cemeteries built today may vary somewhat in design, but basically they all have certain characteristics. In order to have a more meaningful understanding of this land use -- its present status and its influence upon the community -- it is well to review some of the history of cemetery development and the steps in its evolution into its present position in the urban community.

#### Background of Cemetery Development

Because of the slow pace at which cemetery development occurs, the significant changes in this land use have taken place over many years. To find the changes that are of interest to this discussion, it is necessary to begin in the nineteenth century. Attention will be devoted to the manner in which the

cemetery was developed, its location, and the differences in development which have taken place in the intervening time. This section presents the transition in cemetery development which the United States experienced from the early 1800's to the present time.

#### Decline of the Churchyard Cemetery

The churchyard cemetery in the urban area is something that belongs to the last century. Call it another victim of the expanding American city, of the change to mechanization, or of the trend to larger organizations. The fact remains that no longer is it practical for an individual congregation to maintain a cemetery to serve only its members.

It was natural that burial grounds be a part of the church during the early development of America, for this had been the custom in many European countries. But as the towns grew into cities, and these areas became congested, it was soon realized by the churches and local governments that this method of establishing graveyards was impractical. The churchyards were usually small, and the church anticipated the need for additional area. Often new land was unobtainable in adjacent areas. Also, experience gained from maintaining these cemeteries indicated that they became financial burdens for the congregations. The general practice was to provide burial space to the membership free or for a very small price. The responsibility for maintaining the graves and monuments became the churches' alone in a few years as the members of the families

died or moved away. Furthermore, this cost increased in the succeeding years due to the deterioration of the cemetery. Land for new graves and higher wages for maintenance personnel meant even greater costs.

However, there are some exceptions to the shift away from churchyard cemeteries. Probably the oldest church cemetery still active in America is the Rock Creek Cemetery, Washington, D. C., which was chartered by King George III in 1769 as an Episcopalian burying ground. It has continued to expand in area and now serves people of all faiths. (1)

The increase in the size of the cities brought new concern for the public health. Many governing authorities felt that continued development of churchyard cemeteries, as well as other centrally located cemeteries, might well create a health problem. Particularly in cities along the East coast where shallow wells were the source of drinking water, cemeteries in close proximity became the subject of criticism. As a result, laws were passed in many cities making it necessary for cemeteries to be established outside the city limits. (2)

#### Shift to Larger Monumental Cemeteries

The shift away from the churchyard cemetery began in 1831 when several leading citizens of Boston wanted to do something about preventing future run-down cemeteries. Since it was known that charity alone could not perpetuate a cemetery, they decided to establish a cemetery on a business basis. The result was the creation of Mount Auburn Cemetery, constructed



on a large tract of land located at that time just outside the city of Cambridge, Massachusetts. (3)

This cemetery, like the majority of the others which were built before 1900, continued the use of large monuments for marking individual lots. The monumental cemetery is the principal type of cemetery being operated today. According to the 1960 Cemetery Handbook, published by the National Association of Cemeteries, there were 52,000 cemeteries in the United States. Monumental cemeteries accounted for 49,000 or 95 per cent of the total. It must be noted that the majority of the above cemeteries have existed for three quarters of a century or more. This development of monumental cemeteries is on the decline. Mr. H. Boyer Marx, an Atlanta landscape architect who has specialized in designing cemeteries, stated in an interview that only a small percentage, perhaps 10 per cent or less, of the cemeteries built in the last 60 years were monumental. (4)

#### Trend to the Lawn Designs

The lawn designs -- the park and the garden -- represent the latest development in cemeteries. Early in the 1880's the park cemetery was devised and used as the design of Spring Grove Cemetery in Cincinnati, Ohio, by Adolph Stranch, who later became the superintendent of this cemetery and of the city parks. (5) This design was the result of an effort to improve the cemetery's attractiveness in the community and at the same time decrease the mounting maintenance costs. The

desired economy in maintenance was realized through the replacement of the varying sized, above-the-ground monuments with standard size flush-with-the-ground markers. It is estimated by some cemetery managers that as much as a tenfold savings in the care of lawns alone is a result. The aesthetic improvement obtained resulted to some degree from the removal of the often "grotesque" monuments, but it was mainly achieved through the wider use of landscaping and open lawns.

Even though the park design was generally accepted by the public, there was some criticism of the ordinary park-like appearance and the lack of visible memorials. This shortcoming of the park design was curbed somewhat by dividing the vast lawns into individual gardens. This variation was developed during 1930 and was established in Glendale, California, by Forest Lawn Cemetery. To replace the sentiment connected with the monumental cemetery, a carved religious feature was centrally located in each garden. Like the park, the garden design retained the use of flush markers for the graves.

Although lawn designs have been used principally in new cemetery development since 1900, the percentage of this type cemetery listed with the National Association of Cemeteries is small. In 1960 park and lawn type cemeteries accounted for 1,250 or about 2.5 per cent of the total 52,000 cemeteries in the United States. Another 1,250 cemeteries, the remainder after 49,000 monumental cemeteries, represent a combination of the lawn and monumental designs. (6)

### Important Features of Contemporary Cemeteries

Certain features of the cemetery today are significant. An understanding of each should prove useful in evaluating cemetery development proposed for the urban community. These features are concerned with the type of ownership, the plans for maintaining the cemetery, and the special services from which the community may benefit that are provided by some cemeteries.

#### Ownership

Cemetery ownership today is of three types -- public, private, and sectarian.

Since municipal governments have the responsibility of protecting the public, a decent burial for the dead is one of their obligations. For example, paupers' burial costs are provided by local governments. Municipal governments frequently own and operate their own cemeteries. The use of these cemeteries is usually restricted to residents of the municipality when the cemetery is within the corporate limits, or certainly to the county population. The extent of public ownership is disclosed in a survey made by the International City Managers' Association in 1947. The survey revealed that of the cities in the United States with 5,000 population or more, 700 cities, or approximately 40 per cent of all the cities in this group, owned and operated one or more cemeteries. (7)

The privately owned cemetery may, and usually does,

serve a larger area than the municipal cemetery. The private cemetery is usually actively promoted by a sales staff, and the area served is governed by the distance the prospective lot owner is willing to travel.

The third type of ownership is by religious or fraternal groups. The cemeteries owned by these groups are usually large ones which are designed not only to provide sufficient burial space for many years but also to serve a large area. A good example of this are the cemeteries owned by the Catholic Church. A diocese or several dioceses purchase a complete farm or a large tract conveniently located in the area it will serve. The Catholic Church is the leader among religious groups in providing its own cemeteries. It is one of the principles of this religion that members be buried in a cemetery consecrated by the Church. However, only where there is sufficient membership does the diocese maintain a cemetery. In the areas where there are few members, the Catholic Church often acquires a section or reserves by request a section within a privately owned cemetery. This arrangement provides a convenient church recognized and, to some extent, church controlled cemetery for the membership. The private cemetery that makes these arrangements benefits from a certain amount of advertisement and from the fact that groups of people in the area will be using only that cemetery. The municipal cemetery, however, does not often have flexible regulations that will permit blocks of burial lots to be reserved in this manner. Furthermore, non-citizens

of the community are usually not allowed burial in a municipal cemetery. The methods used by the Catholic Church are also used by other religions and by ethnic and fraternal groups, who desire to practice their own burial customs.

#### Perpetual Care Fund

When all of the grave spaces are sold, the income of the cemetery is limited to the yield derived from incidental services. This revenue gradually declines and obviously is inadequate to provide proper maintenance. Consequently, moral considerations and good business principles demand the creation of a perpetual care fund at the beginning of the enterprise. This fund increases as the lots are sold, and an irrevocable trust is established with the provision that only the yield may be used for maintenance.

In the states that provide for maintenance funds by law, the usual amount required to be placed in trust is ten per cent of the sales price of the lot. Where legislative provisions are absent, the establishment of a perpetual care fund is voluntary. Therefore, many cemeteries do not have perpetual care funds.

#### Special Services

Many people think of a cemetery as having only one purpose -- that is, burial of the dead. As a land use cemeteries, especially the open design type, offer several amenities to the community. Among these are their attractiveness, the value of having open spaces available in the cities,

and the provision of chapels and land in the cemeteries that can be used for religious or civic purposes.

Lewis Mumford, indicating a means of enjoying additional open space, says, "To achieve peace and quiet, to insulate oneself from the noisy lanes of traffic, one must -- do not laugh! -- visit the dead." (8)

Ray E. Bassett in an article on "The Principles of Modern Cemetery Planning" states; "The atmosphere of the memorial park presents, in each respect, the enchanting beauty of a public park...." (9)

Additional benefits are often obtained from the use of the chapel at a cemetery. For a period of time, regular Catholic Masses and baptismal services, as well as regular Protestant services, have been held in the chapel at Rosedale Park Cemetery, Grand Rapids, Michigan.(10) Also, "For a period of about 12 weeks ...they had meetings once a month in the chapel for the Walker Township Garden Club, which although not a large crowd [sic], we very definitely again provided a community service...." (11)

Wedding services are sometimes performed in cemetery chapels. This practice occurs frequently enough to encourage special provisions in these chapels. An example of this is the chapel recently completed in Woodlawn Memorial Park Cemetery in Nashville, Tennessee, which was designed to be used also for weddings. A room above the foyer was equipped to serve as a dressing room for the bride.

Among the most attractive services in numbers of people drawn to the cemetery are the Easter Sunrise Services. Such services have wide appeal to the public and have been promoted across the country by cemeteries. Most of these services consist of a religious service by members of the local clergy. This is true of Arlington Cemetery in Atlanta, Georgia, where the Northside Ministerial Association holds this service in the Garden of Resurrection. A more ambitious Easter Sunrise Service is held at Laurel Land Cemetery in Dallas, Texas, and is the largest service of this type in the Southwest. "A crowd estimated at 20,000 heard Christianity's story of the Resurrection of Christ, and a cast of fifty persons presented the Pageant of the Lilies to re-tell the resurrection story." (12) Each year since 1949, the crowds have increased to such an extent that in 1957 there were 30,000 people attending, with a cast of 200 persons in the pageant.

Probably the most noted and oldest Easter Sunrise Service is held in the famous Forest Lawn Memorial Park in Glendale, California. "About the Tower of Legends, which occupies the topmost point in Forest Lawn, sunrise services are held on Easter morning. Thousands of people gather there for the cemetery is not a forbidding place, to be shunned by the living." (13)

It can also be said of other cemeteries as it was of Forest Lawn by F. A. Cushing Smith (*italics added*), "That a cemetery may be a memorial, a park, a place for study,

meditation and worship, as well as a civic asset, is demonstrated by Forest Lawn." (14)

### Impact on the Community

As has been indicated before, the cemetery has a definite effect on the community and the surrounding property. This impact is felt in the community by the traffic generated, the effect on the tax structure, and the influence the cemetery has on its neighbors.

### Traffic Generated

Since the cemetery provides a necessary service to the community, there is a certain amount of traffic movement to and from this facility. Funeral processions produce the most congesting and undesirable part of this traffic. However, these vary in frequency and in length of disturbance. Most funeral processions avoid the periods of serious congestion in the streets. This timing is not usually required by city regulations but rather by cemeteries. Most urban cemeteries increase the interment cost for the period thirty minutes to an hour before the close of the working day to encourage the completion of the burial at an earlier time.

### Tax Exemption

From the public standpoint the necessity of burial supports the argument for the exemption of burial lands and cemetery corporations from the burdens generally imposed by the community upon private property. The granting of



exemption from taxation is a universal policy for encouraging public or charitable uses. "The reason underlying the exemption is the protection of such bodies and the land wherein they are buried against interference of possible sales for unpaid taxes,"(15) and "to free the land so that it could not be diverted from its intended use."(16)

In the Laurel Hill Case it was stated that the amount of cemetery property exempt from taxation "is confined to lands and structures which afford actual sepulcher to human bodies."(17) However, in the West Ridgelawn Cemetery v. City of Clifton Case, it was ruled that "land owned by the cemetery association and within reasonable contemplation of early use for cemetery purposes was exempt from taxation." (18)

#### Influence on Adjoining Property Values

The blighting influence that once was typical of cemeteries is not characteristic of the new developments. No longer does the park or garden cemetery remind its neighbors of the presence of a graveyard.

Evidence of the lawn development's overcoming most of the objections is found in the quality of the adjoining development. It has been testified in court by bankers and realtors that \$30,000 homes have been built in subdivisions bordering lawn cemeteries. Homes in the \$18,000 to \$20,000 bracket were built several years ago in a subdivision adjoining the Arlington Cemetery in Sandy Springs, Georgia. These homes were placed within 100 to 150 feet of the joint property line.

### Summary

The development of cemeteries has varied considerably since the early 1800's. The outcome has been a change in design from the small church graveyard to a development that is aesthetically attractive and is also economical due to relatively low maintenance cost. In addition to providing burial space, the cemetery today can provide other useful services to the community.

The need for and the location of cemeteries will be analyzed and evaluated in the following chapter.

## CHAPTER III

### PLANNING FOR THE CEMETERY

Many problems are involved in providing for cemeteries in the urban community's future plans. However, most of these problems can be dealt with in two steps. First, the need for additional burial space should be determined. Second, it must be decided where the cemetery should be located to best serve the community and to minimize any undesirable effect on the city's present and subsequent growth. This chapter will present the factors that should be considered in solving these problems.

#### Recognition of the Problem

Although a sound planning program considers all types of land uses in preparing a community's development plans, it is especially important to evaluate the area needed for and the location of cemeteries. As little attempt was made to do this in the past, there have been some undesirable results.

The most notable example took place during the boom years of the 1920's when there was an outbreak of cemetery promotion. This period of cemetery speculation not only adversely affected the public, but many cities and counties were left with serious problems. In all, more than 600 cemeteries were established with a large acreage of land reserved for this use, and only a few burials were made in these cemeteries.

In Southern California alone, more than 20 million dollars were spent on such developments. As a result, large tracts of land were set aside -- tax exempt and difficult to reuse. Even though there were no interments in some of these cemeteries, in at least one case the courts have held that the sale of burial rights has made the cemetery "now in use", and therefore the land will be granted the customary tax immunity given to cemeteries." (19)

Although such schemes are not a menace today, only adequate land use controls can prevent their recurrence in many areas. Besides forestalling speculation, the city planner should also know when to counsel against perfectly legitimate, but premature, cemetery development.

Abundance of land devoted to cemetery use creates serious problems for the cemeteries. In the State of Delaware, there is an excess of burial land due to the absence of prohibitive legislation. This condition is very evident in the metropolitan area of Wilmington. Here one of the older cemeteries found it expedient to sell part of its unused land for residential development.

Each year additional land is occupied by new graves. This is vividly pointed out when one considers the number of burials per year in relation to an average number of grave sites per acre. There were 1,702,000 deaths in this country in 1960. Of that total, 1,642,906 or 96.5 per cent of the bodies were disposed of by burial, and the majority of these were ground interments. Cremation accounted for less than

four per cent of the total burials. A figure of 850 graves per acre is a conservative number for lawn cemeteries but a near maximum for monumental cemeteries. By using this figure as a basis, it can be assumed that approximately 1,920 acres of cemetery land were required for burial purposes in 1960.

An area of a little over three square miles annually is not too significant in a country of three million square miles. The serious aspect is that the cemetery land is for the most part located in or near the cities, where undeveloped land is not in abundance.

#### Establishing the Need for Additional Cemetery Land

Many factors are involved in forecasting future needs for burial space. The following are perhaps the most important:

(1) What period should the study cover, and how many burials will there be during this time? (2) How many interments can be made in the existing cemeteries? and (3) How much new cemetery land will be required?

#### Planning Period and Population Projection

Because of the long period of time during which cemeteries provide burial space, the number of years involved in forecasting the need for new burial facilities is by necessity greater than the period of planners' usual population growth projections. It is desirable, though impractical, to estimate the cemetery requirements for a hundred years in the future, as many cemeteries can expect to have that long an active life, or an even longer one. Although any estimate of population

growth further than two decades is exceedingly questionable, it is useful in this case because of the slower use of this facility. It is known from the growth of larger cities how questionable any estimate of population increases for 50 to 100 years would be. Many cities, such as New York, Los Angeles, or Chicago, have increased as much as 1,000 times in the last hundred years.

The planner then must use his best judgment. It is reasonable to project population increase from 10 to 20 years and extend this estimate on a straight line projection for at least 50 years. (20) This 50 year forecast, even though it would in most cases be exceedingly short, would indicate the magnitude of the cemetery needs.

The short term projections are based on carefully considered estimates, and for this reason they provide additional information which is valuable in locating additional cemetery facilities. The population estimates made for one and two decades indicate not only the over-all population changes but also the population distribution -- where the new population will concentrate and what will be the population densities. These short population projections can provide a basis for locating cemeteries today to best serve the demands of the future population.

#### Death Rate

After projection of the population, the next step is an estimate of the death rates for the same periods of time. These death rates, modified by other factors which are described

later, will determine the amount of burial space needed over the planning period. It must be noted that death rates vary with city and area populations and that the projected death rates must be adjusted to consider the age, sex, racial, and health characteristics of the local populations. Certainly an area occupied by retired, elderly people, such as St. Petersburg, Florida, would have a comparatively high death rate. Conversely, a city of young families such as might develop near a rapidly expanding urban center would have a comparatively low death rate. Therefore, usually the rates obtained from the local public health agencies are of more value than the national averages since the national rate is a crude rate and cannot be applied directly to an area embracing less than a million people.

#### Trends in Burial Practice

There are two important phases of burial practices which affect the number of local interments. The first of these is "foreign" burials. A substantial proportion of the inhabitants of large cities are buried elsewhere. The recent growth of such cities because of in-migration will only serve to strengthen such habits. People request that their bodies be sent home for interments. The Cemetery Handbook indicates "that in a city of 20,000 there might be expected 100 per cent burial, i.e., the number of burials elsewhere would be offset by the number of bodies returned from other places to the city." However, to determine the extent of local out-shipment of bodies, the planner will need to compare the deaths and burials in his city for the last 20 years. Because of the changes in

mortality, a 20 year period is sufficient to present a reasonable pattern. (21)

The second factor affecting an estimate of local interments is the means of burial. Two methods, cremation and entombment, are increasing each year. The figures of the Cremation Association of America indicate that the practice of cremation is steadily growing in the United States. The first crematory is reported to have been built in 1876. By 1943 the number of crematories had increased to 207. Table I indicates the growth of this practice.

Table 1. Cremations in the United States

Period*	Number of Cremations*	Per cent of Increase	Number of Deaths**	Per cent of Total Deaths
1934-38	34,168***	--	1,420,140***	2.4
1939-43	42,885***	25	1,409,508***	3.0
1944-48	48,208***	11	1,415,676***	3.5
1949-53	56,031***	12	1,478,708***	3.7
1959	57,445	--	1,660,000	3.5
1960	59,094	1.8	1,702,000	3.5

\* Figures from the Cremation Association of America, Fresno, California

\*\* Figures taken from the Statistical Abstract of the United States

\*\*\* Annual average for the designated five-year period



The number of cremations in the United States, as indicated in the above table, is increasing each year. In 1960 the number of cremations represented 3.5 per cent of the total burials. However, this percentage cannot be applied to each area of the United States. Table 2 indicates the growth of the number and percentage of cremations in the United States by areas. Cremation is generally more accepted and practiced by the higher income groups. For example, the Pacific Coast and Middle Atlantic States, which contain the greatest percentage of the higher income group, have a greater number of cremations each year than the other areas of the United States.

In a sociological study of the differences in class behavior toward death in the Philadelphia area, William Kephart indicated that "...cremation is almost entirely an upper class phenomenon: it is seldom found in the lower classes, and in some lower classes is never found." (22) Since the findings of this paper were based largely on expressed opinions concerning the upper and lower economic classes, it can only be said about the middle class that cremation occurs more frequently than among the lower income groups, but not nearly so frequently as among those in the upper economic brackets. Also, the increase in number of cremations yearly seems to be centered in the wealthier class. The records of one funeral home in Philadelphia that caters largely to this class indicated that cremations there have increased from 7 to 17 per cent in the last ten years. According to estimates given by other funeral

Table 2. Statistical Analysis of Cremations by Sections of the United States

Areas	1939-43	% of Total	1944-48	% of Total	1949-53	% of Total	1959	% of Total	1960	% of Total
Pacific Coast States	106,686	50	117,772	48	132,495	49	26,880	47	27,986	47
Mountain States	5,480	3	4,785	2	5,932	1	1,393	2	1,539	3
East, North & South Central States	9,556	4	10,303	4	11,959	4	5,937	10	5,945	10
West, North & South Central States	27,059	13	36,384	14	39,573	14	2,458	4	2,737	5
Middle Atlantic States	46,496	20	50,447	21	55,743	20	12,338	22	11,900	20
South Atlantic States	11,736	5	16,564	6	19,170	7	4,539	8	4,956	8
New England States	11,407	5	12,784	5	15,277	5	3,900	7	4,031	7
Total	214,420	100	249,039	100	280,158	100	57,445	100	59,094	100

Following are the states included in the geographical areas listed above:

Pacific Coast States - California, Oregon, Washington  
 Mountain States - Montana, Colorado, Arizona, New Mexico  
 East, North & South Central States - Wisconsin, Michigan, Illinois, Indiana, Ohio,  
 Kentucky, Tennessee  
 West, North & South Central States - Minnesota, Nebraska, Iowa, Missouri, Texas, Oklahoma  
 Middle Atlantic States - New York, Pennsylvania, New Jersey  
 South Atlantic States - Georgia, Florida, Maryland, Delaware, Virginia, Alabama, North  
 Carolina, District of Columbia, Louisiana  
 New England States - Massachusetts, Rhode Island, Connecticut, Maine

Source: Cremation Association of America, Fresno, California.

directors in the Philadelphia area, this figure seems to be a valid index to the increase in cremations among the upper income classes. (23)

It could be assumed by the interest chiefly of the upper income classes in cremation as a means of burial that the price makes it less attractive to other income groups. However, this is not necessarily the case. In the United States the cost of cremation is approximately the same and in some instances even less than other forms of burial. The cost of the funeral, including embalming, use of the funeral equipment, and other services of the funeral director, is usually the same up to the price of the casket. This item may or may not cost as much as one used for interment in the ground or mausoleum. A casket for interment in most cases is of more permanent construction than one to be consumed during cremation. Therefore, the price of the casket for burial by cremation is generally less. However, there is the additional cost of cremating the body and purchasing an urn for the remains. This cost might be offset by the price of a vault, which is usually required by most cemeteries for earth burials. The difference in cost of final placement of the cremated remains or the body, if based on a single burial space, may not be great. The price of the space for the cremated remains in a columbarium, mausoleum, or in a garden especially for this type of burial usually will not be significantly different from that of the most economical grave space.

Although no figures were available on the proportion of the dead that are entombed in mausoleums, an estimate was obtained. Mr. James Worley, Executive Vice-President of the American Cemetery Association, provided the figures. His estimates are based on 200 leading cemeteries in the United States which provided approximately one-eighth of all the interments in the United States in 1959. These cemeteries indicated that about ten per cent of the interments went into mausoleums. Since there were, that year, 1,600,000 interments excluding cremations in the United States, one-eighth or 200,000 represented the burials by these cemeteries. According to their figures, 20,000 went into mausoleums. He further stated that:

...the public has shown a very deep interest in mausoleum burial. As a result of the market survey, cemeteries therefore are building more mausoleum space than ever before so that this figure of 20,000 could well double or triple within the next five or ten years. (24)

This figure of ten per cent of total interments was also indicated by an Atlanta cemetery manager, whose cemetery contains the largest mausoleum in the South and is one of the two cemeteries in the Atlanta area which provide burial in mausoleums. (25)

#### Religious and Racial Influences

To further adjust the number of burials for which space must be provided, religious customs and racial discrimination must be considered. The two dominant religious groups which affect cemetery development in most areas are the Catholic and Orthodox Jewish faiths. As indicated in Chapter II, these

religious groups establish separate cemeteries in communities where they have a large or significant membership. By custom, the Catholic Church opposes cremation. Hence, Catholics are seldom cremated. The Orthodox Jews, likewise, oppose this method of burial and recognize only earth burial. The majority of the other religious groups take a neutral position on the practice of cremation, while a few, such as Unitarians, actually favor this form of burial.

The feeling that races should be separated from social contact is carried over after death. This feeling is particularly strong in preventing Negro burials in white cemeteries in many communities in the United States. It was also noted in the Philadelphia sociological study that "today most cemetery managers try to deal with all classes, so long as they are white...." (26)

The courts have generally ruled in the past that even though there was restriction to race, the cemetery was a public use. Two of the courts that supported the opinion favoring racial restrictions based their interpretation on the fact that there would be an immediate loss of property value and strong social discontent. One of the courts stated:

A member of the negro race well buried, is from the standpoint of physical nuisance, no more so than the body of one of the Caucasian race; yet no one will deny that, if the privilege of burial in it were extended to the negro race, the value of Cave Hill as a cemetery for white people would be at once entirely destroyed. A lot which is now worth in money as much as \$500 would not, after such a change in the by-laws, be worth \$50.

Property which in the aggregate may now be worth millions, would then be rendered practically worthless. (27)

In the Richmond Cemetery Co. v. Walker case, the court said:

...that the peace and good order of the community requires that the two races have separate burial places; that this is the policy of the state, as shown by it requiring separate coaches on railroads, and separate schools for the white and colored people. (28)

A more recent ruling found in the People v. Forest Home Cemetery Co. case stated "that in order that a cemetery should be found public it should admit for burial all persons who apply for the privilege." (29) Yet when a cemetery is private and is held by a charitable trust, restriction to race has been held to be legal. (30)

On the basis of recent federal court rulings, it is unlikely that racial discrimination in public graveyards would today be upheld by the courts.

#### Available Space

After an estimate has been made of the number of burials in the community for the selected period and the figure refined by considering the trend in burial practices and the religious and racial influences, the next step is to determine what part of the city's future requirements can be served by existing cemeteries. The answer to this question is determined by the unused capacity of the present cemeteries. It is necessary for the planner to use judgment in evaluating the unused spaces.

One method is to analyze the burial lots of a cemetery. These lots range in number of graves from single spaces in some sections of the cemetery to large family burial lots

often containing six to twelve burial spaces in the older cemeteries. It can be assumed that the single-grave sections of a cemetery will be used to capacity. Small burial lots with four graves will be used to perhaps 75 per cent of capacity. The larger lots, which contain six or more graves, can be expected to be used to only 50 per cent of capacity.

Another means of determining the unused capacity of the present cemeteries and one which is especially useful when burial lot information is not available is to determine their unused acreage and assume a number of grave spaces per acre. This figure will vary according to the type of development. For the older cemeteries with their large lots which were necessary for the monuments, the maximum figure of 650 graves per acre would be a reasonable average. For the lawn type developments the grave spaces may number from 850 to a maximum of a thousand per acre, depending upon the degree of landscaping. The park design with a minimum of attractive features would be designed for a thousand graves per acre; whereas in a garden design, which is divided into small areas and which contains usually a sculptured feature or floral designs, the number of graves would be reduced to a minimum of 850 spaces per acre.

#### Site

With the previous factors evaluated, the number of burial spaces needed by the community over the planning period should be determined. To translate this number into new cemetery development required, it is necessary to consider

the distribution of land in the cemetery and the minimum area necessary for economical development.

The proportion of cemetery area available for burials will vary considerably between sites. However, percentages of the distribution of the land can be established and can give the planner a reasonable rule-of-thumb to guide his estimates in formulating plans for cemetery development. The number of salable lots, which provide the major portion of the revenue of the cemetery, should account for 70 to 77 per cent of the total developed acreage. Roads providing the circulation within the cemetery will use from 10 to 15 per cent of the land area, and paths giving access to the individual lots will use 10 to 12 per cent of the area. Special features, such as lakes, may occupy as much as three per cent. (31)

New cemetery development required in the urban communities will be the acreage required to provide space for the anticipated burials during the planning period which cannot be provided by the existing cemeteries. Each cemetery should be of adequate size to provide reasonable assurance that the cemetery can be a financially sound operation. A minimum size for a cemetery is required for economic operation. In the past some cemeteries, because of their small area, have not been able to provide sufficient returns from sale of property to adequately maintain themselves and to establish a perpetual care fund which would support the property in the period after the sale of all burial spaces.



Further study is needed to establish the minimum land area which will provide the funds needed for present and future maintenance. Mr. Ray Wyrick, a nationally known cemetery designer, stated:

...the main thing that should be considered ... is how many acres will eventually provide enough "perpetual care trust fund" to insure that the income will suitably maintain the grounds "forever." ...I think the size of a new cemetery should be 80 to 100 acres, even if it is not all developed for many years. It is this unending cost of maintenance that is going to break the financial backs of many cemeteries in this country. (32)

Finally, it seems reasonable that in the event the study of future burials should indicate that the anticipated required number above the present available spaces would not justify a new cemetery development of the desirable minimum size, it should be determined at that time whether it would be more practical to establish a new cemetery or to expand present facilities and bolster their care funds.

#### Locating the Cemetery in the Urban Community

This section will analyze site conditions, access, compatible land uses, considerations for future use, a trade area survey, and the location of cemeteries inside and outside of the city limits of communities. These factors must be considered in locating cemeteries in urban communities. The information included here should answer the following questions for the planner and the local governing authorities:

- (1) Is the proposed location one which does not interfere with but will encourage a sound and logical development of the city?

(2) Will the proposed location give reasonable assurance that the cemetery will be a successful venture?

Before attempting to answer these questions, a determination must be made as to what is a sound and logical pattern for the future growth of the community. Such a pattern should be presented in the master plan for the community's development. The relative immobility of the cemetery, once established, makes it important for the planner to project this plan into some areas well into the future. It is especially desirable to extend the major thoroughfare and land-use plans as far as possible into the future.

#### Site Conditions

The ideal site for a cemetery is one that embraces a tract of gently rolling land with subsoil conditions providing natural drainage. A sandy loam or gravel-textured soil is preferred because of ease in excavation. Soils, such as shale or clay, that are impervious to surface water are undesirable. Also, these less desirable land conditions increase the cost of development by requiring additional drainage facilities as well as heavy equipment for excavation. Undulating land offers the best advantages for attractive and economical landscaping.

Though these are the most desirable conditions for cemetery development, other areas having poor site conditions should not be overlooked, because other conditions may make the site very desirable. For example, the demand for burial space in Newark, New Jersey, influenced an investor to

acquire a 10-acre garbage disposal site for cemetery use. Though the development cost was high due to the removal of the refuse and substitution of dirt fill, the investment was warranted because of the locational advantage. (33) This example would indicate that ordinary objections of the public to undesirable locations can be overcome.

#### Access.

There are two aspects of accessibility that should receive consideration in locating cemeteries. First it is exceedingly desirable that the cemetery be in close proximity to large population areas. Second, it is essential to have easy entrance to main thoroughfares. In the New Jersey cemetery described above, the unusually high development cost of \$25,000 an acre was warranted because of the exceptional location advantages. The site is at the gateway to a trading area of three million inhabitants. As a result, grave spaces are readily sold at high prices. Another favorable factor is the assurance of complete liquidation within a relatively short time.

The objections to traveling long distances for the use of cemetery facilities can be overcome. Several New York cemeteries, established subsequent to the enactment of the law prohibiting additional cemeteries within the city limits, are located at distances of forty to fifty miles from city hall. The relatively long travel distances normally would retard cemetery trade. However, the statutory limitations banning additional cemeteries in New York City have

effectively changed the buyers' resistance to the inconvenience of travel. (34)

Second, it is essential for a cemetery to have easy access to a major thoroughfare of the community. Not only is this desirable for the advertisement value, but it is also desirable from the standpoint of easing the movement of funeral processions. Funeral processions tend not to be regulated by law because of public opinion. Well designed access to the major thoroughfares will help lessen the possibility of traffic tie-ups. The lack of regulations of funeral processions is illustrated by a survey made by the Department of Traffic and Transportation of Houston, Texas, in 1956. (35) The survey was made of 58 cities over the United States ranging in size from less than 250,000 in population to one million. The results of this survey, which indicated the extent of regulation of funeral processions across the country, are presented in Table 3.

The findings of this survey are indeed significant, for they illustrate that there is little agreement on the regulation of funeral processions. Twenty-nine of the 58 cities did not regulate funeral processions in 1956. Also, it is apparent that funeral processions are not limited appreciably to certain hours of the day. Seventeen, or 29 per cent of the cities, restrict the funeral processions to specific routes. The largest group of these cities proved to be the smallest in population. The largest cities with a million-plus population impose no limits on funeral pro-

Table 3. Summary of Questionnaire on Funeral Data

Population and Number of Cities	Procession Limited to		Procession Permitted on Freeways		No Regulations on Processions
	Hours of Day	Routes	Yes	No	
Less than 250,000 (29 cities)	1	10	3	5	13
250,000 to 500,000 (12 cities)	1	4	5	4	5
500,000 to 1,000,000 (12 cities)	1	3	8	2	8
Over 1,000,000 (5 cities)	<u>0</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>3</u>
All Cities	3	17	18	13	29

Source: Department of Traffic and Transportation, Houston, Texas.

cessions except with respect to the use of freeways. Though there is an absence of legal restrictions, there are often agreements between the traffic department and the funeral directors for the funeral procession to use major thoroughfares and the most direct routes to the cemeteries. This agreement helps lessen the traffic on minor streets and insures that the funeral procession will use streets where there are maximum traffic control measures to aid travel to the cemetery.

The influence which slow funeral processions have on the traffic flow of expressways would indicate that some adjustments should be made. Mr. Karl Bevins of the Atlanta Traffic Engineering Department stated that local funeral

directors avoid the expressways because they feel that funeral processions should not move at the required minimum speed of 40 miles per hour. (36) The clientele would think that the sacred custom of slow procession was being overlooked if they moved at that speed. The fact that the routes to most cemeteries are not oriented for direct use of the expressways may also have some influence.

#### Related Land Uses

Related land uses, such as the florist, funeral director, monument company, and to some extent casket and vault manufacturers, are uses which were in the past dependent upon being adjacent to or near cemeteries to a greater extent than they are today. The evolution of the physical design of the cemetery and the changes in mobility of the people have significantly decreased the need for related land uses being in the same locale as the cemetery. Also, more cities today are developing comprehensive plans and zoning ordinances that usually prohibit these once-related land uses from locating around cemeteries. The related land uses which will be discussed are those which serve the community and which are not solely dependent upon cemetery operation but can derive some benefit from this development.

The new lawn designs have brought about a revolution in the need for adjacent commercial establishments which serve the cemetery. For example, florists and nurseries no longer provide the same cemetery services they once did. The demand for flowers and plants for cemetery use after burial

has decreased sharply in new cemeteries. These cemeteries now are providing all of the landscaping that is permitted instead of allowing each family to add shrubs and plants to their lots, as was customary in older cemeteries. Small bouquets of flowers are still permitted for decoration on the individual graves but for this purpose artificial flowers are being used increasingly, especially because of their durability and natural likeness. Florists and nurseries then are depending less and less upon cemetery trade.

The principal service of burial of the dead by funeral homes continues, yet the funeral home does not benefit greatly by being a part of or adjacent to a cemetery. Funeral homes desire locations convenient to the population they serve. This is owing to the desire of the people to view the body and visit with the family from the time of death until the funeral service.

In the past a large monumental cemetery could support a small monument sales company. Today the new design in cemeteries has changed the demand from ornate stone memorials to simple level-with-the-ground bronze or stone markers. The small monument companies are therefore decreasing in number. The majority of the stone monuments bought today are being supplied by large monument companies. The small marker today can be and often is purchased from the cemetery along with the grave.

Casket and vault manufacturers serve a large area and are therefore not dependent upon a single cemetery.

Manufacturing processes involved would limit these activities to industrial zones. Therefore, they would not be desirable land uses adjacent to the cemetery.

#### Compatible Land Use Situations

The basic idea in land-use planning, of course, is to group together those activities which will harmonize and will be compatible. A cemetery has limited ability to fit in with other land uses because it is a depository for the dead.

However, there are some land uses with which cemeteries can be compatible and provide a desirable service. The value of the contemporary cemetery in its relation to other land uses is found in its park-like design, its open areas, and its low intensity of use. The new design of the cemetery with its attractive appearance has changed the public's opinion of the cemetery. The development today promotes the idea of an attractive, quiet, and peaceful resting place for the dead. No longer is the public continually reminded by the multitude of stone monuments that the development is a graveyard, but they are given the feeling that it is an open park or garden to be enjoyed for its beautiful landscape. With this change in outward appearance cemeteries are becoming more acceptable in the community.

The new cemetery with its open areas which attract relatively small numbers of people at one time may be a desirable development in urban areas zoned for low densities. For instance, it is desirable to have low densities of population within the approach zones of an airport. Such densities




are necessary to minimize the height of structures and intensity of use by people to decrease loss of life and property damage from possible airplane accidents. Cemeteries can ideally provide this service to an urban community.

In a scheme of community development cemeteries can serve as a buffer between incompatible land uses. Sites that are impractical to use for a higher class development may be cleared and developed as a cemetery, thus not only improving the site for the benefit of the community but also providing a permanent open space.

As a further example, a cemetery can be used between a residential land use and industrial or commercial development, which, due to the nature of the operation, would require extensive screening in order for sound residential development to occur on adjacent property. Enterprises involving large assemblages of people or automobiles, such as amusement parks, fair grounds, and drive-in theaters, are operations whose objectional characteristics could effectively be screened with a large open space such as is common in the contemporary cemetery.

This practical arrangement for new cemetery development was noted in one of the zoning ordinances included in a survey which is presented in Chapter IV. The DeKalb County, Georgia, Zoning Ordinance dated 1956 mentions under "Conditional Uses" on page 18 the following:

Cemeteries, provided that the location of these uses shall be limited to such locations where they may best serve as a transitional open use between less compatible uses....



### Trade Area Survey

A trade area survey was made in an attempt to determine whether the area served by a cemetery could reasonably be defined. The managers or owners of twenty-four cemeteries and two mausoleums serving Atlanta, Georgia, were contacted, the survey's purpose explained, and a request made to take a sample of the original locations of the property owners. Only twelve cemeteries and one mausoleum responded.

The survey was made by a systematic sampling of the property owners. Samples consisting of twenty-five addresses for all cemeteries and ten addresses of crypt owners were taken for three five-year periods. These periods cover the latter part of the three previous decades. The number of new crypt owners for each survey period is much smaller than the number of new cemetery lot owners. Therefore, the number of addresses of new crypt owners was limited to ten, as it was felt that these few would adequately present the trade area of this type of facility. The procedure used for determining the addresses to be included in the survey is as follows. First, it was determined with the aid of the available cemetery records or the knowledge of the manager the number of new property owners for each period. Second, the number of addresses desired were taken by a systematic sampling of an alphabetical listing of the new ownership for each period. For example, for the period 1935-1940, the total number of new property owners for Greenwood Cemetery was 640. The sample of addresses was obtained by selecting every twenty-sixth one. The majority

of the figures presented in the survey are the only ones available to the author and represent only the approximate number of new property owners for each period. However, for three cemeteries the actual totals for each period were available for use. The data in this survey, nevertheless, are felt to present a reasonable picture of the location of the property owners in relation to the cemetery.

Additional information on each cemetery was taken which included the price per lot, the lowest and highest price for each lot in the cemetery and for each crypt in the mausoleum, if this space was available, and also the cemetery services included in the price of the grave. The prices and services of each cemetery were noted and compared with other cemeteries to determine if either would influence the trade area of the cemetery. The five-year period was chosen as the length of time that would reasonably represent the change in mobility of the Atlanta public.

In considering the cost of graves in the cemeteries, it was found that only the lowest priced graves were competitive. The most economical single grave was priced from \$65 to \$75 in all except the Negro cemetery, where the price was lower. Only in the higher priced graves did the prices vary to an extent that might have some influence on the prospective lot owner. However, since the price range for the most economical grave in Atlanta was so small, it was assumed for the purposes of this survey that the prices were close enough not to influence the buyer.

Also, the services provided by the cemeteries were checked to see if they were significant enough to influence the buyer. It was found that all the necessary services for interment (equipment and personnel) were available at each cemetery. The additional services provided by a few of the cemeteries would probably not influence the buyer of the lower priced graves but would have more influence on the buyer of the higher priced graves.

Therefore, it is felt that the cost of the graves and the services provided by the cemeteries have little if any effect on the distance the prospective buyer is willing to travel to the cemetery. It appears that the trade area of the cemetery is more influenced by the distance one must travel to the cemetery and the enterprise of the sales staff than any other factors found in this survey. In this survey an analysis of the distribution patterns of the property owners is made to reveal the trade areas of the individual cemeteries to date. All except three of the cemeteries included in the survey had salesmen to promote pre-need sales. These three included a city cemetery, a privately owned cemetery, and the only Negro cemetery in the survey.

These cemeteries were not tabulated separately from those cemeteries with a sales force due to the limited size of the trade area and the limited information available. The city cemetery is limited by legal boundaries; the Negro cemetery is limited by the close proximity of a large Negro neighborhood; and the third is limited, as far as the survey

is concerned, due to the lack of sufficient available information.

The three types of cemeteries serving the public today are found in Atlanta, and two or more examples of each are among the twelve cemeteries surveyed. The data of this survey are compiled in Table 4. The classification of cemeteries is made by the description of the type grave markers permitted. One type is the traditional cemetery, where a monument of any size or type may be used. Another type is the contemporary or park design, where grave markers are usually of bronze and are always limited to being flush-with-the-ground. The other type cemetery is a combination of the two. A large percentage of the cemeteries operating today are of this type. These cemeteries usually began as monument cemeteries, but in recent years the new sections that have been added are of the new design and permit only bronze markers.

Where figures are not indicated on Table 4 for the first two five-year periods, the cemeteries' records were nonexistent or not complete. It will be noticed that in the case of Atlanta, during each five-year period over 60 per cent of the property owners lived within a five-mile radius of the cemetery. An average of approximately 25 per cent lived within a five- to ten-mile radius. The remaining small percentage of the property owners lived from ten to fifteen miles of the cemetery to out of the state, with the lowest percentage represented by the out-of-state group.

Table 4. Original Location of Property Owners in Relation to Distance from Cemeteries

Cemeteries	Year Devel- oped	Area (Acres)		Description	New Property Owners (1935-1940)					
		Total	Developed		No.*	Percentages				
						Distance from Cemetery				
						0-5 mi.	5-10 mi.	10-15 mi.	Out of Atlanta	Out of State
Arlington	1923	123	60	Combination						
Crestlawn	1898	300	180	Combination						
Dawn Memorial Park	1960	82	35	Bronze						
Decatur (City)	1823	35	29	Combination	150	92	8	0	0	0
Eastview	1885	25	23	Monument						
Forest Hills	1955	50	7	Bronze						
Georgia Memorial Park	1956	200	50	Bronze						
Greenwood	1894	250	100	Combination	640	64	36	0	0	0
Resthaven	1937	37	22	Bronze						
Roseland	1910	10	7	Monument	130	64	28	4	0	4
Westview	1884	582	220	Combination	750	48	44	0	8	0
Lincoln (Negro)	1926	150	50	Combination						
Percentage of Total					67.0	29.0	1.0	2.0	1.0	
Westview Mausoleum	1943	11,444 Crypts								

\*These figures are the ones made available and do not necessarily represent the actual number of new property owners.

Table 4. Original Location of Property Owners in Relation to Distance from Cemeteries (Continued)

Cemeteries	New Property Owners (1945-1950)						New Property Owners (1955-1960)					
	No.*	Percentages					No.*	Percentages				
		Distance from Cemetery						Distance from Cemetery				
		0-5 mi.	5-10 mi.	10-15 mi.	Out of Atlanta	Out of State		0-5 mi.	5-10 mi.	10-15 mi.	Out of Atlanta	Out of State
Arlington							670	68	16	16	0	0
Crestlawn	460	20	76	0	0	4	440	48	44	4	0	4
Dawn Memorial Park							40	52	32	12	4	0
Decatur (City)	240	96	4	0	0	0	390	96	4	0	0	0
Eastview							260	72	20	0	4	4
Forest Hills							480	76	16	8	0	0
Georgia Memorial Park							570	24	28	36	8	4
Greenwood	330	68	24	4	4	0	360	60	32	4	4	0
Resthaven							640	72	24	4	0	0
Roseland	210	84	8	4	4	0	150	52	36	4	4	4
Westview	980	72	24	4	0	0	1230	48	40	4	4	4
Lincoln (Negro)	460	100	0	0	0	0	580	92	8	0	0	0
Percentage of Total		73.3	22.7	2.0	1.3	0.7		63.3	25.0	7.7	2.3	1.7
Westview Mau- soleum	110	60	40	0	0	0	130	20	70	0	0	10

\*These figures are the ones made available and do not necessarily represent the actual number of new property owners.

It can further be noted in this Table that the degree of mobility of the public is a limiting factor in the purchase of cemetery property. This point is illustrated in the distribution of new property owners in Greenwood, Roseland, and Westview cemeteries for the survey periods. In the case of each cemetery the percentage of new property owners in the zero to five mile range increased considerably during the Forties when travel by the public was restricted, while in the last five years the percentages for the zero to five mile range dropped below the figures for 1936-1940.

In order to understand the geographic relationship of these twelve cemeteries to each other and their location in the City, Figure 1 is presented on the following page. To illustrate graphically an example of the distribution patterns of the property owners found in this survey, five maps (Figures 2-6) are included with a short description of the cemetery or mausoleum each presents. Both the descriptions and the Figures are presented on the next few pages.

Figure 2 presents the locations of the property owners of Westview Cemetery, which is the oldest cemetery serving greater Atlanta. It was developed in 1884 and contains 582 acres, the largest number in a single cemetery in the Atlanta area. In the 77-year life of the cemetery only 220 acres, or less than half of the total acres, have been open for development. As indicated on this map, the majority of the property



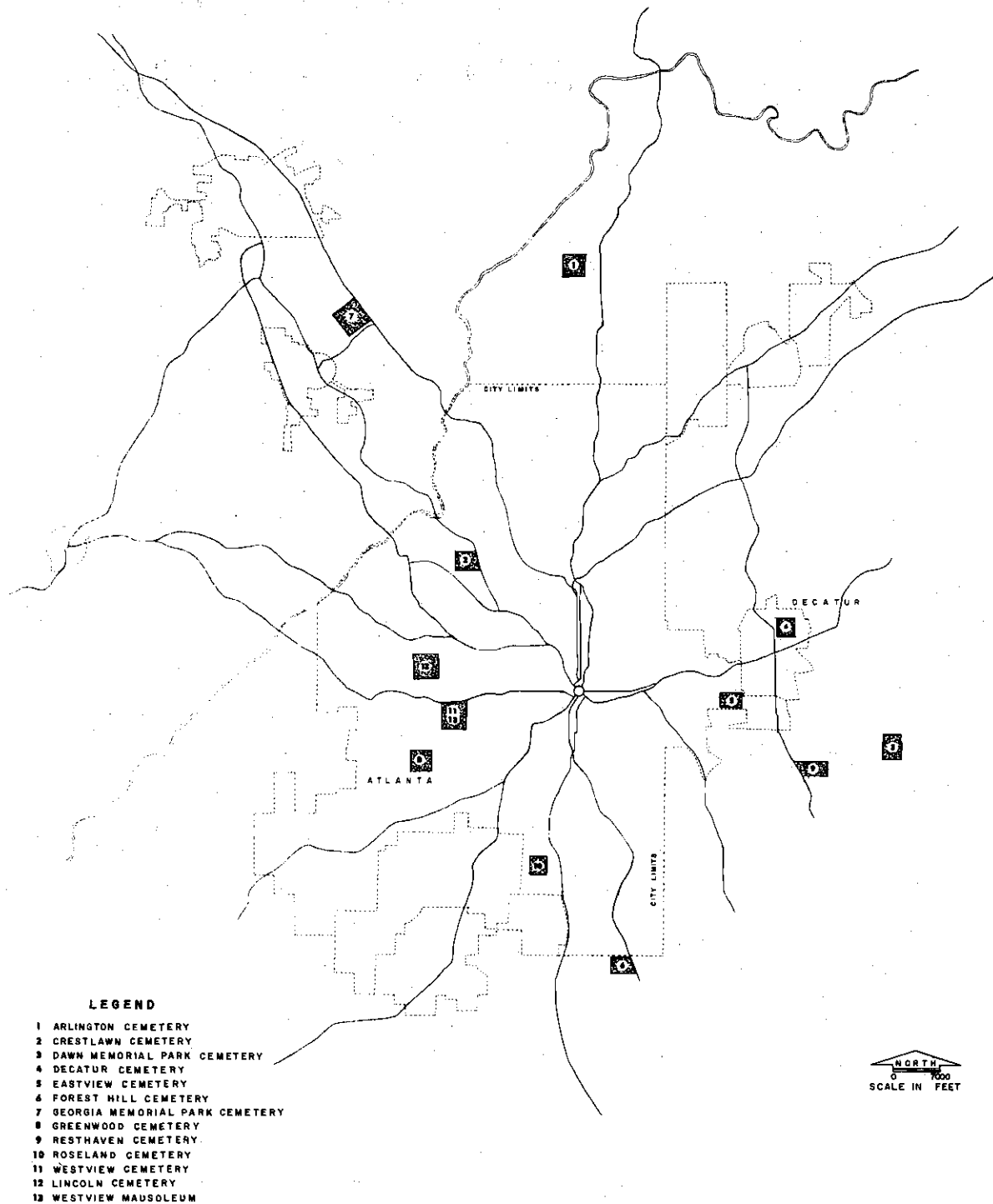


Figure 1. Location of Cemeteries Surveyed in Atlanta

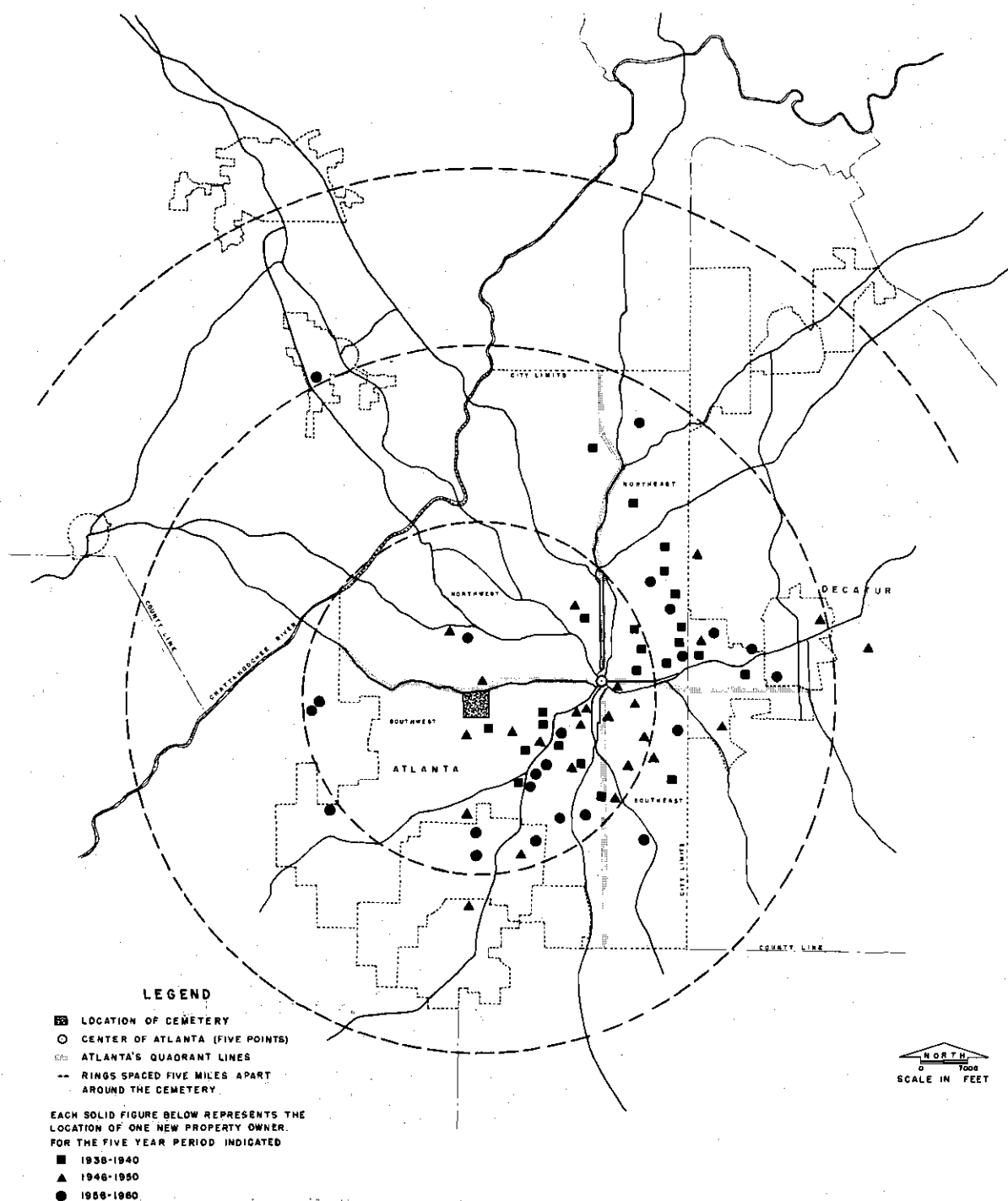


Figure 2. Trade Area Survey Map of Westview Cemetery

owners are located in the older sections of the city, particularly in the southwest and northeast quadrants of the city. This ownership pattern was followed especially in the first two periods of the survey, and only in the last period did this pattern change significantly. The increased mobility of the public and a larger sales program can account mainly for this change. Up until the last five-year period Westview, as shown in Table 4, has always had a larger trade area than any of the other cemeteries included in the survey. During this last period Georgia Memorial Park was developed approximately fifteen miles northwest of the center of Atlanta adjacent to a four-lane highway, and its sales force concentrated their efforts over the entire greater Atlanta area. Though the number of sales for Westview during this period was much greater than Georgia Memorial Park, the trade area for Westview was more limited. The single outstanding point in regard to Westview's pattern is that even though the sales force was active for the complete survey period, the majority of the sales during each five-year period were made to residents of the older sections of the city which are located within five miles of the cemetery.

Figure 3 presents the trend in sales of a recently developed cemetery, Georgia Memorial Park, which is located about 15 miles from the center of Atlanta on a major highway.

The cemetery was opened in 1956 and contains 200 acres, of

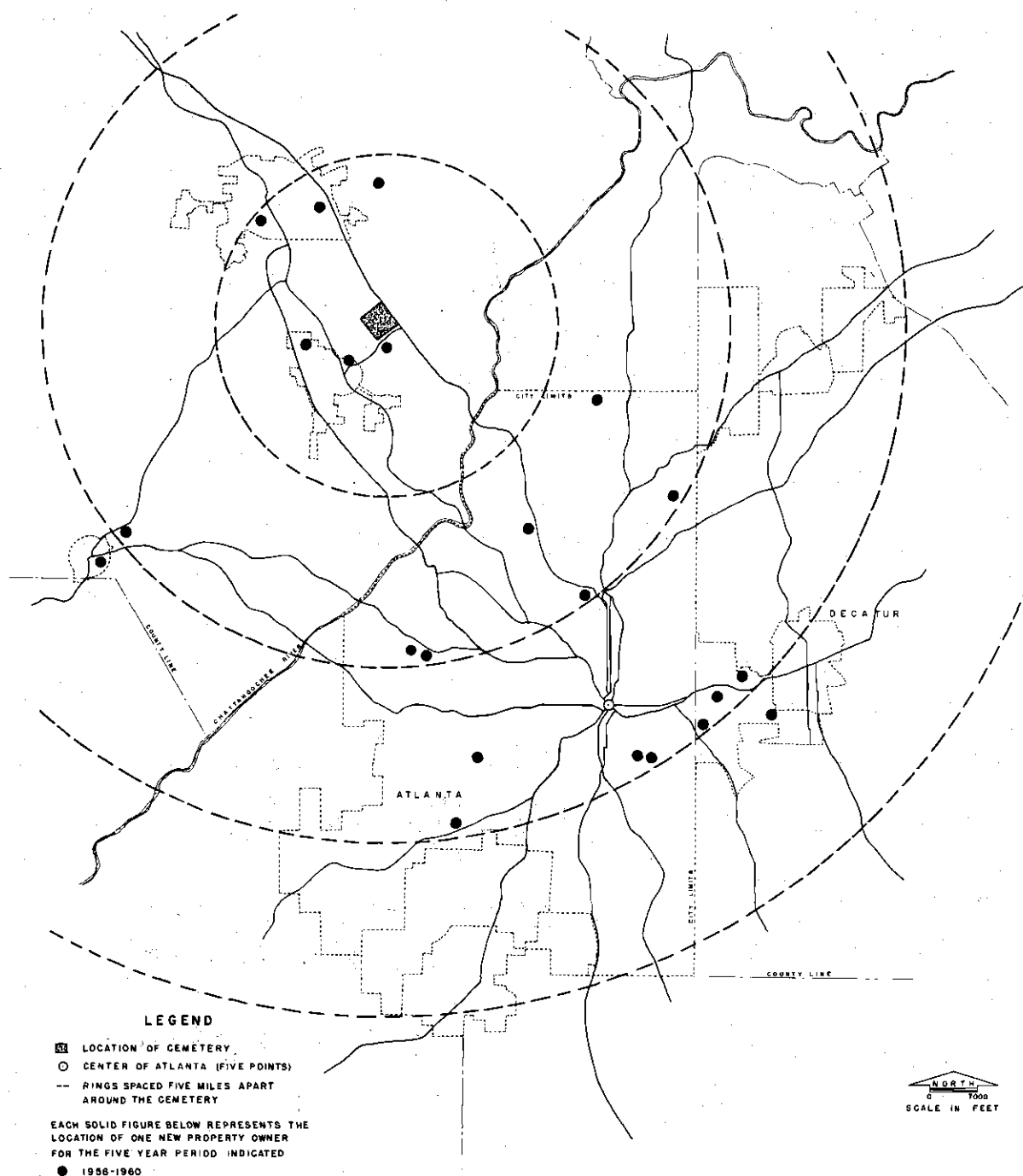


Figure 3. Trade Area Survey Map of Georgia Memorial Park Cemetery

which only 50 have been developed. Since it was opened during the last five-year period, the sample does not represent a full period as in the case of the other cemeteries. However, the widely scattered pattern of the property owner locations indicates that an effective sales program can break down some of the objections to traveling long distances. The percentage breakdown in the location of property owners for this cemetery is: 24 per cent in the zero to five mile radius, 28 per cent between five to ten miles, 36 per cent between ten to fifteen miles, 8 per cent out of the Atlanta area, and 4 per cent out of the state. The map records the fact that not only was the larger percentage of sales made in Atlanta, but also the sales were made in all sections of the city. The principal point derived from the survey of this cemetery is that an adequate sales staff and program can promote sales in practically any area of the city.

Figure 4 illustrates the lot ownership pattern of the City Cemetery of Decatur, Georgia. This is the oldest cemetery in the Atlanta area. It was established in 1823 and has opened 29 of the 35 acres. Since it is a city cemetery, the sales have been limited to citizens of the city for most of the cemetery's life. However, for extra revenue, lots have been sold during short periods of time to non-residents for twice the usual price. The pattern on the map indicates that the majority of the sales have been to city residents. The objective in presenting this illustration was to clearly

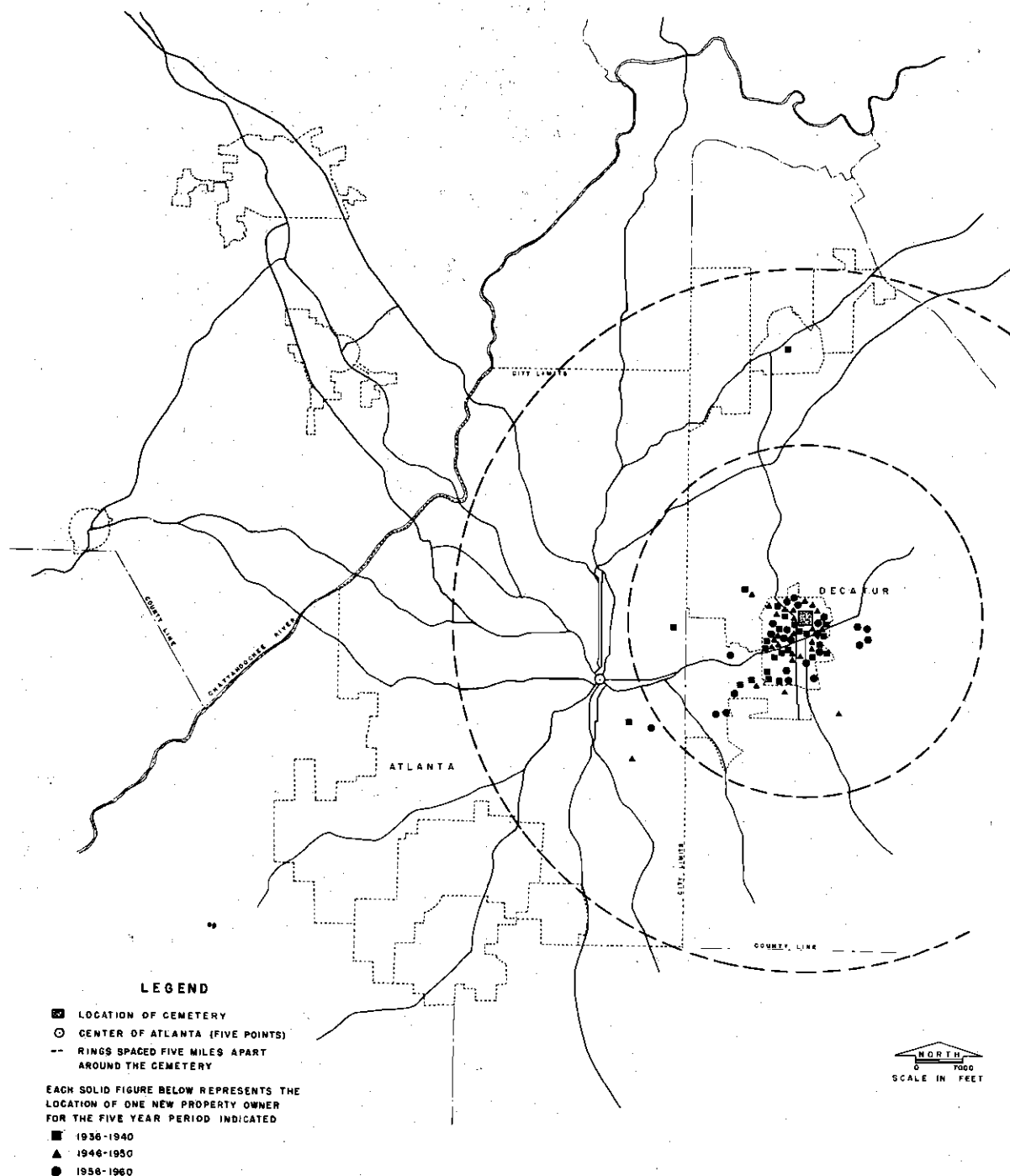


Figure 4. Trade Area Survey Map of Decatur City Cemetery

indicate the ownership pattern which can be expected from a municipally owned cemetery or from one whose service area is definite and small.

Figure 5 presents the locations of lot owners in the Lincoln Cemetery, which is a privately-owned Negro cemetery and the second largest cemetery for Negroes in Atlanta. This cemetery was started in 1926 and contains 150 acres, of which fifty are developed. As might be expected, the location of the majority of the property owners is limited to the large Negro neighborhoods near the cemetery. The survey indicates that in the period of 1945 to 1950, 100 per cent of the property owners lived within five miles of the cemetery. In the period 1955 to 1960, 8 per cent of the new property owners lived in the five to ten mile radius of the cemetery. The close ownership pattern presented by this cemetery is indicative of segregated cemeteries and of a facility serving those people of the income group most limited in mobility.

Figure 6 illustrates the pattern of owners of crypts in Westview Mausoleum. This mausoleum is one of two that provide above-ground burial in Atlanta. Westview Abbey is the largest mausoleum in the South and contains 11,444 crypts. The attractive features of mausoleum crypts are basically different from those of cemetery lots and are appealing to a certain number of the public. These features include burial in a permanent dry space located above the ground and within a building. In addition, there is the higher cost of a crypt

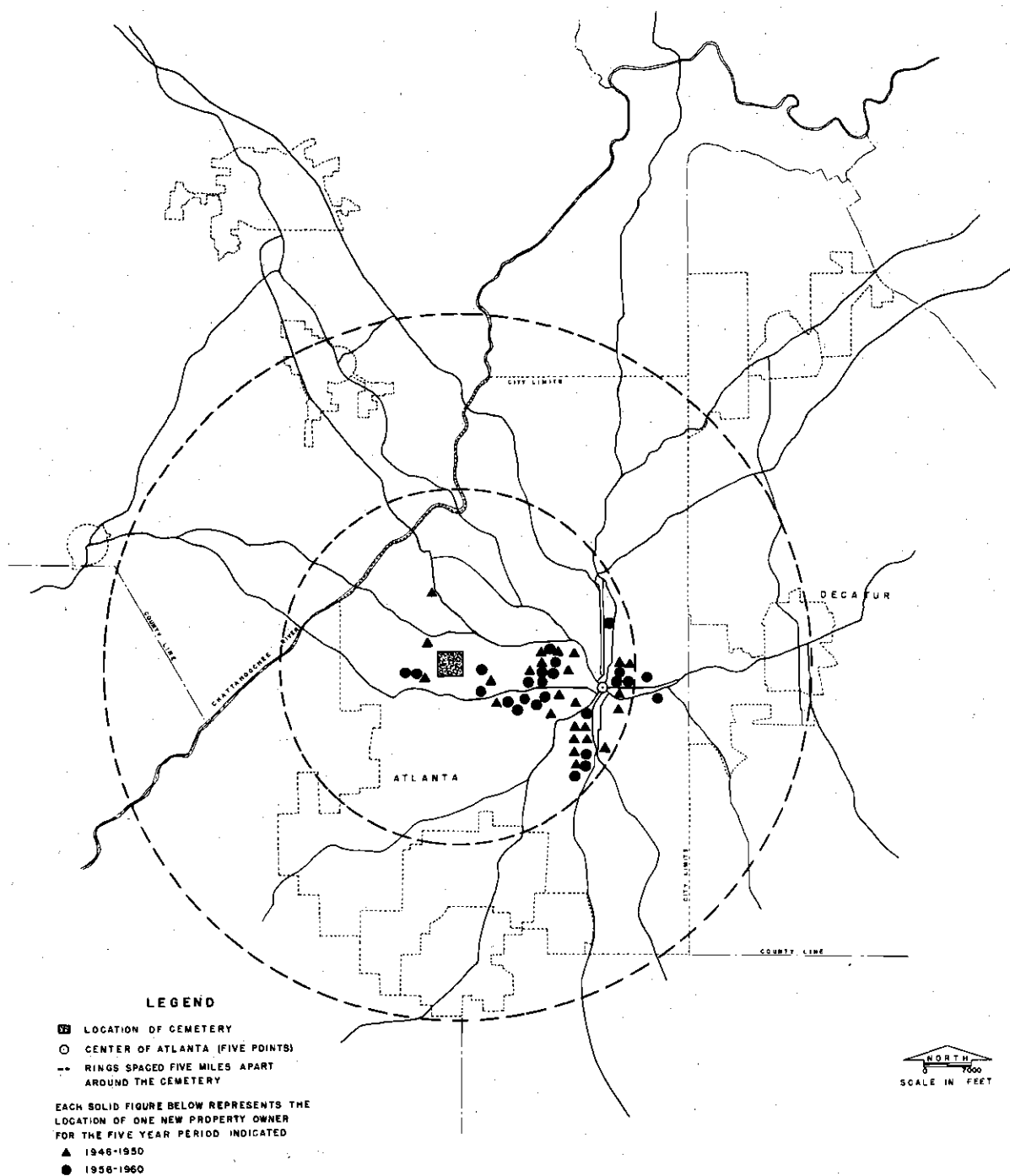


Figure 5. Trade Area Survey Map of Lincoln Cemetery



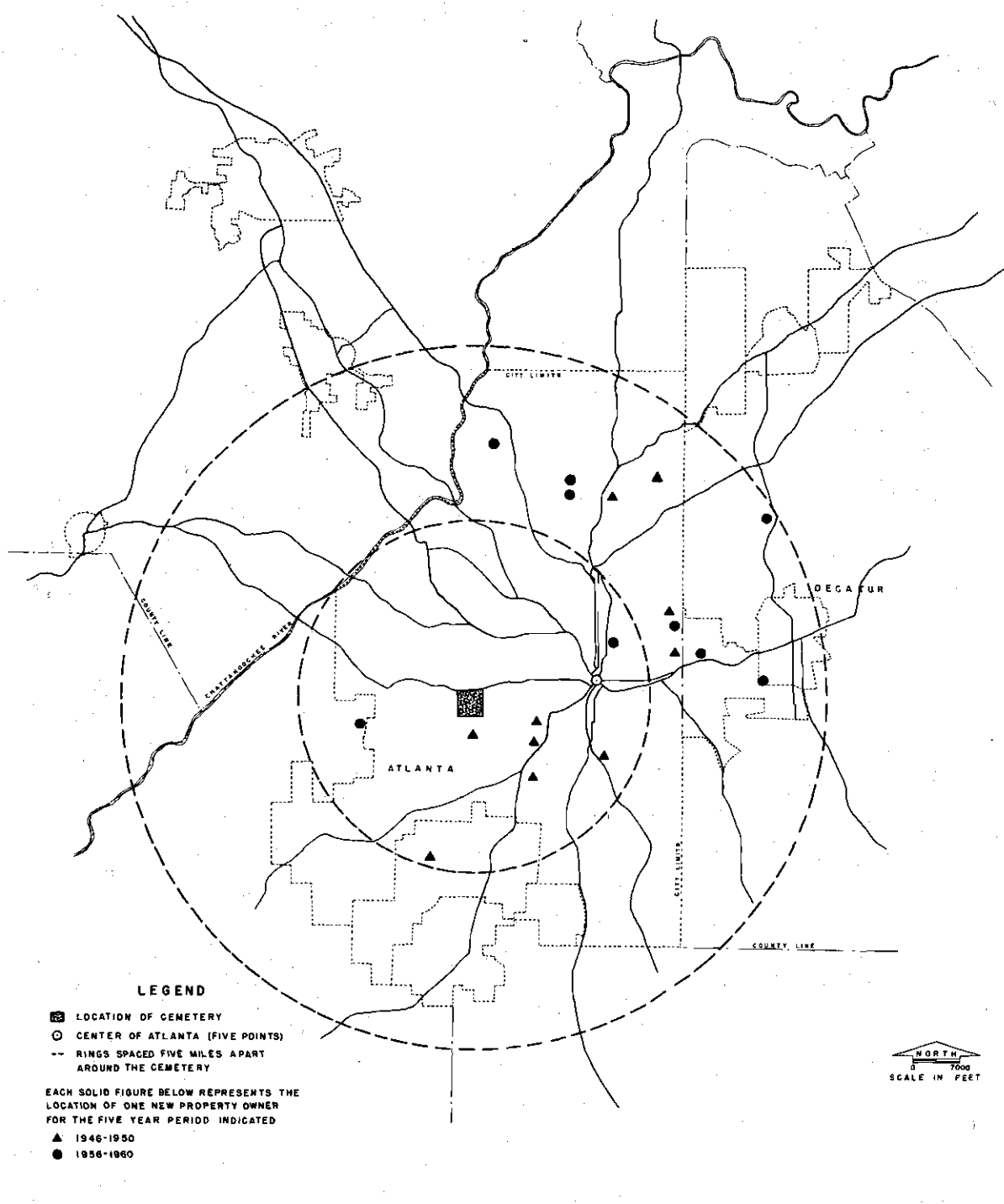


Figure 6. Trade Area Survey Map of Westview Abbey Mausoleum

in relation to the cemetery lot, which provides prestige appeal for the upper income group. The price of a single crypt in Westview Abbey is higher than that of any lot in the cemetery and several times that of the lowest priced lot.

Table 4 shows that during the last half of the 1940's, 60 per cent of the owners lived within five miles of the mausoleum and the remaining 40 per cent within five to ten miles.

This pattern had changed significantly by the last five-year period. Only 20 per cent of crypt owners came from the surrounding five mile area, 70 per cent lived in the five to ten mile radius, and 10 per cent lived outside of the state. The widely scattered pattern of the crypt ownerships tends to indicate that distance is not as much of a limiting factor to sales of mausoleum property as it is to sales of cemetery property.

It was found that the trade area of these cemeteries depended upon mobility, accessibility, enterprise of the sales force, and ownership of the cemetery. Although these factors were interrelated and there were no definite means of determining the degree of influence exerted by each, there did evolve from this study some reasonable deductions to lend support to the above factors.

The combined statistics in Table 4 document the contention that nearness to a cemetery has a significant influence on the prospective property owner. For example, out of the twelve cemeteries in the survey, Westview, the one serving the

area nearest the center of Atlanta, has the majority of its property owners from this area. Also, interviews with managers of practically all the cemeteries revealed that the largest number of their sales will be from within five miles of the cemetery. The majority of the remaining property owners live from within five to ten miles of the cemeteries.

The influence exerted by the lack of mobility is best illustrated in the Atlanta area by the lot ownership of Lincoln Cemetery. This cemetery is located on the edge of a large Negro residential section, and its sales have been limited almost exclusively to this neighborhood and to within five miles of the cemetery. It is also the most accessible Negro cemetery for this area. The survey showed that only 8 per cent of the ownership came from outside of this area in the last five-year period. This cemetery principally serves a low income group, and these are the families whose movement is most limited.

The trade area pattern previously mentioned which dominates the survey and which revealed that the majority of the property owners live within five miles of the cemetery is being challenged by the grade area exhibited by Georgia Memorial Park Cemetery. This newly developed facility chose to locate completely out of the city in an adjoining county on a four-lane highway and is having the largest per cent of its sales to come from within Atlanta 10 to 15 miles away. This divergent trade pattern is best attributed to the

resourcefulness of the sales force and the fact that the cemetery is readily accessible. As is common in larger cities where new cemeteries are being located outside of the urban development due to the availability and lower prices of large tracts of land, the resistance to distance of travel required of the property owner can be overcome.

Finally, the trade area of a community-owned cemetery can easily be controlled by city regulations. The property owners in the Decatur City Cemetery have been limited to local residents for most of the cemetery's life. However, at various times for short periods lots have been sold to non-residents.

The findings of this survey, as reported here, do not cover every situation by any means, but they do help to illustrate some trade areas that might be found in other cities. Furthermore, the results tend to suggest that through an understanding of a cemetery, its location, development, and sales program, the principal area it will serve in the community can be reasonably defined.

#### Summary

Only after the development of a comprehensive plan should a community attempt to locate new cemeteries. Then the consideration of the site should be concerned with the type soil and the drainage problems involved as well as securing as direct access to major thoroughfares as possible. Due to

the physical design of new cemeteries today and the increased mobility of the public, once closely related land uses which derived their trade largely from cemetery operation no longer are as dependent upon cemeteries or need to be in the same locale as the cemetery. The cemetery can greatly serve the community through its open spaces by either occupying land in flight zones of airports or as a buffer between less compatible land uses. The trade area survey offered a chance to check within reason the practical area of the community the cemetery serves, which in practically every case is within five to ten miles of the cemetery.

## CHAPTER IV

### TOOLS FOR CARRYING OUT THE COMMUNITY PLAN FOR CEMETERIES

Regulating the location and development of additional cemeteries in urban communities today is the responsibility of local governments and in some cases state governments. There are several methods of control used by these two levels of government. In this chapter the regulations of cemeteries will be analyzed in an effort to reveal which elements of control are most important in carrying out a community plan. Two surveys were employed for this purpose. One was a letter survey of selected city attorneys, and the other was a survey of current zoning ordinances. The letter survey was made to determine what regulations are being used, but not the extent of their use. The zoning ordinance survey revealed the provisions used to control the location and development of new cemeteries.

Many cemeteries developed in the past demonstrate the need for effective controls. It is not unusual to find neglected or abandoned cemeteries which are overgrown with grass, weeds, and brush and whose fences and monuments are badly in need of repair. These conditions blight the surrounding area and demonstrate disrespect for the dead. They occur most frequently in the smaller church and private cemeteries, which were

developed at a time when little consideration was given to the future upkeep of their grounds. These factors strongly support the need for effective controls of cemetery development.

As indicated in the Introduction, correspondence with attorneys of certain cities revealed the methods these cities employ to control cemetery development. From a list of 73 officials of the National Institute of Municipal Law Officers, a sample of 48 was selected from cities having a wide range of population. From the 48 cities surveyed, 20 replies were received. (37) The information obtained is presented in Table 5 and is discussed under the respective controls. The following methods of control will be discussed: License, Health and Safety Codes, Cemetery Ordinances, Zoning Ordinances, and Subdivision Regulations.

#### License

A license, per se, is a grant of a permit given when certain requirements are met, to engage in a business or professional occupation. However, there is a tendency today to combine the two functions of taxation and regulation in the use of licenses as a regulatory measure.

In the case of the four cities in Table 5 reporting the use of license, three of them indicated that its purpose is to produce revenue. The only city of the four which utilizes the license as a control measure is Cleveland, Ohio.

Table 5. Regulations Presently Being Used to Control New Cemetery Development in Selected Cities

City	1960 Population	License	Health and Safety Codes	Cemetery Ordinances		
				City	State	Zoning
Los Angeles, Calif.	2,479,015	x				x
Detroit, Michigan	1,670,144		x		x	x
Cleveland, Ohio	876,050	x			x	
St. Louis, Missouri	750,026			x		
Dallas, Texas	679,684		x		x	
Memphis, Tennessee	497,524				x	
Atlanta, Georgia	487,455	x				x
Tampa, Florida	274,970			x		
Dayton, Ohio	262,332					x
Tulsa, Oklahoma	261,685					x
Albuquerque, N. Mex.	201,189					x
Hartford, Conn.	162,178				x	
Lincoln, Nebraska	128,521					x
Greensboro, N. C.	119,574					x
Trenton, N. J.	114,167				x	
Columbia, S. C.	97,433					x
Kalamazoo, Mich.	82,889					x
Greenville, S. C.	66,188	x				x
Hannibal, Missouri	20,028	Not provided for in any city ordinance				
Radford, Virginia	9,371				x	



The license functioning as a control measure naturally has certain requirements which must be met. Frequently these requirements are minimal due to the practice of not designating specific requirements for each particular business. Furthermore, these minimum requirements usually relate to the danger of public health, safety and welfare which might arise from the nature of the occupation and the method by which it might be conducted. Therefore, the value of the license in the regulation of cemetery development is quite limited.

The fees for licenses were found to vary considerably both in schedule and total cost. In the City of Los Angeles the annual tax is \$19.20 for the first \$12,000 of gross receipts plus \$1.60 for each additional thousand dollars. In Greenville, South Carolina, the business license has an annual minimum fee of \$55 plus \$1.52 on each thousand dollars of gross income. On the other hand, in Atlanta and in Fulton County, Georgia, there is a flat fee of \$100 per year. These licenses employed are applicable only to private cemeteries operating for profit. Cemeteries operated by charitable or religious institutions are exempt from business taxes.

#### Health and Safety Codes

Health and safety codes are those regulations which prescribe sanitary measures and are designed to promote or preserve the health and well-being of the community. The codes applicable to cemetery development are frequently state acts that are administered by the state health authorities.

According to the survey of regulations tabulated in Table 5, only two of the cities have health and safety codes which regulate new cemetery development.

In Dallas and Detroit, the two cities whose health codes regulate cemeteries, their codes limit only the location of the cemetery. The Dallas attorney indicated that the city would not approve a new cemetery if it is to be located near a water supply, such as a reservoir. (38) Detroit's code simply requires that a cemetery not contaminate the public water supply. (39) The other sections of both ordinances relate to proper burial of bodies and proper care of the cemeteries.

In support of the health and safety regulations the court has stated that the right to prohibit burials within a certain district rests on the proposition that any burial within that district is injurious to the public health. (40) In the past these districts have included large areas of land. Cemeteries were sometimes prohibited from locating in drainage basins some distance from the water supply which served communities. This is not the case today. The technological advancements in burial practices have eliminated most of the harmful effects of ground burial, and scientists have gained a better understanding of the natural disinfecting qualities of the soil.

Improved methods of embalming and of disposing of the dead prevent the spread of disease. These facts are indicated in the following paragraph on the disinfection of dead bodies.

Dead bodies that are suspected as possible sources of infectious disease may be disposed of safely by cremation. Where this is undesirable, an equally safe method is to bury the body 6 ft. under the ground in a hermetically sealed coffin which contains in it an amount of unslaked lime equal to double the weight of the dead body, without other moisture. Burial of animal bodies in a pit with unslaked lime, under a 6-ft covering of earth will safely guard against the spread of disease. The ordinary process of embalming with formaldehyde and arsenic, supplemented by washing with strong, germicidal solution, is considered sufficient to prevent the spread of all but the most infectious diseases. (41)

There is further indication that harmful bacteria from a cemetery do not present a threat to the health of a community. This is due to the limited distances that such bacteria will travel before dying. This fact is pointed out in a study on the movement of bacteria in the soil.

...bacteria which reach the ground water tend to be localized near its surface, and although there will be some diffusion, many of the organisms will be entrapped in the capillary water and remain there until they die. ...it was stated that the downward movement of coliforms through otherwise dry soil, when aided by a constant drip of water, was 5 feet at most and of disease bacteria only 1 to 2 feet. (42)

Unless a proposed new development is located in an area where the water table is near the surface of the ground and the sub-surface soil conditions are porous and allow free movement of underground water, there is little danger of contamination from the bodies in the cemetery. This point is further supported when consideration is given to (1) the infrequency of burials in a cemetery, (2) the scattering of burials within a cemetery, and (3) the varying lengths of time required for body fluids to evaporate or be absorbed by the ground.

### Cemetery Ordinances

Of the methods discussed so far in controlling this land use, cemetery ordinances have the greatest influence on the location of cemeteries. These regulations are composed of codes and acts adopted to control only the development of cemeteries in communities and the surrounding area or counties. These regulations fall into three categories: enabling acts, state laws, and local ordinances.

The survey revealed that provisions of some state laws permit the exclusion of cemeteries within five miles of the corporate lines. Texas has such an enabling act. Every city in the state may prohibit new cemeteries both within the city and outside the city for a distance of five miles. In this case the authority is exercised by the city council through its authority to approve or disapprove proposed cemetery development. (43)

Total exclusion of cemetery development was also noted in a few state acts. In at least one case this control extends into counties. In New York State in 1902 a state act was passed that prohibited further development of cemeteries within Westchester County. This law applied to those counties having a population of between 175,000 and 200,000 according to the U. S. Census of 1900. Later, in 1909, Nassau County was also given the authority to exclude further cemetery development. However, in these two laws the limitations did not apply to the small family graveyard. (44)

In 1925 the State of New York went further and passed a law forbidding the dedication of additional land for burial purposes within a radius of 75 miles of Manhattan's City Hall.(45) The result of these laws has been to exclude the eight counties that comprise the metropolitan City of New York.

Another approach that one of the seven state laws in the survey takes in controlling cemeteries is to limit the number of cemeteries in communities. Under the New Jersey Statutes, any municipality may have a maximum of five cemeteries, except where the capacity of an existing cemeteries is exhausted. In that case, an additional cemetery would be permitted. Furthermore, a new cemetery must be located at least three miles from the existing cemetery. This statute goes further and states that the total area of cemeteries in a city may not exceed three per cent of the total city area.(46)

A third state law is similar to the Texas Enabling Act in that it permits the control of cemetery development within five miles of the city limits. A Tennessee State Law has delegated to municipal corporations the authority to act as trustee for cemeteries within five miles of the corporate limits. This law, passed in 1915, provided for local governments to act as trustee to the "same extent as a natural person" for cemeteries located within the corporate limits and within five miles of such limits when appointed as trustee by the appropriate authority.(47) In 1925, a private act was

passed granting the City of Memphis and Shelby County the authority to approve or disapprove the development of new cemeteries or expansion of existing cemeteries within five miles of the city limits.(48) The Tennessee special act for Shelby County differs from the Texas act in that it requires approval by both the city and county.

The remaining state laws primarily govern the conduct of cemeteries and do not influence the location or development of this facility. These special state codes control all phases of cemetery operation including: ownership, management, the sale of lots, standards for burial and disinterment, and care and use of trust funds. The cemetery operations these codes control are some of the standard operating procedures desirable for cemeteries. All fifty states have at least minimum regulations covering this area of cemetery development. For reference, the following nine states have acts regulating some or all of the above phases: Alabama (49), Arizona (50), California (51), Connecticut (52), Florida (53), Georgia (54), Massachusetts (55), North Carolina (56), and New York (57).

The third type of cemetery ordinance is the local ordinance which influences the development of new cemeteries. The special local codes fall into two categories. One excludes this development in both the city and county, and the second excludes it only in the city. The City of San Francisco followed the first procedure that is similar to the one given in the state act for metropolitan New York by passing an

ordinance prohibiting further burials inside the city and county. The result of this was the formation of Colma, an incorporated town in an adjoining county. Three-fourths of this community's land is occupied by cemeteries. Much of the remaining land is used for florists, nurseries, monument sales, stone cutter's shops, and other businesses allied to cemetery activities. The majority of the population who reside in this city are connected with cemeteries or allied activities. (58)

It was noted that two of the twenty cities surveyed have special ordinances controlling the development of cemeteries. One of these cities, Tampa, Florida, provides in its codes that "it shall be unlawful for any person to open, establish or use any new additional cemetery within the city limits, provided, however, that this prohibition shall not apply to the territorial extension of any existing cemetery by the inclusion therein." (59)

However, a variation of this was noted in the St. Louis ordinance. In 1879 the City of St. Louis passed an ordinance prohibiting the further establishment of public or private cemeteries within the city unless authority is granted to do so by special ordinance. Although this ordinance does not specifically prohibit the establishment of new cemeteries, none have been established since its passage. However, several ordinances have been enacted allowing the expansion of cemeteries that were established and specified as lawful by the original ordinance. (60)

### Zoning Ordinances

A survey of zoning ordinances was made as a basic part of the research for this thesis. An attempt was made through this undertaking to: (1) reveal whether cemeteries are generally provided for in zoning ordinances today; (2) determine where in the community the cemetery is permitted; (3) determine what measures of control are being exercised through the zoning ordinance; and (4) determine what related land uses, if any, are permitted on a site with a cemetery.

A total of 494 zoning ordinances were reviewed and analyzed. Every ordinance included in the survey carried a date of 1930 or later. In each case only the most recent ordinance for a city or county was used. These ordinances were analyzed in order to determine the regulations adopted after the development of the "garden" design and the speculation in cemetery lands of the 1920's. Ordinances representing every state except Alaska, Delaware, Nevada, and Hawaii are included in this survey.

Of the 494 ordinances, 310 were enacted after 1950 and 64 were approved or considered for adoption during the last five years. The survey thus presents a reasonable representation of current zoning policies in the United States.

The distribution of the zoning ordinances reviewed is presented in Table 6. This survey encompasses ordinances from communities of all sizes, ranging from Wilton, Alabama, with a population of 428 to New York City, with a population of more than seven million.



Table 6. Number of Zoning Ordinances Surveyed,  
by State\* and Region

Region	State	Number of Ordinances	Region	State	Number of Ordinances
<u>New England</u>	Connecticut	11	<u>South-east</u>	Alabama	26
	Maine	4		Florida	13
	Massachusetts	24		Georgia	25
	New Hampshire	4		Kentucky	11
	Rhode Island	5		Mississippi	5
	Vermont	3		N. Carolina	16
Sub Total	51	S. Carolina		5	
<u>East</u>	Dist. of Col.	1		Tennessee	17
	Maryland	5		Virginia	11
	New Jersey	28	W. Virginia	3	
	New York	23	Sub Total	132	
	Pennsylvania	18	<u>South-west</u>	Arkansas	2
Sub Total	75	Louisiana		3	
<u>North Central</u>	Illinois	22		Oklahoma	6
	Indiana	7		Texas	18
	Michigan	26		Sub Total	29
	Ohio	16	<u>Rocky Mountain</u>	Arizona	2
	Wisconsin	11		Colorado	3
Sub Total	82	Idaho		2	
<u>Midwest</u>	Iowa	7		Montana	2
	Kansas	9		New Mexico	3
	Minnesota	10		Utah	3
	Missouri	5		Wyoming	2
	Nebraska	3	Sub Total	17	
	N. Dakota	3	<u>Far West</u>	California	55
	S. Dakota	2		Oregon	7
Sub Total	39	Washington		7	
		Sub Total		69	

United States Total -- 494

\*Alaska, Delaware, Nevada, and Hawaii not represented.

Table 7 shows that 283 (58.7 per cent) of the zoning ordinances surveyed did not mention cemeteries in their zoning ordinances. Three other ordinances (less than one per cent) specifically prohibited new cemeteries within the corporate limits. The remaining 196 ordinances (40.7 per cent) contained some provisions for this land use. The high percentage of zoning ordinances without cemetery regulations indicates that many cities do not consider the control of cemeteries important in their future development plans. It is possible that many communities no longer have sufficient areas of open land for cemetery development. However, these communities frequently can and do annex additional land for further development and therefore could provide sites for new cemeteries. Cities prohibiting cemeteries may be overlooking the advantages that contemporary cemeteries can offer urban areas.

The 482 zoning ordinances included in Table 7 are either city or joint city-county ordinances. The remaining 12 are county resolutions and are tabulated and mentioned later.

The survey revealed that in some ordinances cemetery development is allowed without any special permission, while in others the administrative controls, use permits, and special exceptions, are used to some extent to control this land use. Table 8 presents the number of ordinances found to employ these controls.

Table 7. Zoning Districts in Which Cemeteries  
Are Permitted Under City or City-  
County Zoning Ordinances

Highest Permitted Zone	Number of Regulations	Per Cent of Total Surveyed
Agricultural (no requirements)	5	1.0
(with requirements)	9	1.9
Residential		
One Family (no requirements)	22	4.6
(with requirements)	20	4.2
Two or More Families		
(no requirements)	15	3.1
(with requirements)	4	0.8
Commercial	10	2.1
Industrial (no requirements)	6	1.2
(with requirements)	1	0.2
Green Belt District	2	0.4
Public Use District	3	0.6
Special District	3	0.6
Cemetery District	3	0.6
Any District (no requirements)	6	1.2
(with requirements)	87	18.2
Total	196	40.7
Cemeteries not mentioned	283	58.7
Cemeteries specifically excluded	3	0.6
Total Regulations	482	100.0

Table 8. Use of Administrative Controls to Govern Cemetery Development by Regions

Region	Total Number of Regulations Surveyed	Use Permits		Special Exceptions		Permitted Without Special Permission	
		No.	Per Cent of Total	No.	Per Cent of Total	No.	Per Cent of Total
New England	51	3	6	10	20	9	18
East	75	2	3	18	10	6	8
North Central	82	18	22	11	13	11	13
Midwest	39	14	36	8	21	1	3
Southeast	132	17	13	19	14	24	18
Southwest	29	6	21	3	10		
Rocky Mountain	17	4	24			4	24
Far West	69	18	26	7	10	5	7
Total	494	82	17	66	13	60	12

It was noted that 60 ordinances permit cemeteries as a matter of right in specified districts, without requiring any form of special approval. However, some of these ordinances did include standards for these developments.

Of the 494 ordinances, 148 (30 per cent) require one of these two types of special permission before cemeteries can be developed. Eighty-two of these ordinances require a use permit. Special exceptions are required in the remaining 66 ordinances.

The survey indicated that three agencies, the Governing Bodies, the Zoning Board of Appeals, and the Planning Commission, have the authority to grant approval under these administrative controls. Of the 148 ordinances requiring review and permission, the Governing Bodies granted approval in 58 of the ordinances, the Zoning Board of Appeals in 71, and the Planning Commission in 19. The following table presents the authorities issuing use permits and special exceptions and the frequency in the ordinances each agency is used.

Table 9. Authority Issuing Use Permits and Special Exceptions

Authority	Number of Use Permits	Number of Special Exceptions
Governing Bodies*	39	19
Zoning Board of Appeals	31	40
Planning Commission	12	7
Total	82	66

\*Includes: City Council, Board of Commissioners, and Board of Aldermen

### Districts Permitting Cemeteries

One of the four objectives of the zoning ordinance survey was to determine where cemeteries are permitted to locate in the community. Each ordinance of the survey was checked to ascertain the highest and most restricted zone in which a cemetery could be developed. The results of the survey were quite revealing, as shown in Table 7.

The 196 city zoning ordinances varied as to the districts in which cemeteries were permitted. It was somewhat surprising that the majority of these ordinances, a total of 93 (19.4 per cent) permitted cemeteries within any district. Of the remaining city zoning ordinances, 61 permitted cemeteries in residential districts. Forty-two permitted cemeteries in single-family residential districts, and an additional 19 were limited to other residential districts. Cemeteries were limited to agricultural districts in 14 ordinances. Eight ordinances limited cemetery development to such districts as Greenbelt, Public Use, or Special Districts. Only three had separate cemetery districts.

In Table 10 twelve county zoning regulations are presented, and the districts in which cemeteries are permitted are listed. In counties where the density of development is generally less than in cities, cemeteries are frequently permitted in the more open districts, agricultural or estate, and in restricted residential districts. Even though

Table 10. Districts Permitting the Location of Cemeteries in County Zoning Regulations

Name	Total Number of Districts in Regulations	Number of Districts Permitting Cemeteries	Districts Permitting Cemeteries	How Permitted
1. Orange Co., Calif.	15	4	RA (Agricultural) to E-2 (Estate)	By Permit
2. Cook Co., Ill.	10	1	Farming	By Permit
3. Seminole Co., Fla.	12	1	A-1 (Agricultural)	By Permit
4. Floyd Co., Ga.	3	2	R-B (Medium Density Residential) and H-C (Highway Commercial)	Without Approval
5. Hall Co., Ga.	2	2	C-L (Reservoir District) and C-D (Development District)	Without Approval
6. Anne Arundel Co., Maryland	7	7	Any District	Exception
7. Upper Montgomery Co., Maryland	5	1	A (Agricultural)	Without Approval
8. Durham Co., N. C.	18	9	R-20 (Residential) to GC (Commercial)	With Approval
9. Lake Co., Oregon	1	1	A (Agricultural)	By Permit
10. Charleston Co., S. C.	20	15	R-1 (Residential) to A-H (Airport Hazard)	Without Approval
11. Davidson Co., Tenn.	11	6	A (Agricultural) to R-C (Residential)	With Approval
12. Arlington Co., Va.	18	3	R-20 (Estate Residential) to R-8 (Residential)	With Approval

several of these ordinances allow cemeteries in more than one district, Anne Arundel County, Maryland, is the only one of these counties permitting cemeteries in all of its districts.

#### Special Requirements Governing Cemeteries

Cemeteries are usually classified as special land uses along with amusement parks, airports, hospitals, and sanitariums, penal and correctional institutions, philanthropic or eleemosynary uses, public utility structures and facilities, and churches and temples. When cemeteries are not listed with specific requirements or criteria for their development, they are controlled by those regulations applicable to the special land uses with which cemeteries appear.

It is usually the responsibility of the approving authority to establish conditions for permitting cemeteries. Of the 196 ordinances that allow cemeteries, only 125 of them contained any requirements. The majority of the latter group, or 66, required the approving authority to establish or impose the conditions which are necessary to protect the best interest of the surrounding property and which are in harmony with the objectives of the community's plan.

Forty-two ordinances included specific regulations. These may be classified as follows: (1) those that list development criteria which serve as guide lines for the approving authority to establish requirements for each proposed cemetery or special land use; (2) those that include



limited requirements for new cemetery development; and  
(3) those that include a larger number of requirements applicable to cemeteries.

One group of ordinances employs general guide lines or criteria designed to govern the development of all special land uses mentioned rather than a specified one such as cemeteries. Though this approach does not provide as much direction for new cemetery development in the community as would be desirable, it is an improvement over those ordinances that leave the control entirely to the approving authority. An example of an ordinance providing such guide lines is the 1960 Fresno, California, Zoning Ordinance which states:

**F. COMMISSION FINDING AND CONDITIONS**

The Commission, in recommending or granting a Conditional Use Permit shall find as follows:

1. That the site for the proposed use is adequate in size and shape to accommodate said use and all yards, spaces, walls and fences, parking, loading, landscaping, and other features required by this Zoning Ordinance, to adjust said use with land and uses in the neighborhood.
2. That the site for the proposed use relates to streets and highways adequate in width and pavement type to carry the quantity and kind of traffic generated by the proposed use.
3. That the proposed use will have no adverse effect on abutting property or the permitted use thereof.
4. That the conditions stated in the resolution are deemed necessary to protect the public health, safety and general welfare. Such conditions may include:
  - a. Special yards, spaces and buffers.
  - b. Fences and walls
  - c. Surfacing or parking areas subject to specifications

- d. Requiring street dedications and improvements (or bonds) subject to the provisions of "Site Plan Review", Section 12-404, including service roads or alleys when practical.
- e. Regulation of points of vehicular ingress and egress.
- f. Regulation of signs.
- g. Requiring landscaping and maintenance thereof.
- h. Requiring maintenance of grounds.
- i. Regulation of noise, vibration, odors, etc.
- j. Regulation of time for certain activities.
- k. Time period within the proposed use shall be developed. (See Section 12-403-I).
- l. A bond for removal of such use within a special period of time.
- m. A request for a site plan for purpose of review, said plan to be submitted by the applicant.
- n. And such conditions as will make possible the development of the City in an orderly and efficient manner and in conformity with the intent and purposes set forth in this Zoning Ordinance.

A second group of ordinances includes general requirements for cemeteries only. These requirements are concerned with one or more of six features of development listed in Table 11.

Table 11. Specific Requirements for Cemeteries in Zoning Ordinances

Physical Feature	Name of City and Date of Ordinance	Requirements
1. Type of monument	Saginaw, Mich. 1958	(1) Cemeteries, when, in addition to meeting other requirements, the cemetery shall have no markers or monuments above grade.

Table 11. Specific Requirements for Cemeteries in Zoning Ordinances (Continued)

Physical Feature	Name of City and Date of Ordinance	Requirements
2. Site set back lines	Savannah, Ga. 1960	45. Cemetery. a. Provided that all graves shall be set back not less than one hundred (100) feet from any property line. b. All mausoleums, columbariums, crematories or cemetery chapels shall be set back not less than two hundred (200) feet from any property line.
	Royal Oak, Mich. 1953	Cemeteries Sec. 801.11. Permit cemeteries or the use of premises for burial purposes ... provided that no part of any cryptorium, mausoleum, or other building or structure containing bodies or remains, other than a sub-terranean grave, shall be less than 100 feet from the nearest street, alley or lot line....
3. Design and location of access to the site	Ravenswood, W. Va. 1958	14.821 Cemetery, Crematory, Mausoleum, Columbarium shall provide entrance on a major street or road with ingress and egress so designed as to minimize traffic congestion,...
4. Screening	Ravenswood, W. Va. 1958	...and shall provide a minimum six (6) foot evergreen hedge, or provide a minimum twenty (20) feet of permanently maintained planting strip on all property lines abutting on R-District or residential street.

Table 11. Specific Requirements for Cemeteries in Zoning Ordinances (Concluded)

Physical Feature	Name of City and Date of Ordinance	Requirements
5. Minimum Site area	Orange Co., Calif. 1952	6. Cemeteries, mausoleums and crematories, upon condition the area of any cemetery be not less than forty (40) acres.
	Davidson Co., Tenn. 1956	Area not less than forty acres
	Newport Beach, Calif. 1950	Area not less than 29 acres
6. Limit of site area used for building	Royal Oak, Mich. 1953	...and provided that any cryptoria, mausolea, or other buildings or structures wholly or in part above the ground other than monuments, shall together occupy not more than 10% of the total lot area....

The third group of ordinances contains a large number of detailed requirements. The Bismarck, North Dakota, Zoning Ordinance is perhaps the most comprehensive in providing a broad range of regulations applicable to all of the special uses and to cemeteries in particular.

The criteria for establishing certain conditions for all special land uses is given to the approving authority, which in this case is the Board of Adjustment. These regulations cover the following items:

(c) Before approving the issuance of a building permit or certificate of occupancy for a special use, the Board of Adjustment shall find:

1. The proposed use is in harmony with the purpose and intent of this ordinance and of any portion of the master plan of the City of Bismarck for the district.
2. The proposed use will not adversely affect the health and safety of the public and the workers and residents in the area, and will not be detrimental to the use or development of adjacent properties or of the general neighborhood.
3. The proposed use will comply with all appropriate regulations for the district in which it will be located.
4. The proposed use will comply with all special regulations established by this section, and all special conditions necessary for the safety and general welfare of the public.(61)

The ordinance goes further and cites specific requirements for cemeteries. These include:

3. Cemetery. A cemetery, mausoleum, columbarium or crematory may be permitted in an A or P District as a special use, provided:
  - (a) No graves shall be located less than 100 feet distant from any property line.
  - (b) In any cemetery in which there will be permitted monuments and grave markers rising above the surface of the grounds, there shall be a strip of at least 75 feet in width adjacent to all boundaries of the cemetery landscaped and maintained as a green area; and that as a portion of the landscaped area there shall be a dense evergreen hedge at least six feet in height; and that such dense evergreen hedge shall be at least 70 feet distant from any boundary of the cemetery which is a street line.
  - (c) In any cemetery in which markers or monuments rising above the surface of the

ground, and private tombs or mausoleums are prohibited, there shall be planted and maintained a landscaped strip at least 75 feet in depth adjacent to all boundaries of the cemetery, but there need not be a dense evergreen hedge planted as part of the landscaping.

- (d) No public mausoleum, columbarium, crematory, or cemetery chapel shall be erected within 200 feet of any boundary of the lot or parcel on which it is located.
- (e) The owners of any cemetery parcel which lies across any proposed major or secondary thoroughfare shown on a master plan of the City of Bismarck shall reserve and dedicate a right-of-way for such thoroughfare having a minimum width of 100 feet, or such greater minimum width as the City engineer of the City of Bismarck shall determine necessary in fee simple to the City of Bismarck for highway purposes; and those portions of said cemetery lying on either side of such dedicated thoroughfare shall be considered as separate cemeteries for the purpose of determining grave setbacks, landscaped strips, and building setbacks.(62)

Eleven ordinances contained separate zones for special land uses. In most cases, cemeteries were the only use permitted. These eleven ordinances included such districts as greenbelts, public use, special, and cemetery. The first three of these districts were found in eight of the zoning ordinances. Even though the special zones did not have development requirements, one out of the eight (Oak Ridge, Tennessee, Zoning Ordinance of June, 1959) did set limited requirements for new cemeteries. In this ordinance, cemeteries are permitted only in the greenbelt district with the requirements that "...such use will have a minimum lot area of

200,000 square feet, and will have a setback of fifty (50) feet from all property lines in which monuments and all other structures are prohibited."(63)

The remaining three of the 11 ordinances containing separate districts were the only ones providing cemetery districts. It is interesting to note that these three ordinances come from different parts of the United States -- Michigan, California, and Georgia. Of the three, two permit only uses that are related to cemetery development, whereas the other permits, in addition, any use permitted in R-1 (the single-family dwelling district). In these designated cemetery districts, the requirements for the physical development of the site differed widely. The complete regulations for each of these districts are presented below. The Zoning Ordinance for Royal Oak, Michigan, states:

Cemetery Districts	Section 1301--In addition to the use specified in Article II, and Article XII, there shall be an additional classification for use known as Cemetery Districts. All lands and premises now used for interment purposes and lands and premises now included within a fence or other suitable enclosure purporting to inclose premises set apart for the purpose of the burial of the dead, shall be included within the Cemetery Districts of the City.
-----------------------	--

Map	Section 1302--The boundaries of any Cemetery District shall be shown on the Zoning Map of the City of Royal Oak.
-----	--

Limitation of Use	Section 1303--Premises in cemetery districts shall be used only for the purpose of burial of dead human beings, the erection of mausoleums, monuments or markers, the holding of religious or commemorative services for the dead, decoration of graves, ornamentation of
----------------------	---

grounds, construction of necessary driveways and drains, and other uses customarily and properly incident to cemetery use.

**Protective Fence**      Section 1304--Any cemetery area shall be provided with an ornamental fence not less than forty-two (42) inches in height on all sides and shall have suitable gates for ingress and egress.

Section 1305--Where a cemetery district is contiguous to a residentially sound district, a suitable shrubbery screen with proper landscaping to a width of not less than ten (10) feet, shall be maintained along a boundary line or lines separating said cemetery from the contiguous residential district.(64)

The Zoning Ordinance from Riverside, California, has the following requirements:

In Zone B-4 or Cemetery District, no building, structure, improvement or premises shall be erected, constructed, established, altered, maintained, or used, except as provided in Section 14 hereof, which is designed, arranged or intended to be occupied or used for any other purpose than cemetery purposes, including as cemetery purposes, all businesses and purposes necessary for or incidental to the establishing, maintaining, managing, operating, improving and conducting a cemetery and the interring of the human dead and the care, preservation and embellishment of cemetery property, including earth interments, mausoleum for vault or crypt interments, crematory, or crematory and columbarium for cinerary interments, chapel or a combination of one or more thereof, with the necessary incidental buildings for office, storage or garage purposes of a cemetery company, but not including as cemetery purposes, undertaking or mortuary businesses.(65)

The requirements of the College Park, Georgia, Zoning Ordinance includes the following:

#### ARTICLE XIX "X-1" CEMETERY DISTRICT

Section 1. The regulations set forth in this Article, or set forth elsewhere in this Article when referred to in this Article, are the regulations in the "X-1" Cemetery District. (See Articles 20, 21, and 22.)



Section 2. Use Regulations: A building or premises shall be used for the following purposes:

1. Any use permitted in the "R-1" Single-Family Dwelling District.
2. Cemetery Lots for burials, crematories, mausoleums, undertaking establishments.

Section 3. Parking Regulations: The parking regulations are the same as the parking regulations in the "R-1" Single-Family Dwelling District.

Section 4. Height Regulations: Area Regulations: Residential floor area regulations: The same as in the "R-1" Single-Family Dwelling District. (66)

#### Accessory Uses Permitted with Cemeteries

As the final consideration in the zoning ordinance survey, other land uses depending to some degree upon cemetery operation or burial practices and which are permitted on or adjacent to the cemetery site were noted. These uses include chapels, mausoleums, columbariums, and crematories. The first three are usually considered part of the cemetery operation and usually are located only on the cemetery grounds. The crematory, however, is a more controversial land use than the others, and there is more disagreement between zoning ordinances as to where this use is permitted. Since there is a tendency of crematories to locate with cemeteries, an investigation was made to determine to what extent this association is permitted and how crematories are generally provided for in today's zoning ordinances.

Table 12, which follows, shows that 10 ordinances (two per cent) of the total 494 surveyed permit crematories in

Table 12. Crematories Allowed Only in Cemeteries  
and Approval of Crematories Required  
Elsewhere, by Regions

	Total	Allowed Only in Cemeteries Per Cent		Without Any Approval Per Cent		Requiring Special Approval Per Cent	
		No.	of Total	No.	of Total	No.	of Total
New England	51			6	1.21	2	0.40
East	75	2	0.40	9	1.82		
North Central	82	5	1.01	19	3.85	8	1.62
Midwest	39			3	0.61	6	1.21
Southeast	132	2	0.40	8	1.62	9	1.82
Southwest	29	1	0.20	2	0.40	2	0.40
Rocky Mountain	17			1	0.20		
Far West	69			4	0.81	12	2.43
Total	494	10	2.01	52	10.52	39	7.88

cemeteries. These 10 ordinances represent only 5 per cent of the 196 ordinances which mentioned cemeteries. This Table also indicates that 52 (10.5 per cent) of the ordinances permit crematories elsewhere within the city. Of these, 39 (7.8 per cent) require special approval for the location of a crematory.

Table 13 presents the most restrictive zones in which crematories are permitted in the ordinances surveyed. It also lists the number of ordinances that permit crematories in any district. Most communities apparently prefer that crematories be restricted to industrial districts.

It will be noted from Table 13 that a total of 101 ordinances, or 20.44 per cent of the total ordinances surveyed, specify that crematories are permitted within the community. Only one ordinance specifically excludes crematories. No mention is made of crematories in the other 392 ordinances.

All except two of the ordinances that permit crematories include them along with other special uses. However, the Los Angeles, California, and Sheboygan, Wisconsin, Ordinances list special requirements for crematories. The Los Angeles Ordinance dated 1952 authorizes the Zoning Administrator to permit crematories as a conditional use. For reference, this regulation is cited here:

#### C. DETERMINATION BY ADMINISTRATOR

1. Authority of Administrator--The administrator shall have the authority to permit the following "Conditional Uses" in the zones hereafter indicated. If he finds that the proposed location of such uses will be

Table 13. Highest Zones Permitted for Crematories

	Highest Zone in Which Permitted					By Special Permission in Any Zone	Total
	Residential R-1	R-2	Agricultural or Green Belt District	Business	Industrial		
Number of Ordinances Allowing Crematories	3	7	4	18	41	28	101
Per Cent of Total Ordinances Surveyed (494)	0.61	1.42	0.81	3.64	8.29	5.67	20.44

in harmony with the general purpose and intent of the "Comprehensive Zoning Plan" and will not be materially detrimental to the character of the development in the immediate neighborhood: ...

(f) Columbariums, crematories or mausoleums, other than in cemeteries, in the "A," "R," "C" (except "CR") or "M1" Zones; (67)

The section of the 1950 Sheyboygan Ordinance applicable to cemeteries is also quoted, as it lists more requirements, such as license, inspection and standards for operation. Due to the length of the section of the ordinance on crematories, it is included in the Appendix rather than cited in the text.

#### Subdivision Regulations

In the past some lands reserved for cemetery use were never developed, and other lands which were poorly developed were abandoned after the operation became uneconomical. In order to help avoid such developments in the future, a community should have some control over the physical development of cemeteries. Subdivision regulations provide this means of control. Furthermore, these regulations offer those communities who have extraterritorial power over land subdivision a means of regulating cemetery development outside their corporate limits.

The application to a cemetery development of subdivision regulations would need to be provided for in the definition of subdivision in the pertinent enabling legislation. An example is the definition of "subdivision" in Georgia's General Planning and Enabling Act of 1957 (Act No. 358):

... "subdivision" means all divisions of a tract or parcel of land into two or more lots, building sites, or other divisions for the purpose, whether immediate or future, of sale, legacy, or building development, and includes all divisions of land involving a new street or a change in existing streets, and includes resubdivision and, where appropriate to the context, relates to the process of subdividing or to the land or area subdivided; provided, however, that the following are not included within this definition:

1. The combination or recombination of portions of previously platted lots where the total number of lots is not increased and the resultant lots are equal to the standards of the municipality;

2. The division of land into parcels of five acres or more where no new street is involved. (68)

In the above definition a cemetery could reasonably be classified as a subdivision by implication. This appears logical in view of the fact that both cemeteries and subdivisions are tracts of land which are developed by establishing two or more "lots" or "other divisions." Likewise, the purpose of both developments is for "sale" or "legacy." Furthermore, the effects of cemetery development are also remarkably akin to subdivision development. Both cemeteries and subdivisions make a physical impression upon land. This impression is costly and difficult to change, especially in the case of cemeteries. Both occupy considerable acreage of valuable land and influence land values in their vicinity. They both generate considerable traffic. Also, cemeteries, like subdivisions, should not be allowed to interrupt extension of desirable traffic routes or major utility extensions.

The Assistant City Attorneys of Tulsa, Oklahoma, and Lincoln, Nebraska, stated respectively, "Our subdivision regulations require by implication and not by specific statement requirements for cemetery development,"(69) and "The procedures and requirements for approval of new cemeteries would be the same as the procedures and requirements for approval of any new subdivision."(70) In a third letter the City Attorney of Greenville, South Carolina, stated: "The only subdivision regulations that would be applicable would be with respect to streets that may be opened through a proposed new cemetery."(71)

Certain aspects of cemetery development should be regulated by local subdivision regulations.

Land subdivision requirements for cemetery development must take into consideration the two principal types of cemeteries -- the traditional cemeteries with above-the-ground grave markers and the park cemeteries with flush-with-the-ground markers. The required lot and block sizes, as well as the design, the landscaping and the screening requirements will differ for these two types. Subdivision regulations governing new cemetery development should include the following provisions.

1. Plat Information. The cemetery plat should present sufficient information concerning the individual site, neighborhood and proposed development plan to make it possible to determine whether the new cemetery meets the requirements

of all ordinances. Plat information should include: main features of the site, such as size, shape, topography, unusual features as drainage ways, any type of easements (public or private) or any features or restrictions that would influence the development plan; a location map showing adjacent and nearby land uses presented in a suitable form so that an accurate understanding of the type and character of the neighborhood in which the proposed site is located can be determined; and a development plan for the entire site showing the location of roads and utility lines, blocks, lots, and interior block paths, and such special features as landscaping and screening.

2. Design Standards. Just as good physical design in subdivisions will produce attractive development, so good physical design will produce attractive cemeteries. This is well recognized by good cemetery developers and designers. It was pointed out by H. Boyer Marx, an Atlanta landscape architect and cemetery designer, in an address to cemetery superintendents. He stated, "...the design of the development holds...tremendous importance to the esthetic as well as the economic future of every memorial park and cemetery...."(72) Established design standards should produce an attractive physical layout of lots and blocks; should require that advantage be taken of any natural features, such as trees, knolls or streams; should take advantage of the site contours; and provide good circulation and easy access to the lots.



3. Required Improvements. Required improvements should include adequate drainage of the site to insure that the surface water does not wash or stand on any lots; drives that are properly graded, drained, and provided with an all-weather surface; the provision of required water lines and any other essential utilities so installed that they can be serviced without affecting burial lots; and any necessary fences or screens.

The required improvements should either be completed before the final plat is approved, or an acceptable performance bond guaranteeing their completion when demanded by the city should be provided by the cemetery developer.

## CHAPTER V

### INCORPORATING FUTURE CEMETERY DEVELOPMENT IN THE COMMUNITY PLANNING PROGRAM

Since the cemetery performs an unusual and important function in the community, it is essential that optimum benefits from new cemetery development be obtained by the community. This can be achieved to a large degree through an effective comprehensive community planning program including effective land use controls.

A comprehensive planning and land use program for cemeteries should determine the need for cemeteries, their optimum size and site conditions, and their location, together with the adoption and enforcement of zoning ordinances and subdivision regulations.

#### Determining the Need

The following five steps should be made to determine a community's need for cemeteries.

1. Population trends should be extended a minimum of 50 years, and in some cases 100 years or longer. The extension of these trends can be made by a straight-line projection of other population estimates. Although less dependable than that of the 20-year base period, it will provide a useful figure.

2. Estimating the death rate is the next step. Since the death rate can vary between communities, any projection must be adjusted to consider the age, sex, racial and health characteristics of the local population. These rates, which are obtained from the local health agencies, are more realistic than the averages published for the region or for the country.

3. Another influential factor is the trend in local burial practices. To reflect these local practices in the estimate, the planner must determine the number of foreign burials, entombments, and cremations. Foreign burials include those that are shipped elsewhere for burial or returned to the community from other areas. It has been estimated that for a city of 20,000 the two-way shipment of bodies would cancel each other and there would be 100 per cent burial. However, to determine the exact local out-shipment, the number of deaths and burials in the city for the last 20 years should be compared.

Both cremations and entombments affect the amount of land area needed for interment. Both of these methods of burial are increasing in the United States, and both appeal to the higher income group. Of the two, the number of cremations varies to a greater degree between regions. To determine the influence of each of these burials, it is necessary to check the local burial certificates for the last decade. However, the number of cremations can be

estimated by the national average of 3.5 per cent of total deaths, and the number of entombments at 10 per cent.

4. Religious customs and racial influences must also be considered as factors. The two dominant religious groups that affect cemetery development are the Catholic and Orthodox Jewish faiths. Since both of these groups favor interment, the number of deaths in each group in the community for the planning period must be estimated. Racial considerations are limited to the number of Negro deaths that might be expected, as there still remains strong feeling for separate burial facilities. This situation can be expected to continue for a number of years.

5. The unused capacity of existing cemeteries is another factor and is one that can be calculated by one of two methods. First, the number of unoccupied graves in each cemetery can frequently be obtained from the cemetery owner or manager. Not every grave in the cemetery will eventually be occupied. All single spaces, 75 per cent of lots of 4 spaces, and 50 per cent of lots of 6 or more spaces can be expected to be used. A second method is to figure the acreage remaining to be opened for burial in each cemetery and to calculate the approximate number of burial spaces per acre according to the type of cemetery. It is estimated that the monument type cemetery averages 650 graves per gross acre and the park or garden cemetery 850 graves.

### Determining Optimum Size and Site Conditions

Once the number of interments for the planning period has been established, the amount of additional land needed for cemetery use is based upon the number of graves per acre, which will vary according to the type of development. The predominant contemporary cemetery design is the park or garden. This type cemetery accommodates an average of 850 burial spaces per acre, including improvements. It is most likely that all future cemetery development -- whether public or private and whether existing facilities are enlarged or new ones established -- will be of this design. In addition to the attractive appearance, the difference in operating and maintenance costs has encouraged the change from the traditional cemetery to that of the open lawn design.

Since the cemetery property will more than likely be sold over a long period of years, it is highly desirable that a sizable trust fund be established to take care of the cemetery in future years. Otherwise, it will revert to the city for upkeep and be an extra burden on the local citizens. According to cemetery developers and designers, 80 acres are necessary to establish an adequate trust fund for maintenance purposes.

The ideal site conditions should include those features which would facilitate cemetery development. The most desirable ones are rolling topography to aid attractive design and development, and desirable sub-surface soil which will help keep the opening and closing costs of the grave, as well as the upkeep of the cemetery as a whole, at a minimum. However,

what might appear as an undesirable site due to its appearance and poor sub-surface conditions should not be overlooked if the location can justify the expense of improving the site to acceptable standards.

#### Determining Location of Cemeteries in the Community

Although it is desirable to locate cemeteries near the population they serve, frequently this is impossible because large tracts of land are not available. Therefore, cemeteries frequently must be located in less developed or suburban locations. However, smaller, less desirable sites that can be improved may be found near the center of town. The older sections of the city can be served by these smaller cemeteries.

In any event, the site that is proposed for development should be accessible from one or more major thoroughfares. It is especially desirable that the cemetery be easily reached by funeral processions, by the property owners when traveling in private cars or public transportation and by service vehicles. In the future land use plan, every effort should be made to locate the cemetery in a position so that it will not interfere with major street or utility extensions.

The effect of cemetery development on adjacent property owners should be minimized as much as possible. This can be accomplished by the use of the park or garden cemetery rather than the monumental. The newer designs have accomplished

this to a remarkable degree. In some instances, because of an individual site design, a cemetery has actually increased the adjacent property values through its attractive park-like appearance.

In locating cemeteries, related land uses should be considered. These uses are chapels, mausoleums, columbariums, and crematories. None of these is necessarily objectional as far as odor or smoke is concerned. Objections are personal and may be due to superstitions or false fears. Many objections are removed by the design of the buildings and placing them on the site well away from all property lines.

#### Zoning Ordinance

Essentially the objective of zoning ordinance regulations applicable to new cemeteries should be to encourage their location in areas where the prevailing conditions in any adjoining area will not be adversely affected by the cemetery. Although this has always been the objective of a zoning ordinance, the change in design of cemeteries today from the traditional monument type to the contemporary park or garden cemetery has made this objective easier to accomplish for communities. The open-lawn design with flush-with-the-ground markers has made the cemeteries more acceptable to the neighborhood, and their appearance has made them less noticeable as a burial ground. Therefore, they do not have the blighting effect on the adjoining property that has been experienced.

As a result, planners have more freedom in their selection of sites for cemeteries. The contemporary cemetery often provides well landscaped open areas for the community, sites for special commemorative services, and chapels that can be used for outside religious and civic purposes.

The practice today of the majority of the zoning ordinances permitting cemeteries in the community is to allow them in any zone with certain restrictions. A smaller number of ordinances permit them only in residential zones, and a very few restrict them to special open-use zones or cemetery zones.

Generally cemeteries should not be permitted in central business and other high density districts near the center of the community. However, because of its size and nature a cemetery can be placed next to or in a light commercial or light industrial area without adversely affecting either the cemetery or the adjoining uses. The best locations within these districts would be near the boundaries where a cemetery could be considered a transitional use.

Cemeteries can also be permitted in the approach zones of airports, since they are void of major structures and are visited infrequently by the public. However, there is a limited objection to this location due to the noise created by the aircraft.

Because of the open design used in today's cemetery development, a cemetery can benefit a neighborhood and community, and because public opinion is against locating



cemeteries in business or industrial districts, it is felt that the most suitable location for cemeteries is in residential or special open use districts.

Many zoning ordinances require review by boards prior to approval of cemetery development. A significant number of these ordinances -- nearly half -- give the sole authority for approval to the governing body of the community. This practice is undesirable since a governing body is essentially legislative rather than executive or judicial. A better method would be to follow the procedure found in the majority of zoning ordinances in which the approving authority is the zoning board of appeals. The benefit gained by using the zoning board of appeals is that it is more familiar with the development and objectives of the community plan and less subject to outside pressures.

Locational approval in the majority of the ordinances is granted either by a use permit or as a special exception. Advocates of the use permit feel that this device enables each case to be studied and judged individually. However, the use of this device would seem questionable since a group of men without the guide of requirements in an ordinance could be arbitrary. The use of special exceptions would alleviate the above possibility by having development requirements stated in the zoning ordinance and thereby eliminating most of the criticism of use permits.

All zoning ordinances should include certain requirements for the development of new cemeteries. These would be limited to minimum site requirements and would not include improvements of the site. Such improvements should be established in an ordinance other than the zoning ordinance. These minimum requirements include site size and screening, set back line, type of monument, and access.

The size of the cemetery site will basically depend upon the projected need of land area for burial purposes. It should be large enough to make it economically feasible to establish a trust fund for permanent maintenance purposes. Zoning ordinance requirements given for minimum size of site varied from 29 to 40 acres. Cemetery developers and designers feel that a minimum of 80 acres is a more realistic figure. The minimum area needed for this purpose should be determined locally since the maintenance costs vary considerably between areas of the United States.

Other requirements found in some of the zoning ordinances could be useful for most communities. Set back lines and screening provide an effective means of separating graves and burial structures from development on adjoining property. Many ordinances require at least a 100-foot set back along all property lines for graves and from 100 to 200 feet for mausoleums, crematories, and chapels. Although this required set back can serve as a separating device, further screening may be desired. A practical screen can consist of an evergreen hedge six feet tall.

Another useful requirement is a description of the type grave markers or monuments permitted in the cemetery. The final requirement is that a cemetery should be located on a major street or road with an entrance that will provide minimum traffic congestion.

### Subdivision Regulations

Although subdivision regulations are not ordinarily used to govern the subdivision of land for burial purposes, their use for cemeteries appears feasible. However, in order to establish controls for the development of cemeteries in the subdivision regulations, it must first be determined if this is authorized by the existing state enabling act. The state act, in its definition of subdivision, should indicate either by implication or specific statement that subdivision of land for cemetery purposes is included.

Procedures for approving land subdivisions and the inspection of the required improvements should also apply to cemeteries. Subdivision regulations should further contain a means of insuring that all required improvements are installed according to the established regulations. This can best be accomplished by one of two means. First, all improvements should be installed before the final plat is approved, or second, the developer should furnish a performance bond.

Subdivision regulations designed to control cemetery development should include those requirements that will

promote development which will compliment neighborhood and the future plans for the community. These regulations should contain requirements similar to the following provisions.

The plat requirements should specify that sufficient information on the physical features of the site, the character of the neighborhood, and the layout of the proposed improvements for the site be included in order to provide full information on the proposed development to the reviewing and inspecting authorities. Design standards should be of such specific nature as to encourage sound and attractive subdivision of land for cemetery purposes. Required improvements should include adequate drainage and utilities, adequate access to the individual lots, and the desired fencing and screening improvements.

As a conclusion, the recommendation that communities give consideration to establishing regulations in their zoning ordinances and subdivision regulations for cemeteries seems in order in view of the permanency of this land use and the interferences that older cemeteries have had on the future development plans of the community. It is hoped that this research has served to point out to planners and interested local officials the possibilities of incorporating cemetery development into the community plan.

**APPENDIX**

## Sheboygan, Wisconsin

## ZONING ORDINANCE

## 15.095 CREMATORIES.

## (1) Allowable Use of Buildings.

Any building or structure in the City of Sheboygan used for the purposes of cremation, as defined hereinafter, shall be allowed in "F" business district as defined in Section 15.08 of this Code and in "G" industrial districts as defined in Section 15.09 of this Code, but all subject, however, to the regulations and restriction hereinafter set forth.

## (2) Definitions.

The following definitions shall apply in the interpretation and the enforcement of this section:

## (a) Crematories.

A "Crematory" is an institution or building in which human bodies are consumed by incineration or dehydration.

## (3) License.

## (a) License

It shall be unlawful for any person, firm or corporation to operate a crematory in the City of Sheboygan who does not possess an unrevoked permit and in whose place of business such permit is not posted in a conspicuous place. Only those who comply with the requirements of this ordinance shall be entitled to receive and retain such license.

## (b) Application for Permit.

All applications for license or permit hereunder shall be made to the Board of Health of the City of Sheboygan and shall state the name and address of the one applying for the permit and such other information as the Board of Health may require.

## (c) License Fees.

When an application is approved by the Board of Health of the City of Sheboygan, the permit shall be granted and issued by the said Board. There shall be an annual fee of Ten Dollars (\$10.00) charge for the license; such fee shall be prorated for applications covering less than a full license year, but in no event less than Five Dollars (\$5.00).

## (d) Crematory Permit Period.

Permits shall be valid from January 1 (or later date of issue) to December 31, both dates inclusive, of the year issued.

(3) Enforcement.

The Board of Health, through the Commissioner of Public Health, or other official whom they designate shall have charge of the enforcement of this act.

(f) Termination of Permits.

Such a permit shall be suspended or revoked for cause by the Board of Health of the City of Sheboygan, provided, that the holder of the permit shall be granted an opportunity for a hearing before said Board upon the charge of violation by the licensee of any of the terms of this ordinance.

(4) Inspection.

The proper health officer shall make periodic inspections of every crematory located within the City of Sheboygan. In case such officer discovers the violation of any item or standard required under this ordinance, he shall make a second inspection after the lapse of such time as he deems necessary for the correction, and the second inspection shall be used in determining compliance with the requirements of this ordinance. Any violation of the same nature on two consecutive inspections shall be cause for the suspension of the permit.

(5) Standards for Operation.

(a) Structural Requirements.

The building or the buildings in which cremation shall take place shall be fireproof and of sound construction.

(b) Sanitation.

The crematory shall be conducted in such a manner and by such methods as to create no nuisance by its operation nor threaten the life or health of the community nor the resident thereof. Minimum standards of sanitation shall be determined and prescribed by said Board of Health.

(c) State Control.

All state laws as well as rules and regulations of the State Board of Health relating to the operation and use of crematories, now in effect and such as may be enacted or promulgated in the future, are hereby declared to be applicable and enforceable hereunder as to any crematory allowed to be operated in the City of Sheboygan.

(6) Penalties.

Any person who violates any provision of this section, upon adjudication thereof, shall be subject to the payment of a forfeiture of not more than Ten Dollars (\$10.00) or in the event of default in the payment of any amount adjudged, by imprisonment in the county jail for not more than thirty (30) days.

Each and every violation of the provisions of this section shall constitute a separate offense, and the forfeiture and court proceedings herein Authorize and vested in the Board of Health.

## BIBLIOGRAPHY



## BIBLIOGRAPHY

Literature Cited

1. "Are Funerals Being Commercialized?" Information Service Bulletin, Federal Council of Churches of Christ in America, Vol. 23, No. 36, November 4, 1944, p. 3.
2. McClure, George E., "Which Way Amid Expanding Cities and Highways?" American Cemetery Association Bulletin, December, 1959, p. 20.
3. Ibid.
4. Statement by H. Boyer Marx, President, H. Boyer Marx and Associates, Atlanta, Georgia, personal interview, April 15, 1960.
5. The Cemetery Handbook, 2nd. ed., Madison, Wisconsin: Park and Cemetery Publishing Co., n.d., p. 59.
6. "Cemetery Statistics," 1959-1960 Cemetery Yearbook. New York: National Association of Cemeteries, 1960, p. 195.
7. "Management and Financing of Municipal Cemeteries," Public Management, Vol. 29, No. 6, June, 1947, p. 165.
8. Mumford, Lewis, The Culture of Cities. New York: Harcourt, Brace and Company, Inc., 1938, p. 218.
9. Bassett, Ray E., "Principles of Modern Cemetery Planning," American Landscape Architect, Vol. 5, No. 1, July, 1931, p. 27.
10. Burke, William J., "Cemetery Service," 1952-1953 Cemetery Yearbook. New York: National Association of Cemeteries, 1953, p. 58.
11. Ibid.
12. "Development of an Ideal Evidence in Laurel Land Memorial Park," Southern Cemetery, Vol. 2, No. 2, February, March, 1960, p. 16.

13. Smith, F. A. Cushing, "Forest Lawn at Glendale," American Landscape Architect, Vol. 4, No. 6, June, 1931, p. 32.
14. Ibid.
15. Olsen v. Gary Oak Hill Cemetery Assn., 212 Ind. 654, 10 N.E. 2d 995.
16. Buffalo City Cemetery v. City of Buffalo, (2nd case) 46 N.Y. 503, 508.
17. Laurel Hill Cemetery v. All Persons, etc., 69 Cal. App. 2d 190, 158 P. 759.
18. West Ridgelawn Cemetery v. City of Clifton, 20 N.J. Misc., 26 Atl. 2d 262.
19. People ex rel. Oak Hill Cemetery v. Pratt, 129 N. Y. 68, 29 N.E. 7.
20. American Society of Planning Officials, Planning Advisory Service, "The Cemeteries in the City Plan," Information Report, No. 16, July, 1950, p. 10.
21. The Cemetery Handbook, op.cit., p. 200.
22. Kephart, William M., "Status After Death," American Sociological Review, Vol. 15, No. 5, October, 1950, p. 638.
23. Kephart, op. cit., p. 639.
24. Letter from James Worley, Executive Vice President, American Cemetery Association, Columbus, Ohio, November 22, 1960.
25. Statement by Charles Bowen, Vice President, Westview Cemetery, Atlanta, Georgia, personal interview, July 5, 1960.
26. Kephart, op. cit., p. 642.
27. Hertle v. Riddell, 127 Ky. 623, 635, 106 S.W. 282.
28. Richmond Cemetery Co. v. Walker, 29 Ky. L. 1252, 97 S.W. 34.
29. People v. Forest Home Cemetery Co., 258 Ill. 36, 101 N.E. 219.
30. Jonus v. Habersham, 107 U.S. 174, 27 L. ed. 401.

31. The Cemetery Handbook, op. cit., p. 217.
32. Letter from Ray F. Wyrick, Landscape Architect and Cemetery Designer, Foley, Alabama, April 26, 1960.
33. Finkel, Julius, "Appraising a Cemetery," The Appraisal Journal, Vol. 19, July, 1951, p. 344.
34. Ibid.
35. Letter from Cooper McEachern, Director, Department of Traffic and Transportation, Houston, Texas, January 31, 1961.
36. Statement by Karl Bevins, Director, Traffic Engineering Department, Atlanta, Georgia, personal interview, January 4, 1961.
37. The Municipal Attorney, Vol. 3, 1962.
38. Letter from H. P. Kucera, City Attorney, Dallas, Texas, July 23, 1962.
39. Letter from Lawrence E. Eaton, Assistant Corporation Counsel, Detroit, Michigan, August 3, 1962.
40. Laurel Hill Cemetery v. San Francisco, 152 Cal. 464, 471, 472, 93 P. 70, aff'd 216 U. S. 358.
41. Babbitt, Harold E., Engineering in Public Health, 1st ed., New York: McGraw-Hill Book Company, Inc., 1952, p. 132.
42. Ehlers, Victor M., and Ernest W. Stell, Municipal and Rural Sanitation, 5th ed., New York: McGraw-Hill Book Company, Inc., 1958, p. 28.
43. Letter from Kucera, op. cit.
44. Jackson, Percival E., The Law of Cadavers and of Burial and Burial Places, 2nd ed., New York: Prentice-Hall, Inc., 1950, p. 207.
45. Finkel, op. cit., p. 342.
46. New Jersey Statutes Annotated, Permanent Edition, Title 8, Chapter 3, Article I, p. 242.
47. "Control of Cemeteries by Municipal Corporations," Tennessee Public Acts 1915, Chapter 51, p. 173.
48. "Private Acts of Shelby County," Tennessee Public Acts 1925, Chapter 405, p. 43.

49. Alabama Codes 1940, Title 12, Sections 113, 221. Title 22, Sections 180-183.
50. Arizona Codes 1939, Sections 43-5201, 43-5204.
51. California Health and Safety Codes, Sections 7100-7104, 8101, 8103, 8252, 8275, 8603, 8605.
52. Connecticut General Statutes 1930, Sections 345, 2980, 2988, 4398.
53. Florida Statutes 1941, Sections 611.01-611.39.
54. Georgia Laws 1938, Sections 26-8101, 26-8110, 88-603.
55. Massachusetts General Law 1932, Chapter 114, Sections 1, 5, 28, 43, Chapter 272, Sections 73, 74.
56. North Carolina General Statutes 1943, Sections 14-148, 65-7, 65-10, 130-182.
57. New York Membership Corporation Law, Sections 84, 86a. Penal Law, Sections 1427, 2211.
58. American Society of Planning Officials, Planning Advisory Service, "Location, Regulation and Removal of Cemeteries in the City and County of San Francisco," by William A. Proctor, Special Report, January, 1951, p. 14.
59. Letter from Paull E. Dixon, City Attorney, Tampa, Florida, July 26, 1962.
60. Letter from Elliott A. Chamberlain, City Plan Commission, Saint Louis, Missouri, August 14, 1962.
61. Bismarck, North Dakota, Zoning Ordinance. Bismarck: The City, 1953, p. 49.
62. Ibid., p. 51.
63. Oak Ridge, Tennessee, Zoning Ordinance. Oak Ridge: The City, 1959, p. 21.
64. Royal Oak, Michigan, Zoning Ordinance. Royal Oak: The City, 1953, p. 35.
65. Riverside California, Zoning Ordinance. Riverside: The City, 1953, p. 6.
66. College Park, Georgia, Zoning Ordinance. College Park: The City, 1957, p. 35.

67. Los Angeles, California, Zoning Ordinance. Los Angeles: The City, 1952, p. 58.
68. "General Planning and Zoning Enabling Act. No. 358 (House Bill No. 400)." Georgia Laws 1957, pp. 441-442.
69. Letter from Louis Levy, Assistant City Attorney, Tulsa, Oklahoma, July 30, 1962.
70. Letter from Hal Hasselbalch, Assistant City Attorney, Lincoln, Nebraska, August 6, 1962.
71. Letter from W. H. Arnold, City Attorney, Greenville, South Carolina, July 30, 1962.
72. H. Boyer Marx, Address presented at annual meeting of the Southeastern Cemetery Superintendents, Atlanta, Georgia, April 22, 1949.

#### Other References

1. Backman, Allen Earnshaw, Consumers Look at Burial Practices. Consumer Pamphlet No. 5. Greeley, Colorado: The Council on Consumer Information, Colorado State College, 1956.
2. Clay, Grady, "Graveyards: Where?" Arts in Louisville, Vol. 2, No. 5, February, 1957, pp. 19-20.
3. Gerke, Florence Homes, "An Unusual Community Center-- Cemetery and Recreation Area as a Quiet Country Retreat," Landscape Architecture, Vol. 38, No. 1, October, 1947, pp. 13-14.
4. Gordon, S. Clyde, "Problem of Traditional Cemetery Management," American Cemetery Association Bulletin, December, 1959, p. 40.
5. Hart, Stuart B., "Comment on the Disposal of the Dead," The Journal of the Town Planning Institute, Vol. 39, No. 3, February, 1953, p. 72.
6. American Cemetery Association, "Engineering Design and Layout of New Sections," by Paul F. James, Educational Conference Lectures, 1947, pp. 1-3.

7. National Catholic Cemetery Conference, Manual of Cemetery Development. Washington: National Catholic Welfare Conference, 1959.
8. American Cemetery Association, "Drainage," by Paul J. Meagher, Educational Conference Lectures, 1947, p. 5.
9. Mitchell, Ira J., "What Future for Traditional Monument Cemeteries?" American Cemetery Association Bulletin, December, 1959, p. 47.
10. Weed, Howard Evarts, Modern Park Cemetery. Chicago, Illinois: Donohue and Co., 1912.
11. Wyrick, Ray F., "Steps to Developing the New Cemetery," Landscaping, March, 1960, pp. 10-11.
12. Yoaden, George S., "Is the Traditional Cemetery Falling Behind--or Going Ahead?" American Cemetery, Vol. 31, No. 7, July, 1959, pp. 17-19.