A REPORT UPON

ECONOMIC BASE POPULATION AND GENERAL LAND USES

COLUMBUS URBAN AREA

A Report Upon

ECONOMIC BASE
POPULATION AND
GENERAL LAND USES

Prepared for the

CITY PLANNING COMMISSION
and
FRANKLIN COUNTY REGIONAL PLANNING COMMISSION

By
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May, 1954

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City Planning Commission
Franklin County Regional Planning Commission

Gentlemen:

We are pleased to submit herewith our preliminary report on the Economic Base, Population and General Land Use within the Columbus urban area.

These are studies which are fundamental to the present planning program as well as to additional phases of the comprehensive plan which are expected to be completed later. The types and amounts of basic local employment, trends in industrial development and trade, and other economic factors and future prospects will determine the size of the future community and its dominant characteristics. The amount and location of this future population as well as the general arrangement and extent of concomitant land uses will determine the basic pattern of the future community. Consequently, this is one of the most important portions of the current planning program. It is recommended that the findings and conclusions contained herein be carefully studied by local officials, organizations and citizens.

We wish to acknowledge the cooperation and assistance received from many local sources in the preparation of this report. We are particularly grateful to the staffs of your Commissions for their helpful assistance and cooperation and to the Columbus Chamber of Commerce for supplying much statistical data. We are indebted also to Mr. Harrison Sayre of your Commission for much of the material concerning the past history of planning in the Columbus area. Several State Departments also furnished valuable data and assistance. This cooperation suggests opportunities for substantial accomplishments from the planning program especially if it can be extended through citizens' organizations.

Respectfully submitted,

HARLAND BARTHOLOMEW AND ASSOCIATES

By Russell H. Riley

TABLE OF CONTENTS

INDEX TO PLATES

INDEX TO TABLES

INTRODUCTION

Man has always been a gregarious creature, partly perhaps because he found it advantageous to cooperate with his fellows for their mutual protection, or to pool their individual talents and to carry on trade. From early civilization men have gathered in cities for such protection, for trade, or for conducting myriad other commercial, industrial, and specialized activities such as those of the present day. For centuries also, men have dreamed of building the ideal community wherein order, utility and beauty would be combined.

The early city came into being, and the modern city has grown large primarily because it has performed an important economic, cultural or social role in the region around it and in the country as a whole. So great has been this growth in total population and so extensive the urban area that the large city of today is a complex organization of buildings, utilities, streets, bridges, transportation and many other facilities necessary for its successful functioning.

American cities in general--with a few notable exceptions such as Washington, D.C.--have developed without the benefit of a preconceived plan. While many of the original plots were laid out with wide streets and even with considerable vision and unity of design, these original settlements were generally quite small. They have subsequently been expanded ten-fold and a hundred-fold by means of multitudinous additions, seldom well related, often completely unrelated to each other and to the community as a whole. Thus, the city has tended to develop into a patchwork of separate, heterogeneous "additions" rather than to follow a definite, well-ordered design.

The value--even the necessity--of coordinating and guiding public improvements and services and these private building activities has been recognized only within the current century. The rapid population growth of most American cities, their traffic and housing problems, the increasing costs of municipal government brought about by an ever-widening urban area and ever-expanding public service demands, all have brought into focus the imperative need for development and redevelopment in accordance with a predetermined, comprehensive community plan.

While Columbus has been not without interest in directing its future (as early as 1904 Mayor Robert H. Jeffrey appointed a planning commission of outside experts and a commission of local citizens was appointed by Mayor Thomas in the 1920's), it was only in the last decade or so that the city and county reactivated or established new agencies for this purpose. These agencies recognize that neither pressing immediate problems nor questions concerning the desirable future growth can be effectively resolved without a master plan. It would place in proper perspective and balance all phases of public and private development and all aspects of physical growth.

The plan described in the sections which follow is intended as the framework for and basic portions of a master plan. It is not, however, intended to include all subjects or all detailed analyses that would comprise a complete plan. Local conditions and needs make it imperative that the data and plans contained in the current study be available during the summer of 1954. Consequently, this part of the plan contains certain basic data and studies which are fundamental to all phases of the plan. Some of the physical phases will be studied in detail while others will receive only such consideration as will insure soundness of the local redevelopment program. Any phases now receiving only partial or no consideration can be completed in a later program without any duplication of the present studies.

Scope and Objectives of the Plan

The physical city consists of countless structures of various sizes and kinds--dwellings, factories, stores, churches, and the like--as well as streets, utilities, transportation and public facilities required for circulation or service. The master plan is simply their scheme of arrangement in the community. More specifically the master plan consists of a set of coordinated and interrelated plans for building and land uses, streets and thoroughfares, schools, parks and recreation areas, utilities and the various other elements which make up the physical community.

Because of the aforementioned time limits imposed and the urgency of certain elements of the plan, the current planning program for Columbus will consist of the following studies and plans:

(1) Economy and Character of the Area
(2) Population Growth and Distribution
(3) General Land Uses
(4) Major Streets and Parking
(5) Schools, Parks and Recreation
(6) Sewers, Water and Utilities
(7) Housing and Redevelopment
(8) Transit

The first three of these are fundamental to the entire planning program and will be treated in such detail as to serve as a basis for any subsequent planning studies which may be undertaken. Likewise, major streets, schools, parks and recreation will receive detailed study. The other phases will be considered from the standpoint of their present adequacy and especially as to how they supplement the initial redevelopment projects.

The Area Covered by the Plan

The present Columbus urban area comprises beside the central city, a number of contiguous or nearby incorporated places including Bexley, Grandview Heights, and Upper Arlington and most of the adjoining townships. Irrespective of political boundaries and jurisdictions, these are interdependent parts of the same metropolitan community and each must be accorded its appropriate place in a unified design for the community as a whole.

In order to prepare a comprehensive plan for the Columbus area, it is necessary to estimate the approximate limits of the future urban pattern. This estimate is based on the assumption that measures will be adopted to encourage the filling in of undeveloped areas as described in the section on Population so as to foster a better balanced and compact future community. For purposes of the present planning program, an area of about 180 square miles has been considered as the extent of the Columbus urban area by 1980. The present area of urbanization embraces some 82 square miles.

Preparation of the Plan

Preparation of the comprehensive plan involves the assembly and analysis of factual data and information concerning existing conditions and trends dealing with the various subjects to be covered. From the findings, plans and recommendations will be drafted to show how the Columbus community should be developed and improved during the next twenty to thirty years. From time to time meetings will be

held with the Planning Commissions and their staffs to discuss the findings, conclusions and proposals, both to acquaint these agencies with progress of the work and to offer opportunities for suggestions and critical appraisal during the formulation of the plan.

Major Objectives of the Columbus Plan

The plan for the Columbus area will be designed to encourage and promote the development of a good community -

An area that is a convenient and inviting place in which to live and work -

An area in which the basic activities of commerce and industry are afforded good sites and good community facilities so that they can be conducted efficiently and profitably -

An area which is so well arranged and compactly built that good transportation and all other community facilities can be supplied at economical cost -

An area which affords ample opportunity for education, recreation, and the satisfaction of cultural requirements - and especially one which has attractive residential neighborhoods and all the community amenities so that new business and manufacturing plants will continue to find this a good location.

Citizen Participation

The success of the planning program will depend to a large degree upon (1) public awareness of local problems and needs, (2) widespread public knowledge and understanding of the solutions and recommendations offered in the plan, and (3) continued support of citizens in carrying out the plan. Citizen participation and the strengthening of public support can be achieved through the activities of many existing civic organizations, and especially by the creation of citizens' committees to study and advise upon each phase of the plan.

Public understanding and support of the plan are of such importance that this must be considered a major part of the planning program. It is the responsibility of local authorities to keep the citizens informed of the findings and proposals of each phase of the plan. Upon completion of major parts of the plan, they should be widely publicized by newspaper articles, radio and TV programs, public talks and distribution of reports. By this means citizens will be

afforded an opportunity to become familiar with the various proposals before public hearings are held. They should be encouraged to express their views at such public hearings held by the Planning Commissions before any phase of the plan is officially adopted. These procedures will encourage the widest possible participation of the citizenry in the preparation and carrying out of the plan in accordance with democratic processes.

PAST PLANNING IN COLUMBUS

It was in the administration of the then thirty year old Mayor Robert H. Jeffrey, just fifty years ago, that Columbus took initial action to have a systematic plan prepared for the guidance of the city's future growth. This was the result of a series of meetings extending over a period of two years, and culminated in the appointment in December, 1904, of the first Columbus Park Commission to plan for the beautification of the city. That 18-man Commission exercised broad and progressive vision and realized the difficulty of planning parks without planning the city. As a result, two years later the Commission successfully initiated bringing into existence the first Columbus Plan Commission. A book containing the recommendations of this early commission was published in February 1908. While many of these recommendations exhibited considerable vision--among them were proposals for arterial highways, including a belt line surrounding the city and a system of parks--they were not deeply drawn from the thinking of the city and were not systematically followed.

The first permanent Columbus Planning Commission was appointed by Mayor James J. Thomas in 1921, with the Mayor as chairman and five other members. For the first two years this commission met regularly and often made field trips to investigate parks, playgrounds and other city needs. Their range of interests was broad, embracing grade crossings, river contamination, thoroughfares, golf courses, street car service and the relocation of municipal and Federal buildings.

In 1922, after City Council had appropriated the money for this purpose from general funds, the commission engaged the services of Mr. Robert H. Whitten of Cleveland, a planning consultant, and a full-time zoning engineer and draftsman were employed. With their help, a zoning map and ordinance were drawn and after submission to the City Council, they were officially adopted on August 6, 1923.

For the next twenty years following adoption of zoning, activities of the Plan Commission were allowed to lag, consisting chiefly of the review of detailed changes in the zoning ordinance. Except for the consideration in 1928 of a Main Thoroughfare Plan "in incomplete form" and a few other things, little was done, and in 1932, at the depths of the depression the appropriation for support of the planning staff was stricken from the budget.

It was in the closing years of World War II that planning interest and activity in Columbus began to revive, largely as a result of the almost universal realization of the need for postwar planning of works projects to avert a depression. Under authority of the 1934 Ohio Code, a Franklin County Planning Commission of eleven members was appointed in 1943.

This commission with the aid and cooperation of committees of the Chamber of Commerce, the Metropolitan Committee, and others, engaged in a wide variety of activities concerned with the needs and welfare of the rural and urban areas of the growing county. Among these were:

(1) Adoption of an Official Highway Plan for the City and County.

(2) Drafting, with the help of the U.S. Department of Agriculture, of a comprehensive recommendation for a new produce market.

(3) Sponsorship of the Metropolitan Park Commission.

(4) Cooperation with the city, the State Highway Department and the Bureau of Public Roads in an origin and destination traffic survey.

(5) Development with the aid of special consultants of a general plan of expressways and main feeder roads.

(6) Aid in the development of plans and recommendations for extension of the existing sewerage systems covered by the 1945 bond issue.

(7) Preparation of a revised code governing land subdivision.

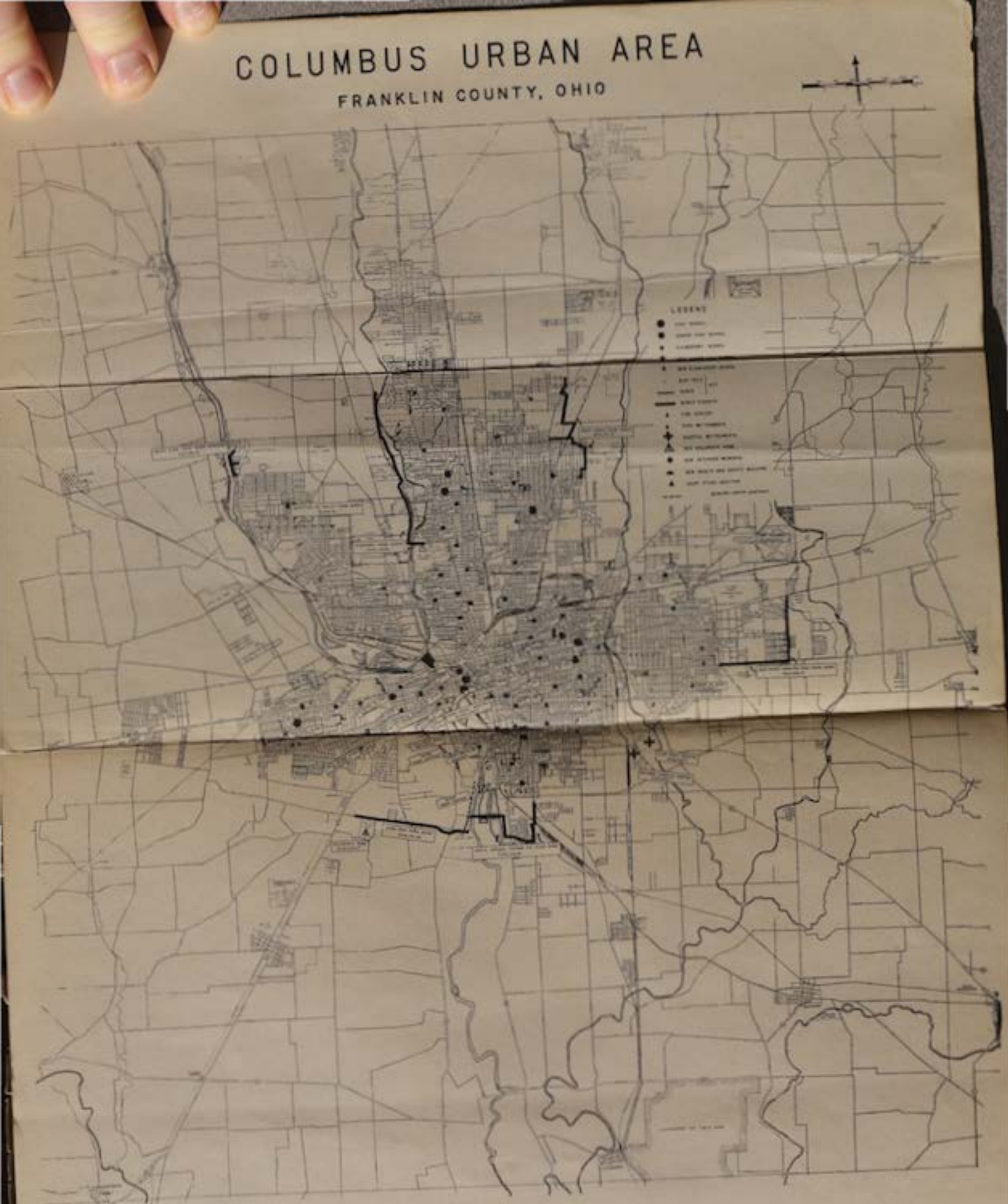
(8) Current development of a general plan for sewer and water services for metropolitan Columbus.

The planning commission was largely responsible for the passage in 1947 of the State Rural Zoning Law, and with the support of the majority of the citizens in the rural sections, succeeded in securing zoning protection in 16 of the 18 townships in Franklin County. This gives it the distinction of being the most completely zoned county in the state.

The City Planning Commission was without funds between 1932 and 1944 when it was reactivated. Its finances were still relatively meager for several years, and it was only in 1950 that the present staff was established. Despite the lack of funds and a limited staff, however, the Commission engaged in a variety of activities directed particularly toward improvement of building and zoning practices in the city. For example, the City Planning Commission was instrumental in securing the adoption of a new building code

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



CIVIC IMPROVEMENTS

ACCOMPLISHED UNDER 1945 AND 1951 CITY-COUNTY BOND ISSUES

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

PLATE 1

HARLAND BARTHOLOMEW AND ASSOCIATES
CITY PLANNERS

in Columbus, and on at least two occasions has submitted to the City Council recommendations for modernization of the text of the present zoning ordinance. The first of these was unsuccessful; the second is currently under consideration. The City Planning Commission and its staff also assisted materially in development of the present Columbus Zoo located in Delaware County. It has cooperated with the Franklin County Regional Planning Commission in the exercise of subdivision control, development of the current expressway program, the sewer and water survey, and other projects. Even though the City Planning Commission's budget has been increased somewhat since 1950, available funds are not yet adequate to provide the staff which modern planning design and effective administration for a city of this size require.

In 1950, the County Planning Commission was reorganized giving place to a Regional Planning Commission which permitted representation of not only the rural areas but the City of Columbus and the other incorporated communities. This Commission is composed of thirty members, who in turn select an Executive Committee of ten to carry on and guide its activities and plans. These activities are county wide, including both urban and rural territory, and involve such major undertakings as the design, with the help of outside consultants, of a system of expressways to serve the Columbus urban area and the current sewer and water survey for the urbanized area. Construction of the first stage of the innerbelt expressway is now underway. The Commission recently finished a complete revision of its subdivision regulations. Special committees of the Commission have assisted Columbus and other Franklin County communities with the solution of a number of local problems such as the desirable use of the old Memorial Hall, and the commission and its staff have provided the liaison for various joint studies or undertakings involving the cooperation of separate local agencies or committees. The commission has also prepared and secured the adoption,with the help of local township advisory committees, of master plans for Sharon and Blendon Townships, in addition to conducting preliminary master plan studies for four other townships.

Civic Accomplishments

The citizens of Columbus and Franklin County can point with pride to many improvements which represent the results--direct or indirect--of past planning in this region. These are diagrammatically illustrated on Plate 1.

Among the major improvements in recent years have been the numerous additions to the public school system. Eighteen new elementary schools, costing more than $5,560,000 have been constructed under programs authorized under the 1945 and 1952 bond issues, another new elementary school is under construction and basic remodeling or substantial betterments have been made in 31 other elementary schools, aggregating altogether about $10,734,000 expended on Columbus elementary schools. A new junior high school has also been completed, along with the remodeling of seven others, and a senior high school has also been remodeled. Including the purchase of school sites, site improvements, and school construction, about $16,600,000 of the $18,000,000 school bond issues have now been expended.

Both the City of Columbus and Franklin County have constructed a substantial amount of new sewers. Trunk sanitary sewers aggregating $1,500,000 were built by the county to accommodate new developments along Olentangy River Road, in North Linden, Whitehall, and in Marion and Franklin Townships. City sewer construction amounting to $3,000,000 has provided relief of overloaded mains and made possible the opening of new areas such as those at the north edge of the city.

Other city improvements include four new fire stations costing over $500,000 (including one fire station built with general funds); a new garbage incinerator, $200,000; sewage disposal plant, $2,000,000; and some $650,000 spent on the improvement of main thoroughfares.

Additional county improvements include those at the Benjamin Franklin and Alum Crest Hospitals, amounting to approximately $750,000; the new and attractive Franklin County Children's Home on Frank Road, $1,250,000; the Veterans' Memorial, $4,500,000; and the Court House Addition on South High, $1,500,000. The Veterans' Memorial under construction north of Central High School on West Broad Street is located within the area along the Scioto long regarded as desirable for a future civic center, and the Court House addition is an attractive modern structure which has provided much needed new county office space.

In addition to financing the new school construction already described, the 1952 bond issue provided funds for the improvement of Port Columbus and more than $8,000,000 ($5,850,000 city and $1,700,000 Franklin County) for the city-county share of the cost of the new expressways and feeder roads contemplated in the initial construction program. The new control tower at Port Columbus is presently under construction. The expressway improvements include the Long Street extension and the Mound and Third Street viaducts which constitute parts of the innerbelt system. Construction of the Sandusky-Spring Street interchange is now underway.

GEOGRAPHICAL CHARACTERISTICS

Location

The location of a city has a considerable influence on its growth and development and upon its dominant characteristics. The city's relation to topographic features such as mountains or lowlands, with respect to waters, navigable and otherwise, to natural resources and to other cities influences the extent and type of industrialization, the most economical means of transportation, the shape of the urbanized area and the distribution of land uses therein. These factors must be recognized in a planning program so that best advantage may be taken of those features which are favorable and intelligent measures organized against those which are unfavorable.

For Columbus, the importance of geographic centralness cannot be overemphasized. The site was recognized at an early date as having promising possibilities as a settlement. Lucas Sullivant platted the Village of Franklinton at the confluence of the Scioto and Olentangy Rivers in 1797 as the first town to be laid out in the Scioto Valley north of Chillicothe. Half-way between Lake Erie and the Ohio River and on a principal route of westward migration, Franklin County was settled so rapidly that it became a strong favorite for the location of the seat of Ohio government. On February 20, 1810, the general assembly ruled that the capital should be not more than 40 miles from the common center of the State. Zanesville, then the capital, and Chillicothe, the former capital, were thus eliminated, but a site on the east bank of the Scioto opposite Franklinton offered by Lyne Starling and a group of associates was finally accepted. By 1816 the first capitol was erected and occupied and Columbus began its history as a state capital principally because of its central location within Ohio.

Limestone and clays were nearby to serve as building materials, and the land surrounding the town proved rich for farming. However, lacking a deep river, access to foreign markets did not become readily available until Columbus was connected to the Ohio Canal by a lateral completed in 1831. By 1834 the town had grown sufficiently to be incorporated as a city and soon became a hub for wagon and stage roads and the trading center of central Ohio. After 1850 came the railroads to foster a development of transportation which now finds Columbus served by five railroads and three airlines. As a junction of four United States highways and numerous other regional highways, the city is also served by nine bus lines and 73 motor freight lines.

The advantages of the Columbus urban area as a distribution point for a large and important area of the United States becomes quickly apparent from reference to Plate 2. It would be difficult to find a city more centrally located among so many large centers of population and industrial wealth. Furthermore, the geologic placement of ores and coal within the United States is assurance that the area which includes Columbus (within the boundary of Pittsburg, Buffalo, Detroit, Minneapolis, and St. Louis) will remain a major industrial center of the nation. It is this centrality of location which the plan must fully utilize to insure that the urban area develops to its full potentialities as a distribution center for north central United States and as a cultural and governmental center for the State of Ohio.

Topography

Topographically the Columbus area may be described as a gently rolling plain with the most prominent natural relief features provided by the rivers and creeks. In addition to the Scioto and Olentangy Rivers which join near its center, the city is bordered on the east by Big Walnut Creek, while another stream--Alum Creek--also flows southward between Big Walnut and High Street. Franklin County is partly bordered on the west by Darby Creek which flows southeastwardly through the county and eventually its waters join those of the other creeks flowing south in the Scioto. At an elevation approximating 780 feet in the business district, the city actually lies at the center of a horseshoe-shaped bowl open to the south, and formed by a ring of hills which rise some 400 feet above the business district at a distance of 10 to 15 miles.

Except for the very banks of the rivers and creeks, none of the topographic features connected with them is so abrupt as to preclude development of any kind. The land slopes gradually down to the floor of the Scioto Valley which is quite flat and varies in width from one to two miles. Certain areas closely bounding the rivers and principal creeks are subject to flooding at long intervals and so have remained vacant or used for agriculture. In general, however, no real deterrent to development has resulted from danger of flooding. The drainage pattern is one created by the four principal streams mentioned above, all flowing toward the south and all eventually joining with the Scioto. Each of these streams has numerous flowing or intermittent tributaries to the east and west, all of which provides good fall and an opportunity for relatively uncomplicated gravity sanitary and storm sewer systems.

None of the stream valleys has such defiles as to completely govern location of railroads. The region is generally so flat that railroads can, and do, enter the city from all directions without regard for river valleys other than that of the Scioto near the downtown area. Here the railroads have located close to the river and with them have come industries to form a wide belt through the center of the city. The almost total absence of prominent relief features and natural physical barriers to the north and south--and to the east and west once the rivers and creeks have been bridged--has permitted an uninhibited spread of urban development. In general, sites may be as easily developed for industrial as for residential use--a fact much in evidence. So much available flat land has had the effect of placing a premium on the slightest topographic irregularity as a site for more attractive residential construction.

The rivers and creeks present the major topographic problems so far as the plan is concerned. Above the Griggs and Intake Dams and above the Greenlawn Avenue Dam to the junction with the Olentangy, the Scioto averages about 500 feet in width, although more than 1000 feet wide at some points. Where not affected by dams the Scioto is about 200 feet wide. Both the Scioto and the Olentangy form definite western boundaries to the two northern segments of urban development and together with Alum and Big Walnut Creeks are important factors in the construction and location of streets because crossings necessitate expensive bridges. Since all streets cannot cross the watercourses the plan must promote a desirable pattern of land use and transportation by selecting logical crossings as a part of the major street system.

Geology

A line of division between two types of underlying strata runs roughly north and south through Columbus. The counties to the west are underlain by limestones and dolomites while those counties to the east lie over Ohio shales and sandstones. Most of Columbus lies on the black and gray shales in the basal portion of the Ohio shale, a smaller western portion of the city lying on the Delaware or Columbus limestone formations. These limestone formations outcrop in a broad belt 10 to 25 miles in width extending from northwestern Pickaway County through most of the western half of Franklin County and north all the way to Lake Erie. The value of this limestone for building stone and aggregates, glass making, chemicals, ballast and lime, and especially for metallurgical fluxstone has resulted in extensive local quarrying operations.

The geologic character of the surface of the Columbus region is largely the result of two great glacial ice sheets which passed over much of Ohio in the recent geologic past. As would a great trowel, these glaciers ground down the hills, ploughed up the surface, changed the drainage pattern and left behind quantities of debris. The region was leveled so that no hills or valleys are left to impede urban development. The underlying rocks were ground up and mixed on the surface along with the deposits of the glaciers themselves so that the soils to the west contain considerable amounts of lime and are exceptionally rich for farming. The troweling action tended to fill up the valleys with loose materials of glacial origin, but at places where the underlying rocks were high, the covering may be very thin. The stream beds throughout the region contain gravelly loam, either deposited as outwash from the melting ice sheet or deposited directly on the surface, much of which is of a quality to be commercially useful as a source of aggregates. The western half of Franklin County contains quantities of glacial drift clays useful in the ceramics industry, as are the Mississippian and Devonian shales in the east.

It is evident that the geology of the Columbus region is important to the plan first with respect to the presence of natural resources which will bolster the economy of the region and to a certain degree determine the type of economic base to be expected, and second with respect to placing of the actual physical elements of the plan for the urban area. The presence of ceramic materials, limestones and commercially usable gravels will provide employment for many inhabitants while the proximity of rich farm land will provide food to the city and income from trade with the farmers of the region.

Location of the physical elements of the plan will be influenced in several ways. The most obvious of these is the account which must be taken of the vast quarry holes and gravel pits along the Scioto River. These excavations constitute man-made barriers to the location of streets and other physical facilities and continuity of development almost equal to the natural physical barriers--the rivers. In other parts of the community the loose surface deposits over the base rocks are so thin that large lot areas are necessary to permit safe individual disposal of sewage in the absence of a municipal sewerage system. Furthermore, the nature and manner of deposition of geologic formations and changes wrought during subsequent history, is particularly important in determining the quantity, quality and availability of water, vital to the life of the city and influential in the pattern of its development.

Water

At present the principal supply of water is obtained from surface streams, the quantity depending on rainfall or snow run-off and the area of the drainage basin above the reservoir or intake. On the basis of several recent surveys and anticipated population growth, the minimum annual average flow of the Scioto is sufficient to supply the community's domestic and industrial needs for several decades. Local shortages may be overcome by provision of additional storage and distribution facilities. However, the trend toward increasing use of water by industry, the expected growth of the city, and the great expense of providing additional artificial storage capacity make it desirable to investigate all possible sources of supply.

A source of supply which as yet has not received the extensive investigation merited by its importance is ground water, for the location and quantity of ground waters will influence the pattern as well as the over-all growth of the city by indicating the extent to which additional large consumers of water and especially industries, may be supported by the Columbus region.

Some ground water is obtainable from the rocks themselves, depending on a variety of factors including the texture of the rocks and the ease of circulation along bedding planes and joints. Thus, the limestones lying generally west of the Scioto River may be expected to produce up to 0.3 million gallons per day[1], but much depends on the location of the wells and deep drilling may produce brine or sulphur water or both. The shales to the east are considerably less productive. The Columbus region is fortunate, however, in containing numerous gravelly deposits which act as more effective reservoirs of ground water. Near or within the urban area are the courses of several ancient streams whose valleys were filled with drift by the glaciers. These deposits consist of outwash gravels and till composed of rocks of many different sizes ranging from boulders down to silt and clay. One of these valleys is present in the eastern part of the city and traces north through Worthington. The depth of fill varies from 100 to 200 feet and locally bears large supplies of water as evidenced by the city's Nelson Road wells now capable of producing up to eight million gallons per day for

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[1]Based on data furnished by the Ohio Division of Water, in cooperation with the United States Geological Survey.

at least part of the year. Another such buried valley lies a few miles south of the city in which test wells indicate an even greater potential yield. A different type of deposit consisting of a wide area of sand and gravel covered by till lies just south of the city between its boundary and Williams Road and appears capable of producing up to 0.5 million gallons per day.

Really large supplies, those in excess of a million gallons per day for sustained pumping, can only be expected where a gravelly deposit of sufficient size is crossed by a flowing stream so that the acquifer way may be recharged. This favorable combination of circumstances occurs most frequently to the south of the city along the Scioto River and along Alum and Big Walnut Creeks and also along Darby Creek near Darbydale and Harrisburg so that investigations for municipal and large industrial supplies must be centered here. Over-all geologic conditions do not, however, indicate any such vast supplies as are available in the Dayton area, for example, and even in an area where conditions are most favorable there may be deposits of clay which produce no water at all. With the exception of these few difficult spots, it may be said, nevertheless, that the entire area of Franklin County is capable of producing ground waters in sufficient quantity to supply an individual dwelling if the owner chooses to dig a well, which would, of course, result in a wide scattering of residences.

It is an unfortunate fact that the Scioto Valley north of Columbus, now the source of surface supplies, contains few gravelly deposits to act as reservoirs to replenish stream flow in the summer months. During the summer, little of the rainfall can be captured since most of it evaporates or is used by plants before it can reach the major streams. Thus, the geology of the valley requires the construction of more and more man-made reservoirs to hold winter rain for summer use, and when winter rain happens to be particularly light, the city may experience a serious water shortage if demand increases more rapidly than reservoir capacity. A study is currently underway by public agencies to determine the extent to which natural underground reservoirs in other parts of the county may be developed and ground water used to supplement surface supplies. Valuable as this will be when completed, it will not insure success of each new well and must be supplemented by test drilling.

Climate

The State of Ohio shows great variety in climate but is definitely in the cooler part of the temperate zone. Although there are occasional extremes of heat, cold, rain or snow and drought, the climate of the Columbus region is good for agriculture, offers no handicap to industry, and is generally invigorating. The average temperature for Columbus in 1953 was 54.2 degrees Fahrenheit, a little warmer than the longtime average of 53.1 degrees, and very near the average for the state (where yearly average temperatures range from 29.2 degrees in January to 73.7 degrees for July). Locally there are about 40 inches of rainfall a year with a 15 inch run-off, which, if properly conserved, should be sufficient for expanding domestic and industrial needs.

The influence of winds on the distribution of smoke is a factor to be considered in the location of industry, but one which may be expected to reduce in consequence as more industries, especially railroads, abandon coal as a fuel and as the development and application of smoke and fume control devices progress. No particular part of the Columbus urban area is put at a special disadvantage by winds because wind directions vary so greatly from day to day and from place to place. Measured from the tops of buildings in the down-town area, "prevailing" wind direction for the period 1931 to 1950 was south, but during a given year when winds blew from the south for the longest period of time at these locations, they may have blown from the northwest for the longest period at the airport. In the summer there is very little wind except that connected with thunder storms, and what wind there is may be largely determined by local temperature variations. A wind which blows lightly from one direction all day may change its direction at night as cooled air drains down toward the center of the topographic bowl in which the city lies, flowing around local obstacles very much as would a stream of water.

The greatest danger to health from contamination of the atmosphere results from lack of wind which permits a continued accumulation of toxic air in low places. Highly variable wind directions and low wind velocities, sometimes averaging only six miles an hour for a summer month, will require investigation of particular industrial proposals to determine their local effect.

Summary

The central location of the city with respect to markets and raw materials will be a principal asset to existing industries and a continuing incentive to the location of new industries in the Columbus urban area. Land topographically suitable for either industrial or residential development is plentiful although some minor areas are subject to flooding, some have thin earth covering over base rock and local presence of industrial minerals has resulted in deep quarry scars. Rivers and creeks which flow through the urban area require adjustments of the street pattern but at the same time provide attractive settings for recreation and civic areas. No phase of climate is a particular handicap and there is sufficient rain to supply expanding urban water needs and support a prosperous agriculture in surrounding rural areas. In general, natural conditions favor a continued growth of the community and present no serious problems to sound urban development.

ECONOMIC BASE

While some cities have owed their beginning to chance, others to special attractions or peculiar advantages of the original site, the growth and further development of the initial community have depended in each case on the economy and, to a lesser extent upon social and cultural aspects of the area. From the standpoint of future development, the most important considerations are the economic functions of the community and its potentialities for increased employment. Thus, the future population of Columbus, the kind of city it is going to be, the distribution and pattern of residential, industrial and other areas, and even the standard of living of its inhabitants will be determined ultimately by its economy.

One of the first steps, therefore, in preparing a plan for the desirable development of the Columbus community is an examination of the basic sources and types of employment in the city, trends in such economic activities, and the prospects of the city for future growth. Appraisal of the economic development and potentialities of the community are necessary also to provide a basis for estimating the amount of land that will be needed for business and industry as well as residential land uses and the general character and size of public facilities and services that will be required.

Employment

Like all other cities of comparable size in this section of the country, Columbus has its largest proportion of employment in manufacturing. In 1950, this activity employed 25 percent of the labor force of the Columbus Metropolitan Area, which includes all of Franklin County. However, as shown in Table 2, manufacturing in Columbus utilizes by far the lowest percentage of the labor force of any of the large Ohio cities. In 1950, manufacturing in Columbus was just barely ahead of either trade or service industries individually, while in all the other cities except Cincinnati, manufacturing employed a higher percentage than these two industries combined, and in Cincinnati a considerably higher percentage were employed in manufacturing than in Columbus. Also of special significance is the comparative employment in public administration or government. With the single exception of Dayton, Columbus employs the largest percentage in this category. This is explained for Columbus by the presence of Ohio State University and the various governmental agencies connected with the state capital--for Dayton by Wright-Patterson Air Force Base and its large number of Federal employees.

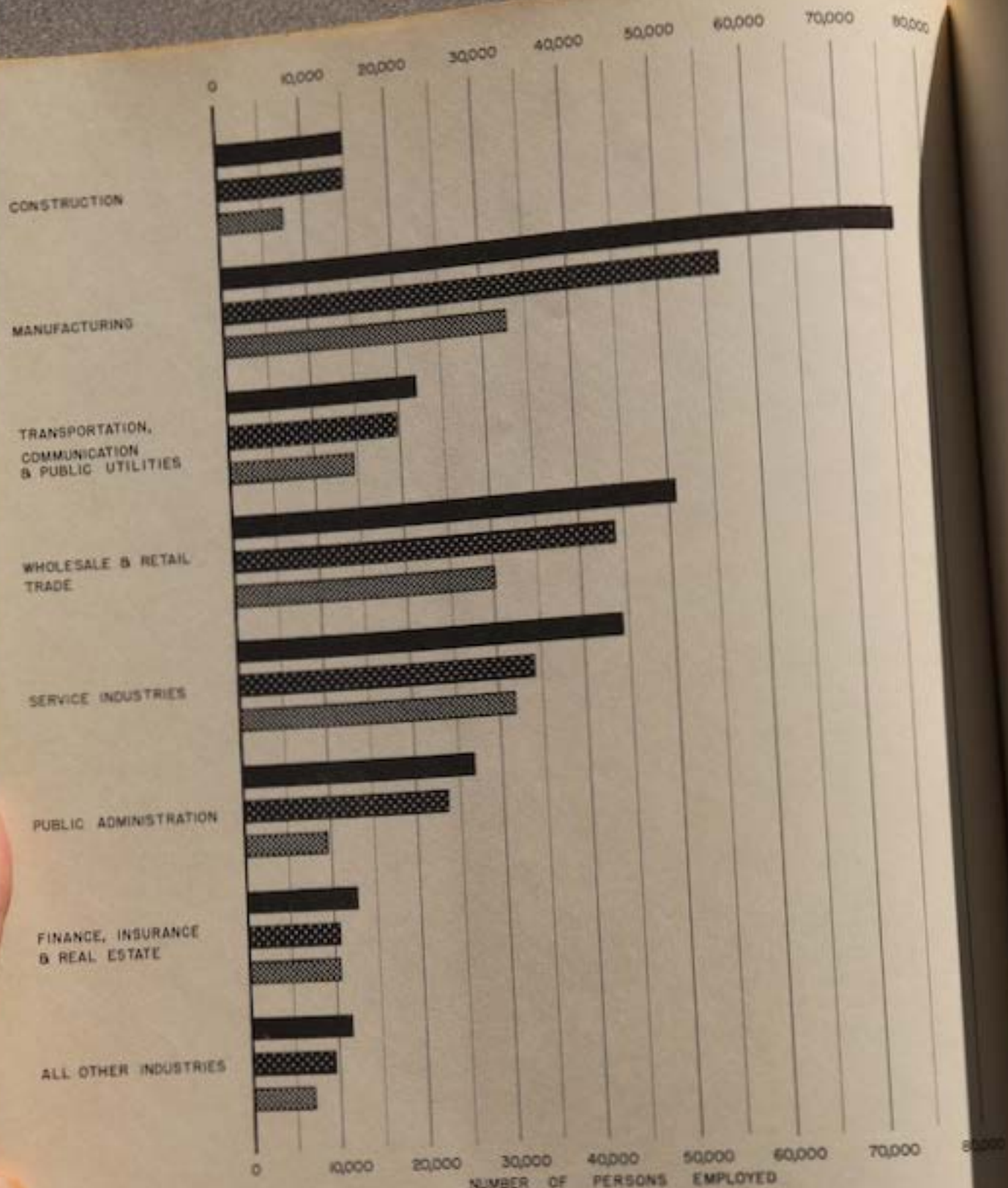
Table 2

NUMBER AND PERCENTAGE
MAJOR OCCUPATION GROUPS

Major Ohio Urbanized Areas, 1950

Occupation Group		Akron	Cincinnati	Cleveland	Columbus	Dayton	Toledo	Youngstown	7 Cities Average
Construction	No.	5421	17,695	29,280	9853	5916	6836	4985	
	%	3.8	5.5	5.0	5.6	4.2	4.6	4.1	4.7
Manufacturing	No.	69,817	108,714	236,886	44,143	60,663	64,363	60,039	
	%	48.4	33.4	40.5	25.0	42.9	43.3	49.8	40.4
Transportation, Communication and Public Utilities	No.	9375	30,124	50,237	17,234	6555	15,652	50,237	
	%	6.5	9.3	8.6	9.7	4.7	10.6	8.6	8.0
Wholesale & Retail Trade	No.	26,543	72,912	113,565	39,149	24,880	24,490	22,297	
	%	18.4	22.4	19.4	22.2	17.6	16.5	18.5	19.3
Services	No.	23,297	64,123	100,240	37,786	22,122	24,080	17,648	
	%	16.1	19.7	17.2	21.4	15.6	16.2	14.6	17.3
Public Administration	No.	3859	12,164	23,178	13,477	15,481	6159	3374	
	%	2.7	3.7	4.0	7.6	10.9	4.2	2.8	5.1
Finance, Insurance & Real Estate	No.	3823	14,042	21,677	9519	3643	3312	2711	
	%	2.7	4.3	3.7	5.4	2.6	2.2	2.2	3.3
All Others	No.	2082	5599	9176	5497	2119	3597	1394	
	%	1.4	1.7	1.6	3.1	1.5	2.4	1.2	1.8
Total Employed		144,217	325,373	584,339	176,658	141,379	148,489	120,640	

Source: 1950 Census, General Characteristics, Ohio



TREND IN MAJOR OCCUPATIONS 1940-1953

COLUMBUS METROPOLITAN AREA

NUMBER EMPLOYED 1953
NUMBER EMPLOYED 1950
NUMBER EMPLOYED 1940

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

DATA COLUMBUS CHAMBER OF COMMERCE

HARLAND BARTHOLOMEW & ASSOCIATES
CITY PLANNERS
SAINT LOUIS, MISSOURI
MARCH 1954

PLATE 3

Table 3

EMPLOYMENT BY INDUSTRY
ANNUAL AVERAGES, 1947 - 1953

Columbus Metropolitan Area

		1947	1948	1949	1950	1951	1952	1953
Construction	No.	11,893	13,293	14,150	14,821	17,366	13,975	14,982
	%	5.6	5.9	6.5	7.0	7.5	5.7	5.8
Manufacturing	No.	61,793	64,492	57,249	56,715	62,701	69,705	75,999
	%	29.0	28.5	26.4	26.6	27.1	28.5	29.3
Public Utilities & Transportation	No.	17,508	18,747	18,367	19,777	20,738	21,444	22,113
	%	8.3	8.3	8.5	9.3	8.9	8.7	8.5
Wholesale & Retail Trade	No.	41,008	45,100	46,063	44,079	46,094	49,286	50,821
	%	19.3	19.9	21.2	20.7	19.9	20.1	19.6
Service Industries	No.	41,920	41,558	38,549	34,132	37,729	41,301	44,392
	%	19.7	18.3	17.7	16.0	16.3	16.9	17.1
Public Administration	No.	18,994	22,451	22,488	23,652	25,173	26,110	26,674
	%	8.9	9.9	10.4	11.1	10.9	10.7	10.3
Finance, Insurance & Real Estate	No.	10,260	10,757	10,574	10,562	11,549	12,267	12,676
	%	4.8	4.8	4.9	4.9	5.0	5.0	4.9
Miscellaneous	No.	9,438	10,044	9,627	9,455	10,273	10,864	11,494
	%	4.4	4.4	4.4	4.4	4.4	4.4	4.5
TOTAL		212,814	226,442	217,067	213,193	231,623	244,952	259,151

Source: Business Statistics Department, Columbus Chamber of Commerce

Table 2 also shows that Columbus has the highest combined percentage in trade and services, indicating the importance of the city as a commercial center. The 1950 Census of Population revealed that Columbus had the highest percentages of female employees (nearly one-third of the total), and of professional, technical and kindred workers, clerical and kindred workers, and sales workers. These statistics indicate a general diversity of employment and an economic base seldom seriously affected by the violent shifts of economy afflicting many communities which have become especially dependent upon a particular segment of their economy.

Plate 3 graphically illustrates the proportions of employment in each of the major occupation groups for 1940, 1950 and 1953. Most notable is the great increase of manufacturing employment which has more than doubled since 1940. All other groups show varied amounts of increase. Construction reached a peak in 1951 and slumped in 1952, a fact not illustrated by the plate, though 1953 finds it on the increase again. The actual figures on employment for 1947 to 1953 are shown in Table 3 with the percentage of the total force contained in each group. Any difference between Tables 2 and 3 may be assigned to difference in area and methods of classification by the statistical agencies. Trades and services combined still exceed manufacturing in total employment, but the difference has been narrowing rapidly since 1950.

Industrial Development

Throughout most of its history, Columbus remained the commercial center for central Ohio and the governmental center for the State. The industrial base was important, as in most large cities, but Columbus lacked many of the characteristics usually associated with industrial centers. During the past 13 years, however, the Columbus area has experienced unprecedented industrial growth. From 1940 to 1950, manufacturing employment increased 73.0 percent in Franklin County, while manufacturing employment in Ohio increased only 43.2 percent. Since 1950, manufacturing employment in Franklin County has increased an additional 34.0 percent, as shown by the average for 1953--a total increase over 1940 of 131.8 percent.

The four largest manufacturing groups are, in order of rank, (1) transportation equipment, (2) fabricated metals, (3) machinery, and (4) food and kindred products. As shown in Table 4, fabricated metals dropped behind machinery in

Table 4

ANNUAL AVERAGES OF INDUSTRIAL EMPLOYMENT
BY MAJOR CLASSIFICATIONS 1947 - 1953

Columbus, Ohio Metropolitan Area

		1947	1948	1949	1950	1951	1952	1953
Transportation Equipment	No.	5659	5092	4228	2992	7943	17,505	19,827
	%	9.2	7.9	7.4	5.3	12.7	25.1	26.1
Fabricated Metals	No.	11,273	12,240	11,455	12,101	10,963	9857	12,627
	%	18.2	19.0	20.0	21.3	17.5	14.1	16.6
Machinery	No.	10,554	12,635	11,020	11,210	12,219	11,997	12,410
	%	17.1	19.6	19.2	19.8	19.5	17.2	16.3
Food & Kindred Products	No.	7986	8376	7993	7251	7379	7400	7490
	%	12.9	13.0	14.0	12.8	11.8	10.6	9.9
Textiles, Apparel & Leather	No.	7575	7930	7265	6079	5383	5276	5644
	%	12.3	12.3	12.7	10.7	8.6	7.6	7.4
Paper, Printing & Publishing	No.	3982	3942	3596	4139	4298	4389	4805
	%	6.4	6.1	6.3	7.3	6.9	6.3	6.3
Primary Metals	No.	3318	3986	2579	2499	3664	3672	3119
	%	5.4	6.2	4.5	4.4	5.8	5.3	4.1
Stone, Clay & Glass	No.	3985	3028	2725	2732	2654	2535	2627
	%	6.4	4.7	4.8	4.8	4.2	3.6	3.5
Chemicals	No.	1953	1813	2196	1935	1940	1906	1850
	%	3.2	2.8	3.8	3.4	3.1	2.7	2.4
Lumber, Wood Products, Furniture & Fixtures	No.	1474	1331	1110	1037	1080	937	879
	%	2.4	2.1	1.9	1.8	1.7	1.3	1.2
Miscellaneous Manufacturing	No.	4034	4119	3082	4740	5178	4231	4721
	%	6.5	6.4	5.4	8.4	8.3	6.1	6.2
TOTAL		61,793	64,492	57,249	56,715	62,701	69,705	75,999

Source: Business Statistics Department, Columbus Chamber of Commerce

1951 and 1952 and did not pull ahead until March, 1953. Fluctuations occurring from 1947 to 1949 were due mostly to cut-backs in defense production, re-tooling for civilian goods and general post-war adjustments. A low point was reached in December, 1949, but since then manufacturing employment in Columbus has increased greatly with increases most notable in the fields of transportation equipment, machinery and fabricated metals. In spite of the over-all upward trend, certain industries such as textiles, apparel and leather, lumber and wood products, stone, clay and glass and chemicals have tended to decline, but even these show signs of revival in 1953.

The field of transportation equipment is dominated by one very large employer, North American Aviation, which normally employs 17,000 to 18,000 people and is the largest single employer in the city. The food industry required five times as many plants to place fourth in total employment as transportation equipment required to place first. In fact, only four manufacturers in the Columbus area now employ more than 3000, and these employ only 31.9 percent of the total manufacturing force and only 9.5 percent of the total number of people employed in the area. As illustrated in the table below, small plants dominate the manufacturing picture.

Size of Industry Employees	Number of Industries	Percent Distribution	Number of Employees	Percent Distribution
3000 or more	4	0.5	24747	31.9
1500 - 3000	1	0.1	2850	3.7
750 - 1500	13	1.7	12559	16.2
500 - 750	9	1.2	5021	6.5
250 - 500	30	4.0	10340	13.3
100 - 250	60	8.0	8621	11.1
25 - 100	202	26.9	9501	12.3
11 - 25	138	18.4	2295	3.0
10 or less	295	39.2	1513	2.0

Source: Business Statistics Department, Columbus Chamber of Commerce

Plate 4 shows the location of major industries and again illustrates the predominance of small and medium sized plants. Larger industries have located along the railroads and rivers. Numerous smaller industries have scattered without pattern through the southern and central sections of the city. Those clustered near the downtown business district

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO

LOCATION OF MAJOR INDUSTRIES

LEGEND

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

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CITY PLANNING

are primarily printing, optical, and dental industries. It is interesting to note that large plants to the west and south have located just beyond the city boundary. In recent years, one large industry, North American, has developed in the east. Two, General Motors and Westinghouse, have moved in to the west. Industry has evidenced a steady growth to the north for a number of years, but no major industry has located to the south in the last 25 years.

Sixty-five percent of Columbus industries is local, founded by people who lived in Columbus and who saw no sufficient reason to establish their plants elsewhere. Nevertheless, the same factors which have permitted these plants to survive will be those which will sustain new plants of either local or outside origin. The reasons given for the location of foreign industries in the Columbus area range from personal whim to the results of a carefully planned industrial location study in which many factors were considered. Such a study in which raw materials, markets, transportation, labor, utilities and availability of land are related to costs is fast becoming common practice for industries which intend to invest large sums in new facilities. Since the first three of these, raw materials, markets and transportation, have been present for many years by reason of geographic location, various theories may be advanced as to why industry in Columbus has only recently begun to expand rapidly.

Columbus was much slower than its neighbors to build up the supply of skilled labor necessary for manufacturing. Interest was centered on commerce and government and in early days markets were lacking because Columbus had no adequate transportation link to the rest of the country until it was connected to the Ohio Canal. The State Penitentiary was a source of cheap labor hoarded by older industries but discouraging to new industries which might not be able to get in on the limited supply. The coming of the Curtiss Wright plant in 1941, at a time when there was little opportunity for careful location analysis, found the labor supply so short that much time and money were expended in training courses. Dictated by the national emergency, this plant at one time employed 25,000 workers and trained many thousands more as did other plants constructed or expanded during World War II. The abandonment of the Curtiss Wright operation closely followed by Lustron and then by a new set of international complications and a new surge of expanding national economy practically forced outside industries to take advantage of the favorable situation in the Columbus area--the now present labor pool, and the ever present geographic advantages.

Trade

Within a radius of about 40 miles in all directions, Columbus has practically no competition as a center of trade. The primary trade area includes all or part of 12 counties with a total land area of 5765 square miles, a population of nearly a million and an annual disposable personal income considerably in excess of a billion dollars. The total payroll for 1953 is estimated to be $877,637,731 for Columbus and Franklin County alone. Rapidly increasing volumes of wholesale and retail trade in Franklin County and Columbus are shown in the table below.

Year	Retail Sales	Wholesale Sales
1949	$475,702,220	$733,869,234
1950	521,289,690	759,846,906
1951	554,081,170	845,717,544
1952	568,301,230	883,240,848
1953	634,378,730	1,054,982,124

Source: Business Statistics Department, Columbus Chamber of Commerce.

In general, services and trades depend upon the industrial base of the community. Expanding industry, as is the case in Columbus, will increase trade and the demand for services. A stable industrial base will result in stability of income to those engaged in service industries and wholesale and retail trade. Although local income trends generally parallel national trends, the presence of a particularly rich and stable agricultural region, as described below, and the large number of governmental and educational employees in Columbus should enable the community to avoid dangerous short-term shifts of economy. In addition, the large number of students (some 20,000) at Ohio State create a substantial demand for services and trade. This number, as well as the number and income of governmental and educational employees is unlikely to decrease materially in the face either of widespread economic depression or economy-minded government. More violent downward oscillations of such industries as manufacture of machinery, particularly susceptible to short term fluctuations of the national economy, should thus be cushioned and a continuous flow of trade insured.

Agriculture

Beyond the limits of the city proper the most important local source of income is that from the 25,000 farms in the

12-county primary trade area[1]. The rural farm population of these 12 counties was only 12.7 percent of the total population, but in 1950 the farms had a total income of more than 134 million dollars. Cash receipts from sale of farm products are estimated at $160 million for 1952, more than $16 million for Franklin County alone. The permanency of this source of income and of food to the urban area is a factor which must be considered in any discussion of the economic base of the community.

The farmers of Ohio comprise a smaller part of the state population than do the farmers of the nation as a whole, but Ohio is a mature state where the ratio of farmers to industry has become relatively stabilized so that the rate of decrease of farms and farmers is not so high as that for the nation. There will be some consolidation of farms for the sake of efficiency of operation as improved machinery increases individual production, but there is still a local prevalence of family-sized farms. Ohio farms have an advantage in stability over most of the nation with the largest number devoted to general farming, dairying and the production of a great variety of relatively stable crops less subject to short-term price fluctuations. Income per acre is much higher than the national average and the Ohio farmer is able to produce more of his own food than the average for the nation.

In the Columbus region there is little land left to be developed for agricultural purposes. Some existing farm land will be lost to urbanization, but this constitutes no serious threat to the 12-county region since even the most populous county, Franklin, can expect to have little more than one-third of its area urbanized in the next 25 years. Climate and soils are generally favorable and with the need for food increasing throughout the world it appears that the central Ohio farmer is assured a steady future and the urban area assured the benefits of this stable source of economic strength.

Future Economic Base

It is not within the scope of this summary to attempt to predict the rise or fall of American economy or to speculate in dollars and cents as to what the future holds for Columbus. Those things which have been discussed do, however, indicate the position of Columbus relative to national and regional economy and give some idea of the type of city to which the planning program should be gauged.

Diversity and balance fortunately summarize the economy of the Columbus urban area--diversity of industry, balance between farming, manufacturing, trades and services. Nationally, the region possesses practically no faults. Whatever shifts there may be in the center of population and industry toward the south and west, Columbus will remain centered amid a vast array of markets and raw materials. Development of

[1] Consisting of Delaware, Fairfield, Fayette, Franklin, Knox, Licking, Madison, Morrow, Pickaway, Union, Hocking and Perry Counties.

the natural resources of Canada and the increasing importance of the lakes will doubtless affect Columbus, especially in the processing industries. The plant development of the Atomic Energy Commission to the south will be of economic benefit first as a new market, and later as a possible source of power.

Much of the recent increase in manufacturing may be attributed to utilization of the labor force left by Curtiss Wright and World War II in a period of rapid industrial expansion which was nationwide. The end of the Korean War is expected to bring something of the same type of readjustment as followed World War II so that it appears unlikely that the industrialization of Columbus will continue at the same rate for the next few years as it did for the last three. Naturally favorable location with respect to markets, together with the newly created labor force should, nevertheless, sustain a continued increase in the manufacturing labor force at least until the average for the state is reached, or until this force reaches about 40 percent of the total force. Such an increase in manufacturing is, of course, predicated on the country remaining free of a major depression and on continuing availability of properly serviced industrial sites.

Since local natural resources, except for water, have no longer much to do with location of industry in Columbus, the new industries to be expected will probably be of the processing type such as General Motors, Westinghouse and North American. Those industries requiring great quantities of water, such as paper manufacture, or very cheap natural gas, such as petro-chemicals, or industries which require local supplies of lumber need not be expected. Basic metals industries such as iron and steel production are also unlikely to choose Columbus. Large installations of these industries are already and fortunately located nearby in other cities. New steel mills are most likely to move toward new markets in the south and west and new sources of ores in Canada and South America.

The list of products to which the processing industries may devote themselves is endless and the number of employees per plant may vary from two workers to many thousands. Add to this diversity the stabilizing effect of local agriculture, a high proportion of educational and governmental employees, and the existing large number of small plants and Columbus should be assured a strong economic base in the future. To insure that this base remains strong and continues to progress, Columbus must capitalize on its existing and natural advantages

by aggressive action toward making the Columbus area a more attractive one in which to live and work. Industries are constantly giving more attention to local living conditions (including quality of residence areas, schools, parks, and so on) as a major factor in plant location. Furthermore, modern industry's tight production schedules and close watch on costs cannot tolerate transportation delays caused by congested streets and cramped railroad facilities. Development of adequate industrial and commercial sites fully served with necessary public services and facilities is an important community responsibility.

Every effort should be made to continue the pattern of diversity and to foster the development of small industries along with larger plants so that the picture does not become overbalanced in any one direction. The importance of Columbus as a cultural center for Ohio should not be overlooked in the fresh rush of industrial expansion. No matter how favorable natural conditions may be, much of the economic future of the city will depend on intelligent execution of the planning program, and success here depends upon the people of the community.

Summary

Presently strong by reason of diversity and balance, the economic base of the Columbus area appears capable of enlarging to sustain considerable urban expansion. A high proportion of small plants is engaged in a variety of of activities; large numbers of persons are engaged in governmental and educational activities; the wide trade area includes a rich and varied agriculture. All tend to provide unusual economic stability. Natural geographic advantages foster a continued expansion of processing industries, trade and total population, but continuation of the existing favorable economic pattern will depend largely on a community alert to the economic consequences of properly planned development.

POPULATION

Columbus is a growing community. It is the purpose of a comprehensive plan to provide a guide for this growth so that the basic pattern of population and land uses will be well adapted to good living conditions, economical public services and facilities, and easy communication between all parts of the city and its environs.

In order that the plan may be in scale with the actual needs and requirements of the future community there are certain fundamental questions which must be answered. What will be the population of the Columbus area ten or twenty or thirty years from now? How and where will this population be distributed? What will be--or should be--the major directions of growth? What will be the pattern and intensity of land uses brought about by the future growth?

Basic to the appraisal of the population and land use requirements is, of course, the economy of the city. As the capital of Ohio, the seat of one of the largest state universities, an important center of trade and a growing industrial community, Columbus has a varied and favorable economic climate. The further development of this economic base, particularly with respect to industry and trade, as discussed in the preceding section, will determine in large part the amount of the future population as well as the amount of land needed for business and industry along with residence and other non-residential uses.

Another fundamental consideration is how to provide effective guidance to future development so as to bring about a logical population and density pattern throughout the urban area. So long as inter-communication between parts of the city depended on walking or, later on, street railway transportation, urban development was continuous and quite compact. With the widespread and ever increasing use of the private automobile, however, the potential and actual area of urbanization in American cities has been so greatly extended that population has tended to scatter widely, creating an uneconomical land use pattern with vacant land interspersed between built-up sections, adding to the problems of transportation and making many public services and facilities unduly expensive.

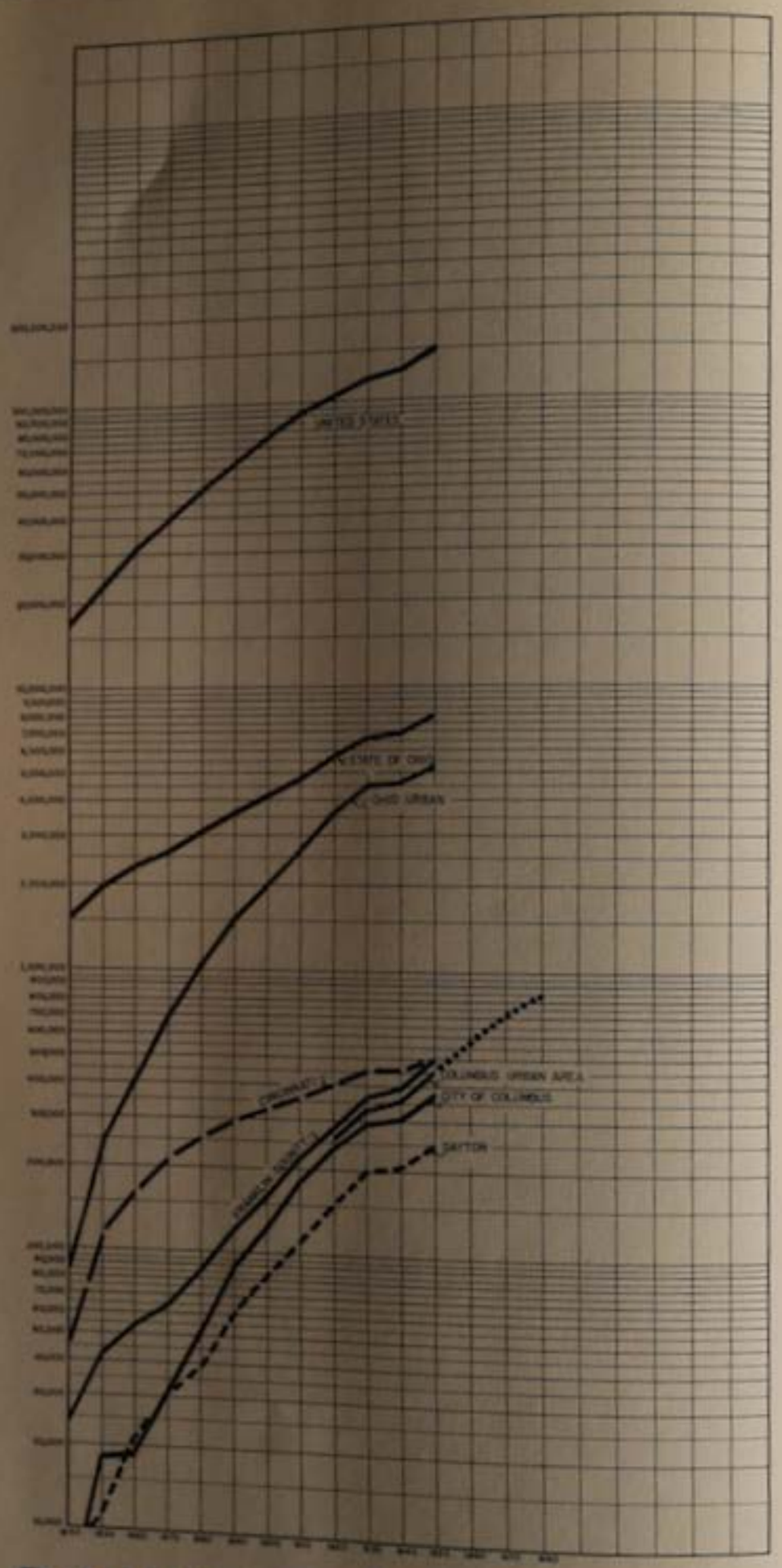
It is the purpose of this section of the current planning program to consider and evaluate these fundamental matters. Its findings and conclusions serve as a yardstick in determining the areal extent of the future Columbus

community as well as the size and location of the future public improvements needed to serve it. Unless public improvements are related to the amount and location of the future population, they may prove to be inadequate, or unnecessarily large, or poorly located, and wasteful in any case.

There is a definite relationship between the size of the population and the amount of land needed for the different urban purposes. Thus, the estimates of future population--its amount, distribution, and density--together with the economic base studies discussed in other sections provide the basis for the general land use pattern. This will serve as a guide for both private developments and the city's slum clearance and redevelopment program in determining the most appropriate land uses and the most suitable areas for residential, commercial, industrial and public purposes.

The estimates of the future population and its desirable distribution are based on examination of past and current trends in population growth and land development in Columbus and Franklin County and an appraisal of the future potentialities of the area. The latter will depend on basic industrial employment, wholesale and retail trade, the university development, government employment, and other factors discussed in the section on the economy of the city. National population trends will influence the growth of individual cities as well as states and regions and have been related to the growth of Franklin County and Columbus.

Obviously, any population estimate made for a generation or so from now may be upset by unpredictable economic or social upheavals such as a war or a major depression. For example, World War II and subsequent events have greatly changed the growth pattern of the late 1930's, reversing to a surprising degree the downward trend in birth rates and resulting in unexpectedly rapid growth of the country as a whole. Such events may speed up or retard population growth for awhile but the total growth over a long period of time can generally be forecast within reasonable limits. Further, since the forecasts are made for a period of several decades, necessary adjustments can be made from time to time by the staffs of the local planning commissions. The important thing is to set a reasonable scale for future urban development and public facilities and services, a scale in keeping with the community's prospects and potentialities. Then, minor adjustments can be made without serious disruptions or wholesale changes in the various phases of the comprehensive plan.



POPULATION GROWTH
THE COLUMBUS, OHIO AREA

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

HARLAND BARTHOLOMEW AND ASSOCIATES
CITY PLANNERS
SAINT LOUIS, MISSOURI

MARCH 1954

AMOUNT OF THE POPULATION

Past Trends in Growth

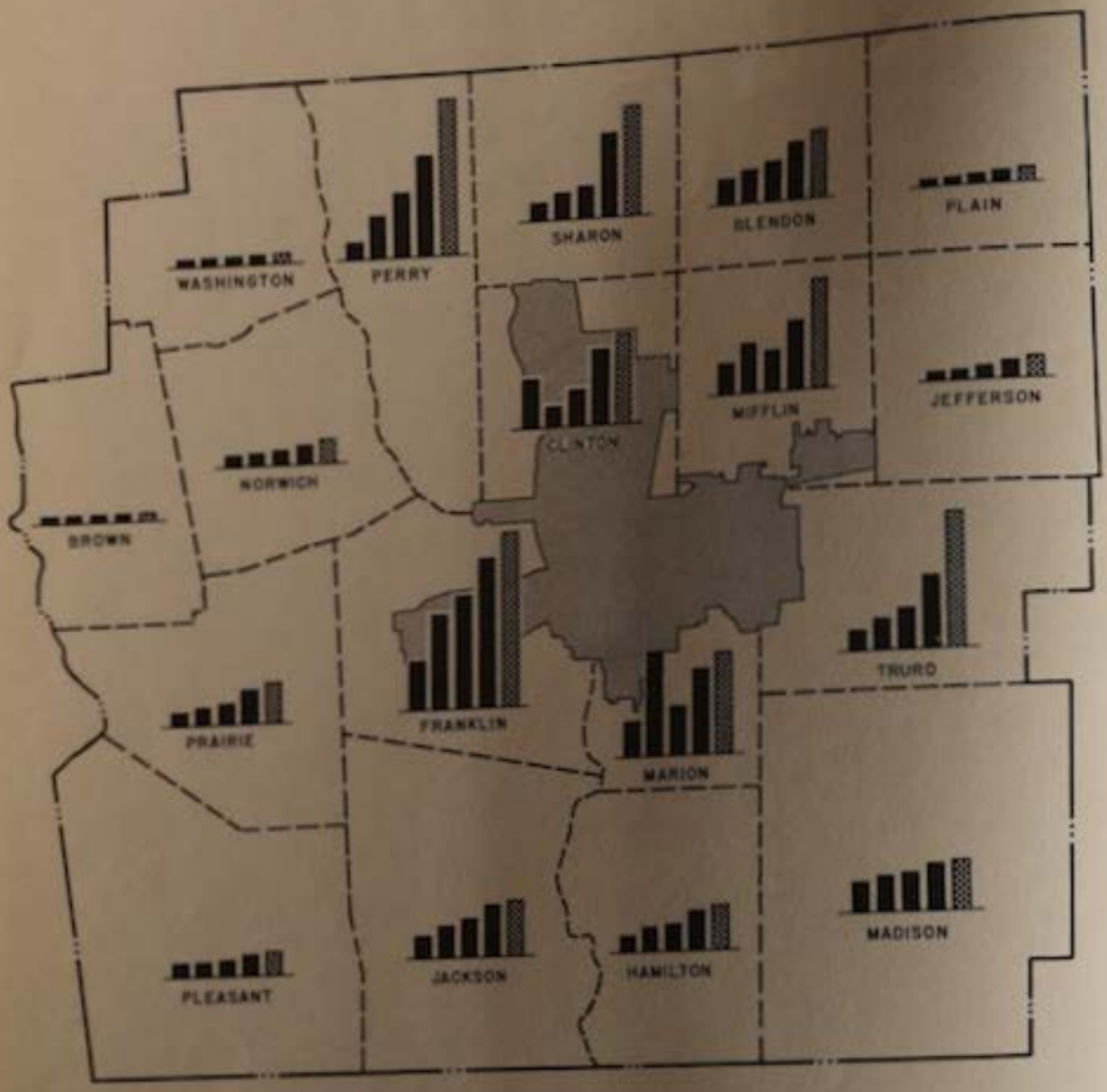
Past Growth of the City

Columbus has experienced rapid population growth for nearly 100 years, the only exception being the depression decade, 1930 to 1940, when the increase was a little more than five percent. (See Plate 5 and Table 5). Between 1900 and 1930 the city more than doubled its population, and during the twenty year period 1930-1950, it added almost 30 percent. On the basis of building activities since 1950, existing land uses, etc., it is estimated that the present Columbus population is approximately 411,000. This represents an increase during the past three and a half years of more than ten percent, and is a direct result of the accelerated business and industrial activities in the Columbus area described in the preceding section.

The growth of the city has generally paralleled the growth of other urban centers in the state. Since 1930, however, Columbus has grown somewhat faster than the average Ohio community, the rate of increase between 1930 and 1940 being over twice as high and the increase between 1940 and 1950 half again as high as that for Ohio cities as a whole. With the single exception of the depression decade, population increases in the city have consistently exceeded national rates by 100 percent or more between 1900 and 1920, and by nearly 50 percent since that time.

In comparison with the neighboring cities of Cincinnati and Dayton, Columbus exhibits a very favorable trend of population growth, having increased considerably faster for many decades than the larger and more mature city of Cincinnati and slightly faster than Dayton, which is an industrial center. In fact, recent population trends in Columbus are quite similar to the rate of growth of Cincinnati following the Civil War when the city was experiencing its most rapid expansion. The slowing down of population increases within the central city is characteristic of most large metropolitan communities due to the failure to expand city boundaries to encompass new developments. The City of Columbus is almost entirely built up now and relatively little growth may be expected inside the city in the future unless the present corporate limits should be extended. However, considering the accelerated industrial activity during and following World War II, as described in the section on the Economic Base, recent population trends may continue in the Columbus urban area somewhat into the future, although the rate of growth is more likely to slow down gradually in line with experiences in other communities and expected national population trends.

FRANKLIN COUNTY, OHIO



POPULATION GROWTH BY TOWNSHIPS

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

HARLAND BARTHOLOMEW AND ASSOCIATES
CITY PLANNERS
ST. LOUIS MISSOURI

MARCH 1954

PLATE 6

Table 5

PAST GROWTH OF POPULATION

	United States		State of Ohio		Franklin County			Columbus Urban Area			City of Columbus		
Year	Population	% Inc.	Population	% Inc.	Population	% Inc.	% U.S.	Population	% Inc.	% U.S.	Population	% Inc.	% U.
1900	75,994,575	20.7	4,157,545	13.2	164,460	32.5	.216				125,560	42.4	.16
1910	91,972,266	21.0	4,767,121	14.7	221,567	34.7	.241				181,511	44.5	.197
1920	105,710,620	14.9	5,759,394	20.8	283,951	28.2	.269	257,881*		.244	237,031	30.6	.224
1930	122,775,046	16.1	6,646,697	15.4	361,055	27.2	.294	329,839*	27.9	.269	290,564	22.6	.237
1940	131,669,275	7.2	6,907,612	3.9	388,712	7.7	.295	353,516*	7.2	.269	306,087	5.3	.233
1950	150,697,361	14.5	7,946,627	15.0	503,410	29.5	.334	457,754*	29.5	.303	375,901	22.8	.249

*Calculated from U.S. Bureau of the Census reports.

Past Growth

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Past Growth of Franklin County

The growth of Franklin County, while substantial, was less rapid than that of the city until about 1920. This marks the beginning of the automobile era when urban decentralization began to appear. Following 1920, the county has consistently grown faster than the city itself, the differentials between the two rates of increase gradually widening with each successive decade. This trend will continue as the very limited vacant areas within the present city are absorbed. It is estimated that Franklin County had a population of about 573,000 at the beginning of 1954.

Growth Trends Outside the City

Plate 6 shows the trends in growth of all townships in Franklin County since 1920. The relatively large amount of population in the townships immediately adjoining the city, and the marked growth of these areas in contrast with the more remote townships are immediately apparent. In 1920 practically all the county with the exception of parts of Clinton, Franklin, and Marion Townships was rural in character, only Clinton and Franklin exceeding a population of 5,000. By 1930, however, urbanization of additional areas had occurred. Franklin, Marion and Perry Townships more than doubled their populations during the 1920-1930 decade and Mifflin Township increased by over 50 percent. Each of these townships except Marion has grown rapidly since 1930. Truro Township has also increased rapidly since 1940 and the development of Whitehall. Clinton Township in 1930 and Marion and Mifflin Townships in 1940 suffered population losses due to annexations to the City of Columbus. Only three townships, Washington and Brown in the northwest and Plain Township in the northeast portions of Franklin County, have shown little or no population gains within the past thirty years, although several others such as Pleasant, Madison and Jackson Townships have grown relatively little during this period. It should be noted that four of the six townships containing more than 10,000 persons in 1954 include substantial incorporated areas, the two largest, Franklin and Perry comprising Grandview Heights, Marble Cliff and Upper Arlington respectively.

For purposes of comparison, trends in growth of the City of Columbus and Bexley are also shown on Plate 6. While population gains in the city have also been large, its rate of increase since 1950 has been considerably less than that in either Truro or Perry Township, somewhat less than the growth of Mifflin, and no greater than the proportionate gains in the other adjoining townships.

The Columbus urban area as presented in Table 5, includes the city, the adjacent incorporated communities and most of the remainder of Clinton, Franklin, Marion, Mifflin, Perry and Sharon Townships, embracing in 1950 almost 458,000 or over 90 percent of the total county population. The growth of this area since 1920 has almost exactly paralleled the growth of Franklin County as a whole. This is most unusual, the area of urbanization of most cities exceeding considerably the rate of growth of its more rural environs, and can be explained only by the substantial population increases which have occurred in such townships as Blendon, Hamilton, Jefferson, and Prairie which are mostly or entirely outside the present urban area. The city, of course, which is growing less rapidly than its urbanized environs, tends to decrease the over-all rate of increase of both the urban area and the County.

Ratio of Local to National Population

Trends in the proportion of the total United States population contained in Columbus, Franklin County and the Columbus urban area are also shown in Table 5. The percentages have gradually increased in each decade although the proportion within the city declined momentarily during the depression period. In 1950, Franklin County contained .334 percent and the Columbus urban area, .303 percent of the toal national population. These increases indicate favorable growth trends in the city and county and the probability of considerable additional growth within the future.

Probable Future Growth

The advantages inherent in Columbus's centrality of location, its growing industrialization, its position as the State Capital and seat of a major state university, and the relative stability and diversity of employment afforded by existing industries, all point to favorable opportunities for considerable continued growth of the community. Furthermore, the ratios of local to national trends, discussed above, indicate that prospects for future population growth within the Columbus area are even more favorable than those for the country as a whole.

Cities gain population primarily by migration from rural areas or from other cities rather than by natural increase of births over deaths, although the latter has an influence on the total growth. While such migration cannot easily be determined directly, it can be measured indirectly by

evaluation of long term population trends, particularly in relation to the national and regional growth. National population increments, depending almost entirely now on natural increase, are more easily determined from appraisal of long-term trends in age distribution, marriages, fertility and birth rates, mortality, etcetera, and several such estimates have been made by demographers for the Bureau of the Census.

Prior to World War II and the marked increase in marriages and births, it appeared that the population of the United States was approaching stability before the end of the century and would not greatly exceed 165,000,000 persons. Since the war, however, these forecasts have been revised several times in accordance with the current birth trends and each of these estimates has anticipated somewhat greater growth. The latest Bureau of Census estimate projected the future population of the United States on four different bases of fertility and immigration. The average of these forecasts indicates that by 1960 the population will reach 176,000,000; by 1970, 198,000,000; and by 1975, 210,000,000. Projecting these estimates to 1980 results in an estimated further increase to 220,000,000 population.

Using these estimates of the probable future growth of the United States, Table 6 has been prepared to show the effect of various assumptions of growth trends for the Columbus urban area.

As pointed out previously, the population of Franklin County and the urban area has gradually increased in proportion to the total population of the nation. The rate of increase was fairly regular up to 1930, static in 1940, and accelerated in the past decade. The three bases shown in Table 6 assume that the Columbus urban area will represent an increasingly larger portion of the population of the United States and that the rate of increase per decade will be:

(1) Equal to the average change per decade since 1920 (.020 percent)
(2) Equal to the change during the past decade (.034 percent)
(3) On a gradually declining basis from the 1940-1950 change to the 1920-1950 average (.034 to .020 percent)

These estimates indicate a range of 880,000 to 990,000 for Franklin County and 795,000 to 890,000 for the Columbus urban area by 1980. The estimate determined on basis (3)

would appear to be most probable in the light of economic trends and prospects since the unusual industrialization during and following the war is unlikely to continue at the same pace and may gradually slow down in the future. A population of 920,000 for Franklin County and 830,000 within the Columbus urban area, however, is believed to be quite possible.

While this is a substantial population increase amounting to approximately 315,000, or 60 percent in the total urban area during the next twenty-five years, it would not be unreasonable. It is logical that the comprehensive plan be based on a generous estimate of population since estimates which are too low may result in recommendations for future public improvements that are inadequate. On the other hand, if the estimated population is not reached by 1980, adjustments of the improvement program can be made from time to time and certain improvements deferred until actual growth warrants.

DISTRIBUTION AND DENSITY OF THE POPULATION

The location of the population, its density in different parts of the urban area and the concomitant land and building uses primarily establish the basic pattern of the community and largely determine its liveability and efficiency. If the distribution of population is well balanced and continuous and the arrangement of dwelling areas is well related to the areas for commerce and industry, public services and facilities will be economical and the whole community convenient.

Population densities may, and normally do, vary widely. Housing densities of up to 40 to 50 persons per gross acre are not necessarily excessive--good living environment under these conditions depending considerably on the design and arrangement of individual buildings. High density districts, however, should be centrally located, particularly with respect to transportation and public services and utilities--the ideal community pattern is one where residential densities decrease gradually outward from the central business district. On the other hand, a minimum population density of about five persons per gross acre is necessary to sustain the cost of urban services and such low densities are economically feasible only in expensive residence districts or well beyond the urban area, where complete urban services and facilities are not expected. Scattered developments are difficult and costly to provide with street paving, sewers, water, schools, recreation, police and fire protection, etc. and should be avoided at all times.

Present Distribution of Population

The present distribution of population in the Columbus urban area is shown on Plate 7.

The most striking single characteristic of the existing population pattern is the utter lack of balance between growth to the north and east and growth to the south. It is approximately nine miles from Broad and High Street to the north edge of the urban area of Worthington, over seven miles to the east boundary of Whitehall and only three miles to the end of continuous development at the city limits to the south. (Beyond the south city limits population has tended to scatter, mainly in three or four subdivisions). Growth to the west is also somewhat less, extending about five miles to the present corporate bounds, but the two major new industries and recent building activities in Lincoln Village have given impetus to residential expansion in the vicinity of New Rome, nearly seven miles from downtown Columbus.

Another salient feature of the present population pattern is the creation of large wedges of residential development, particularly to the north and west. West Columbus, Grandview Heights, Upper Arlington, and the two major segments of population between the Olentangy River and the New York Central and between the latter and the Pennsylvania Railroad, each constitutes a large urban agglomeration wholly or partly surrounded by open land. This is due principally to the existence of the four main waterways and the several railroad lines traversing the city's site which have served as partial barriers to lateral expansion and fostered uni-directional growth. Only to the east and south where these deterrents are absent has the city experienced more normal, better rounded expansion. Large public areas, such as the Ohio State University farm west of the Olentangy have also acted as temporary barriers to residential development, but these areas are located where they can eventually be circumvented and are not a disadvantage since they create desirable wedges of open space.

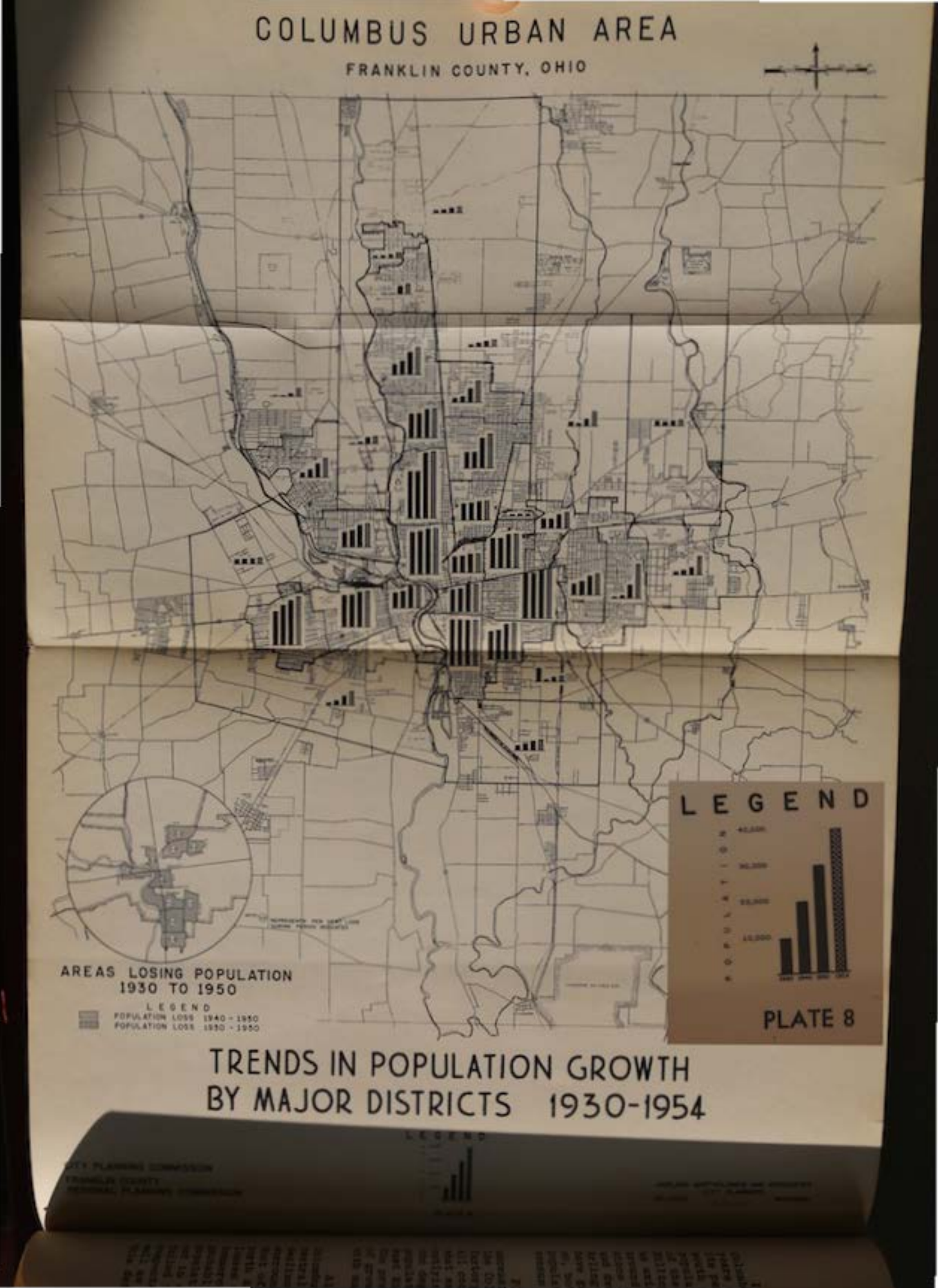
Except for the unfortunate marked lack of balance in the extension of urban development and what might be called a cleavage of residence areas, the present community pattern is generally compact and otherwise presents a rational population distribution. The city itself is exceptionally compact; the largest concentrations of population are to be found in the areas around the central business district, extending eastward to Franklin Park and north to the University, and the remainder of the population is spread fairly evenly outward. With the exception of the concentrations of population in East Columbus northeast of Bexley, and in parts of Whitehall and aside from the extreme unbalance, the present urban pattern is quite satisfactory. Building construction in Whitehall has been somewhat sporadic and uneven, but this district is still in process of development, and most of the existing vacant land will undoubtedly be absorbed. Population has also tended to scatter along some of the county roads and highways and in a few outlying areas, but this condition is less pronounced here than in many other communities.

Trends in Distribution - 1930 to 1954

Plate 8 shows graphically the population changes which have occurred throughout the Columbus urban area since 1930. This plate also shows the areas which lost population during the two decades 1930 to 1950. The districts indicated on this map are generally combinations of the official Census Tracts used in the 1950 census.

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



TRENDS IN POPULATION GROWTH BY MAJOR DISTRICTS 1930-1954

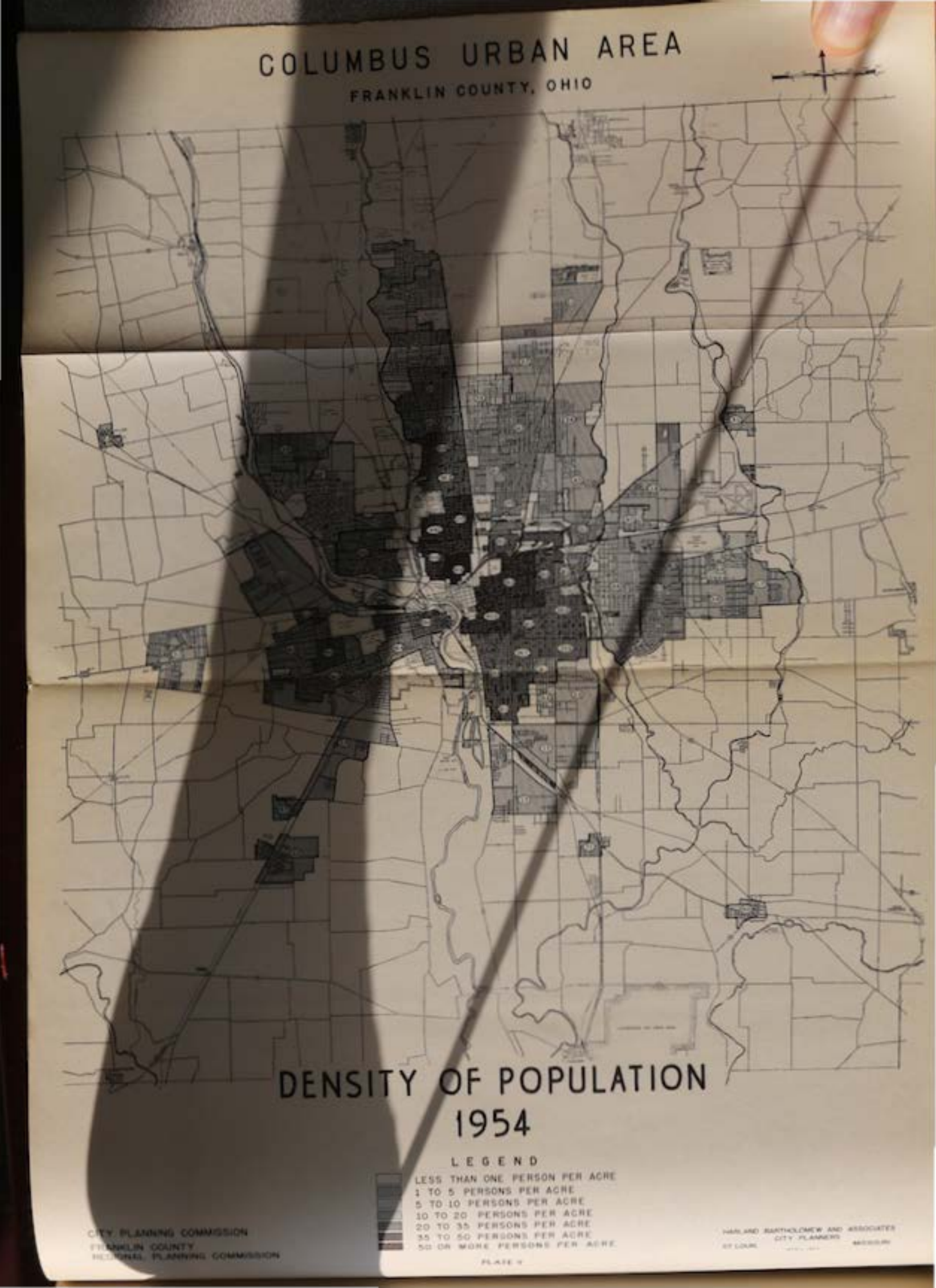
It is apparent that much of the existing City of Columbus has gained little or relatively little for many years and that most of the new growth has taken place at its periphery and in the adjoining suburbs. For example, south Columbus has experienced practically no over-all population change in 25 years, and the other older districts of the city have increased only slightly during this period. Hilltop, Bexley, and Grandview Heights have grown gradually as existing vacant land was occupied and the district around Ohio State University has increased substantially since 1940, due probably to increased University enrollments and dwelling conversions. East Columbus, Whitehall, Upper Arlington, and the districts at the north edge of the city have grown rapidly, particularly during the last ten years or so, both East Columbus and Whitehall having experienced population increases of more than 100 percent since the 1950 census alone.

Plate 8 gives further indication that apart from the excessive elongation of the population pattern to the north the Columbus community has followed a rational and satisfactory trend of growth. The centrally located districts all contain large populations; the intermediate areas somewhat smaller, though still substantial groups, and the outlying districts grade downward, depending on area and the degree of present development. The small amounts of population in the districts north of Upper Arlington, in east Mifflin, parts of Clinton Township and to the west of the present city indicate that relatively little scattering of growth has taken place in outlying areas in contrast with many other communities.

All of the population losses have taken place in South Columbus and a few other sections immediately around the central business district. Much of South Columbus has declined in population during the last two decades, the area surrounding Schiller Park having decreased nearly one-tenth. Most of the losses between 1940 and 1950 occurred in tracts north and west of the business district. While some of these losses may be explained by displacement of dwellings by commerce and industry; others, particularly to the south, are probably due to decreases in family size and the migration of population to the newer and less crowded surburbs. As pointed out in other sections of this report, south Columbus has failed to keep pace with the rest of the community in several respects and industrial expansion at the south of the city as well as residential regeneration will be needed to overcome this deficiency.

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



DENSITY OF POPULATION
1954

LEGEND

- LESS THAN ONE PERSON PER ACRE
- 1 TO 5 PERSONS PER ACRE
- 5 TO 10 PERSONS PER ACRE
- 10 TO 20 PERSONS PER ACRE
- 20 TO 35 PERSONS PER ACRE
- 35 TO 50 PERSONS PER ACRE
- 50 OR MORE PERSONS PER ACRE

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

HARLAND BARTHOLOMEW AND ASSOCIATES
CITY PLANNERS
ST LOUIS

PLATE V

Present Population Densities

The present densities of population by census tracts or districts within the Columbus urban area are shown on Plate 9. These were computed on the basis of gross acreage of the tract, including streets, churches, schools, small shopping centers, and the like, but excluding principal non-residential areas such as large institutions, and parks, industrial acreage, etc. Beyond the city and the several other incorporated communities, districts were selected which were generally defined by streets, railroads or other physical boundaries and suitable in size, population and other characteristics for ready comparison.

From the standpoint of over-all arrangement, the community's present population density pattern is a very rational one. The densest development--slightly over 50 persons per gross acre--is found in the district extending along High Street north of Union Station. Beyond this are substantial areas ranging in density from 35 to 45 persons per gross acre, running northward around Ohio State University and eastward from the central business district. While these densities are not excessive where there is a good arrangement of buildings with respect to trafficways and open spaces, the narrowness of existing streets, curb parking and close building construction in parts of the older sections leave something to be desired under present conditions.

Contiguous to the higher density areas and in parts of West Columbus, medium density districts of 20 to 35 persons per acre prevail. Most of the general section of the city between the Scioto River and Alum Creek lies in this density range. The remainder of the city has densities running from 10 to 20 persons per gross acre, exceptions being the two districts at the north end where development is not yet complete.

In general, the limited areas where population density has not yet reached 10 persons per gross acre contain vacant land which will undoubtedly be absorbed. Bexley is almost completely built up, but large portions of Upper Arlington, Whitehall and the section north of the city are yet to be used. Surrounding these unincorporated areas are many districts where urbanization is in some initial stage and development is scattered, ranging in density from one to nearly five persons per acre. The latter areas cannot be economically provided with urban services and facilities until considerable additional growth has taken place.

Factors Influencing Population Distribution and Density

Topography and Adaptation of Development to the City's Site

Topography has not influenced development in the Columbus area to the degree found in most other communities. The region is generally so flat or ground slopes so gradual that almost all the land can be used. However, as described above, the four principal streams--all flowing to the south--have had an effect on the urban pattern by inhibiting lateral expansion until such barriers could be bridged, thus promoting growth in elongated segments or wedges. The several railroads, almost unrestricted as to location because of the flat topography, enter Columbus from many directions, and the concentration of railroad trackage service yards and industries has tended further to segment the city.

As noted previously, the pattern of development to the south has not been satisfactory. Due to inadequate street access, some unattractive industries and other factors which will be described in subsequent sections of the plan, building construction in south Columbus has been deterred for many years, the area beyond Refugee Road being a haven for trailer camps, shacks, and poor dwellings in general. While well adapted for both industry and housing, this section has acquired a definite pyschological disadvantage which must be overcome along with physical deficiencies before a better balanced population pattern is possible.

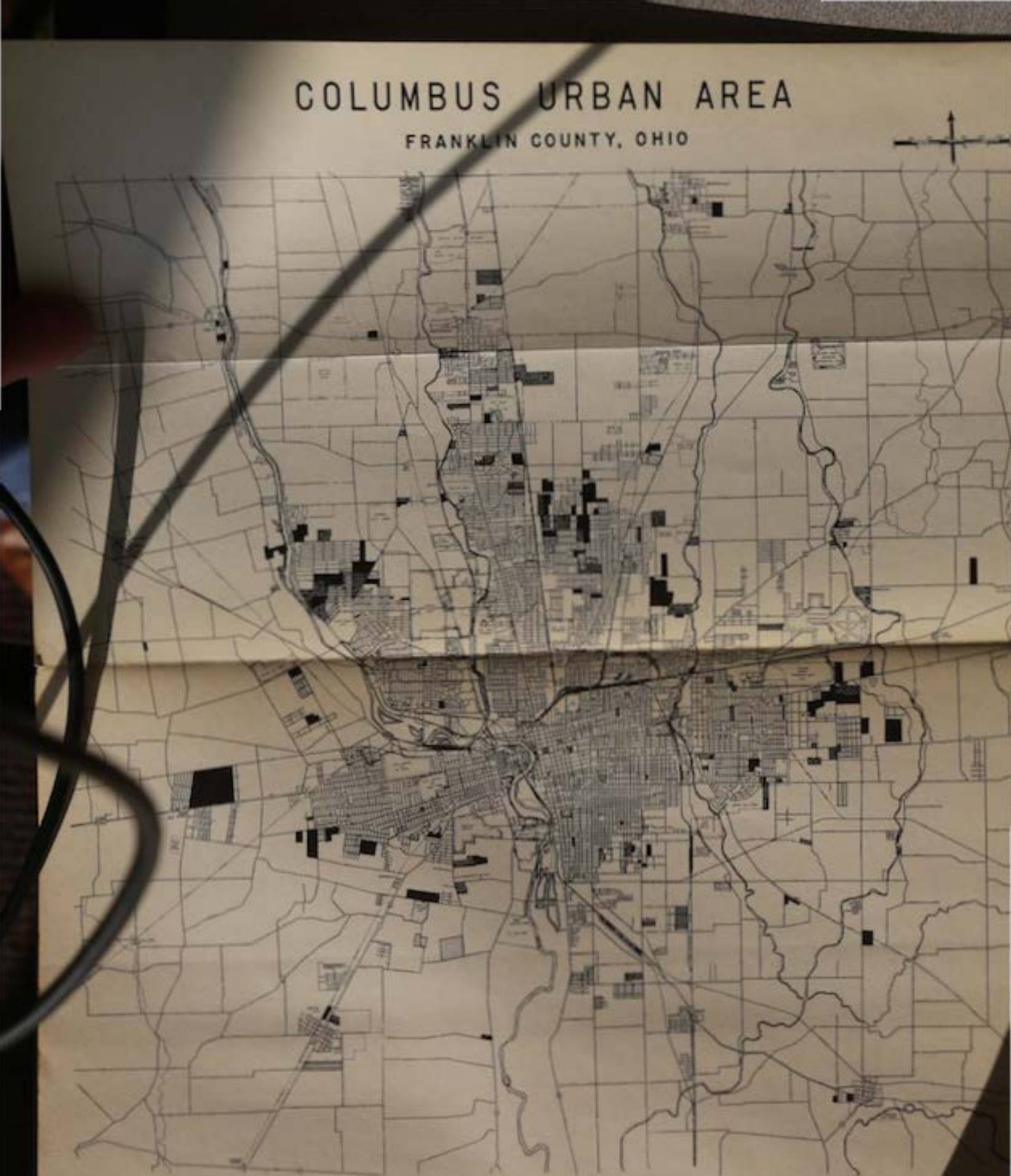
New Subdivisions

The location of new subdivisions within the Columbus urban area since the beginning of 1940 is shown on Plate 10. These are separated by periods--1940 to 1945, 1945 to 1950 and from 1950 to 1954.

The pattern of growth indicated by recent land subdivision practice is very logical. To a surprising degree these additions have tended toward the natural extension of existing development rather than the scattering of growth noticeable in many communities. Upper Arlington and North Columbus in particular, have confined land platting to the areas immediately adjoining the existing community, and the new developments in East Columbus and Whitehall are chiefly continuations of the present pattern. The only pronounced scattering of subdivisions has taken place south of the city in Marion Township and in Franklin Township east of U.S. 62, and most of these plats are small.

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



LOCATION OF NEW SUBDIVISIONS 1940 TO 1954

LEGEND

- SUBDIVISIONS RECORDED 1940 - 1944
- SUBDIVISIONS RECORDED 1945 - 1949
- SUBDIVISIONS RECORDED 1950 - 1954

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

PLATE 19

Factors Influencing Population Distribution and Density

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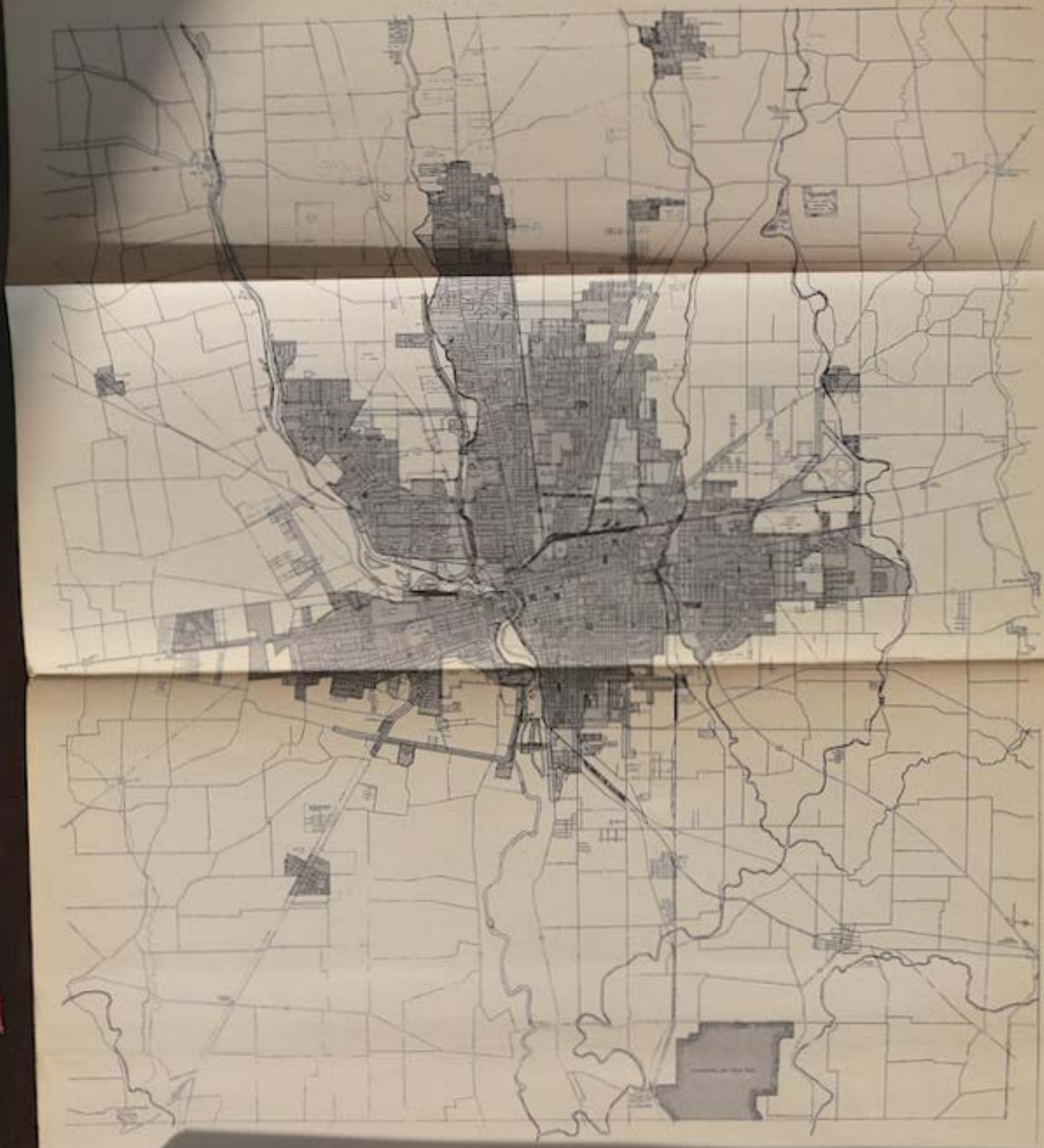
COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



AREAS SERVED BY SEWERS AND WATER

LEGEND

- AREAS SERVED BY BOTH SANITARY SEWERS AND WATER
- AREAS SERVED BY SANITARY SEWERS ONLY
- AREAS SERVED BY WATER ONLY

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

PLATE II

From the standpoint of building trends, land subdivisions have been fairly well distributed around the north and eastern periphery of the community, representing to that extent well-balanced growth, although considerably more activity to the south would be desirable. With the exception of Lincoln Village west of Columbus, new developments to the west as well as to the south have been limited. However, there have been several plats adjoining Hilltop in the last three or four years.

The total acreages of land subdivided during the periods shown on the map provide a general index to building activities and economic conditions. These were:

1940 - 1944	1712 acres
1945 - 1949	1850 acres
1950 - 1953	2725 acres
Total	6287 acres

While subdivisions averaged slightly over 350 acres per year during the decade ending in 1949, this has increased to 680 acres annually--a gain of more than 90 percent since 1950. These more recent projects have been distributed well around the periphery of the present urban area, by far the largest being Lincoln Village (394 acres) along West Broad Street.

Sanitary Sewers and Water

Sanitary facilities and a potable water supply are absolutely essential to modern urban living. The most common means of sewage disposal is, of course, the gravity system of sanitary sewers, although septic tanks or other individual sewage disposal devices may be satisfactory where development is spacious and soil conditions are suitable. Water can generally be supplied most economically and efficiently through a central distribution system, particularly where water purification or softening is required.

The portions of the Columbus urban area now served by public sanitary sewers and water lines are shown on Plate 11. Except for two or three small vacant areas which are not yet sewered, the City of Columbus is entirely served, and city facilities have been extended into practically all of the adjoining incorporated areas and parts of the contiguous townships. Bexley, Hanford, Grandview Heights, Marble Cliff, and Valleyview are completely served with city water and sewers, and all of Upper Arlington, Whitehall, Worthington and Riverlea also use city facilities, although small sections of the latter communities which are mostly vacant now have water only. Worthington has its own water system, and Grove City, Gahanna and a few other villages also have separate sewers and water.

Comparison of Plate 11 with the map showing present population distribution indicates the correlation existing between areas supplied with sanitary sewers and water lines and the location of urban development. Almost all the present population is encompassed within the area having both essential facilities and population outside this area has tended to scatter, especially to the south, in isolated subdivisions. Approximately 499,100 or 97.5 percent of the estimated 1954 urban population (513,500), is served by both sewers and water; 8650 or 1.7 percent have water only and about 650 or so use city sewers and a separate water supply. The remainder is served by wells and individual sewage disposal devices, including both septic tanks and outside privies.

The lack of modern sanitary facilities has obviously had its effect on the present Columbus urban pattern. This is undoubtedly one of the factors which has retarded growth to the south in Marion Township where sewers have been limited almost entirely to the line along Parsons Avenue and Lake Drive. A comprehensive sanitary sewer system adequate to meet the needs of the entire urban community for a generation or more to come, is under consideration now. The proposed new trunk lines--in addition to providing relief in some cases for existing overloaded sewers--will foster the growth of presently undeveloped areas such as the sections northeast and southeast of the city and help promote the filling in of the present uneven community pattern. However, careful programing of the building of these main sewers will be necessary to encourage development of the city outward as a natural extension of the existing area and to avoid undue scattering of population through premature construction of a particular line. There will probably be pressures from time to time to provide portions of the system ahead of the normal schedule in order to abet the development of specific areas. The final cost of constructing these lines piecemeal would undoubtedly be excessive particularly if temporary treatment plants are required, and such policies would tend to bring about an uneconomical population scattering rather than the compact, continuous community pattern which convenience and efficiency require.

Future Population Distribution

Since World War II and development of the atomic and hydrogen bombs, there has been considerable public discussion of the problems of national defense, particularly as they relate to urban decentralization and dispersal. Extreme

advocates of decentralization have even proposed the breaking up of existing large urban agglomerations and the re-housing of this population in smaller satellite communities surrounded by agricultural land and greenbelts. Theoretically, at least, satellite cities could be built which would be much more liveable and, of course, much less vulnerable to atomic attack than the present day metropolitan city.

Considerations of national defense are important and should be taken into account, particularly in the design of a new city. In a metropolis as large as Columbus, however, it would be prohibitively costly and from a practical standpoint, virtually impossible, to remove large segments of the community and to rebuild these segments at widely separated locations where satisfactory public facilities and services could be efficiently and economically supplied. Even in England,where post-war reconstruction has provided exceptional opportunities for urban development along the proposed new lines, the construction of new towns has been disappointingly slow.

This is not to say, however, that complete compactness of the city is the desirable objective of the planning program. Much can be done in Columbus by taking advantage of the rivers and creating additional wedges of open space such as already exist in University Farm and the State Hospitals on West Broad. The reservation of low-lying land along the principal streams for recreation, conservation, agriculture and similar open uses would provide desirable open space which would also serve as fire-breaks and tend to reduce potential bomb targets. Furthermore, the development of a better balanced distribution of major industrial centers throughout the urban area would serve purposes of defense as well as the fostering of a desirable pattern of growth. Both of these considerations have been recognized in determining a desirable population distribution for the Columbus urban area.

The desirable future distribution of population as of 1980 or so is shown on Plate 12. This map is general in character and is not intended to indicate exactly the number of persons that will be located in each block. For example, no attempt has been made at this time to determine the areas which should be used for schools, parks and other public purposes and which will be covered in later phases of the planning program. However, the general distribution is such that there will be adequate space for these facilities.

The proposed population pattern is based on a recognition of existing conditions, past growth trends, the location of existing and proposed community facilities, and the availability of vacant land suitable for residential development. It is designed to bring about better balance and a greater degree of efficiency than inhere in the present community. The proposed distribution is adapted to the creation of compact residential neighborhoods with their own schools, parks, shopping centers and other integrated public facilities. In general, the location of the future population is an extension of the existing development pattern. It differs from the present principally in the vacation of proposed industrial areas and a more even distribution of population especially to the south.

Within the present Columbus corporate limits an increase of only 20,000 has been contemplated. Usable vacant land inside the city is very limited and the small increments of population to be expected around the existing periphery will be partly offset by displacement of population by commerce and industry in other sections. However, there will undoubtedly be additional increases in some sections of the city, also due to further concentrations of population within those districts as the urban area grows in size. The various incorporated communities immediately adjoining the city, including Bexley, Upper Arlington, Grandview Heights and Whitehall, are expected to accommodate by 1980, some 72,500, which represents an increase over the present of about 21,000. The remaining 285,500 estimated to be added to the total Columbus urban population during the next twenty-five years or so would be located outside these existing incorporated communities in the general area extending from Walnut Creek on the east to New Rome on West Broad Street and from Granville Dublin Road to the upper reaches of Hamilton and Jackson Townships. Urbancrest, Grove City, Obetz and Minerva Park are also included in the general urban area.

The population pattern delineated on Plate 12 would be continuous and sufficiently compact to justify urban facilities without excessive service costs. All of this area lies within the bounds of the drainage districts which would be served by the system of main sanitary sewers now under consideration. While some population will inevitably locate beyond the urban area, as along existing highways and county roads, these dwellings should be sufficiently spacious to provide satisfactory sewage disposal and should not expect to receive the same standard of service accorded close-in areas.

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO

FUTURE DENSITY OF POPULATION

LEGEND

- 0 TO 1 PERSON PER ACRE
- 1 TO 5 PERSONS PER ACRE
- 5 TO 10 PERSONS PER ACRE
- 10 TO 20 PERSONS PER ACRE
- 20 TO 35 PERSONS PER ACRE
- 35 OR MORE PERSONS PER ACRE

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HARLAN [illegible] AND ASSOCIATES
[illegible] PLANNERS
ST LOUIS

PLATE 13

Future Population Densities

The population densities which would result from the suggested future population distribution are shown on Plate 13.

Inside the present boundaries of Columbus, except for districts at the north edge of the city and areas on the near west side, there would be few density changes from the existing pattern. The area around Goodale Park, which is now the densest section of the city, is expected to decrease slightly and areas in west Columbus extending generally between the Scioto and the state institutions are expected to gain. The districts at the northern periphery of the city which are still undergoing development would have population densities somewhat over 10 persons per gross acre.

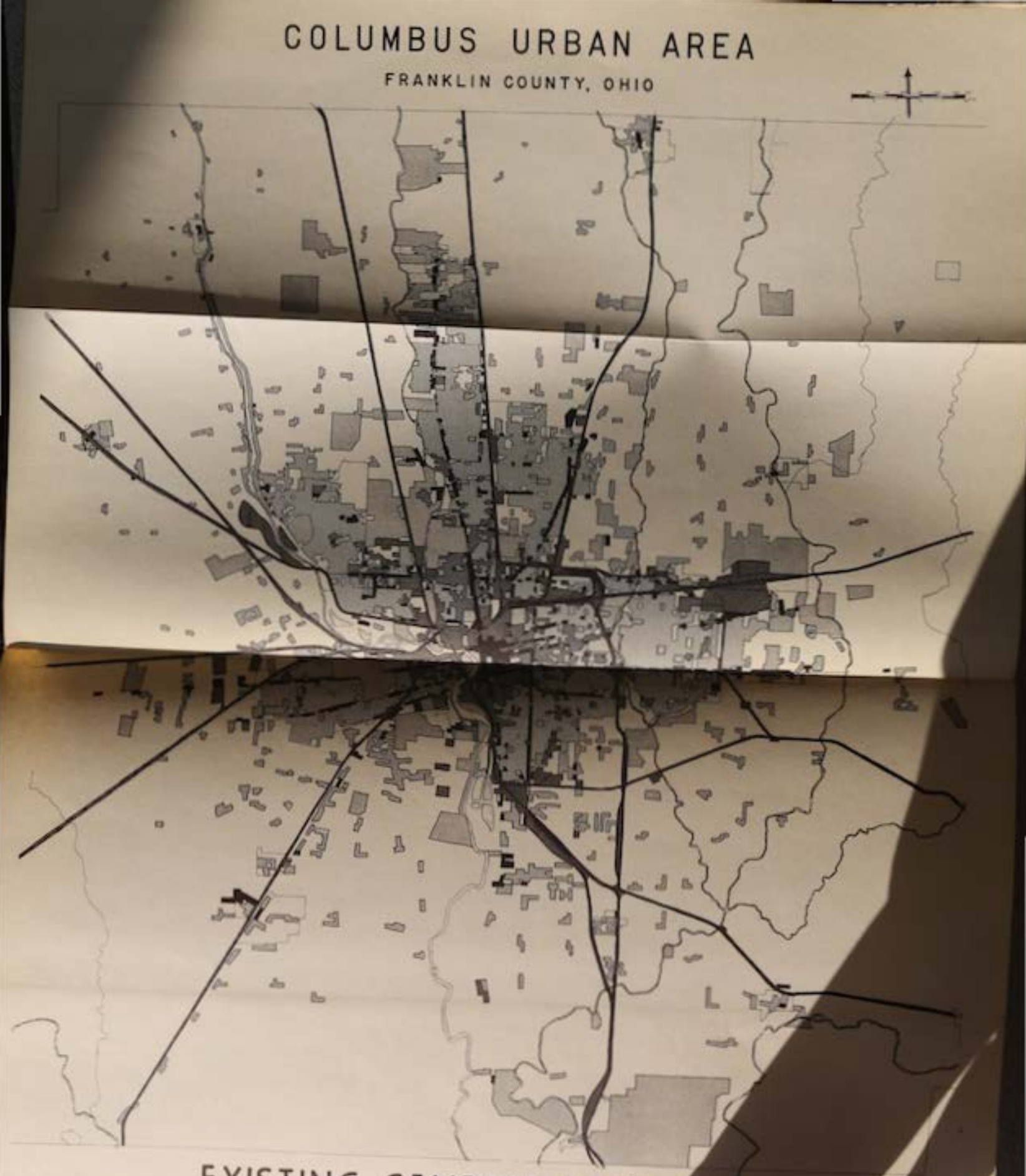
The pattern of the other incorporated communities would remain approximately the same. However, a substantial population increase is anticipated in Upper Arlington even though this would not change its present density category, and Whitehall would show considerable density gains when presently undeveloped areas are fully occupied.

Outside these communities most of the urban area would have a density of 5 to 10 persons per gross acre, but Lincoln Village and parts of Marion Township are expected to be built up somewhat more intensively, based on prevailing lot sizes and their potential capacities. The areas shown on Plate 13 in the one to five person per acre range are of generally rolling or rugged topography which is adaptable to estate or suburban types of development rather than small building lots.

As is apparent from the plate, the future density pattern would be a most logical and rational one. High population densities would be confined to a central core more or less surrounding the downtown business district. Medium densities between 20 and 35 persons per gross acre would be found in most of the older portions of the city where close building construction has occurred, and lower densities would prevail out to the edge of the future urban area. Such an arrangement of the population would have many advantages in good transportation, convenient residential neighborhoods, and economical community facilities. It can be brought about by following a definite land use plan and a definite planning program. Failure to do this can only result in uneconomical scattering of the population, higher public service costs, a lower standard of community facilities and services and aggravation of the physical and fiscal problems which already beset Columbus as well as other large urban communities.

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



EXISTING GENERAL LAND USE

LEGEND

- ONE AND TWO FAMILY RESIDENCES
- MAJOR MULTIPLE DWELLING AREAS
- COMMERCIAL
- INDUSTRY AND RAILROADS
- PUBLIC AND SEMI-PUBLIC

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PLATE 14

GENERAL LAND USE

Viewed broadly, it is the land use pattern of the community which determines its over-all efficiency. The locations of the different kinds and types of urban uses and the intensity with which specific areas are developed fix the population distribution and density and the general arrangement of the city. It is this arrangement of residence neighborhoods, industrial and commercial centers, the down-town business district, major public areas, etc., which establishes the basis for the street and thoroughfare system, transportation and the various local service facilities. The pattern of land uses, therefore, provides the physical foundation of the city.

Existing Land Use

The pattern of existing land uses within the Columbus urban area is shown in a somewhat diagrammatic manner on Plate 14. Because of limitations imposed by scale and the means of map reproduction, only the general extent of the major residential, commercial, industrial and public or semi-public areas has been shown. Except for residence uses, no attempt is made to differentiate between divisions of the land use categories, as between light and heavy industry, or public and semi-public property. Two types of residence areas are indicated, however, those occupied predominantly by one and two family dwellings, and those devoted to multiple housing units. Areas which are quite scattered and agricultural or vacant land have been omitted from the map.

Within the present corporate limits of Columbus, the existing land use pattern is virtually complete and very compact. Vacant land is extremely limited, consisting mainly of small scattered areas at the north edge of the city and in East Columbus. These areas, including some unusable land, comprise only 7.5 percent of the total city. The unused area adjoining the State Fairgrounds will be absorbed by the contemplated Fairgrounds extension. A large part of the present city is occupied by multiple housing, which extends generally east and south for a square mile or more around the central business district and includes over half the area between Union Station and Ohio State University.

The various incorporated communities immediately adjoining the city are also relatively compact. Bexley and Marble Cliff - Grandview Heights are almost completely developed and Upper Arlington, except for a few small vacant areas and the large section between Northwest Boulevard and the University Farm

south of Fishinger Road, is practically built up. There is still limited room for expansion, however, in portions of Riverlea - Worthington and the unincorporated areas to their south, and most of Whitehall is yet to be occupied. Beyond the main body of urbanization, development has tended to scatter widely. Small clusters of homes are to be found along most of the principal highways and many of the county roads as well as following the upper Scioto, the latter consisting generally of more spacious, estate properties.

One of the salient characteristics of the existing land use pattern is the large amount of ribbon commercial development. While this is characteristic to a greater or less degree of most American cities, the trend toward strip commerce in Columbus has been especially pronounced, much beyond the average in most cities of this size. North High Street, Cleveland Avenue, East Main Street, Parsons Avenue and West Broad Street are almost completely occupied by business establishments and such other arteries as Sullivant Avenue, Livingston, Mt. Vernon, Long Street and West Fifth Avenue are substantially taken over by commercial enterprises. More recent trends in Columbus, as elsewhere, have been in the direction of the more compact, concentrated shopping center, but, even in this respect, the city has gone beyond most other comparable communities in the construction of five or six major marts, each comprising from 40 to almost 100 establishments. Due to the exceptionally large amount of commercial zoning, scattered stores are also found in many areas which are predominantly residential. While strip commerce will be difficult to change now, most of the scattered commercial development should eventually be abandoned in favor of the strategically placed consolidated center.

Another striking feature of the existing urban pattern is the large number of railroads entering the city, which together with the various railroad yards and adjoining industries tend to bisect Columbus. These railroads serve as serious barriers to traffic circulation, particularly in a north-south direction, and cause numerous street crossings at grade, which are both a hindrance and hazard to vehicular movement. In combination with industries, the railroads have also interfered with residential development in several locations, creating small pockets of generally poor housing, as along East Fifth Avenue and parts of west Columbus. Industries have tended to cluster along the railroads mainly within the center of the urban area, although a desirable new industrial district has been established around the Westinghouse and General Motors plants west of the city and a number of industries are located along the New York Central and C. & O. Railroads to the south.

In addition to normal industrial uses, there are several substantial areas--outside the city but well within the urban area--which are used for the extraction of native materials. The largest of these is an area of considerable size between Dublin Road and the Scioto River which is devoted to the mining of limestone. Other areas, notably south of the city along Chillicothe Road and the Scioto River, are used for the extraction of gravel. Removal of these materials has created extensive areas of depleted land which is no longer suitable for any building purpose. While portions of such property are adaptable to recreation, as the creation of lakes for water sports and fishing, or other public uses, careful control should be exercised over this type of operation in the future to avoid further spoliation of desirable urban land.

Residential areas, in general, have followed a compact and reasonably logical pattern. Multiple dwellings, as mentioned before, have located primarily within the central section surrounding the downtown business district and to the north around Ohio State University. As in other communities, however, there has been a scattering of multiple dwellings also, notably in the districts adjoining Grandview Heights, north of Ohio State University, and along East Broad Street, as well as in parts of East Columbus and Hilltop. One and two-family residences predominate in Hilltop, a large portion of central and east Columbus, and in practically all of the areas north of Ohio State University and the State Fairground. The various incorporated communities around the city are almost entirely one and two-family in character. Upper Arlington and Bexley have many fine single family homes and Worthington, Riverlea and Marble Cliff possess attractive residence districts.

Whitehall, on the other hand, is not developing in a completely satisfactory way. Different parts of this village vary markedly in housing densities and property at the west along Maplewood, Collingswood and Robinwood Avenues is platted in very deep lots which preclude the desirable use of much of this land. A large part of Whitehall is still unused, but existing vacant areas will undoubtedly be absorbed under the normal processes of building construction since this is still a young community.

Residential developments have tended to scatter outside Columbus and the other incorporated communities, as stated before. While this scattering is by no means limited to any one township or any one segment of the urban area, it is noticeably more pronounced to the south of the city. Much of the residential building south of Columbus in Marion

Township and beyond is poor, consisting of shacks, modified trailers, and jerry-built homes. This is most unfortunate since it has placed a stamp of undesirability on a large district which is well located with respect to the rest of the community and where full development is needed to provide for balanced growth. A major objective of the planning program should be elimination of substandard dwelling units and gradual rehabilitation of this area as a whole.

While they are not shown separately on the Land Use Map, many trailer camps are to be found in Marion, Clinton and Franklin Townships and along East Main Street in Whitehall. These trailer camps are not attractive neighbors to other residence districts, create special service problems, and are difficult to integrate into the community as a whole. They should not be permitted to locate helter-skelter, but should be grouped, where possible, with their own utilities, adequate open spaces and satisfactory access roads.

Despite the deficiency of large parks and recreation areas in general, the Columbus urban area is considerably above average in the extent of public and semi-public property. This is characteristic of capital cities and here is due principally to the large areas occupied by Ohio State University, the University Farm, the State Hospital and Institute on West Broad Street, Port Columbus, the State Fairgrounds, etc. With the exception of University Farm, none of these has served as a barrier to urban expansion, and the latter is not insurmountable--growth north of Upper Arlington in the future will undoubtedly continue around the University property.

Amount of Land Used

The amount of land used for the various urban purposes is directly related to the population of the community. The areas of different land uses within the City of Columbus, the other incorporated communities, and the remainder of the urban area are shown on Table 7. For purposes of comparison as well as to provide a basis for determining future urban needs, the percentage of the total developed area occupied by each of the major land use categories and the acreage per 100 persons of present population are also shown.

Within the existing Columbus city limits, a little more than two-fifths of the total developed area is used for residence purposes. This is comparable with the ratio of residence development found in many other cities of similar size, although the percentage of land devoted to one and two-family dwellings is slightly lower and the proportion of

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the city in multiple dwellings about twice as high as that in the average city. More than one-fourth of Columbus is used for streets and approximately one-seventh for commerce, industry and railroads. These figures are also comparable with the ratios in other communities for which information is available. However, despite the large area of public property, only one-seventh of the total city development is devoted to public and semi-public uses, which is less than the proportion (about one-sixth) found in the average city and indicative of the relatively small area in Columbus set aside for parks and other recreation purposes. The high degree of land utilization within the existing corporate limits is shown by the very low proportion of the city (7.5 percent) now vacant. This, of course, varies greatly in individual communities, but the percentage in Columbus is less than one-third of the overall average found in eleven other large self-contained cities.

The distinctly residential character of the incorporated areas around the city is obvious from the high proportion of land--well over half-occupied by one and two-family homes in these communities. The percentages of land occupied for various urban purposes within the unincorporated portions of the urban area are influenced somewhat by the very large average of public and semi-public property. There is, however, a substantial amount of commerce and industry, including drive-in theatres, trailer camps and land excavation, outside Columbus.

It is evident from the relationship of land use areas to population that existing development is much more intensive inside the city. Less than six acres per 100 population are occupied by all urban uses inside the Columbus corporate limits, compared with nearly 12 acres per 100 in the incorporated areas around the city and more than 26 acres per 100 persons in the unincorporated part of the community. Well over half the latter is used for public purposes and streets. Considering the community as a whole, the present urban population uses only 8.4 acres per 100 persons.

Residential development inside Columbus is very compact, requiring only 2.5 acres per 100 population in contrast with 6.8 and 6.0 acres respectively in the incorporated and unincorporated areas outside the city. The higher figure for the incorporated communities is somewhat unusual and may be explained by the relatively spacious developments in Upper Arlington and Bexley. As might be expected, the ratios of commercial, industrial and railroad land increase substantially in relation to population outside the city, due partly to

trailer camps, drive-ins, and similar extra-city commercial establishments, and the more open construction of outlying business or industrial developments, and partly to the relatively small population outside versus inside the city.

Comparison of the land use ratios in Columbus with those found in a number of other cities is shown in the table below:

	Developed Land-Acres per 100 Persons		
Use	Columbus	Columbus Urban Area	Average of 11 cities
One and Two Family Residence	2.10	2.94	2.26
Multiple Dwelling	.43	.37	.20
Commercial	.25	.34	.20
Industrial and Railroads	.65	.68*	.71
Public and Semi-Public	.88	1.71	1.09
Streets, Alleys and Roads	1.63	2.20	1.65
	5.94	8.24	6.11

*Not including land excavation

While residential development in general within the City of Columbus is reasonably comparable with that in the average city, the ratio of land used for multiple dwellings is twice as high, due no doubt to the number of apartments and boarding houses occupied by students at Ohio State University and by government employees. The city's position as a commercial center is evident. Industrial development is a little below average, as pointed out in the section on the Economic Base, but recent trends have indicated that a substantial future increase may be expected. Despite a deficiency in parks, the much larger than average amount of public land provides an index to Columbus's importance as the seat of government and education in the state.

Future Land Use

There is a definite relationship between the population of a community and the area of land which the various types and kinds of urban development will require. However, in

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO

GENERAL LAND USE PLAN

LEGEND

- MAJOR COMMERCIAL CENTERS
- RAILROADS AND INDUSTRY
- PUBLIC AND SEMI-PUBLIC
- RURAL
- SUBURBAN
- LOW DENSITY RESIDENCE
- MEDIUM DENSITY RESIDENCE
- HIGH DENSITY RESIDENCE

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estimating the future needs of the community, existing land use ratios must be revised to take into consideration modern building trends and probable future changes in land occupancy. For example, recent trends in commercial and industrial development have altered the areas needed for new business establishments. The modern, consolidated shopping center with off-street parking requires considerably more land than the aggregate of equivalent scattered stores, and even within the downtown business district substantial areas are needed for parking lots, garages and other terminal facilities. Modern industrial building is tending toward single story, horizontal construction with the employee parking lot, which often requires an area of 50 or 100, or in exceptional instances, several hundred acres or more to allow for landscaping, and ample future expansion of the plant. The trend toward greater spaciousness has also affected the areas needed for residential construction, with appreciably larger lots and wider yards and open spaces. The trend toward reduction in family size which has been taking place for several decades will also influence the area of land needed for residence purposes by requiring more dwelling units to accommodate a given population. Opposed to these factors which tend to increase the ratio of land used is, of course, the opposite tendency toward more intensive use of urban land, particularly within the central city, as the over-all population grows.

The Future Land Use Plan

The general pattern of land uses proposed for the future Columbus urban area is shown in a diagrammatic manner on Plate 15. This is designed to accommodate the estimated 1980 population of some 830,000 persons. In designating specific areas for residence, industry, commerce, or other uses, due consideration has been given to existing development and the need or feasibility of altering the present land occupancy. For example, a much greater extent of the existing strip commercial areas is shown than would be desirable, but it is recognized that much of the pattern of the present ribbon development is so firmly fixed that little can be done to eliminate it. In the allocation of districts for residential use, dwelling areas have been placed in four main categories, based on dominant dwelling types and the density of development. These are:

(1) High Density Areas (more than 35 persons per gross acre), consisting principally of multi-storied apartments and large scale housing projects.

(2) Medium Density Areas (20 to 35 persons per gross acre), comprising two-story group housing, four-family apartments, intermingled one and two-family dwellings.

(3) Low Density Areas (5 to 20 persons per gross acre), one and two-family residences, with one-family predominating.

(4) Suburban (1 to 5 persons per gross acre), spacious single-family development.

The central business district, which has been enlarged slightly, will continue to serve as the heart of the urban area. Surrounding this district are the areas proposed for high density dwellings, including close-in elevator apartments and group housing projects. The high density districts comprise largely the areas where multiple dwellings are already dominant, with consolidation and some enlargement of the existing areas to provide for well-rounded residential neighborhoods. Parts of these districts are poor and will require rebuilding in the future, two of the areas--north of Goodale Street and in the vicinity of Central Market near Fourth and Rich Streets--being under consideration in the city's present slum clearance and redevelopment program. A large amount of land, embracing practically all of the remainder of the city between the Scioto River and Alum Creek and including smaller areas along Northwest Boulevard; to the north of the University; in part of Whitehall; and in West Columbus, would be allocated to medium housing densities. These districts comprise many of the older sections of the community where lots are small and close building construction originally occurred and a few new areas such as Whitehall where two to four-family dwellings have been built. The latter areas have been extended or enlarged to create integrated neighborhoods.

A portion of the city--notably North and East Columbus and much of Hilltop--and most of the remainder of the urban area have been reserved for low density development, principally single-family homes. The several incorporated communities outside Columbus are distinctly single-family in character and these neighborhoods should be preserved and protected as areas of good housing. There is no need to develop high population densities remote from the central core of the city and continuation of existing development at population densities of 5 to 10 persons per gross acre would be sufficient for economical services and utilities as well as good thoroughfares, parks and schools.

A few areas designated as suburban consist generally of rugged or rolling land which is not suitable for small building sites or which has already tended toward the estate type of home. These would comprise lots of a half acre to several acres or more and would not require sanitary sewers, or types of urban services necessary for normal urban development.

In the allotment of areas for industry, a conscious effort has been made to provide a balanced distribution of major employment centers. The growing traffic congestion and the inadequacy of existing streets have made the reduction of travel distance a necessity if good living conditions are to be had. While existing railroads and the flat topography of the land provide almost unlimited potential industrial sites, a number of strategic locations have been selected in widely separated sections. In addition to recognizing the present central industrial pattern, considerable enlargements of existing districts have been recommended in the vicinity of the new Westinghouse - General Motors plants on West Broad Street; in South Columbus and Marion Townships; in the area south of Port Columbus; and between the Pennsylvania Railroad and 17th Avenue in Clinton Township. Parts of the latter are partially developed with substandard housing, which would have to be cleared. Besides these major industrial districts, smaller industrial areas are proposed to the north of the city along Innis and Cleveland Avenue and along Morse Road; at the crossing of the New York Central and Pennsylvania Railroads beyond Trabue Road; at the intersection of the New York Central lines south of Livingston Avenue, and at several other points.

While the proposed land use plan recognizes most of the existing extensive strip commercial development along North High, Broad, Main, Parsons and other streets, only the principal commercial centers--most of them already developed, at least in part--have been shown, and no attempt has been made to designate local shopping districts beyond a few areas already occupied. In certain sections of the urban area proposed for future growth, shopping centers have been suggested but these locations are general except where existing commercial establishments have already fixed the pattern. Additional local business districts should be designated in carefully prepared zoning regulations.

Existing large public and semi-public areas are shown on the proposed land use plan but no attempt has been made to allocate additional sites with the exception of the extension of certain existing areas and a few new parks and playfields. (School sites, small parks and playgrounds will be studied in detail and recommendations made in a later phase of the planning program). However, low-lying areas along the rivers and creeks and other land unsuitable for building purposes have been indicated diagrammatically, primarily to call attention to the necessity for restricting urban types of development at these locations. Portions of this land are desirable, and should be used for public recreation; other areas may be forested or used for agriculture, etc. The land now being depleted by limestone quarrying, the extraction of gravel or similar operations, possesses a special development problem since excavation usually proceeds to a point where only a deep, wide pit remains. This land also is unsuited to any urban purpose except perhaps certain types of recreation as in the creation of artificial lakes or in land fill operations and the like, and has been designated on the plan for eventual public ownership.

The approximate areas allocated in the proposed plan for the major types of land use are shown in Table 8, along with existing areas. In order to facilitate comparison, an estimate was made of the acreage of streets and thoroughfares presently within the residential, commercial, industrial and other districts comprising the existing land use pattern, and the figures previously given in Table 7 were revised accordingly to indicate the gross areas alloted to each use. The present and proposed future land use ratios of area to population are also shown in Table 8.

Existing development within the Columbus urban area requires some 44,000 acres, or 8.6 acres per 100 population. (This differs from the figure of 8.4 acres per 100 listed in Table 7 because of the inclusion of water areas.) The future pattern of land uses shown on Plate 15 embraces an area of approximately 116,000 acres, or 14.0 acres per 100 future population. This is, of course, a very substantial increase, which should be more than ample to accommodate the expected growth of the city for the next twenty-five years, even though more spacious and extensive types of development are anticipated.

The areas designated for residence purposes aggregate about 9.7 acres per 100 persons, which is nearly double the existing acreage. While the 1980 and 1954 figures are not completely comparable with reference to density categories due to classification of existing areas by types of dwellings (one and two family and multiple units), the low density residence districts would be over two and one-half times as extensive as existing one and two-family areas, and considerably more than 2700 acres would actually be available for multiple unit dwellings within the high, and in part the medium, density areas proposed in the 1980 plan. Nearly 14,000 acres are set aside for suburban homes, which, of course, are not expected to require urbantypes of public services and facilities.

Over 300 acres are allocated to the central business district. This would allow for reasonable expansion of business and commerce, in addition to areas for off-street parking, although future development is more likely to consist of improvement or replacement of existing buildings than substantial expansion of the present area. Competition between outlying shopping centers and downtown establishments is strong in Columbus, and a very considerable improvement in the appearance, accessibility and convenience of the whole central district will be needed if this area is to hold its own in the future. This problem will be discussed in greater detail in connection with other phases of the planning program.

While the areas designated for commerce in the proposed plan are about 900 acres more than the areas already used (the 1954 figures include the central business district), it should be noted also that most local shopping centers have been omitted from the plan, partly because of the scale of the map, and partly because a detailed study of specific neighborhoods will be required later to determine such districts.

Over 13,000 acres are set aside for industry and railroads, approximately three times the area now in use. The ratio of 1.6 acres per 100 future population is 75 percent larger than the present ratio and considerably higher than that now found in most American cities. Even considering present-day trends toward large industrial sites, employee parking, etc., the allotted acreage should be more than ample for a community of 830,000.

The increase in public and semi-public property is due primarily to the land comprised in the areas now being depleted by limestone or gravel extraction and low-lying land along the major streams which are recommended for public ownership or reservation since they are unsuitable for building construction. All of this territory may not be publicly acquired although portions of both types of areas can be utilized effectively for some forms of recreation. In addition to these areas, a substantial acreage of public parks and recreation facilities will be needed to do away with present deficiencies in this respect, as well as to meet future demands, and new school and playground sites will be required as the community grows. Specific recommendations as to schools, parks and recreation will be made in a later phase of the planning program.

WAYS AND MEANS OF BRINGING ABOUT THE DESIRABLE POPULATION AND LAND USE PATTERN

The desirable population and land use pattern described in the foregoing is a primary objective of the planning program. It will not, however, come about either by preparing the plan or by the normal processes of unguided urban growth. It is evident from the present arrangement of population and land uses in the Columbus urban area that the city has not grown entirely satisfactorily in the past, even though it compares favorably with most other American communities of similar size. A well-balanced community pattern can be brought into being only by conscientiously following over a long period of years a predetermined, carefully thought out community design. This will require the earnest efforts and sincere cooperation of public officials and the public as a whole in providing improvements and services and in carrying out individual development projects directed toward ultimate fruition of the plan.

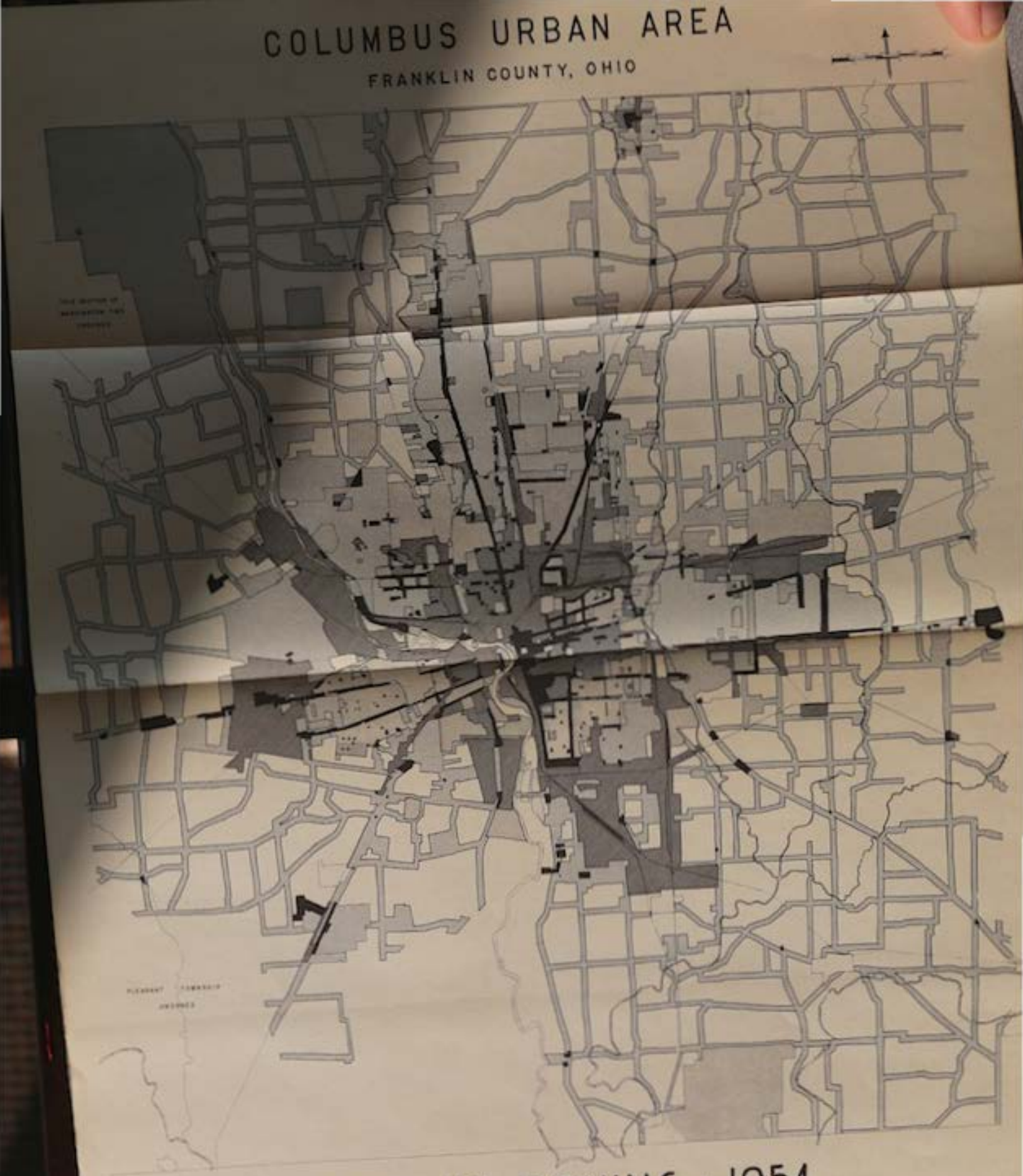
The extent to which the proposed future pattern of population and land uses is actually developed will depend largely upon the local governmental agencies and their future practices and policies with respect to land development, public improvements, and various other procedures and regulatory devices. Specifically, in order to insure a reasonable distribution of the future population and the desirable land use arrangement, the following measures are necessary.

Zoning

Zoning is a means of guiding the use of land and buildings in accordance with a comprehensive plan, in order to promote the most appropriate use of the land and to conserve and protect property values throughout the urban area. It is an instrument for controlling the use of land and buildings, the heights of buildings, the open space around them, and the density of population in different parts of the community. Zoning regulations attuned to the desirable pattern of population and land uses described in this report are the most important single means of bringing about the desirable urban pattern.

COLUMBUS URBAN AREA

FRANKLIN COUNTY, OHIO



EXISTING ZONING - 1954

LEGEND

AGRICULTURAL
SINGLE FAMILY
2 TO 4 FAMILY
MULTIPLE DWELLING
COMMERCIAL
INDUSTRY
PUBLIC AND QUASI-PUBLIC

CITY PLANNING COMMISSION
FRANKLIN COUNTY
REGIONAL PLANNING COMMISSION

In the Columbus urban area there is a number of separate agencies having jurisdiction over zoning in different parts of the area. For example, the City of Columbus, Bexley, Upper Arlington, Grandview Heights, Whitehall and several other incorporated communities each has jurisdiction within its own corporate bounds, and the county and individual townships have jurisdiction in the areas outside. Unified, or at least coordinated, zoning is essential to the satisfactory growth of all parts of the urban area, which calls for a high degree of cooperation between the City of Columbus, Franklin County, and all the separate villages and townships.

Existing Zoning

Zoning regulations were first enacted in Columbus in 1923. Zoning outside the city, including 16 of the 18 townships, has been adopted in more recent years. While the Columbus zoning ordinance has been amended many times, the present zoning district map is basically about the same as originally adopted some three decades ago. The general zoning pattern now in effect throughout the Columbus urban area is shown on Plate 16.

It is obvious from comparision of this map with Plate 14, showing the present land use pattern, and with the proposed land use plan, that existing zoning of the Columbus urban area is rather poorly related both to existing conditions and what might be desired. The areas now zoned for industry (including extraction of limestone and gravel) and for business are exceptionally large--quite out of keeping with any reasonable expectation for the use of this land. For example, industrial districts embrace a very substantial portion of the whole central city, as well as sizeable areas to the west and south, including also a large district south of Livingston Avenue which is now almost entirely residentially occupied. Commercial zones are completely out of keeping with the potential demand. In addition to the plethora of strip zoning along North High, Broad, Cleveland, Parsons and other major thoroughfares, resulting in the excessive ribbon business developments described earlier in this report, large areas--far beyond any reasonable requirements for future commercial use--have been allocated south of the central business district and along Main, Yearling, Hamilton Road and Broad Street in Whitehall. Spot commercial districts within the City of Columbus are also numerous; these cannot be justified either, on the basis of reasonableness of their relation to a comprehensive zoning plan; and other commercial districts are unduly scattered in North Columbus, and Clinton Township particularly.

In general, the areas set aside for single-family residences in Bexley, Upper Arlington, and east and north Columbus bear a rational relationship to the desirable land use pattern. However, the districts allocated for two to four family dwellings are partly scattered, as in parts of east Columbus, Hilltop and at the north end of the city, and isolated apartment zones are to be found also in east Columbus and Hilltop as well as in Upper Arlington. The strip zoning for residences of all highways and roads in almost the entire county (two townships are unzoned) bears no relationship to a rational urban pattern, especially in view of the lack of density regulations or lot area requirements under present county zoning. Under these conditions it is impossible to prevent urban types of development--or development of urban density--from scattering along many of the existing county roads, which if persisted in,will ultimately create problems of sanitation, garbage collection, police and fire protection, and similar kinds of services. It is desirable and entirely possible to regulate densities so that large lots and rural or agricultural types of development will be required beyond the limits of the urban area outlined on Plate 15 without the need for such costly improvements and services.

The manner in which a zoning ordinance is administered also determines its effectiveness in guiding future community developments. A good zoning plan requires relatively few amendments or changes, and such changes should not be made by the Board of Zoning Appeals or the Zoning Administrator. These are legally the function of the various legislative bodies, with the advice and guidance of the appropriate Planning Commissions. Nothing can undermine public confidence more in both zoning and planning than haphazard, ineffective or discriminatory zoning administration.

Complete revision and redrafting of both the text and the existing zoning district maps--at least within the City of Columbus and in parts of Franklin County--are essential to the effective carrying out of the proposed land use plan. In addition to being poorly related to a comprehensive land use plan, the city ordinance is inadequate and largely obsolete. While revision of the text has been under consideration for some time,this would be ineffectual without a complete realignment of districts and district boundaries. Such partial revision would tend to deter final passage of an up-to-date, completely satisfactory new ordinance in line with modern zoning regulations and practices and the land use requirements of the Columbus urban community. The latter is urgently needed, but will require more detailed land use studies than were possible under the present planning program. It should be given high priority, however, in the future.

Subdivision Control

Much--perhaps as much as one-half--of the land included in the proposed Columbus urban area is not yet subdivided. The manner in which this is done will determine the character as well as the intensity of the future community pattern. If the development of new land subdivisions takes place generally contiguous to the already existing areas and provision is made for major thoroughfares, neighborhood parks, schools and similar local facilities prior to building construction, the convenience of the whole community is served and local facilities and services are efficient and economical.

Both the City of Columbus and Franklin County have modern subdivision regulations that are being enforced. As noted previously in this report, there has been relatively little of the scattering of new subdivisions here which has occurred in many other urban areas. Continued adherence to these policies and practices--including requirements that the subdivision install prior to actual building construction a satisfactory standard of street paving, sanitary sewers or other sewage disposal, storm drainage, and water--will insure the progressive outward development of the community.

Extension of Public Utilities

Public utilities, particularly sewers and water, are essential to all urban developments. With a few exceptions, Columbus now owns and operates the water distribution and sewerage systems throughout the urban area. This makes available a most important means of controlling the location and extent of urban development, particularly of residential districts. Water and sewers should be confined in the future to those sections which are within the area outlined on Plate 15 and extensions should be made only to those developments which are normal and natural expansions of the existing urban pattern. In no case should extensions be made through large vacant or sparsely settled tracts. Control over such utilities is another important means of controlling the direction of future growth in order to bring about the desirable population and land use pattern. It will be discussed more fully in a subsequent planning report.

Public Improvements

There are many public improvements which are needed from time to time--schools, parks, recreation areas, new bridges, street paving and the like. The timing of these improvements will have much to do with promotion of the development of particular sections of the community. For example, a fine new school or an attractive park frequently provides the impetus needed to spur development in a new neighborhood and, conversely, the lack of public improvements as the absence of sewers and good access streets south of Columbus, will retard the growth of a district. The comprehensive plan, of course, will provide the basis for public improvements in the future, and close adherence to this plan not only will insure a desirable community pattern but will make possible the most effective and economical utilization of the always too limited public funds.

Public Understanding and Support

The proposals outlined in this and subsequent planning reports are designed to foster the creation of a metropolitan Columbus that will provide benefits and advantages for the entire population. Its actual achievement will depend on the full understanding and support of the public as a whole as well as on public officials and government agencies. An enlightened citizenry will facilitate the administration of zoning, subdivision control and the other needed regulations, and public favor is most essential to the backing of bonds and the provision of funds for financing public works programs.

With the understanding and support of the citizens, public officials responsible for enforcement and administration gain added assurance and effectiveness. Through collaboration and coordination of the public improvement programs of the separate political units comprising the urban area, these programs are rendered easier and considerably more effective. This can be brought about if county, village, city and township officials and the combined citizenry cooperate in supporting the necessary measures and procedures. By this means attainment of the desirable future urban pattern is assured.