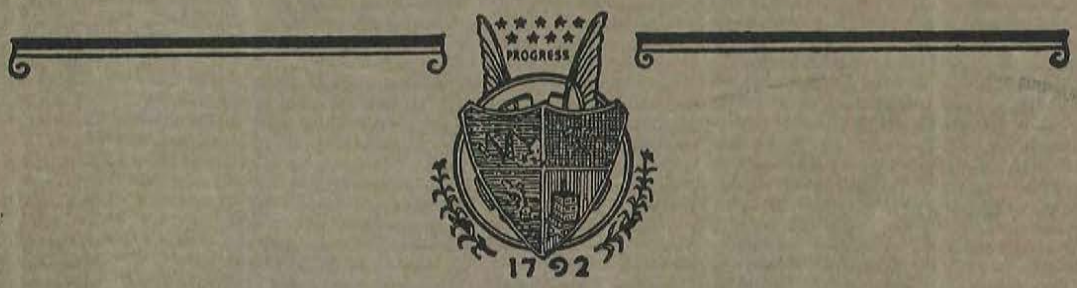
A COMPREHENSIVE CITY PLAN for KNOXVILLE



KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION
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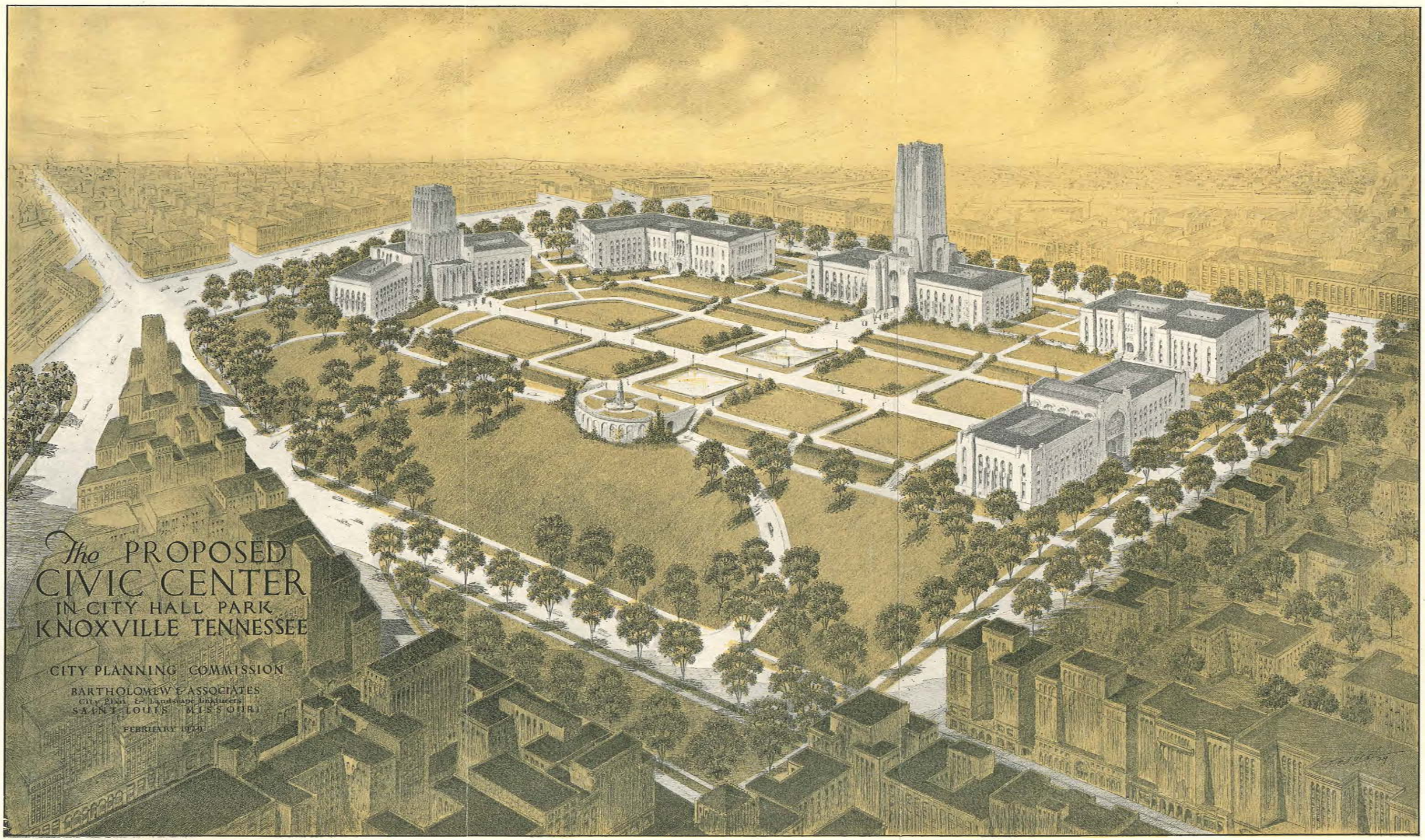
The PROPOSED
CIVIC CENTER
IN CITY HALL PARK
KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
City Plan & Landscape Engineers
SAINT LOUIS MISSOURI
FEBRUARY 1930

A COMPREHENSIVE CITY PLAN

KNOXVILLE, TENNESSEE

HARLAND BARTHOLOMEW AND ASSOCIATES

HARLAND BARTHOLOMEW
EARL O. MILLS
L. DEMING TILTON

WM. D. HUDSON,
Affiliated Engineer
H. W. ALEXANDER,
Resident Engineer

Price $1.50

THE CITY PLANNING COMMISSION

KNOXVILLE, TENNESSEE

The Charter of the City of Knoxville, by act of the State Legislature (Chapter 412, Acts 1923 amended 1925) provides in Section 23 that the City Council may create a City Planning Commission which shall consist of the City Manager, Director of Public Safety, Director of Law, Director of Public Service and three citizen members appointed by the City Manager, subject to the approval of the Council. The same section defines the duties and functions of the Commission. One of these duties is the preparation of a City Plan.

The first Commission was appointed in June, 1925, by City Manager Louis Brownlow and consisted of Walter Mynderse, W. M. Bonham and William Whaley as citizen members and Louis Brownlow (City Manager), J. O. Walker (Director of Public Safety) and W. H. Peters, Jr., (Director of Law), members by virtue of their respective offices in the City Government. This first Commission, of which Walter Mynderse was Chairman, did valuable preliminary work in presenting to various civic bodies and to the public at large general information relative to City Planning and the benefits to be derived therefrom. When Mr. Brownlow resigned as City Manager in 1926, Messrs. Bonham and Mynderse also resigned from the Commission.

Mr. Charlton Karns, who succeeded Mr. Brownlow, reorganized the Commission, appointing as citizen members, Messrs. Charles M. Seymour, Thomas McCroskey and William Whaley, who, with General Cary F. Spence (Director of Public Safety), W. H. Peters, Jr., (Director of Law) and Mr. Charlton Karns, succeeded by Mr. Otto T. Roehl, succeeded by Mr. Neil Bass (City Managers) have served up to this time. By an oversight in the Charter Act, the Director of Public Service was omitted from the personnel of the Commission. However, Mr. Alexander Harris, during his term in office and Mr. W. W. Mynatt, his successor, have consistently attended the meetings and worked with the Commission.

In September 1926 the Commission entered into a contract with Harland Bartholomew and Associates of Saint Louis for the preparation of a comprehensive City Plan. Each phase of this plan, when completed, was studied by the Commission, revised where necessary, adopted, and then submitted to the City Council. Some phases of the plan have been officially adopted by ordinance, other portions have simply been received and filed.

The present Comprehensive Plan covers all phases. The present status of each phase is as follows:

1. MAJOR STREET PLAN: Officially adopted by the Council by ordinance September 27, 1927.
2. TRANSIT: Submitted to Council in March 1928. Its recommendations have been made the basis for establishment of bus lines to supplement street car transportation.
3. TRANSPORTATION: A report on railroad facilities.
4. ZONING: After careful public presentation and full consideration, the proposed zoning ordinance was approved by Council and enacted as Ordinance No. 123, effective October 15, 1928.
5. RECREATION: Covering studies and a proposed system of public parks, playgrounds and recreation facilities. Submitted to Council March 26, 1929. Not officially adopted but a Park Board, as recommended, has been appointed by Council.
6. CIVIC ART: A plan for a Civic Center has been submitted to Council but not as yet adopted.
7. PARKING AND TRAFFIC REGULATIONS: This was an independent study but is of interest and therefore included in the Comprehensive Plan.

The City Plan is a living thing, growing and flexible, subject to change and modification from time to time as conditions warrant, but changes, if made, should always first be carefully considered. It is hoped that the Plan may be consulted and its recommendations given due weight whenever public improvements are to be undertaken. In this way, the full value of the Plan can be realized.

The Commission expresses its gratitude to the City Council, heads of the various departments of the City Government and to the citizens generally for the interested cooperation and assistance extended to the Planning Commission in carrying on its work. The Chamber of Commerce and the Real Estate Board, through their committees, were especially helpful in the difficult problems of zoning.

Knoxville, Tennessee,

September 2, 1929.

TO THE COUNCIL OF THE CITY OF KNOXVILLE,

Gentlemen:

We have the honor to submit herewith our final comprehensive City Plan for Knoxville which the Commission has prepared from studies begun in September, 1926.

Respectfully submitted,

William Whaley, Chairman
Chas. M. Seymour,
Thomas McCroskey,
Neil Bass,
W. H. Peters, Jr.,
Cary F. Spence.
W. W. Mynatt.

HARLAND BARTHOLOMEW AND ASSOCIATES

CITY PLAN AND LANDSCAPE ENGINEERS

HARLAND BARTHOLOMEW
EARL O. MILLS

SAINT LOUIS, MISSOURI

317 NORTH ELEVENTH STREET

August 1, 1929

City Planning Commission,
Knoxville, Tennessee.

Gentlemen:

It is a pleasure to transmit herewith our final report on the Comprehensive City Plan for Knoxville.

Since the city planning studies were initiated several years ago, individual reports were submitted on each of the different phases of the complete plan, namely, Major Streets, Transit, Transportation, Recreation, Civic Art, and Zoning. Numerous recommendations contained in these preliminary reports have already been initiated or consummated, such, for example, as the widening of Henley Street, the elimination of several street jogs, the installation of bus lines supplementing the electric railway lines, the acquisition of park areas, and the adoption of the zoning ordinance. All these projects are in accordance with the Comprehensive City Plan.

The city planning problems in Knoxville, as revealed by exhaustive surveys, are similar to those in most other American cities that have grown without a definite plan for the coordination of physical improvements. Many of the important thoroughfares lack continuity, have excessive grades, or are inadequate in width; electric lines have been established without any relation to one another; railroads and grade separations have, in most instances, been treated as independent problems without regard to the other physical elements comprising the city structure; provision of adequate play space and recreational facilities has been wholly disproportionate to the demands; and little or no thought has been given to the general appearance or attractiveness of the city as a whole.

Definite recommendations for the coordination and development of these integral parts of the city's structure are set forth in separate sections of this plan. A copy of the Zoning Ordinance, which has been in effect since October 15, 1928, together with complete statistical data on building development, is also included.

In considering the various recommendations contained herein it must be borne in mind at all times that these cannot be accomplished in a short space of time but rather they are made as a definite guide for future improvements over an extended period of years. With a comprehensive city plan as a guide, it is now possible to co-ordinate all physical improvements so that ultimately there will result a well balanced, efficient and attractive city, not to mention the economy which can be effected by the proper direction of new growth and the rehabilitation of the older sections of the city.

The preparation of the comprehensive city plan necessarily involved the collection of much data from various organizations and individuals, as well as from the many City Departments. All of our requests for information were met with courteous and prompt response, and our office wishes to take this opportunity to express our sincere appreciation for this invaluable cooperation and assistance.

Respectfully submitted,

HARLAND BARTHOLOMEW AND ASSOCIATES,

By: Harland Bartholomew

TABLE OF CONTENTS

ZONING

RECREATION

CIVIC ART

TRAFFIC STUDY

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LIST OF PLATES

TRANSPORTATION

RECREATION

PARKING AND TRAFFIC PROBLEMS IN THE BUSINESS DISTRICT

APPENDIX

LIST OF ILLUSTRATIONS

CITY PLAN ACCOMPLISHMENTS

The true value of a city plan is dependent upon the extent to which it is carried out. During the short time which has elapsed since the inauguration of city planning in Knoxville, material progress has been made in executing the improvements recommended in the various individual reports.

Two projects of highest importance in the Major Street Plan have been authorized and are now rapidly being carried out:

THE WIDENING OF HENLEY STREET from 35 to 100 feet between Hill and Union Avenues and its extension from Union to Western Avenue is nearing completion.

PLANS FOR THE NEW HENLEY STREET BRIDGE have been completed and actual work on the construction of this extremely valuable thoroughfare link will begin shortly.

Other street improvements completed or under way are as follows:

FIFTH AVENUE has been widened from 38 to 80 feet between Broadway and Gay Street.

FORT SANDERS STREET has been extended from its dead-end at the alley north of AILOR AVENUE TO WESTERN AVENUE.

The jog and sharp turn at the intersection of CENTRAL STREET and ATLANTIC AVENUE have been eliminated.

The necessary preliminary legal measures have been taken for the widening of KINGSTON PIKE from THIRD CREEK TO LYONS VIEW ROAD.

Paving projects have been co-ordinated with the MAJOR STREET PLAN in numerous cases.

A number of new streets conforming in location and width to the MAJOR STREET PLAN have been dedicated to the city.

An ordinance providing for the creation of a PARK BOARD has been passed. (See Appendix "D")

Legal action for the acquisition of DICKENSON'S ISLAND for park, recreation and other public uses has been initiated. The case is now under consideration by the courts.

Options have been secured by the city on the MUNICIPAL GOLF COURSE property and STERCHI PARK for the acquisition of these areas for park purposes.

An agreement has been reached between the city and the Knoxville Power and Light Company for the INSTALLATION OF FOUR BUS LINE EXTENSIONS, as recommended in the TRANSIT REPORT.

Street railway tracks have been eliminated from the BROADWAY VIADUCT in order to preserve the structure exclusively for vehicular use.

The COMPREHENSIVE ZONING ORDINANCE has been passed and is now in force. (See Appendix "C")

A set of land subdivision rules has been adopted by the CITY PLANNING COMMISSION. All subdivision plats within the city limits must be approved by the COMMISSION before the plat is recorded. (See Appendix "A")

Numerous improvements have been made in traffic regulations, the principal one being the installation of a PROGRESSIVE SYSTEM OF ELECTRIC TRAFFIC CONTROL SIGNALS in the down-town district.

A CITY PLANNING ENABLING ACT and a ZONING ENABLING ACT have been recently passed by the State Legislature. (See Appendices "E" and "F"). These two laws follow very closely the standard zoning and city planning acts prepared under the direction of Herbert Hoover at the time he was Secretary of Commerce.

BRIEF HISTORY OF KNOXVILLE

AND ITS

COMMERCIAL AND INDUSTRIAL DEVELOPMENT

THE SITE

Knoxville is particularly fortunate in its location. The city is situated on the north bank of the Tennessee River, approximately in the center of the Great Valley of East Tennessee, one of the most beautiful and prosperous valleys in the country, which is bounded on the southeast by the Unaka Chain of Mountains and on the northwest by the Cumberland Mountains, and forms a part of the great natural highway extending from Pennsylvania to Alabama.

The Valley of East Tennessee contains a wealth and variety of mineral, forest, agricultural, and water power resources.

The United States Department of Commerce, in its 1926 Commercial Survey of the Southeast, says of Knoxville:

> "Knoxville, situated in the center of the upper valley of Tennessee, grew up as a strategic distributing center for that area. The fertile valleys comprising its territory, watered by the many streams pouring into the Tennessee River, constituted from the first a grain and livestock area which still finds its principal market in the cotton belt. Thus the history of Knoxville was primarily that of a trading center, but in recent years use has been made of the raw products of coal, iron, copper, marble, zinc and miscellaneous minerals in fostering industrial development. Knoxville has become an important center for the manufacture of knit goods, and industrial expansion is likely to be accelerated with the development of the potential waterpower resources centering there."

FIRST SETTLEMENT

In 1786 James White built on the present site of Knoxville a structure called White's Fort. It stood on the northeast corner of Clinch Avenue and State Street.

When William Blount was appointed Governor of the "Territory of the United States South of the River Ohio," in 1790, he moved to the neighborhood of White's Fort which he had chosen to be the capital of the newly created territorial government. He negotiated a treaty of peace with the Indians, which was signed by him on behalf of the United States and by forty-one Cherokee chiefs on behalf of the Cherokee Nation. This treaty was known as the "Treaty of the Holston," and extinguished all Indian claims to land in the vicinity of Knoxville.

Knoxville continued to be the capital of the Territory of the United States South of the River Ohio until 1796, when the State of Tennessee was organized. The capital of the state remained at Knoxville until 1811.

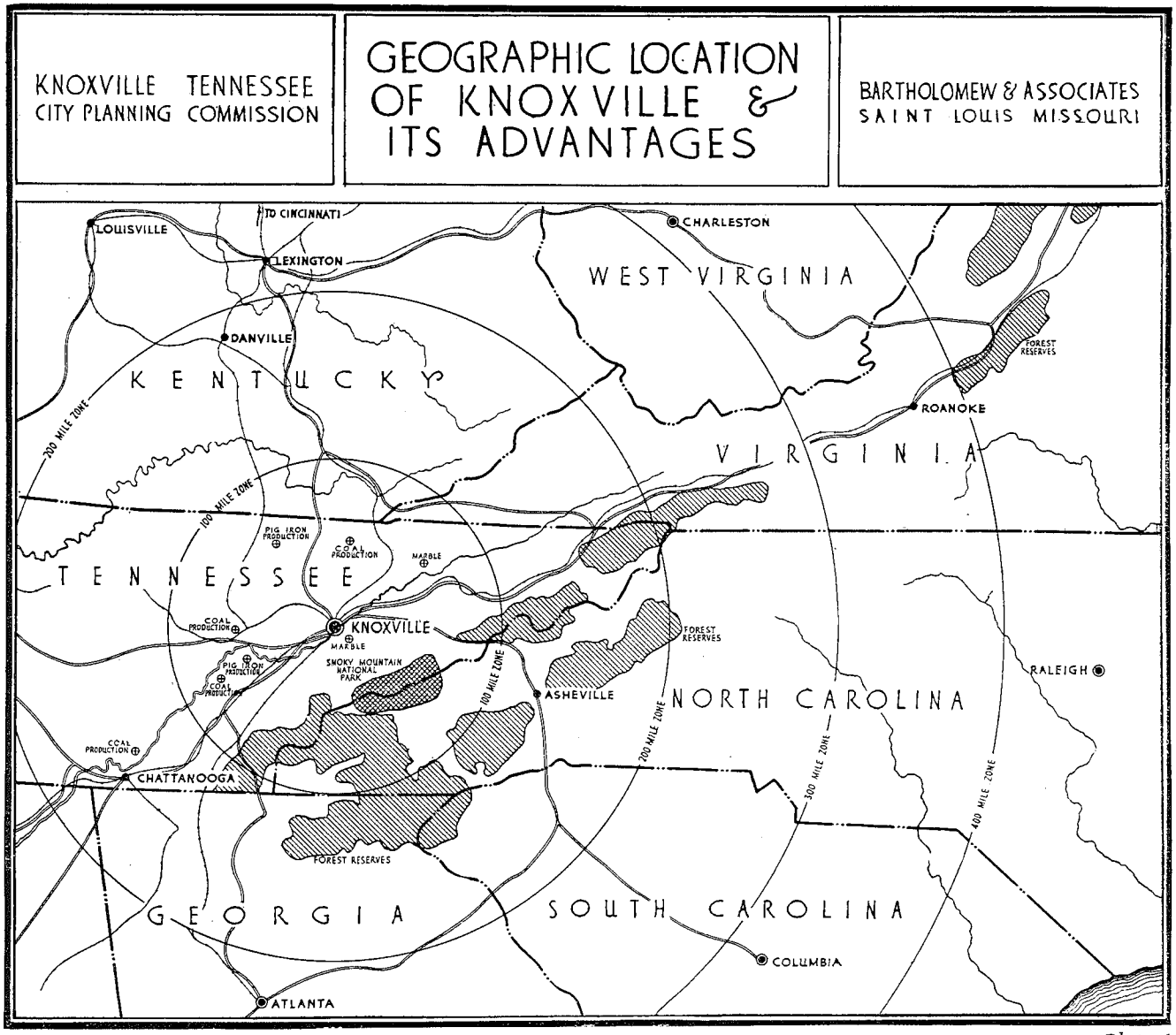

KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION
GEOGRAPHIC LOCATION OF KNOXVILLE & ITS ADVANTAGES
BARTHOLOMEW & ASSOCIATES
SAINT LOUIS MISSOURI
TO CINCINNATI
LOUISVILLE
LEXINGTON
CHARLESTON
WEST VIRGINIA
DANVILLE
KENTUCKY
FOREST RESERVES
ROANOKE
VIRGINIA
200 MILE ZONE
100 MILE ZONE
PIG IRON PRODUCTION
COAL PRODUCTION
MARBLE
TENNESSEE
KNOXVILLE
FOREST RESERVES
SMOKY MOUNTAIN NATIONAL PARK
RALEIGH
ASHEVILLE
NORTH CAROLINA
300 MILE ZONE
400 MILE ZONE
CHATTANOOGA
FOREST RESERVES
GEORGIA
SOUTH CAROLINA
COLUMBIA
ATLANTA

Plate 1

KNOXVILLE FOUNDED IN 1791

There is a persistent but erroneous tradition that the Town of Knoxville was founded in February, 1792.

On October 3, 1791, Articles of Agreement were entered into between James White, owner of the land, and John Adair, Paul Cunningham, and George McNutt, Commissioners, whereby the said Commissioners were empowered to hold a lottery at which purchasers of lots in Knoxville were to draw to determine which lot they would receive. The Articles of Agreement show that the town had already been laid off and surveyed into streets and lots prior to the date of the agreement. The lottery was held, and The Knoxville Gazette, in its issue of December 17, 1791, published the lottery agreement in full, together with the report of the Commissioners showing the names of the purchasers of the lots as drawn by them respectively.

At the session of the Legislature of the Territory of the United States South of the River Ohio, held at Knoxville in September, 1794, one of the Acts passed is as follows:

"An act for establishing Knoxville, on the north bank of Holston, and immediately below the second creek that runs into Holston on the north side, below the mouth of French Broad river, and for appointing commissioners for the regulation thereof.

"Whereas, In the year one thousand seven hundred and ninety-one it was found expedient to establish a town on the north bank of Holston, immediately below the second creek that runs into the north side of the same, below the mouth of French Broad, Governor Blount having determined to fix the seat of government on the said spot; and, whereas, a town was accordingly laid out by James White at the above described place, and called Knoxville, in honor of Major General Henry Knox, consisting of the necessary streets and sixty-four lots, numbered from one to sixty-four, as will more fully appear, reference being had to the plat of the said town.

"Section 1. Be it enacted by the governor, legislative council and house of representatives of the Territory of the United States of America South of the River Ohio, That a town be established on the above described spot of ground, which shall continue to be known as heretofore, by the name of Knoxville, in honor of Major General Knox, consisting of the necessary streets and sixty-four lots, from number one to sixty-four, agreeable to the plan of the said town, made in the year one thousand seven hundred and ninety-one.

"Section 2. And be it enacted, that Colonel James King, John Chisholm and Joseph Greer, Esquires, George Roulstone and Samuel Cowan be and hereby are appointed commissioners of the said town, with power to regulate the same, and, if necessary, with the consent of the proprietor, to enlarge it.

"Section 3. And be it enacted, That a correct plan of the said town as originally *laid off* in the year one thousand seven hundred and ninety-one, be made by the commissioners, and lodged in the office of the register of the county of Knox for the benefit of all persons concerned, with their names as commissioners subscribed thereto. And that it be the duty of the said commissioners to designate the first and second corners by the fixture of a stone or stones at each corner, at least eighteen inches in the ground and six above, and to use good care that the same be not removed or defaced."

The lottery agreement above mentioned, and the Territorial Act of 1794, are set out in full in Chapter IV. of the History of Knoxville published by Captain William Rule in 1900.

The original town, as laid out in 1791, was bounded on the south by the Tennessee River, on the east by First Creek, on the north by Fifth Street (now Church Avenue), and on the west by Crooked Street (now Walnut Street).

Pursuant to Section 2 of the Territorial Act of 1794, the Commissioners enlarged the town, extending its limits on the north from Church Avenue to Clinch Avenue, and on the west from Walnut Street to Henley Street. This was done in the year 1795.

The city grew slowly, acquiring additional territory from time to time, until in 1855 the limits extended from the river on the south to Fifth Avenue on the north, eastwardly to the intersection of East Main Avenue and Vine Street, and west to Second Creek.

Satellite towns were established in the vicinity of Knoxville as separate corporations, among them being East Knoxville, West Knoxville, Lonsdale, Lincoln Park, and Park City, as well as the unincorporated suburbs of South Knoxville and Marble City.

In 1917 the city boundaries were extended to include much of this built-up territory and a large area of unimproved land, thus increasing the area within the city limits from 3.97 square miles to 26.34 square miles.

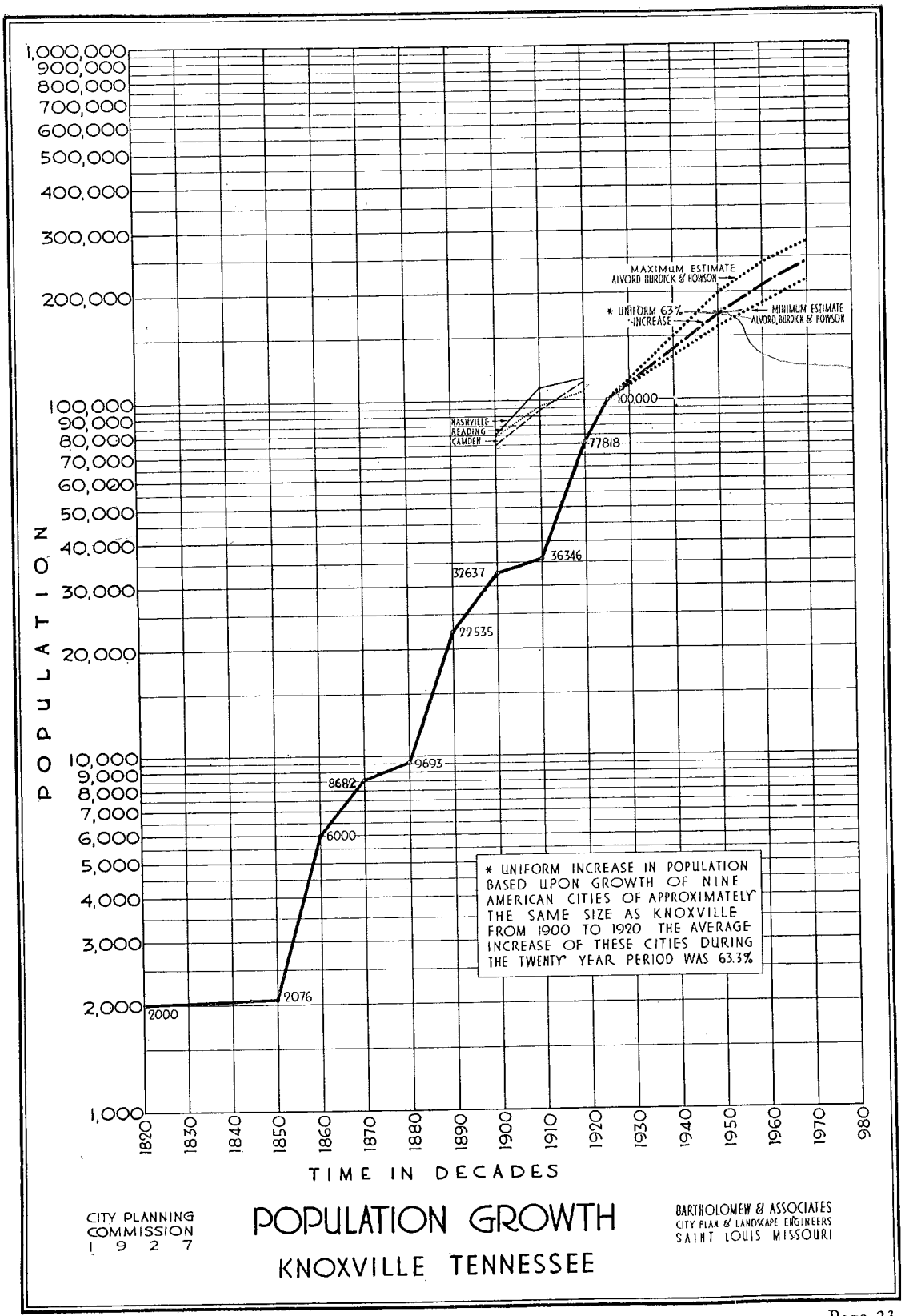
Since 1917 there has been no additional territory added to the city.

As will be noted above, the Territorial Legislature in 1794 appointed Commissioners of the Town of Knoxville with power to regulate the same. It was not, however, until October 27, 1815, that the town was incorporated by the Legislature of Tennessee, and on January 30, 1816, the first meeting of the Board of Aldermen was held, Thomas Emerson, the first mayor, presiding.

Knoxville was governed by Aldermanic form from that date until 1911, when the Commission form of government was established for the city, which continued until 1923, when the present City Manager form of government was established.

Knoxville's public utilities were established in the following order:

Water works, 1809; public market, 1816; first railroad, 1854; gas company, 1855; street cars (mule drawn) 1876; electric light company, 1886.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5,000
4,000
3,000
2,000
1,000
POPULATION
2000
2076
6000
8682
9693
22535
32637
36346
77818
100,000
NASHVILLE
READING
CAMDEN
MAXIMUM ESTIMATE
ALVORD BURDICK & HOWSON
* UNIFORM 63% INCREASE
MINIMUM ESTIMATE
ALVORD, BURDICK & HOWSON
* UNIFORM INCREASE IN POPULATION BASED UPON GROWTH OF NINE AMERICAN CITIES OF APPROXIMATELY THE SAME SIZE AS KNOXVILLE FROM 1900 TO 1920 THE AVERAGE INCREASE OF THESE CITIES DURING THE TWENTY YEAR PERIOD WAS 63.3%
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
980
TIME IN DECADES
CITY PLANNING COMMISSION 1927
POPULATION GROWTH
KNOXVILLE TENNESSEE
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS MISSOURI

Plate 2

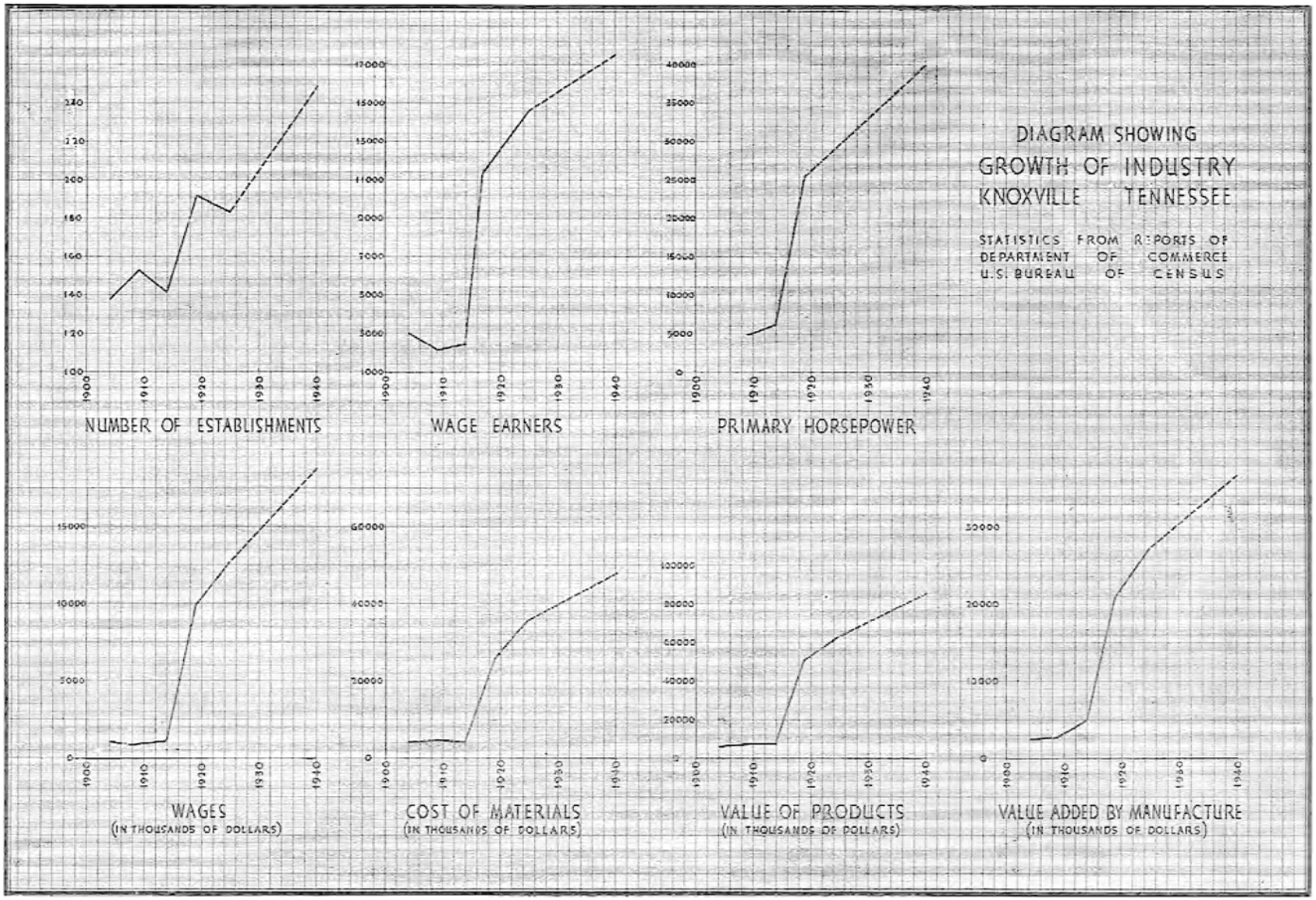


DIAGRAM SHOWING
GROWTH OF INDUSTRY
KNOXVILLE TENNESSEE
STATISTICS FROM REPORTS OF
DEPARTMENT OF COMMERCE
U.S. BUREAU OF CENSUS
NUMBER OF ESTABLISHMENTS
WAGE EARNERS
PRIMARY HORSEPOWER
WAGES
(IN THOUSANDS OF DOLLARS)
COST OF MATERIALS
(IN THOUSANDS OF DOLLARS)
VALUE OF PRODUCTS
(IN THOUSANDS OF DOLLARS)
VALUE ADDED BY MANUFACTURE
(IN THOUSANDS OF DOLLARS)

GROWTH OF POPULATION

During the first one hundred years of its existence, Knoxville grew slowly, the United States census of 1890 showing a population of 22,535. The next forty years, however, has added approximately 100,000 to the population of 1890, and it is believed that this rate of growth will continue for some time to come, and that by 1950 the city proper should have a population of 200,000.

UNIVERSITY OF TENNESSEE

In September, 1794, the Territorial Legislature incorporated Blount College, which was established on the site now occupied by the Burwell Building, corner of Gay Street and Clinch Avenue. It continued under that name until 1817, when it became East Tennessee College. In 1840 the name was changed to East Tennessee University, and in 1879 to University of Tennessee. The University has for many years occupied its present site, and has grown from a handful of students until its enrollment at Knoxville during the scholastic year of 1928 was 2, 347, and the enrollment in the summer sessions, the special sessions for teachers, and extension department, brings the figure to approximately 5,500.

SMOKY MOUNTAIN NATIONAL PARK

Knoxville is at the gateway to the new Great Smoky Mountain National Park, which, when opened, will be the objective of many visitors, most of whom will pass through Knoxville enroute. In addition to the contemplated national park there are a number of national forests and many recreational features which may be reached easily from Knoxville.

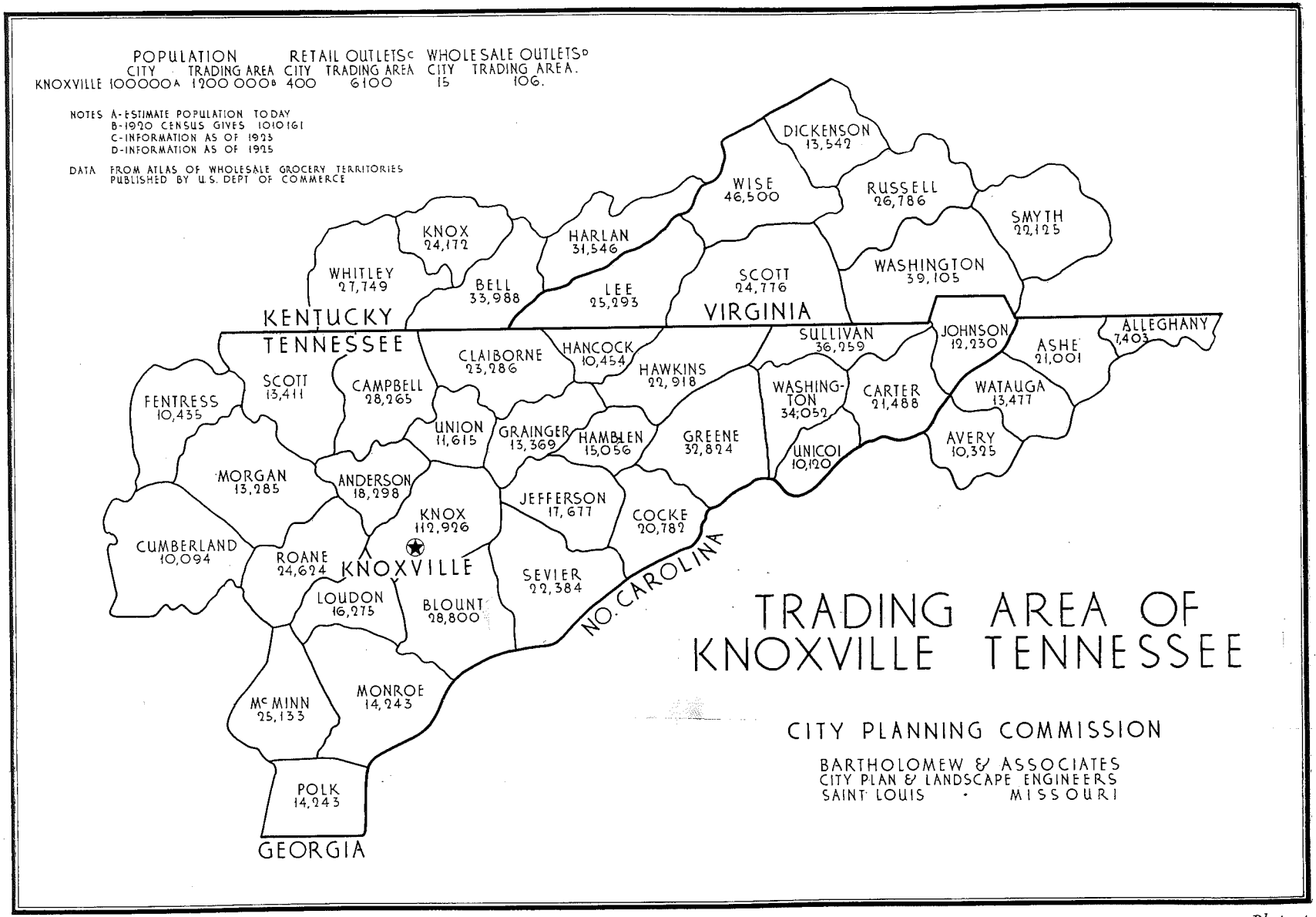
INDUSTRIAL AND COMMERCIAL KNOXVILLE

There are approximately 350 manufacturing plants in the city, making a diversity of products, valued in 1928 at $91,806,000.34. More than 18,000 people are employed regularly in these manufacturing industries. There are 135 wholesale and jobbing houses in the city doing an annual business of $100,000,000.00.

Textile and clothing plants represent Knoxville's largest industry. Twenty of them are located here, doing business in all parts of the United States and several foreign countries, the annual business amounting to approximately $19,000,000.00, with payrolls totaling more than five and a half million dollars yearly.

Knoxville is the largest heavy-weight cotton underwear manufacturing center in the country. The annual output of the two largest plants of this product exceeds $8,500,000.00. Cotton yarn manufactured in Knoxville is shipped all over the world, as is Knoxville-made hosiery. Clothing made here is sold over a wide extent of the United States under well-known brands. Hats, shirts, ties and gloves are also manufactured in large quantities.

Marble is also a leading product. The Knoxville territory is the third largest marble manufacturing area in the world, turning out the famous Tennessee marble that is used everywhere in fine structures. Over 750,000 cubic feet is shipped per year. Nine companies operating quarries in the vicinity of Knoxville have an annual


POPULATION
CITY TRADING AREA
KNOXVILLE 100000A 1900 000B
RETAIL OUTLETSC
CITY TRADING AREA
400 6100
WHOLESALE OUTLETSD
CITY TRADING AREA.
15 106.
NOTES A-ESTIMATE POPULATION TODAY
B-1920 CENSUS GIVES 101016I
C-INFORMATION AS OF 1923
D-INFORMATION AS OF 1925
DATA FROM ATLAS OF WHOLESALE GROCERY TERRITORIES
PUBLISHED BY U.S. DEPT OF COMMERCE
DICKENSON 13,542
WISE 46,500
RUSSELL 26,786
SMYTH 22,125
KNOX 24,172
HARLAN 31,546
WHITLEY 27,749
BELL 33,988
LEE 25,293
SCOTT 24,776
WASHINGTON 39,105
KENTUCKY
VIRGINIA
TENNESSEE
SULLIVAN 36,259
JOHNSON 12,230
ASHE 21,001
ALLEGHANY 7,403
CLAIBORNE 23,286
HANCOCK 10,454
HAWKINS 22,918
SCOTT 13,411
CAMPBELL 28,265
FENTRESS 10,435
WASHING-TON 34,052
CARTER 21,488
WATAUGA 13,477
UNION 11,615
GRAINGER 13,369
HAMBLEN 15,056
GREENE 32,824
UNICOI 10,120
AVERY 10,325
MORGAN 13,285
ANDERSON 18,298
JEFFERSON 17,677
KNOX 112,926
COCKE 20,782
CUMBERLAND 10,094
ROANE 24,624
KNOXVILLE
SEVIER 22,384
NO. CAROLINA
LOUDON 16,275
BLOUNT 28,800
TRADING AREA OF
KNOXVILLE TENNESSEE
McMINN 25,133
MONROE 14,243
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS · MISSOURI
POLK 14,243
GEORGIA

	COMMODITY	TONS
	FOOD PRODUCTS	360
	TERRA COTTA	175
	LUMBER	4
	COTTON	500
	CLOTH	40
	PAPER	2330
	CHEMICALS	42
1	GENERAL	91
	FOOD PRODUCTS	360
	STEEL	145
	SILK	350
	PAINT & OILS	160
	WIRE CABLE	76
	MACHINERY	900
2	GENERAL	55

	COMMODITY	TONS
	BRICK	5800
	STEEL	130
	HOLLOW TILE.	750
	COAL	67685
	PAPER	95
	WIRE CABLE	58
	MACHINERY	49
	COKE	2561
3	GENERAL	2115
	PIG IRON	1210
	CEMENT	4583
	STEEL	450
	LUMBER	759
4	COTTON	8215
	PAPER	8

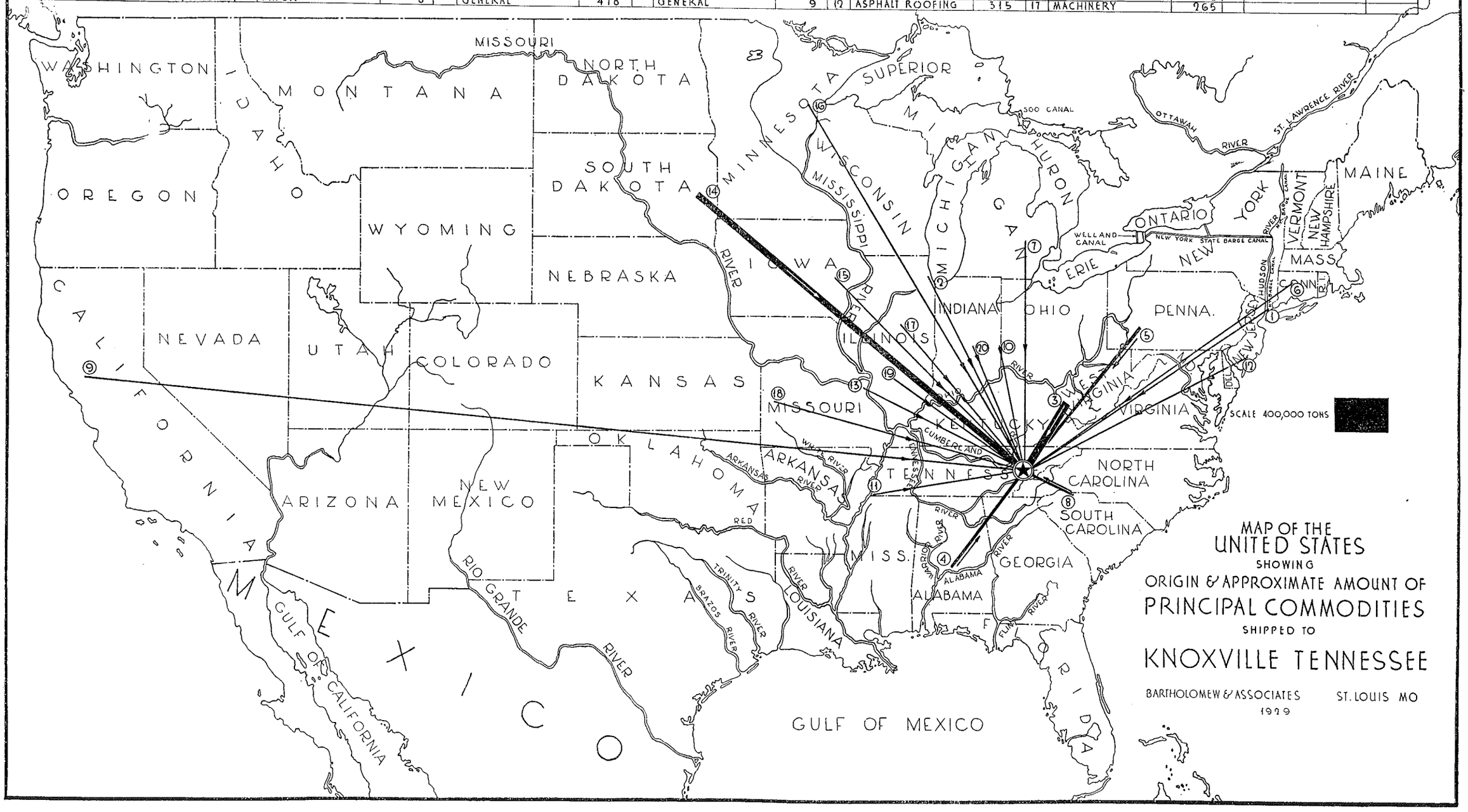
	COMMODITY	TONS
	WOOL	750
	TAR PITCH	800
	PAINTS OILS	2400
	WIRE CABLE	300
	SYRUPS	83
	GASES O H	1818
	GENERAL	587
5	STEEL	1000
	THREAD	60
	PAPER	3
	CHEMICALS	84
	HARDWARE	9000
	TOYS	80
	LUMBER	50
	GENERAL	478

	COMMODITY	TONS
6	BRASS	500
	GENERAL	13
7	AUTOS	651
	MACHINERY	6
	GENERAL	17
8	PIG IRON	150
	LUMBER	115
	MILK	2150
	TOBACCO	5900
	MARBLE	9500
	CRUSHED STONE	250
	GENERAL	494
9	LUMBER	80
	MILK POWDER	89
	GENERAL	9

	COMMODITY	TONS
10	CEMENT	500
	PAPER	14
	INK	21
	OIL	60
	SILKS	30
	BOTTLES	200
	CORN	400
	SAND	200
	COPPER	1
	ZINC	2
	RUBBER	8
	GENERAL	39
11	CAKES	600
	GENERAL	16
12	ASPHALT ROOFING	315

	COMMODITY	TONS
	FELT	62
	GENERAL	10
13	STEEL	191
	LUMBER	80
	PAPER	7
	INK	1
	GENERAL	23
14	WHEAT	54898
	CORN	3810
	GENERAL	1602
15	MACHINERY	135
	GENERAL	3
16	MACHINERY	75
	GENERAL	2
17	MACHINERY	265

	COMMODITY	TONS
	GENERAL	7
	MACHINERY	50
18	GENERAL	1
	MACHINERY	1000
19	GENERAL	27
20	CHAINS	10



MAP OF THE UNITED STATES
SHOWING
ORIGIN & APPROXIMATE AMOUNT OF
PRINCIPAL COMMODITIES
SHIPPED TO
KNOXVILLE TENNESSEE

BARTHOLOMEW & ASSOCIATES ST. LOUIS MO
1929

Plate 5

	COMMODITY	TONS		COMMODITY	TONS		COMMODITY	TONS		COMMODITY	TONS		COMMODITY	TONS
	COTTON UNDERWEAR	325	5	GENERAL	5		COTTON CLOTH	350		MEAL	2786	14	GENERAL	7
1	GENERAL	35		COTTON UNDERWEAR	50		THREAD WASTE	25		FEED	16870		COTTON CLOTH	750
	COTTON UNDERWEAR	200	6	GENERAL	5		BISCUITS	600		CABLE (WIRE)	75	15	GENERAL	82
2	GENERAL	35		CRUSHED STONE	286000		TOBACCO	1,967	11	GENERAL	7460		CABLE (WIRE)	30
	COTTON UNDERWEAR	100	7	GENERAL	31,000	10	GENERAL	320		MACHINERY	1345	16	GENERAL	2
	BUTTER	18		BUTTER	38		COTTON CLOTH	1,500		TRUCKS	800			
3	GENERAL	11		COTTON CLOTH	3500		BRICKS	6180	12	GENERAL	232			
	COTTON UNDERWEAR	50	8	GENERAL	394		GENERAL HARDWARE	3,100		GENERAL HARDWARE	1300			
4	GENERAL	5		BUTTER	77		COAL TAR	700	13	GENERAL	140			
	COTTON UNDERWEAR	50	9	GENERAL	8		FLOUR	38,957		COTTON WASTE	62			

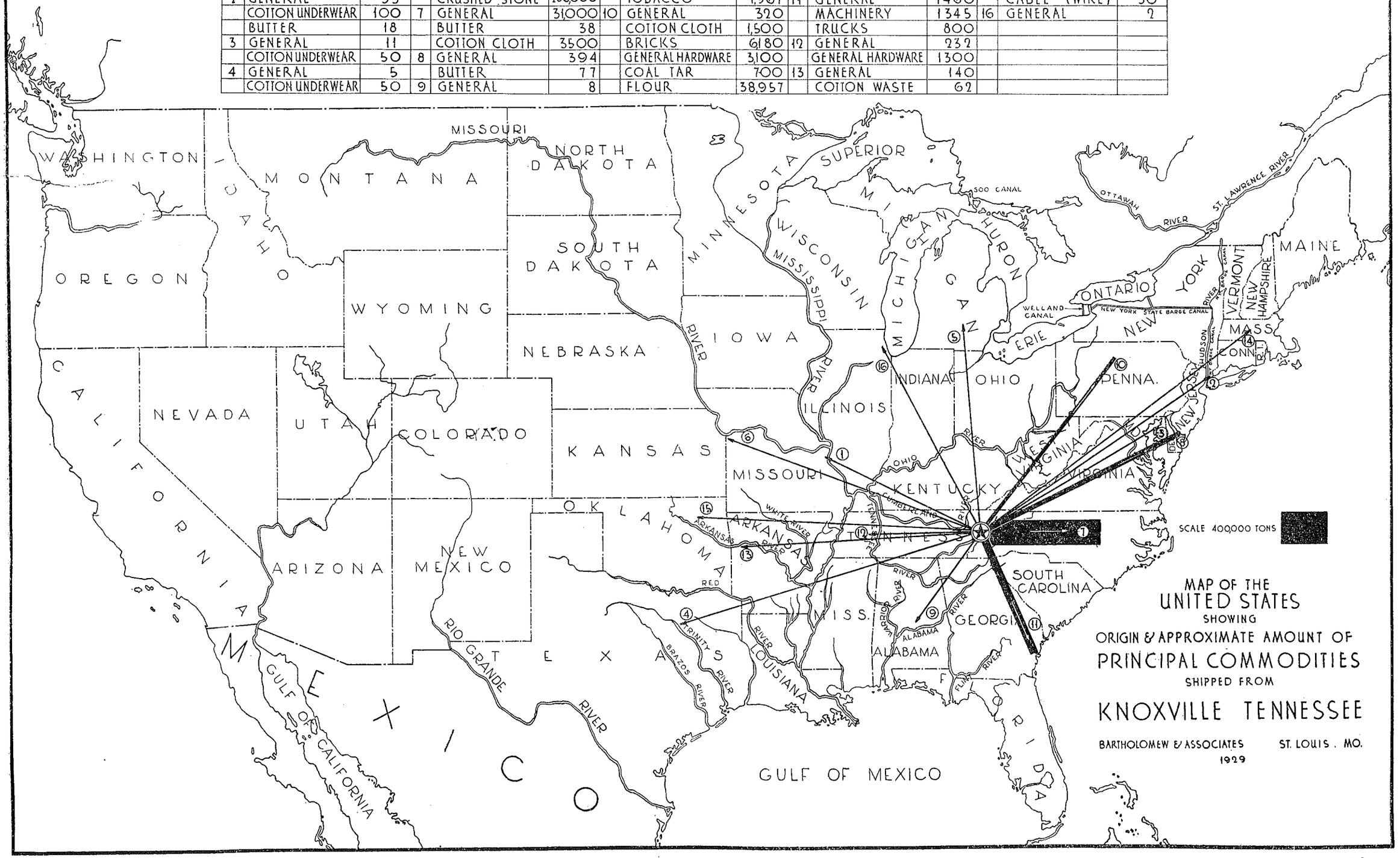


Plate 6

output of approximately $6,000,000.00 worth of marble. Metal working plants at Knoxville have an annual output valued at more than $10,000,000.00. The products include rolled iron and steel, coal mining equipment, quarry and mill machinery, temperature regulating devices, stoves, and general foundry products. The Fulton Sylphon Company is the largest plant in the country devoted exclusively to the manufacture of temperature regulating devices.

Knoxville has large wood-working plants with an annual output of approximately $6,000,000.00. The products of these plants include furniture, especially tables and chairs, refrigerators, radio and phonograph cabinets, boxes, coffins, and automobile bodies. In addition, much lumber is sold and shipped from here.

Several large milling companies produce flour, meal and feed which are distributed over a wide territory. A large fertilizer manufacturing plant is also located in Knoxville.

PRINCIPLES OF CITY PLANNING

City planning is that phase of municipal activity which analyzes the character and probable extent of the city's growth, suggests certain physical readjustments, and provides for the co-ordination of all future improvements. Under proper and sympathetic administrative agencies it would make possible the gradual and economical development of an orderly, well-arranged city which would provide good living conditions for all its citizens, be everywhere wholesome and attractive in appearance and free from those physical defects that hamper commercial and industrial activity.

It is a well-recognized fact that modern cities are lacking in unity of design, do not easily promote the expansion of commerce and industry, and have numerous residential districts of doubtful value. The past few years have produced a noteworthy public realization of the deficiencies and mistakes of city growth. There are few cities which are not now engaged in attempting to correct evils resulting from neglect.

City planning is essentially concerned with the physical development of cities. It has nothing to do with political interests or factional differences. The city plan is a beneficial instrument affecting the lives of all city dwellers as long as the city endures. It should transcend all other considerations.

Those things which properly constitute the city plan are six in number:

(1) Streets.

(2) Transit.

(3) Transportation (rail and water).

(4) Public recreation.

(5) Zoning.

(6) Civic art.

These are the physical elements which, when properly planned and correlated, make possible the creation of an attractive and orderly working organism out of the heterogeneous mass we now call the city.

In the development of a city plan whereby the growth of a city may be controlled over a period of years, we are confronted with the application of these six principles in:

(a) Areas now in whole or in part developed with streets, buildings, and customary improvements; and

(b) Areas as yet undeveloped and unimproved.

It is far more simple to plan for new growth than to replan areas already developed. The cost of planning new areas is small indeed. To replan areas already developed is often costly, and yet even the cost of replanning is usually more than justified in the greater degree of usefulness which results. A new impetus is given to growth, finding its reflection in increased local property values and greater public convenience.

STREETS

The street system is the fundamental element of the city plan. It is the skeleton or framework of the city structure. There are three types of streets that every well-planned city should have:

(1) Main arterial thoroughfares.

(2) Secondary (crosstown) thoroughfares.

(3) Minor streets.

The main arterial thoroughfares should be of commodious width (100 feet or greater), and provide continuous and direct communication between the central business district and all parts of the city. They may be compared to the spokes of a wheel, radiating in all directions from the hub. In so far as these main arterial thoroughfares are provided, just so far is communication facilitated and the uniform expansion and growth of a city encouraged.

The secondary or crosstown thoroughfares should be preferably eighty to one hundred feet wide, providing easy communication between outlying districts of the city. Where the rectangular form of street platting has been followed, as is the case in most cities, these secondary crosstown thoroughfares should be placed approximately one-half mile apart. When new growth occurs they should be continued, either by extending those which exist or by developing new ones at about the same intervals.

Minor streets are those which chiefly serve residential districts. Their design and arrangement should facilitate access to such districts, but should not provide for or encourage anything but "local" traffic. Widths of approximately fifty feet, with twenty-six feet roadway, should be satisfactory, supplemented by setback lines for all buildings. The platting of minor residential streets should not be of the rectangular type alone. Variation in topography often justifies departure from this method, and where there is no variation in topography, a modification of the rectangular street pattern often introduces a greater degree of interest and charm into the district.

A fourth classification of street types might be found in what is sometimes called the special service street, such as that serving industrial areas. The width, arrangement and design of special service streets depend upon the use which is to be made of them.

TRANSIT

The provision of transit facilities involves various types of carriers, including the street car, the motor bus, the rapid transit line, and the more modern facilities now being developed, such as the trackless trolley. The city plan is not concerned primarily with questions of fare, methods of operation, ownership, or volume of service, except as these questions affect the unity of the system and its direct relation to the distribution of population and the physical arrangement of the city.

It is a generally accepted fact that the operation of a system, whether privately or publicly owned, is largely dependent upon the street plan. An adequate system of main arterial thoroughfares and secondary crosstown thoroughfares will make possible the development of a satisfactory system of transit facilities.

A unification of all types of transit facilities is to be desired for the best results. With the exception of the largest cities, the greatest volume of traffic is cared for by a system of surface street car lines. After an adequate major street plan has been devised, attention should be given to the rerouting of existing street car lines in (a) the business district, and (b) remaining areas of the city, in order that more direct and expeditious service can be provided. Combinations, rearrangements and extensions of facilities, regardless of their type, can then be planned to meet the needs of a growing city. There will thus be established a definite plan of procedure in place of the more or less common makeshift policy of temporary readjustments.

TRANSPORTATION

(Rail and Water)

Steam railroad and water-borne traffic are to be considered under the term transportation. The problems of each city in this phase of planning vary greatly in accordance with the size of the city and the number of railroads and water routes established. There are four classes of traffic to be considered:

(1) Passenger traffic.

(2) Through carload business.

(3) Local carload business.

(4) Local L. C. L. (less than carload) business.

Only after a thorough study of the existing conditions in a city, its needs and probable increased growth, can suggestions for adequate planning be made so that new facilities may fit into the general city plan.

There is a marked tendency toward unification of transportation facilities within cities. In so far as practicable unification of service should be provided. There are, of course, limitations upon the early accomplishment of this object, such as the expense of wholesale readjustments and undue interference with present highly developed facilities, that necessitate gradual execution of unification plans.

Unification of passenger traffic facilities has been more customary than that of other types of rail and water traffic. Union passenger stations are to be found in many cities. If more than one station for passenger traffic is necessary, such stations should be located carefully with respect to the street arrangement, the business district, and the center of population.

Where the freight facilities of a city become congested or hinder the movement of street traffic or prevent the enlargement of commercial and industrial areas, it will usually prove desirable to locate freight yards outside the developed areas of cities and provide belt lines whereby through freight may be routed around the city without entering it and congesting local terminals.

The location, capacity and arrangement of classification yards should be such as to facilitate early delivery of local carload freight to industries and to team tracks. Team track facilities should be properly located and of sufficient size to be somewhat

in advance of the needs of the community. Similarly, the facilities essential to the early collection of local outbound carload freight should insure early delivery for road haul. This implies reduction of rehandling and consequent economy in time and cost. As cities increase in size, the volume of local L. C. L. traffic usually increases correspondingly, while the complications of handling L. C. L. freight increase in greater ratio. There is need, therefore, of studying not merely the facilities at hand, but also the methods of handling. The relation between the city plan and freight movements is best illustrated by the fact that an improper method of handling may send an unwarranted number of vehicles upon the streets, while unsatisfactory locations of freight houses may necessitate hauling of freight through congested retail centers with which the freight traffic has nothing whatsoever in common.

PUBLIC RECREATION

It is only within the past fifty years that the courts have come generally to recognize the necessity for the expenditure of public funds for recreation facilities. As long as people are permitted to congest and overcrowd sections of the city, it becomes necessary to provide publicly for the recreation which people need but are unable to secure within and about their homes. The several types of public recreation facilities which cities should provide, according to size and density of population, are:

(a) Community Centers.

(b) Children's Playgrounds.

(c) Neighborhood Parks.

(d) Recreation Fields.

(e) Large Parks.

(f) Boulevards and Outlying Parks or Reservations.

It is not to be supposed that all recreation facilities that might be created or desired can be supplied by the city. It is particularly important, therefore, that the city's expenditures for these facilities be so distributed that the maximum amount of service will be provided for the greatest number of people.

The community center is a well-recognized public recreation agency which also offers splendid opportunities for educational work, Americanization, a forum for the discussion of public affairs, and the like. Properly designed school buildings are the best community centers, particularly since community center activities are greatest in out-of-school hours. Hence the provision of community center service is largely a matter of organization and administration rather than of city planning, for it is presumed that school buildings will have been located in accordance with or as a part of the city plan.

The first important consideration in devising a system of children's playgrounds is that of selecting sites within easy reach of large numbers of small children. The public schools, obviously, should be located according to such a formula, and for the most effective results, therefore, playgrounds should be adjacent to the schools. The

school building and the playground should constitute a complete year 'round educational and recreational center for children. It is necessary for the city to anticipate school and playground needs by reserving adequate sites in advance of growth.

Neighborhood parks are needed in all residential districts and should be more numerous where population is dense. A study of present and expected population density and of available park sites will readily suggest where neighborhood parks should be provided.

Large parks and recreation fields are generally the most highly prized assets of cities. Many cities possess such areas, although their acquisition has more often been the result of chance gifts or opportune purchase than a conscious effort to provide such facilities within easy access of all citizens. Cities should have large parks so located that people in all parts of the city may find one or more of them easily accessible. Often land unsuited for residential or industrial development and reasonable in price will make splendid parks, increase the character and value of surrounding property, and provide the play facilities so essential to city life.

Once a careful plan for the development of various public recreational grounds has been determined, its gradual execution should be a matter of fixed policy. In addition to the areas provided within or closely adjacent to the built-up city area, there should be an effort to secure large areas in outlying territory while they are still cheap and unspoiled by the city's growth. A system of boulevards connecting large parks within developed city areas and extending to the larger outlying parks or reservations, and perhaps having connection with the central business district, will insure not merely the development of a unified recreation system, but will find reflection in a better character of residential development, increased and stabilized land values, and hence increased tax returns.

ZONING

After a scheme of streets, transit, transportation and public recreation has been determined and the chief elements of the physical structure of the city are thus planned, it becomes a matter of evident reasonableness to regulate property use in all parts of the city in accordance with these several elements. The major streets may, for parts of their lengths at least, quite naturally be expected to become commercial streets. Areas provided with railroad facilities should be encouraged to develop for industrial purposes. Areas now occupied or suitable for residential purposes, having streets planned in accordance with residential needs and supplied with recreation facilities, should most certainly be protected against industrial or commercial intrusions. Such a measure will insure permanency and harmony in these districts.

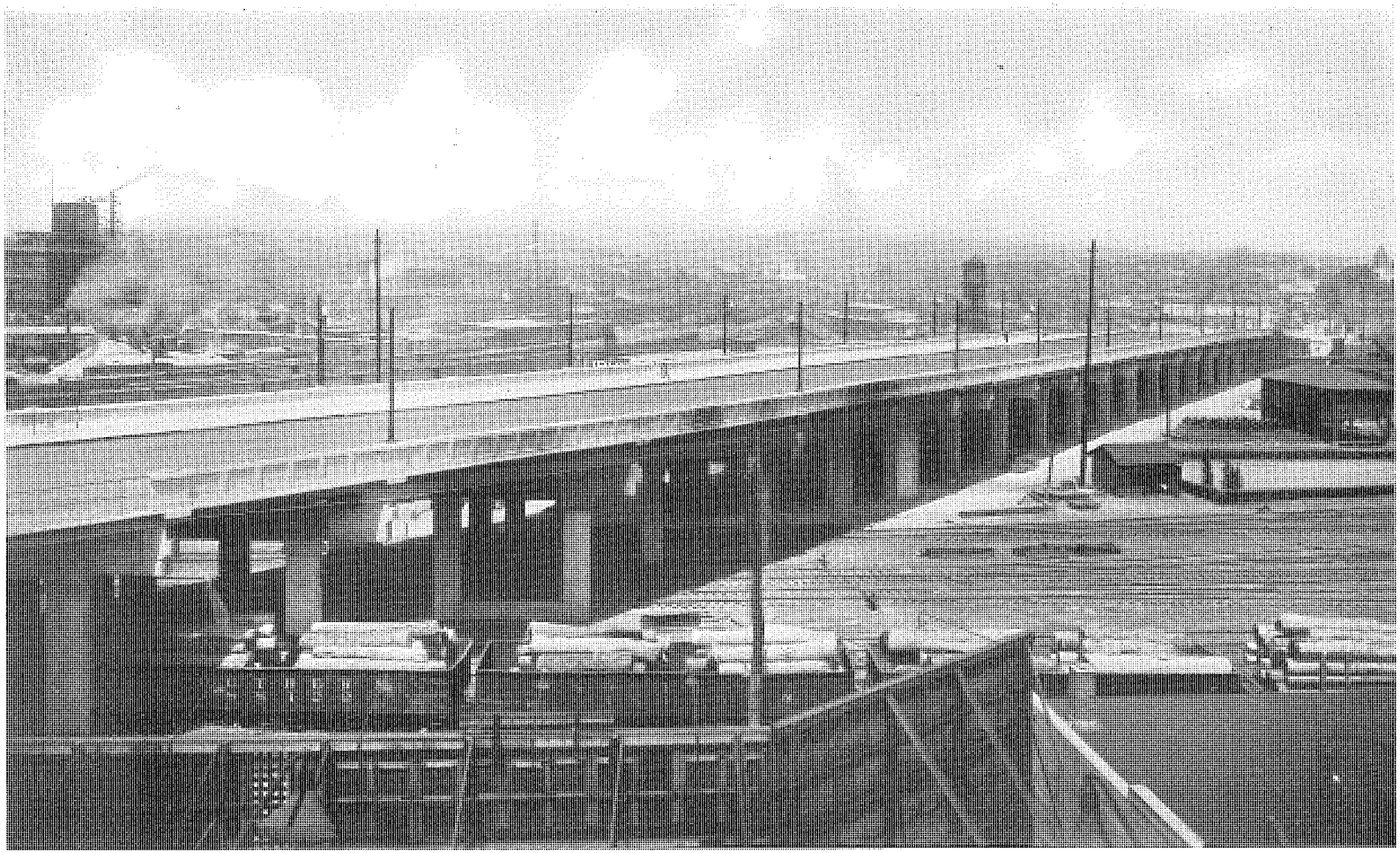
A zoning ordinance will give stability and character as well as encouragement to the proper development of the city. A zoning ordinance provides three kinds of regulations which affect (1) the uses of property and buildings; (2) the heights of buildings; and (3) the size and arrangement of buildings upon lots and of open spaces about such buildings. A zoning ordinance will encourage like types of structures within districts to be determined in accordance with their most natural fitness. Zoning ordinances recognize prevailing types of development and are not retroactive

in their provisions. Existing buildings and uses of property are permitted to continue, but new buildings must be built in locations set aside for them, sufficiently large and otherwise suited for full and free expansion.

CIVIC ART

Unfortunately, city planning work has erroneously been considered as the municipal activity concerned merely with the superficial beautification or enhancement of the city's appearance. From the foregoing explanation of the basic principles of a city plan, it will be seen that economic and social considerations are fundamental. Once the several elements of the city plan heretofore described have been carefully planned and gradually executed, there will result greater uniformity of development and a more balanced type of growth which, in itself, will exemplify one of the primary essentials of good design—the adaptation of form to function. To be sure, there are certain considerations that should receive special attention, such as the grouping of public buildings at strategic locations, the regulation of poles and wires, certain control of signs and billboards, a careful system of street tree planting, and numerous other similar activities that will add greatly to the city's appearance when properly done. The city must recognize the advantages of attractiveness and devote some attention to this phase of its development.

Tree Planting on Temple Avenue.



The Broadway Viaduct is an important link in the principal north and south traffic artery.

MAJOR STREETS

INTRODUCTION.

A major street is a main line traffic-way, a heavy-duty thoroughfare. In addition to local needs, it serves the city at large, whereas a local or minor street exists primarily for service to those who live upon it. Knoxville had never made an official classification of its streets to determine which have local and which have city-wide importance. This is done for the first time in the Major Street Plan.

Knoxville has heretofore missed the advantages which come from possession of a major street plan. Paving, lighting, routing of street cars, location of schools, and similar city building activities are all related to traffic flow, and decisions in such matters must of necessity be somewhat uncertain and haphazard if no plan is available to show the primary lines of traffic movement throughout the city. A city built among hills cannot have a circulation system in which all streets have equal importance. Favored and popular routes are certain to appear, but if no effort is made to co-ordinate these streets in a well-arranged system, their usefulness is frequently lowered far below standard. This is what has happened in Knoxville. Attention is directed to the jogs and dead-ends and to narrow widths on important highways, as shown in Plates 8 and 9.

There are surprisingly few wide streets, and some of the streets that meet the requirements of width are so situated that traffic cannot take full advantage of them. Magnolia Avenue is an excellent thoroughfare for a portion of its length, but unfortunately the street narrows down near the business district and terminates at Sterchi Park.

University Avenue which is a 100-foot street for part of its length, has no outlet, and terminates abruptly against a railroad embankment.

Painter Avenue, Temple Street and Island Home Boulevard are wide streets but they do not fit into the traffic circulation scheme. Some of the older streets, many of which are but from thirty to forty feet in width, are forced to carry a heavy traffic. Kingston Pike, for example, is but twenty feet in width.

The radial streets, originally the old pikes, offer means of access to the business district by comparatively direct routes, but inadequate widths lower the capacity of these streets to a serious degree.

The haphazard and unsystematic street layout is the result of lack of interest in the city's problems of growth. Land subdividers unwittingly laid out streets according to their own ideas and did not realize that they were building the framework of a city. These men cannot be unduly censored, however, since the city had no plan for their guidance.

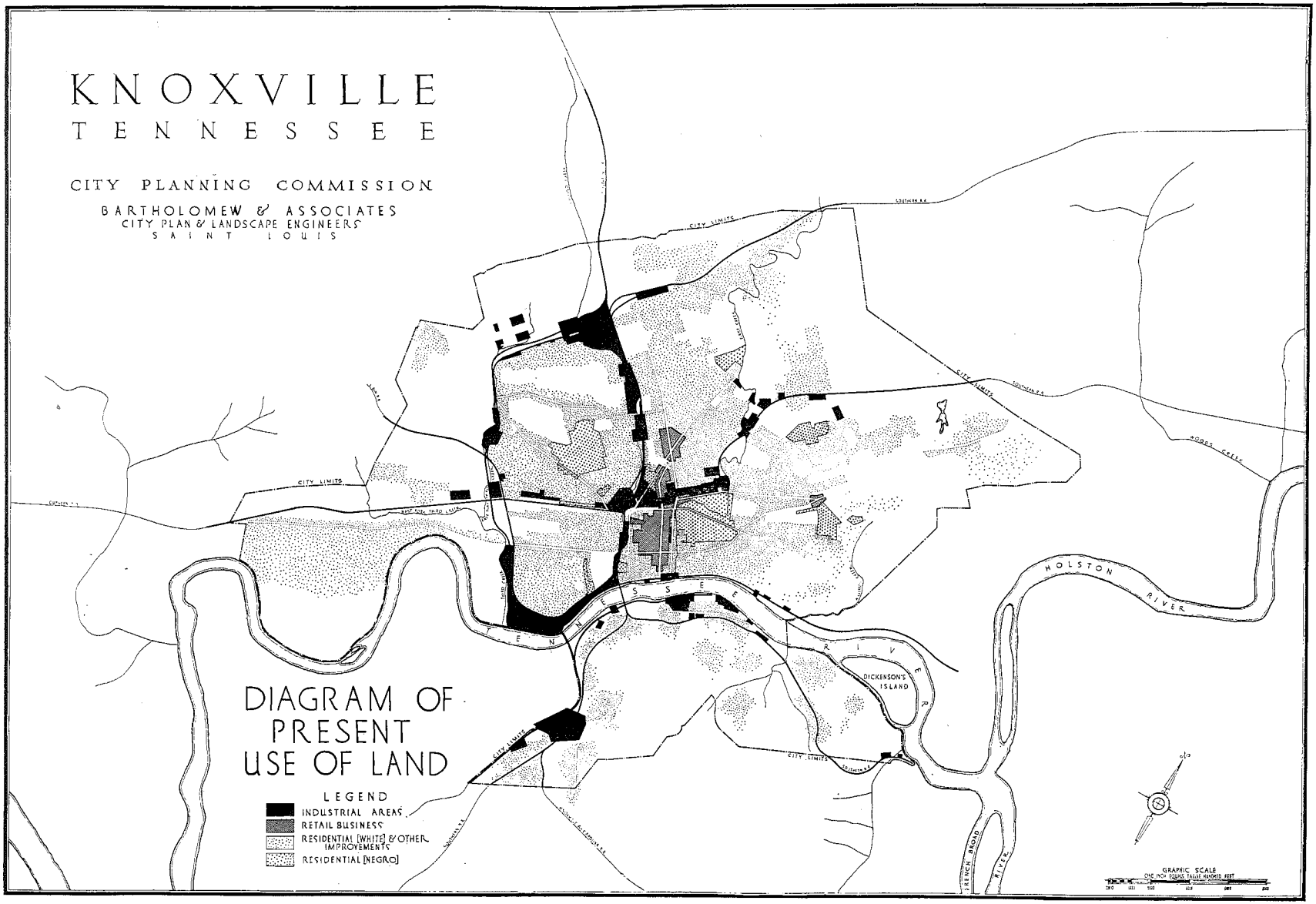

KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
DIAGRAM OF PRESENT USE OF LAND
LEGEND
INDUSTRIAL AREAS
RETAIL BUSINESS
RESIDENTIAL (WHITE) & OTHER IMPROVEMENTS
RESIDENTIAL (NEGRO)
CITY LIMITS
HOLSTON RIVER
TENNESSEE RIVER
DICKENSON'S ISLAND
GRAPHIC SCALE

Plate 7

The proper width of streets should be decided in advance of development by determining the probable traffic needs. The major street study differentiates all the important city streets as to function, and suggests the proper width for these thoroughfares.

Jogs and dead-ends, taken in the aggregate, create serious traffic circulation disturbance. Many of these obstacles to traffic flow could have been eliminated by proper land platting, while others are due to such obstructions as parks and cemeteries, through which streets could not be extended. Granting that certain of these jogs and dead-ends could not be avoided, they do, nevertheless, constitute an interference to traffic movement. Traffic delays, caused by these impediments, involve a tremendous economic loss. Their elimination upon major streets is, of course, necessary and often expensive, but the city should, by proceeding in a logical and systematic manner, spread this expense over a number of years so that the annual cost will be relatively small. Many jogs which are comparatively unimportant at this time can be eliminated at slight cost. Such action if taken without delay would accomplish a large saving over the expense of doing the work in future years when developments of a more or less permanent nature will have taken place.

There is much outlying territory now in the process of development. The prevention of past mistakes will require hearty co-operation between subdividers and the City Planning Commission. The importance of this work cannot be overemphasized.

Before undertaking an analysis of the major street plan, some consideration should be given the elements that make up the system. Plate Number 11 is a diagrammatic representation of the types of streets required to meet primary circulation needs. From a functional standpoint, the classification is as follows:

A. Principal Radial Arteries.

B. Distributor and By-pass Streets.

C. Cross-town and Interchange Routes.

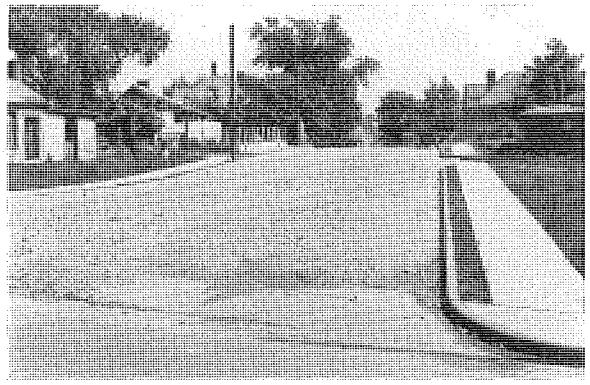
The principal radials, as may be seen, carry traffic straight to the heart of the city. Plate Number 12 is a further study of these most important routes outside the corporate limits of the city.

Group B, the Distributor and By-pass streets, are introduced into the system to improve the serviceability of the principal radials. Traffic counts on the pikes and other radiating arterial highways around Knoxville would show the volume of traffic flow increasing toward the center of the city. Where this concentration is likely to become so heavy that it will result in congestion and a choking of the traffic channel, distributor streets are introduced. These permit successive portions of the volume of traffic to leave the main route, thus diffusing the vehicular flow through centers of congestion. Streets of the distributor type are Main Avenue and Magnolia Avenue.

Henley Street before widening.

Henley Street after widening.

By-pass routes perform a somewhat different function in the circulation scheme. They relieve centers of congestion of such traffic as does not belong there or is willing to avoid congested centers if given a suitable route. A slightly increased distance on the the by-pass is covered in less time than would be taken to work through the center. Knoxville, because of the limited traffic capacity of streets in the business center and topographic conditions therein, needs several well-developed by-pass routes. These will be discussed in detail in another section.



Fort Sanders Street Connection.

The connection of Fort Sanders Street to Western Avenue has opened up a valuable cross-town route.

The cross-town and interchange routes complete the major street pattern. The former should occur at approximately every half mile, although in rough country the standard spacing and regular arrangement are not easily maintained. The major street system, however, should provide adequate routes for vehicular movement in any direction. Traffic going from one outlying district to another on the opposite side of town should not be forced to take a route perhaps already overloaded and running through the busiest section. The major street system, by means of cross-town and interchange routes, should permit a free and easy flow of traffic in every direction throughout the city. If the system fails to meet every test of this kind, it is not an effective arrangement of thoroughfares.

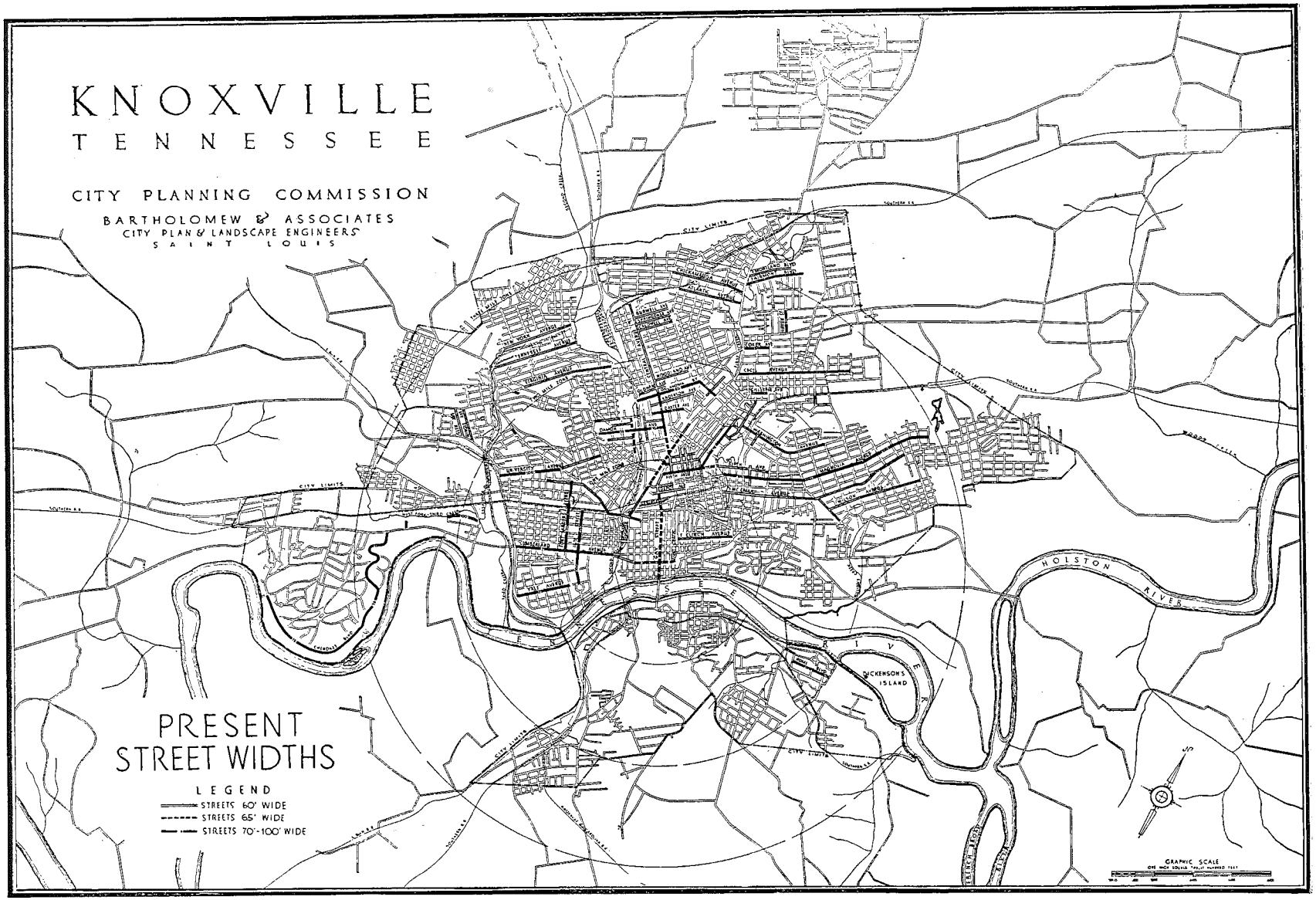
Traffic movement in the city is not an aimless meander. Vehicles moving upon the streets are going somewhere. The flow is toward objectives. Industries, the high schools, the University, the business and office centers, the bridges over the river, local store groups, all have drawing power and are influences in forming the main traffic streams.

The principal business district is obviously the dominant center. A large portion of the daily flow of traffic, both within and without the city, is headed toward or leaving this intensively used section. The major street plan must be designed to favor this essential function of the urban body. Proper circulation to and from the heart of the city is a primary requirement of community health.

The widening of Fifth Avenue should be continued west of Broadway to realize the full value of this improvement.

From the standpoint of the county, the whole city of Knoxville may be considered a dominant center. The most serviceable and effective highway plan will recognize this in a series of radiating heavy traffic arteries. In the corner of the map Plate No. 12, is a diagram illustrating the form of highway scheme required for the entire region around Knoxville where certain secondary centers exist or may be anticipated. If it were not for topographic difficulties, the ideal plan of regional arterial traffic ways would take the form of a spider web. As far as possible this type of pattern should be worked toward in the development of the major circulation system.

The radial highways and streets, as those familiar with conditions know, have an increasingly heavy burden or traffic to carry. Common sense would suggest that they have greater width. There is little evidence that Knoxville has considered streets of this type more important than many others. Their widths, generally speaking, are wholly inadequate for future traffic requirements.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CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
PRESENT
STREET WIDTHS
LEGEND
STREETS 60' WIDE
STREETS 65' WIDE
STREETS 70'-100' WIDE
HOLSTON RIVER
TENNESSEE RIVER
DICKENSON'S ISLAND
CITY LIMITS
GRAPHIC SCALE

Plate 8

THE MAJOR STREET PLAN

The major street plan has four phases that deserve note. They are:

1. Streets accepted as they stand.
2. Streets too narrow, needing widening.
3. Short extensions or connections to make existing streets more usable.
4. New streets to be laid out as land is platted.

Because of Knoxville's great number of extremely narrow streets, those accepted as found are relatively few. Gay Street, for example, must stand as it is. Widening is practically out of the question. Magnolia Avenue for part of its length is wide enough and well located for excellent service in the thoroughfare system. Other streets, such as Georgia, are of secondary value in the system and do not need increased capacity as urgently as do many other streets.

Streets shown as needing widening are numerous. It is imperative that some streets, such as Henly Street*, Wall Avenue, and East Vine Avenue, be widened immediately. Others will need widening in ten or twenty years, and this future need should be anticipated by the establishment of building lines now. The major street plan is an organic composition expressing the eventual requirements of traffic flow.

Short extensions and connections are exceedingly important in the early stages of major street development. They bring into service streets that represent a community investment, but which have heretofore produced meager returns. Connections are needed to enable the designated major streets to function as a system. Sutherland Avenue and Euclid Avenue should be made one continuous street by a connection at Twenty-fourth Street. Magnolia Avenue is in position and has the width to be one of the most important streets in the major street system but it dead-ends at Sterchi Park. The difficulty of getting into Magnolia from McCalla can be removed by opening a connection through the park as shown in the major street plan.

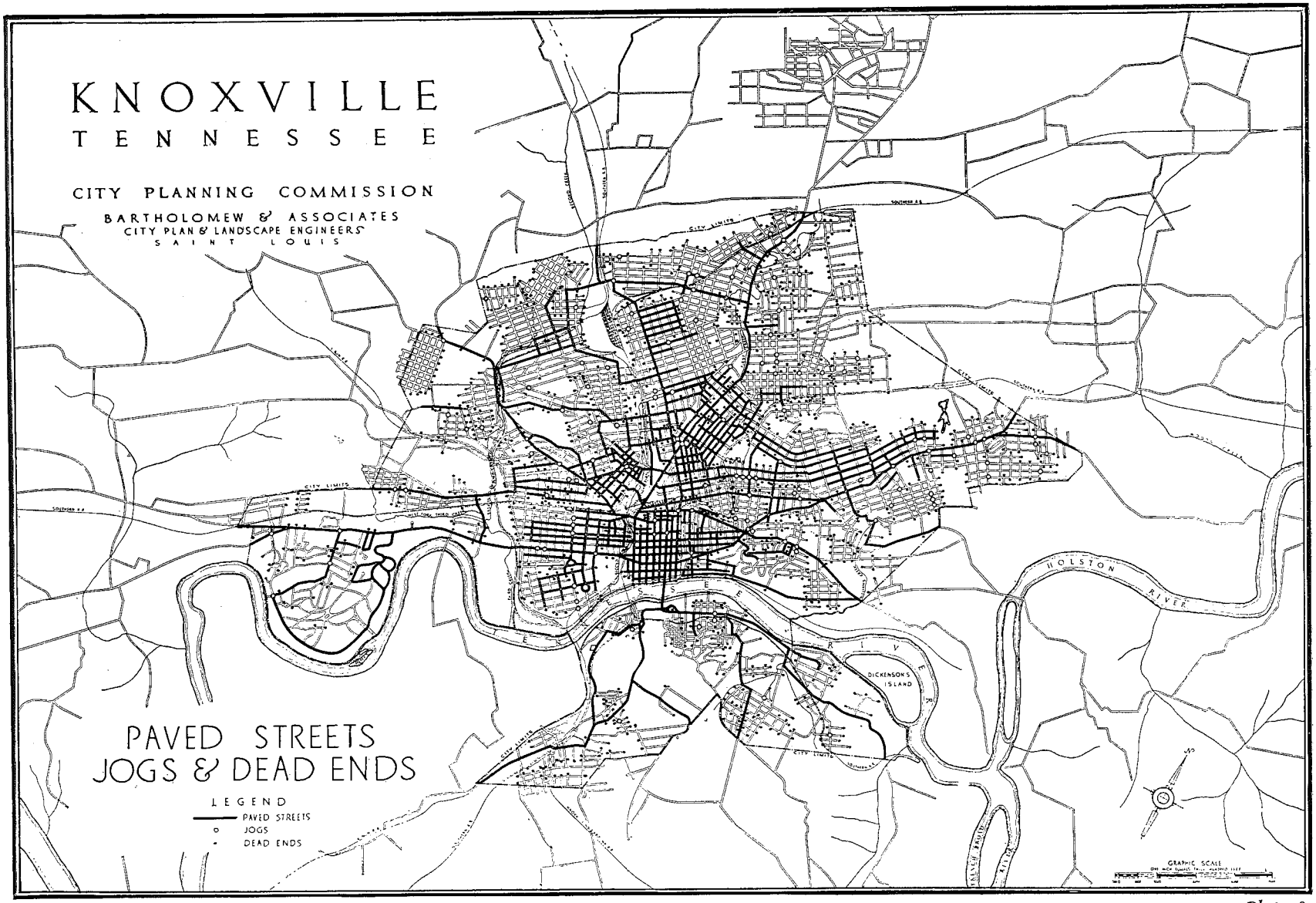
The new streets recommended are not for immediate opening, but are shown on the plan merely to guide land owners when the time comes for platting. The problems of land subdivision are illustrated on Plate No. 18. Land subdivision is true city "planning." The widening of streets, the opening of connections deal with "replanning." Every effort should be made to carry out the planning function of the Commission regardless of the acceptance of remedial measures.

Following is a description of the various streets which are designated as major thoroughfares.

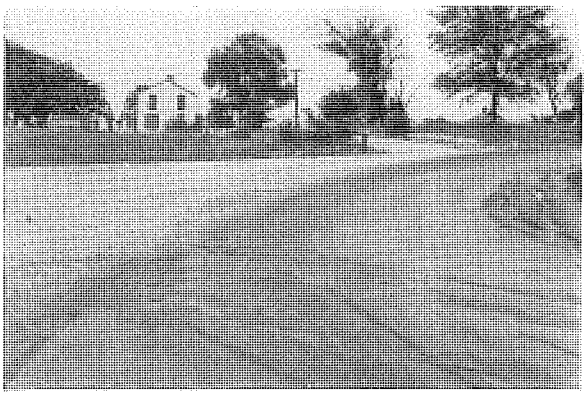
ATLANTIC AVENUE—EDGEWOOD AVENUE.

Atlantic Avenue is an important cross-town street running east and west between Central Street and Broadway. The subway under the Southern Railway tracks on the Central Street continuation of Atlantic Avenue is the only grade separation on this railroad between the north city limits and the downtown business district. Few streets cross the railroad even at grade between these points. Atlantic Avenue varies in width from 40 to 60 feet, which is inadequate

(*See "City Planning Accomplishments",


KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
PAVED STREETS
JOGS & DEAD ENDS
LEGEND
PAVED STREETS
JOGS
DEAD ENDS
HOLSTON RIVER
DICKENSON'S ISLAND
CITY LIMITS
GRAPHIC SCALE

for future needs. A width of 80 feet from Central Street to Henegar should not be difficult to obtain, as property is not highly developed. A 60-foot width from Henegar Street to Broadway should suffice. There are two bad jogs, one at Felts Street and one at Pershing Street. The city has acquired the necessary property to eliminate the Felts Street jog, and similar steps should be taken at Pershing Street. The dangerous grade crossing at Pershing Street should be eliminated. There is an awkward jog where Atlantic Avenue connects with Edgewood Avenue at Broadway. Edgewood Avenue, which extends eastward to the city limits, should be widened to 60 feet.



The value of corrective improvements is well illustrated by the intersection of Central Street and Atlantic Avenue.

BAXTER AVENUE.

Baxter Avenue, an east and west cross-town street in the central section of the city, occupies one of the most strategic positions in the entire street structure of Knoxville. It connects with such important streets as Western Avenue and Keith Avenue to the west, and should be connected directly with Mitchell Street and Glenwood Avenue to the east, thereby affording the principal cross-town thoroughfare of the city. A uniform width of 80 feet should be secured throughout the entire route. While this route involves cutting through several blocks of built-up property in the vicinity of Broadway and Wells, it is quite necessary because of the extremely poor street arrangement in this section of the city. It would serve a function now inadequately performed by Glenwood and Washington Avenue. A grade separation at the Southern Railway should be made at Pratt Avenue.

BEN HUR—SELMA AVENUE—RIDGE ROAD.

In order to provide an adequate traffic artery for the section of the city south of McCalla Avenue, these three streets are proposed as major thoroughfares. Ben Hur is at present a 60-foot street, Selma 50-foot, and Ridge Road about 30. A uniform 80-foot width should be established. New connections are necessary at two places.

BERTRAND STREET.

Bertrand Street is a distributor street for the proposed broad north and south route composed of Whittle Springs Road and other streets. It forms an important connection between Vine Avenue and Magnolia Avenue. A width of 80 feet should be obtained for future traffic requirements.

BROADWAY—HENLEY STREET

Broadway is the most important artery in the city. It runs in a north and south direction and affords direct connection with the business district, the large North Knoxville residential sections, and important state highways leading from the city. The completion of the viaduct has materially increased the usefulness of this thoroughfare and has served to relieve the acute congestion at Gay Street. Broadway varies from 30 to 72 feet in width. It is proposed to increase this width to 100 feet north of Western Avenue. Due to its continuity, easy grades and location, the street is certain to be one of the most heavily travelled streets in the city and provision should be made to anticipate future demands of traffic by acquiring a sufficiently wide right-of-way. The dangerous grade crossing near the north city limits has recently been eliminated. Broadway carries a two-track car line over a portion of its length. In some places the tracks are badly located in the street, creating a dangerous condition. This should be corrected by the re-location of the car tracks and the widening of the roadway. The widening of Henley Street with its connection into Broadway and the new bridge across the river at the foot of Henley Street will be of utmost importance to the city.

BLOUNT AVENUE—FLETCHER STREET.

Blount Avenue was formerly the Maryville Pike. This pike was re-located and is now known as the Martin Mill Pike. The street is important industrially, as it serves a number of manufacturing plants, marble plants and lumber yards in South Knoxville. It is narrow, carries a street car line, and has several grade crossings. As a special service street, a width of 66 feet should be sufficient.

BROOKS AVENUE.

Brooks Avenue, a short thoroughfare 40-50 feet wide, in the eastern part of the city, is little used at present. Its importance will increase with the development of the district which it serves. Its present width should be increased to 80 feet.

CENTRAL STREET.

Central Street ranks almost equally with Broadway as a north and south arterial thoroughfare. Its width varies from 30 to 80 feet, but unfortunately the 80-foot width is for a short distance only. A uniform width of 80 feet should be established from Front Street to the north city limits. The usefulness of the street as a feeder to the business district is considerably hampered by the grade crossing near the Southern Station. A separation of grades should be effected at this dangerous point. The abrupt turn at the intersection of Atlantic Avenue and Central Street has been corrected at comparatively little expense. It is proposed to re-locate Central Avenue from Atlantic Avenue north. It would connect

with the present street at the north city limits by means of an underpass at the Southern Railway.

CASTLE STREET.

Castle Street is a north and south thoroughfare in the eastern part of the city. It is recommended that this street be extended north to form a continuous route connecting the Park City district with the north and northeast part of Knoxville. This new connection would extend north from Woodbine Avenue along the eastern city limits almost to Whittle Springs. Its present width, varying from 35 to 50 feet, should be increased to 100 feet.

CHURCH AVENUE—JASPER STREET.

Church Avenue offers one of the best opportunities for a good approach street to the central business district from the east. It should be widened to 80 feet from Gay Street to a connection with Dandridge Avenue in the vicinity of Saxton Street. The offset at Main Avenue should be eliminated and some regrading might be done to advantage.

CONCORD STREET.

A north and south artery in the west part of the city would be a decided asset to the traffic circulatory plan. Concord Street constitutes a nucleus from which such a route could be evolved. The Cherokee bridge across the Tennessee is an antiquated structure which will soon be replaced. It is important that when this is done the bridge be re-located at Concord Street. It is entirely feasible to locate a new street from Sutherland Avenue north to Western Avenue. A width of 80 feet should be obtained. The route would act as a by-pass for through traffic entering the city from the south.

DAVENPORT ROAD.

Davenport Road is a narrow street in South Knoxville which joins Sevierville Pike at the south city limits, furnishing a cut-off and alternate route to Sevierville Pike. A width of 80 feet should be established.

DANDRIDGE AVENUE.

This street carries a heavy traffic load from the east to Vine Avenue and Main Avenue, thence into the business district. A single-track car line occupies part of the length of the street. It is proposed to widen this street to 80 feet east of Saxton Street, where a connection with the extension of Church Avenue is proposed.

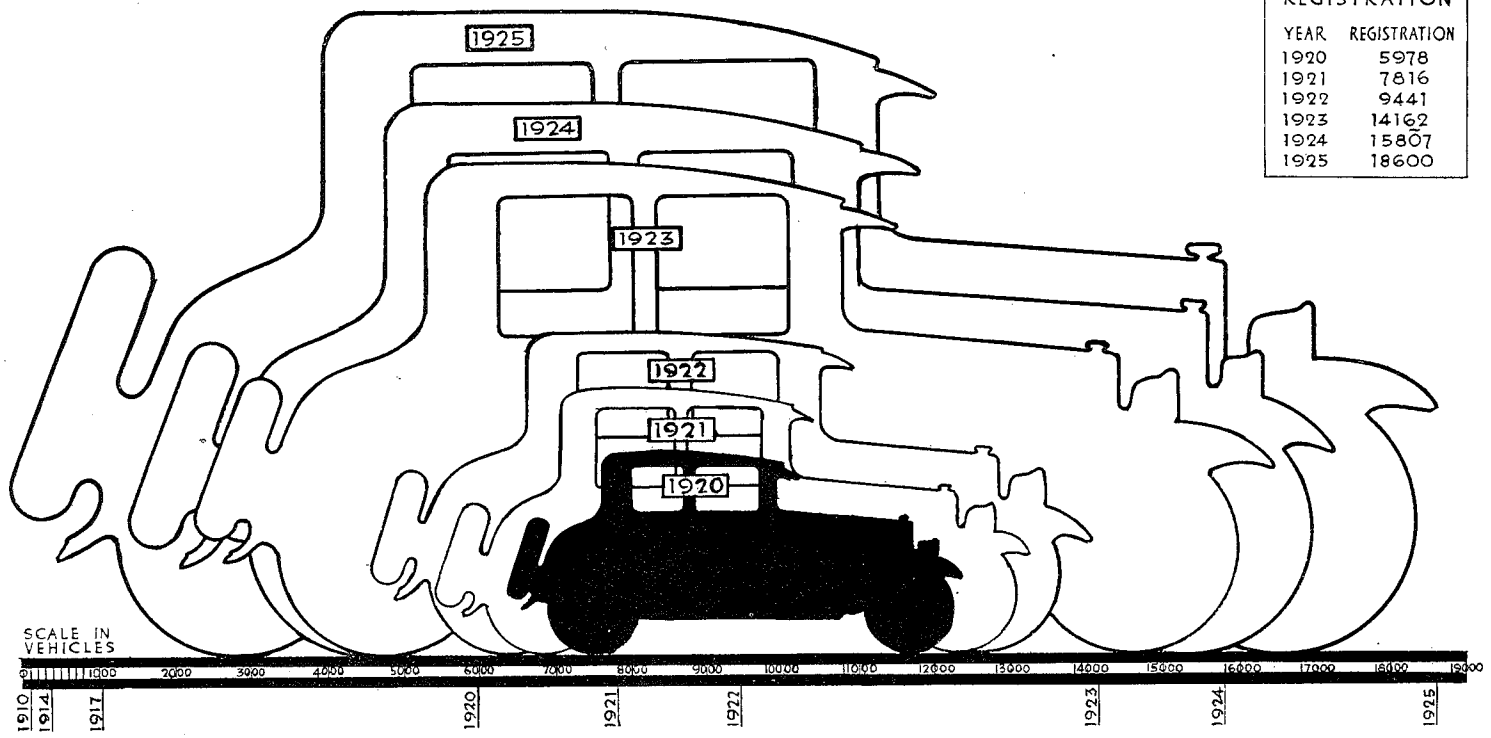
FIFTH AVENUE—EAST.

Fifth Avenue originates in the central part of the city and extends eastward to Sterchi Park. The present bridge over the Southern and L. & N. railroads is entirely inadequate and should be replaced. The short block between Broadway and Gay Street which was formerly very narrow and formed a "bottle neck" between two important streets, has been widened to 80 feet. This has resulted in a great improvement of traffic conditions. From Gay Street to the underpass, Fifth Avenue has sufficient width, but from the underpass to Olive Street it is only 60 feet wide and should be increased to 80 feet. It is not proposed to use Fifth Avenue east of Olive Street as a major street.

CITY PLANNING COMMISSION
KNOXVILLE
TENNESSEE
1 9 2 7

INCREASE IN REGISTRATION OF MOTOR VEHICLES
KNOX COUNTY TENNESSEE

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS



SUMMARY OF REGISTRATION

YEAR	REGISTRATION
1920	5978
1921	7816
1922	9441
1923	14162
1924	15807
1925	18600

Plate 10

FIFTH AVENUE—NORTH. FOURTH AVENUE—NORTH. HOITT AVENUE.

North Fifth Avenue between East Fourth Avenue and Wells Street is an excellent thoroughfare, having a width sufficient for six lines of traffic, easy grades and no car lines. It is proposed to use North Fifth Avenue for this distance connecting into North Fourth Avenue near Glenwood. A short connection between North Fourth and Hoitt Avenues will open up a continuous route from the heart of the city to the east city limits.

FAIRMONT BOULEVARD—AVIATION ROAD.

These two streets extend eastward from Broadway and serve a rapidly developing residential district. At present the streets are not connected. It would not be difficult to secure such an improvement. The present width of 65 feet on Fairmont Boulevard should be increased to 80 feet, and sufficient width should be acquired along Aviation Road to meet this standard. It is proposed to extend Aviation Road to the east, connecting into Valley View Road.

FERN STREET—PROSSER STREET.

These two streets form a north and and south route near the eastern city limits. Prosser Street is extremely narrow. A width of 80 feet should be provided on both streets.

FOREST AVENUE.

Forest Avenue is now a narrow street which could well be developed into a major thoroughfare because of its easy grades, direct entrance into the business district via the Western Avenue viaduct, and its desirable location penetrating the West Knoxville district. It should be widened to 80 feet and extended west over the L. & N. Railroad, the Southern Belt Line and Third Creek to a connection with the new thoroughfare proposed to parallel the main line of the Southern Railway westward to the city limits.

GAY STREET.

Gay Street is the main business thoroughfare in the city and has the greatest congestion. It provides the only connection between South Knoxville and the business center. Prior to the construction of the Broadway Viaduct, Gay Street was the only entry into the business district from the north, but since the completion of the viaduct the former congestion has been materially relieved. All street cars are routed over Gay Street in the business district and practically all vehicular traffic terminating in the business district traverses Gay Street for some distance. Its width of 65 feet is inadequate, but because of excessive cost it is not proposed to widen this street. South of Magnolia Avenue, between Magnolia Avenue and Emory Place, the street should be widened to 66 feet. The present bridge over the river is too narrow. It should be replaced eventually by a new structure designed for six lanes of traffic.

GEORGIA STREET—BETHEL STREET.

In order to rejuvenate a blighted district along First Creek near Vine Avenue and to provide a new street to expedite traffic circulation, it is proposed

to designate the above streets as major thoroughfares. A new connection between Georgia Street and Bethel Street along First Creek would make a continuous route between Vine Avenue and Fourth Avenue. The property affected by the proposed new street is of low value. A 60-foot width should be established.

GLENWOOD AVENUE.

Glenwood Avenue forms a part of a cross-town route of which Baxter Avenue is the central connecting thoroughfare. It should be widened to 80 feet and extended eastward via Washington Avenue and a new connection to the Rutledge Pike, also to McCalla Avenue.

HARVEY STREET—PERSHING STREET—HANOVER STREET—BUTTE STREET.

These four streets form a proposed new route from the north into the center of the city, connecting with the Baxter Avenue cross-town route via Wells. The improvement and connection of these streets would give a much needed outlet for the large district lying between Central Street and Broadway, in the north part of the city. The proposed route would also relieve Central Street and Broadway of a portion of the heavy traffic they are required to carry. It is proposed to extend Butte Street north from its intersection at Fairfax Avenue through the gap in the ridge. This extension would open up a direct route from the beautiful valley along the Dutch Valley Pike, which will undoubtedly in time be a high-class residential district. A short connection should be made at Springdale Avenue between Harvey and Pershing, and the dangerous grade crossing at Pershing Avenue should be removed. The present widths of the streets will provide four lines of traffic.

HILL AVENUE, (EAST)—RIVERSIDE DRIVE.

These two streets are close to the river and serve the highly developed residential district of East Knoxville. Riverside Drive extends eastward beyond Hill Avenue, connecting with Dandridge Avenue at the city limits. An adequate artery should be made of these two streets. That portion of the city which would be served by these streets has no main thoroughfare to expedite traffic flow at the present time, and as a result, stagnation in property development has occurred. The Hill Avenue bridge is a narrow structure and because of its age will doubtless be replaced in the near future, at which time adequate width should be provided. It is proposed to extend Hill Avenue, now dead-ending in Cardwell Street, to connect into Riverside Drive at McCammon Street. Such an improvement could be accomplished without involving great expense. The many awkward turns in the present route, which add greatly to traffic danger, should be eliminated. The present width of 35-40 feet should be increased to 80 feet.

HARDIN HILL ROAD—CHERRY STREET—BIDDLE STREET.

These streets, if improved, would form a useful route connecting Dandridge Avenue with Whittle Springs. On account of topography, the route is one of a few in this locality that can be developed on easy grades. Hardin Hill Road is very narrow. Cherry Street and Chestnut Street, although somewhat wider are still inadequate. A new connection along Williams Creek, joining Biddle Street and Dandridge Avenue, is needed. A four-line traffic capacity should be provided.

JACKSON AVENUE—MCCALLA AVENUE.

This street is an east and west arterial thoroughfare from the business district to the east city limits and thence by state highway eastward. It parallels Magnolia Avenue on the south. There is a car line from Central Street to Ben Hur Avenue. There is a variance in width from 45 to 70 feet. There should be a uniform width of 80 feet established to Bentley Street, at which point it is recommended to connect Magnolia Avenue. From Bentley Street east the width should be 100 feet.

JOHNSON STREET—MURPHY STREET—MARION STREET—MAY STREET—MAPLE STREET.

This route connects the important Lonsdale industrial and residential district with east and west thoroughfares and streets leading to the business district.

It is proposed to connect Johnson Street with Central Street near Heiskell Street by means of a new street. Marion Street between Baxter Avenue and Oldham Avenue is platted but is not opened to traffic. This street should be graded in order to complete the continuity of the route. A width capable of accommodating four lines of traffic should be established throughout.

KEITH AVENUE—BEAUMONT AVENUE—ELM STREET.

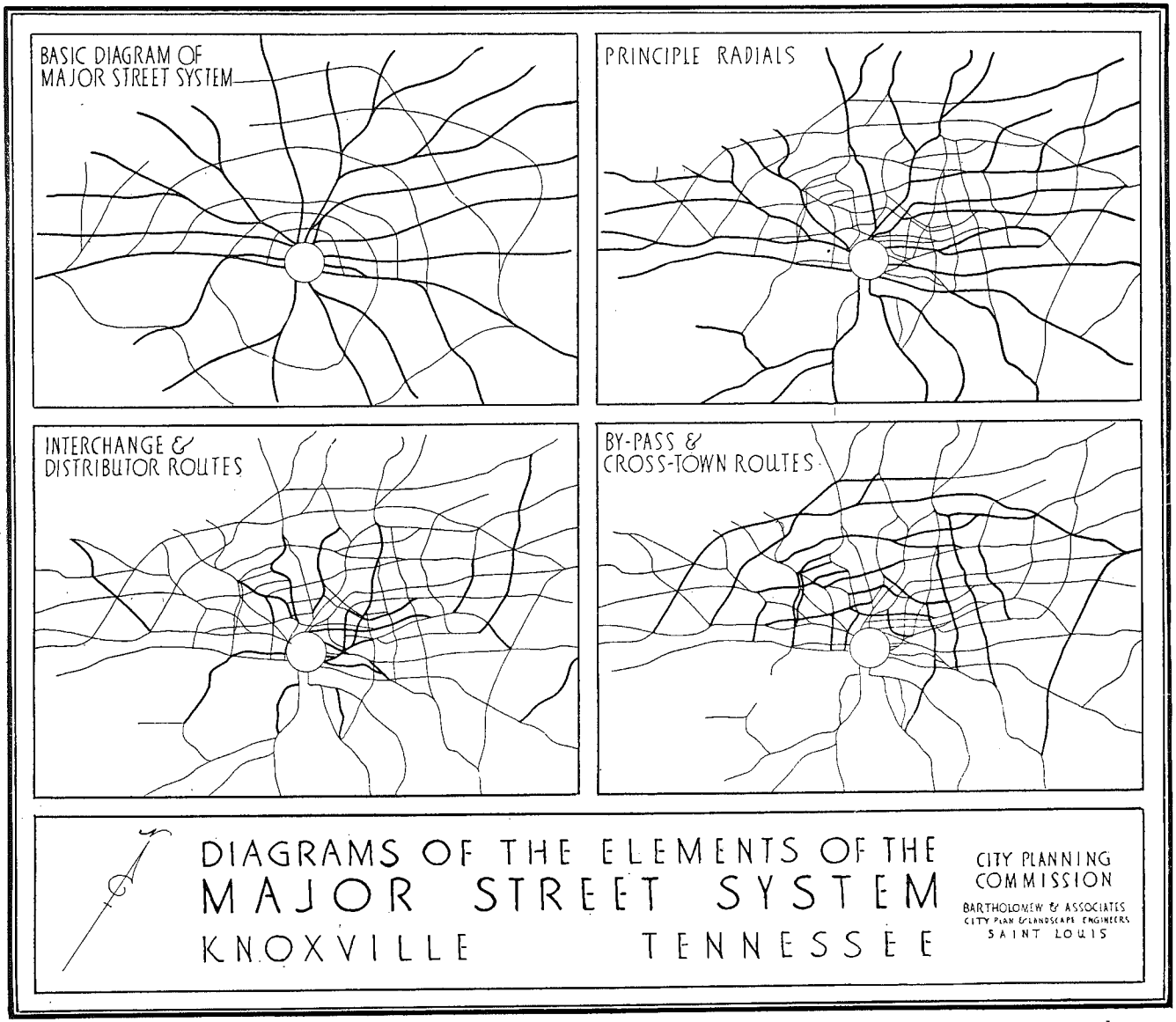
These streets form a connecting route from the west city limits to the central part of the city. Street grades are good but the widths are inadequate, 50 feet being the maximum. Property affected by widening is comparatively inexpensive. An 80-foot width should be secured to Elm Street. A 60-foot width should be established on Elm Street.

KINGSTON PIKE—CUMBERLAND AVENUE.

Next to Broadway, Kingston Pike carries the largest volume of out-of-town traffic. West of the city limits, it is an important State Highway. The present width of Kingston Pike is but 20 feet. Cumberland Avenue is about 65 feet. There is a car line over its entire length. Between Concord Street and West Main Avenue the width should be 80 feet. It is not proposed to widen the street in the business district or west of Concord Street. Because of the restricted width of Kingston Pike, it is proposed to establish a new 80-foot thoroughfare between Third Creek and Lyons View Pike parallel to the railroad somewhat north of Kingston Pike. A highly important improvement will be effected if the present plans for the removal of the car line and widening of the street are carried out.

LIBERTY STREET.

Liberty Street terminates between Sutherland Avenue and Kingston Pike. In order to make a north and south route available between the Sequoyah Hills section to the West Lonsdale district, it is proposed to extend Liberty Street to connect into Kingston Pike. The street should also be extended between Middlebrook Avenue and Keith Avenue. A 66-foot right of way should be sufficient.


BASIC DIAGRAM OF
MAJOR STREET SYSTEM
PRINCIPLE RADIALS
INTERCHANGE &
DISTRIBUTOR ROUTES
BY-PASS &
CROSS-TOWN ROUTES
DIAGRAMS OF THE ELEMENTS OF THE
MAJOR STREET SYSTEM
KNOXVILLE TENNESSEE
CITY PLANNING
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McCammon Street—Ferry Street—Bowerman Street—Isabella Street—Groner Street—Amherst Street—Wyoming Street—Chilhowee Street.

It is proposed to join these short disconnected streets to form a highway parallel to Dandridge Avenue on a low level through a sparsely developed section of the city. Such a highway would open up a large residential district which is stagnant at present due to inaccessibility. Several short connections should be made and some jogs and turns eliminated. A width of 80 feet should be provided.

Martin Mill Pike.

This street extends from the south end of the Gay Street bridge southward through South Knoxville to Vestal, there connecting with Maryville Pike, an important state highway. Due to the rugged topography, the street follows a winding route. The connection to Henley Street by means of the new bridge would make this street a very important thoroughfare. For this reason it is recommended that a width of 100 feet be established to Ogle Avenue and from that point south, a width of 80 feet.

Magnolia Avenue.

Magnolia Avenue is the best arterial highway in the city for the greater part of its length. The street has adequate width, low grades and excellent continuity. Its usefulness is greatly impaired by the inadequate width of from 50 to 60 feet between Gay Street and First Creek, and by its dead-ending at Sterchi Park. The street carries a double car track line along its entire length. Because of the car line and inadequate width on the western end, traffic avoids this portion of the street. It is proposed to widen the narrow portion of the street to 100 feet and to extend it from the present terminus to connect into McCalla Avenue at Bentley Street.

Middlebrook Avenue—24th Street.

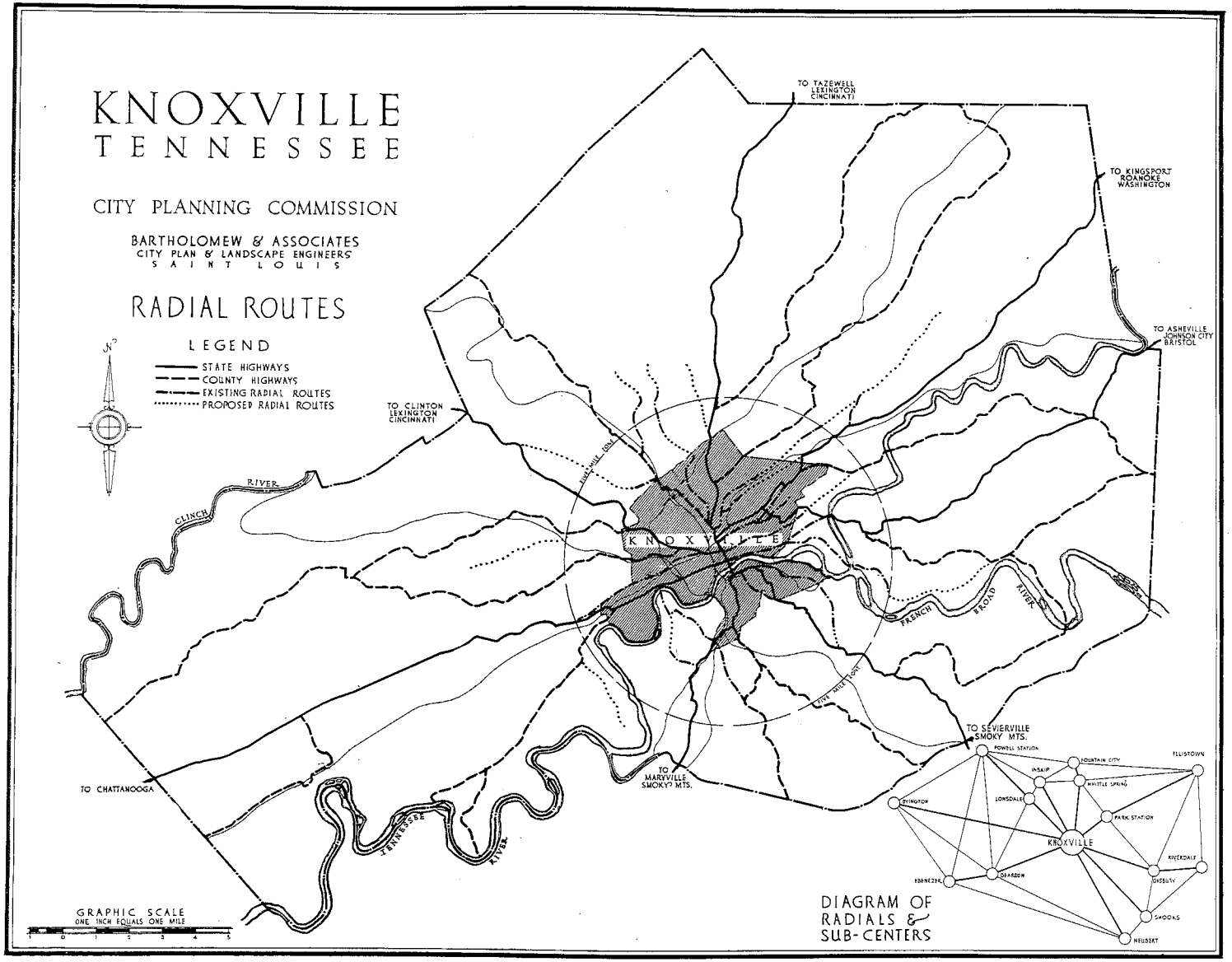
Middlebrook Avenue is a continuation of the Middlebrook Pike inside the city limits and connects with University Avenue and Euclid Avenue via 24th Street. The 35 to 40-foot width is inadequate and should be increased to 80 feet. It is proposed to cut off the sharp turn at Ailor Avenue and 24th Street to allow free traffic movement around the corner. The street carries a one-track car line over parts of its length.

Main Avenue.

Main Avenue is one of the principal entries to the business district from both the east and west. In the business district it has a width of 65 feet, the same as Gay Street. East of the business district Main Avenue has a width varying from 40 to 60 feet. A width of 80 feet should be established throughout. The bridge over First Creek is narrow and the approaching grades are steep. It is recommended that the bridge be replaced by a viaduct of ample width and that the grades of the approach be reduced.

Ogle Avenue—Blount Avenue.

These two short continuations of Martin Mill Pike connect with the Maryville Pike at the city limits. Both streets should be widened to 100 feet.


KNOXVILLE
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SAINT LOUIS
RADIAL ROUTES
LEGEND
STATE HIGHWAYS
COUNTY HIGHWAYS
EXISTING RADIAL ROUTES
PROPOSED RADIAL ROUTES
TO TAZEWELL LEXINGTON CINCINNATI
TO KINGSPORT ROANOKE WASHINGTON
TO ASHEVILLE JOHNSON CITY BRISTOL
TO CLINTON LEXINGTON CINCINNATI
CLINCH RIVER
FRENCH BROAD RIVER
TO CHATTANOOGA
TENNESSEE RIVER
TO MARYVILLE SMOKY MTS.
TO SEVIERVILLE SMOKY MTS.
GRAPHIC SCALE
ONE INCH EQUALS ONE MILE
DIAGRAM OF RADIALS & SUB-CENTERS
KNOXVILLE

Plate 12

OLDHAM AVENUE—COKER AVENUE—WASHINGTON PIKE.

Oldham Avenue at present carries the bulk of traffic between North Knoxville and the Lonsdale section. Coker Avenue is one of the few wide streets in the city, being 80 feet in width for some distance. By establishing a uniform width of 80 feet and extending Coker Avenue to the east to connect with Washington Pike, a much-needed cross-town route would be brought into use. The Oldham Avenue grade crossing is hazardous and should be eliminated.

PROCTOR STREET—SCHOFIELD STREET.

These two short streets connecting Middlebrook Avenue with Western Avenue and Tennessee Avenue in the western part of the city are narrow and are hampered by street car tracks. As the streets are parts of an important connecting link in the Lonsdale industrial district, it is important that width sufficient for four lines of traffic be obtained. The intersection of Proctor Street and Western Avenue is poorly planned and should be corrected in the near future. This improvement may be done at small expense.

RUGGLES FERRY PIKE.

This street branches off from McCalla Avenue in Burlington and extends to the southeast into the country. It should not be difficult to provide a right-of-way of 80 feet. The intersection of Ruggles Ferry Pike and McCalla Avenue at an acute angle is an example of the proper treatment of this type of intersection, although the property involved is privately owned. It might be well for the city to acquire this corner in order to insure its being kept open.

SUTHERLAND AVENUE.

Sutherland Avenue is one of the longest streets in the city, entering from the west and extending in a straight line to Hart Avenue. The street parallels Kingston Pike and would be an excellent by-pass street for through traffic provided it were widened and improved. Because of the quality of property abutting Sutherland Avenue, an 80-foot width could be acquired at comparatively little expense. There are no car lines on the street, grades are good and continuity is excellent. Two bridges over the Southern and the L. & N. Railroad provide grade separations at these points. However, they are narrow and antiquated, and should be replaced by modern structures. A cut-off at 24th Street to Euclid and University Avenues could be easily made and would facilitate traffic movement between these streets.

SEVENTEENTH STREET—FORT SANDERS STREET—COLLEGE STREET—BOOKER STREET.

Seventeenth Street, known also as Fort Sanders Avenue, is at present the only connection between West Knoxville and the central industrial district. The street crosses the main line of the Southern Railway by means of a wooden bridge, which is the only grade separation between the business district and the western city limits. This overpass, which has out-lived its usefulness, is narrow and is poorly located in the street. Its replacement is strongly recommended. Fort Sanders Avenue which formerly terminated near Western Avenue has been extended to connect directly with Western Avenue. Booker Street is not wholly

opened to traffic. By securing the new connection and by improving Booker Street a route would be established from Cumberland Avenue to Beaumont Avenue. This much-needed route should be developed to supply a now existing traffic demand. The width of these streets, varying from 40 to 70 feet, should be increased where necessary to carry four lines of traffic.

SOUTH HAVEN ROAD.

This street forms a portion of the proposed wide thoroughfare extending north and south across the full width of the city. The street is at present narrow and little used by traffic. It is recommended that a right-of-way of 100 feet be obtained.

SEVIER AVENUE—(*Formerly Island Home Avenue*).

Sevier Avenue extends from the south end of the Gay Street bridge eastward along the river to old Sevierville Pike, where the name is changed to Island Home Avenue, and extends southeast beyond the city limits. This street serves a number of industries and a large residential district. It carries a car line and is narrow, varying from 35 to 50 feet. At the south end of the Gay Street bridge the city has recently completed a project on this street which has eliminated a sharp curve. A width of 80 feet should be obtained throughout.

SEVIER AVENUE—(*Formerly Sevierville Pike*).

This street was formerly one of the old pikes and leads to the town of Sevierville and to the Smoky Mountains. It still retains its narrow width of 35 feet and carries a single-track car line over part of its length. The street follows an irregular course, with some sharp corners that should be rounded off. A width of 66 feet should be established.

THIRTEENTH STREET—RAMSEY STREET—RICHARD STREET.

This north and south cross-town route is parallel to Seventeenth Street and connects the University and West Knoxville with the Lonsdale section. The present widths of 35 and 40 feet should be increased to 80 feet between Cumberland Avenue and Western Avenue and to 66 feet from that point north. A jog occurs at the intersection of 13th Street and Grand Avenue. It is proposed to cut through here and connect directly with Ramsey Street with an overhead crossing of the main line tracks of the Southern Railway. Another jog exists at the intersection of Oak, Ramsey and Richard Streets.

TEXAS AVENUE—MINNESOTA AVENUE—HEISKELL STREET.

These streets extend across the entire width of the city near the north city limits. Atlantic Avenue and Fairmont Boulevard, described above, complete the route. In common with most of the other city streets, these are deficient in width, varying from 30 to 50 feet. They should be widened to 80 feet.

TENNESSEE AVENUE.

This short street between Johnson Street and Western Avenue in Lonsdale, is important industrially and is a possible future business center. It carries a double track car line, and should have a width of at least 80 feet.

KNOXVILLE
TENNESSEE

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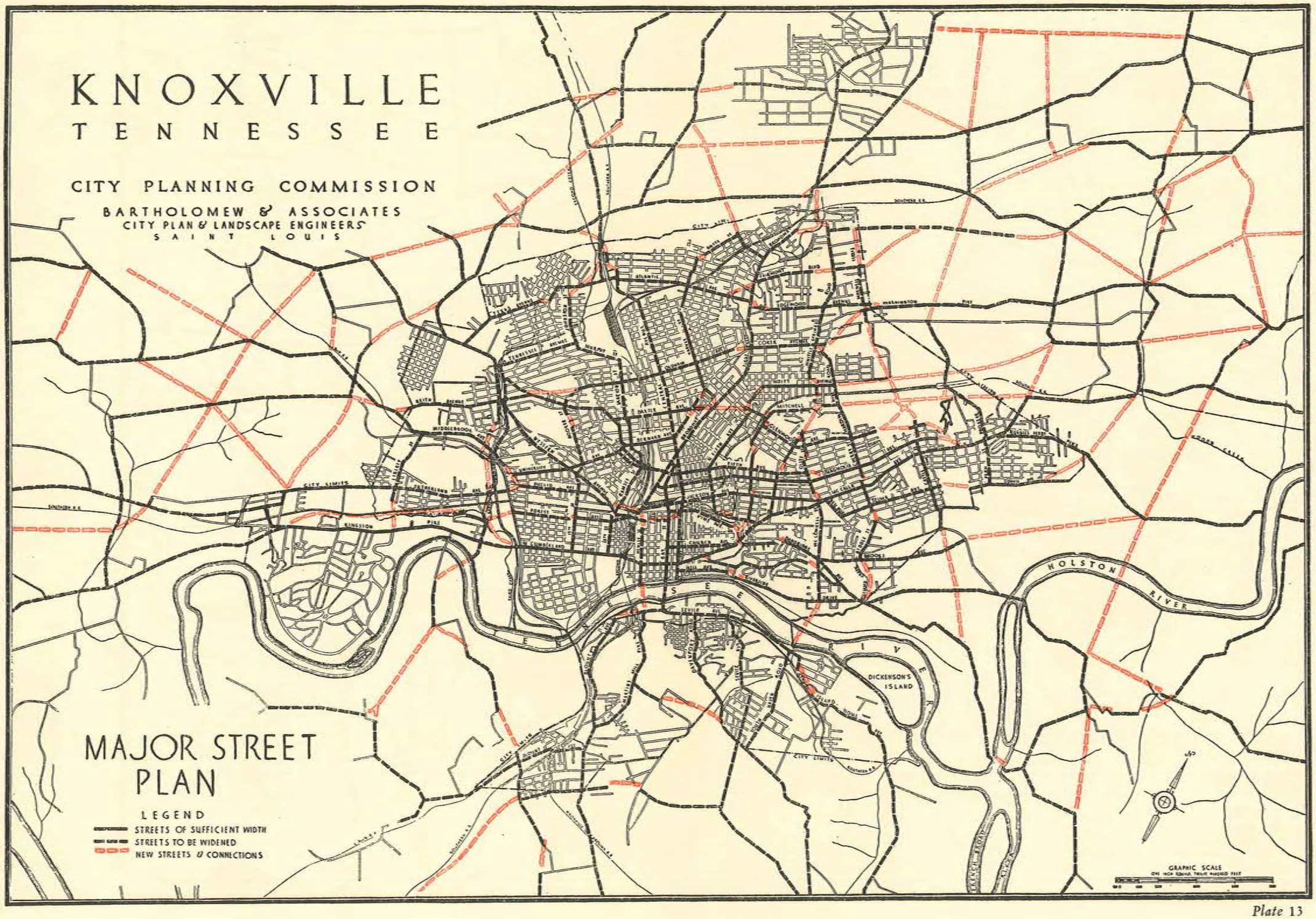


MAJOR STREET PLAN

LEGEND
- STREETS OF SUFFICIENT WIDTH
- STREETS TO BE WIDENED
- NEW STREETS & CONNECTIONS

Plate 13

UNIVERSITY AVENUE—BERNARD AVENUE—STEWART STREET — HELLER PLACE — FOLSOM STREET.

This cross-town route extends from 24th Street, crossing Western Avenue, College Street, West Fifth Avenue, Marion Street, Central Street and Wells Avenue, all of which are designated as major streets. University Avenue has a width of 100 feet for part of its length, but this adequate width is largely wasted because of the dead-end at the railroad. There is little traffic on this street between 25th Street and Western Avenue, because of the dead-end and poor condition of the roadway. There is a double track car line. The other streets composing the route are narrow. A grade crossing exists on Bernard Street; new connections are needed between Steward Street and Heller Place, and between Heller Place and Folsom Street. A uniform width of 80 feet should be provided throughout the route. The grade crossing mentioned is one of the worst in the city and it is important that immediate separation be effected. In order to increase the usefulness of University Avenue, it should be connected directly with Middlebrook and Sutherland Avenues, as shown on the major street plan.

VINE AVENUE.

Vine Avenue is a much-used entry to the business district from the east. With the exception of Jackson Avenue, Vine Avenue is the only street from this direction that has easy grades and does not necessitate a viaduct to reach the business section. Its narrow width and poor condition, however, restrict its usefullness. It is proposed to extend Vine Avenue to connect directly with Church Avenue extended and to secure a width of 80 feet. The majority of the property affected by widening and extending is comparatively inexpensive.

WINONA STREET—PRESTON STREET—MITCHELL STREET—AVENUE B.

This distributor extends north and east from Vine Avenue through the industrial district around the Holston Manufacturing Company and terminates at Hardin Hill Road. It serves as an important connecting street between Fifth Avenue, Magnolia Avenue, McCalla Avenue and Vine Avenue. By extending Avenue B to the east connecting with McCalla Avenue, just outside the city limits, a new industrial district would be opened up along the Southern Railway and a new entry to the city from the east secured. The present width of 50 feet will provide facilities for four lines of traffic. The jog at McCalla Avenue should be cut off and new connections provided between Winona Street and Mitchell Street and between Mitchell Street and Avenue B.

WESTERN AVENUE—WALL AVENUE.

Western Avenue is the most important arterial street extending to the northwest from the business district. It passes through railroad and industrial districts and through a highly developed residential section. It will also serve areas which are now sparsely developed but which later will be thickly populated. The street connects with important highways leading out of the city. This route, formerly an old pike, is direct and the grades are comparatively easy. The street, however, is extremely narrow and has two grade crossings, one of them (at Ramsey Street) causing a great delay to traffic. Since Western Avenue passes through a district with inexpensive improvements, a width of 100 feet could be

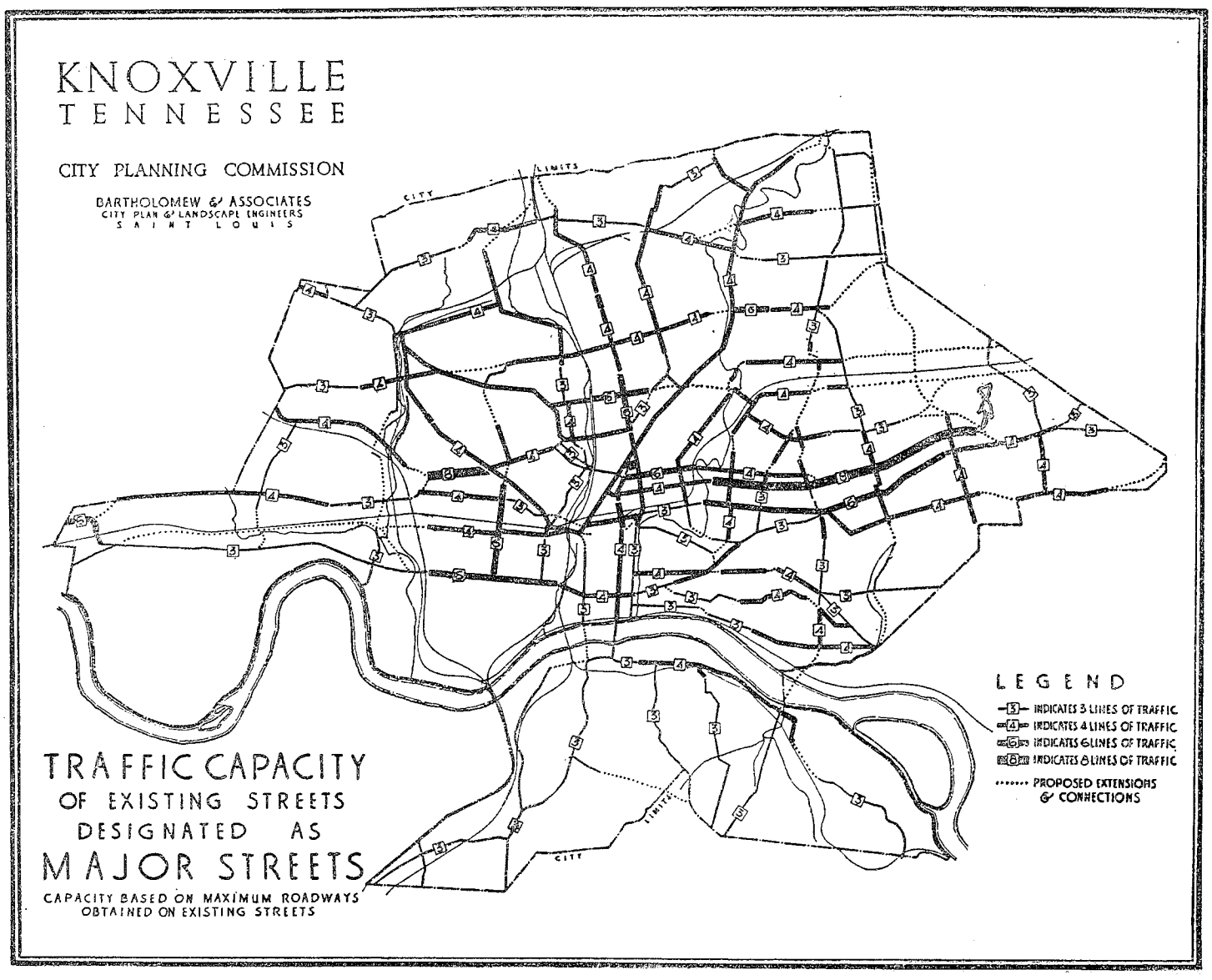
easily established from Tennessee Avenue to the west city limits. Because of the strategic location of Western Avenue in the street structure, it will eventually carry an enormous volume of traffic. At present the viaduct over the L. & N. railroad has a totally inadequate width (30-foot roadway). To rebuild this structure would be quite costly, and to supplement it with a grade separation over the Southern Railway main line tracks and over certain industrial tracks would create an inordinately long viaduct. It is suggested that a much better location might be secured by constructing a viaduct from approximately the intersection of Broadway and Vine to Ramsey Street at a point about 300 feet north of the present Western Avenue with new connections between this viaduct to Western and Euclid Avenues. Western Avenue should be connected to Wall Avenue by cutting through a new street between Locust and Walnut Streets. Wall Avenue should be extended eastward from its present dead-end at Gay Street to connect with Vine Avenue near Central Street.

WHITTLE SPRINGS ROAD—ZELDA STREET—MYERS STREET—BOONE STREET—OLIVE STREET—MCCONNELL STREET—WILDER PLACE.

These numerous short streets, if connected, would constitute a north and south cross-town route extending from Riverside Drive to Whittle Springs, thence connecting with Broadway near the north city limits. A new bridge across the river would complete the route. This artery, together with the Hardin Hill Road route and the one composed of Castle and other streets, will provide the city with adequate connections between the north and south parts of the city in the eastern section. Such a route is needed today. In order to develop this highway, several new connections are required and much widening must be done. Connections should be provided between Cherry Street and Boone Street, Boone Street and Olive Street, and Olive Street and McConnell Street. The jog on Olive Street at Jefferson Avenue should be eliminated. Except for a portion of Olive Street, the route extends through a district that is little developed as yet. A width of 100 feet is proposed.

The above described streets all lie within the city limits. The major street plan extends over an area extending about two miles beyond the boundary line. Those new streets that are indicated as major thoroughfares may, in most cases, be acquired through control of future land subdivisions. As Knoxville has no control over subdivisions outside the city, it is extremely important that legislation be enacted to enable the Planning Commission to exercise this highly desirable function. An extension of the city limits to include the area covered by the major street plan would be another method of securing control over the street layout but as Knoxville is already over extended a further increase in city area would be unwise.

(See Appendix "B" for Tabulation of Major Streets).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CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
CITY LIMITS
LEGEND
INDICATES 3 LINES OF TRAFFIC
INDICATES 4 LINES OF TRAFFIC
INDICATES 6 LINES OF TRAFFIC
INDICATES 8 LINES OF TRAFFIC
PROPOSED EXTENSIONS & CONNECTIONS
TRAFFIC CAPACITY
OF EXISTING STREETS
DESIGNATED AS
MAJOR STREETS
CAPACITY BASED ON MAXIMUM ROADWAYS
OBTAINED ON EXISTING STREETS

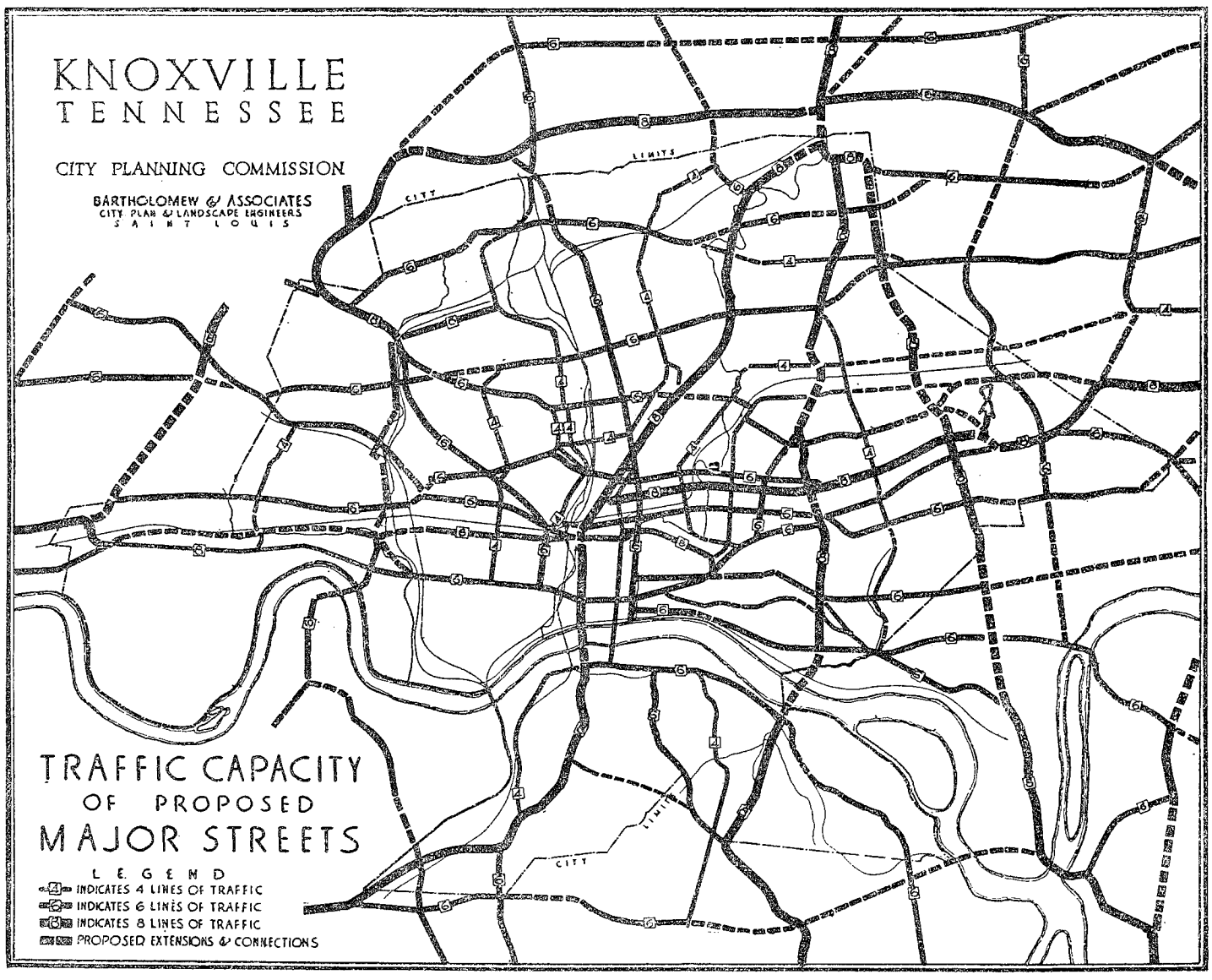
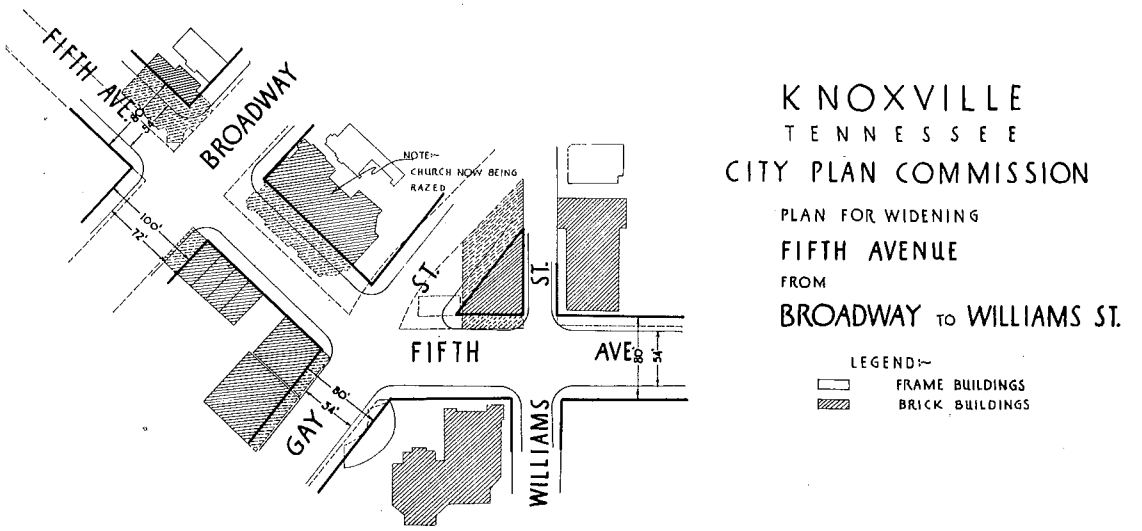

KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
CITY LIMITS
TRAFFIC CAPACITY
OF PROPOSED
MAJOR STREETS
LEGEND
INDICATES 4 LINES OF TRAFFIC
INDICATES 6 LINES OF TRAFFIC
INDICATES 8 LINES OF TRAFFIC
PROPOSED EXTENSIONS & CONNECTIONS

Plate 14

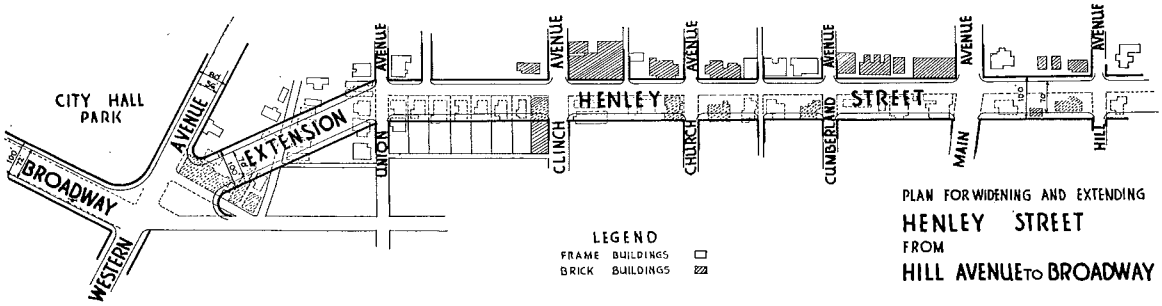
DETAILS OF STREET IMPROVEMENTS

The short connections and extensions shown on the major street plan are not all of equal importance. Some should be considered immediately, while others may await more favorable conditions. It is recommended that steps be taken as soon as possible to carry out the following projects:



(a) Widening of Fifth Avenue from Broadway to Williams Street.

This short section of Fifth Avenue is an extremely important link in the Fifth Avenue route and its previous narrow width constituted a serious obstruction to the interchange of traffic between Broadway and Fifth Avenue. This project has already been developed between Gay Street and North Broadway and now since the Broadway Viaduct has also been completed a large volume of traffic turns east on Fifth Avenue from Broadway and is transported to the eastern part of the city.



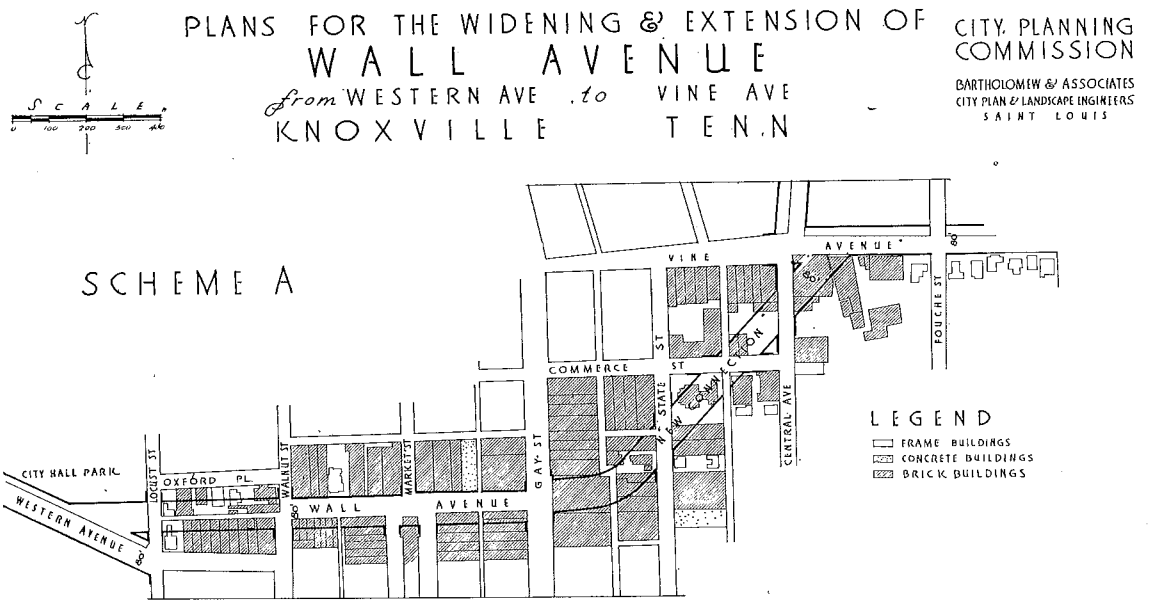
(b) Widening of Henley Street from Union Avenue to Hill Avenue, connecting Henley Street to Broadway at Western Avenue.

This project has already been carried out and traffic is being transported to the business district over a direct route. As soon as the Henley Street Bridge is completed, this street will also serve to carry traffic on by the business district and across the Tennessee River, without sending it through Gay Street and causing congestion on that already badly congested thoroughfare.

Plate 15

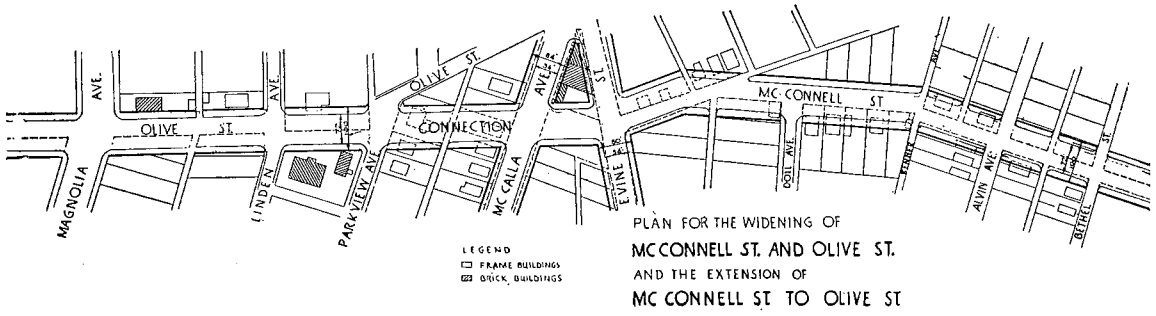
(c) Widening and extension of Wall Avenue.

The largest single project contemplated in the major street plan is that of providing means for traffic to move east and west along the north border of the business district. Much of the present congestion is due to east and west traffic of necessity using north and south streets. Theoretically, Vine Avenue would be the logical street for this traffic flow, but because of the extreme grades the street is useless. Vine Avenue is so situated as to be the logical northern edge of the business district. Between Wall and Vine, however, is a hill that prohibits extensive commercial developments. Property values are low and streets are ill-adapted to logical business use. The entire hill should be reduced with new streets of adequate widths, logically arranged and of grades approximating three per cent. The cost would undoubtedly be recovered in increased value of the property. This is an undertaking



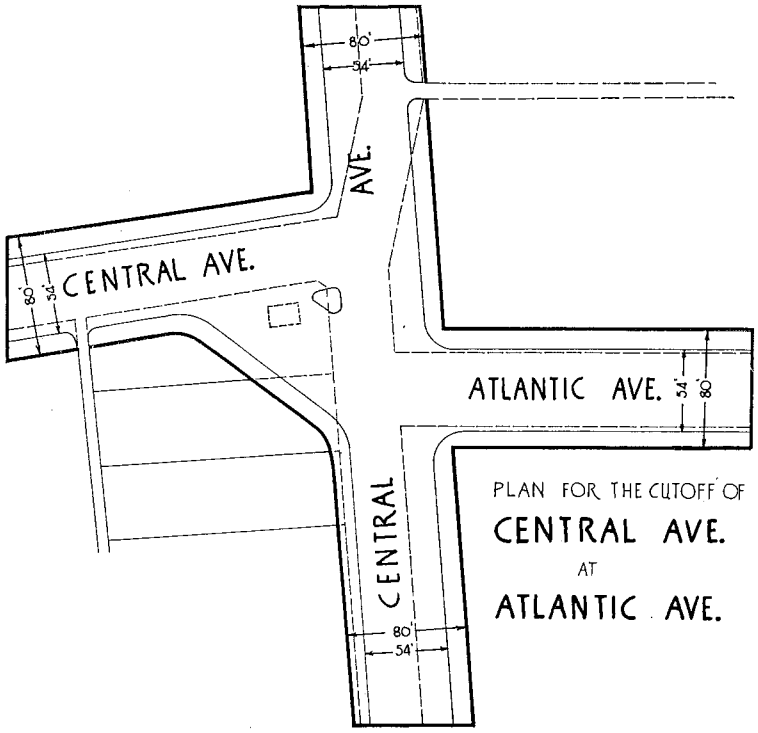
of great magnitude and should be the subject of a special study. There is no immediate need for the expansion of the business district here. Wall Avenue can now be improved to serve as a distributor street for Western Avenue, Broadway, Central Street, Gay Street and Vine Avenue. It is so situated as to admirably serve this purpose, even though at some later date the hill to the north is removed and Vine Avenue is widened to serve also as a distributor street. The extension of Wall Avenue to Central Street is especially important, particularly in connection with a further grade separation of Central Street at the Southern Railway. Wall Avenue should then be converted into a double-decked street east of Gay, the upper level connecting directly from Gay Street to the viaduct level of Central Street over the tracks and to Vine Avenue to the east. If this improvement were completed, together with the opening and widening of Henley Street, the widening of Central Street and the widening of Main Avenue, the business section would then be surrounded by wide thoroughfares acting as distributors for traffic bound for the heart of the business district.

Plate 15



(d) Widening of McConnell Street and Olive Street and extending McConnell Street to Olive Street.

These two streets are links in a very important route extending from Riverside Drive and Dandridge Avenue to the Park City section. Its present condition is such as to discourage traffic use and because of the inadequate widths and turns on McConnell Street permanent improvements are impossible to make. The street should be straightened, the extremely bad turn at Vine Avenue and at Linden Avenue eliminated and an adequate width secured.



(e) Elimination of jog and bad turn at Central Street and Atlantic Avenue.

This desirable improvement has already been carried out, at little cost to the City, and thereby doing away with a traffic hazard at this point.

MAJOR STREET PLANNING

In all street development projects, whether affecting old or new streets, the principles of modern street planning should be consistently followed. Major streets should be distinguished from those of local or minor importance.

The differentiation between traffic ways of the two types should be in the following characteristics. Major streets should have:

(a) Directness.

(b) Continuity—no jogs or dead-ends.

(c) Adequate width, based upon a computation of traffic loads and a predetermined scheme of thoroughfares. Street width should be computed in terms of "lines of vehicles."

FOUR-LINE STREETS—NO STREET CARS.

The minimum acceptable width for streets of this class is 66 feet. This permits a 36-foot roadway and 15-foot sidewalk space on either side. The recommended width for four-line streets is 80 feet. This street width will admit widening of the roadway to accommodate six lines and will also be adequate for either single or double-track car line. In preliminary stages the 80-foot street, developed with only a four-line roadway, offers a more satisfactory planting space for trees and otherwise adds dignity to residential districts.

SIX-LINE STREETS.

No transit thoroughfare should be less than a six-line street. The minimum width for this type should be 80 feet. This permits a roadway of 54 feet without street cars and 56 feet with them. The sidewalks are ample, but cannot be reduced to permit further widening of roadway for angular parking. One hundred feet is a more suitable width for a six-line street. It is commodious and readily convertible. It can even be made an eight-line thoroughfare with transit facilities, if necessary. In residential districts, before the growth of the city warrants intensive development, the 100-foot street can be made very impressive.

EIGHT-LINE STREETS.

The eight-line street should be 120 feet wide. One hundred feet will suffice, but this width will be insufficient to permit the angular parking, which is commonly desired. In general anticipation of future growth, a width of one hundred and twenty feet on arterial thoroughfares will not be found excessive.

Minor streets and special service streets may have such widths as will satisfy the requirements of local traffic. If a special effort is made to place wide streets where wide streets belong, minor streets may be made correspondingly conservative of space. The width of an eight-line thoroughfare

PROPOSED PARKING-TRAFFIC FLOW & STREET IMPROVEMENTS

BUSINESS DISTRICT - KNOXVILLE TENNESSEE

CITY PLANNING COMMISSION

LEGEND

- DIRECTION OF TRAFFIC FLOW
- PARKING PERMITTED
- EXISTING STREET CAR LINES
- PROPOSED STREET CAR LINES
- 84-6-56 INDICATES STREET WIDTH LINES OF VEHICLES & ROADWAY WIDTH RESPECTIVELY
- EXISTING STREETS TO BE WIDENED
- NEW CONNECTIONS

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS MISSOURI

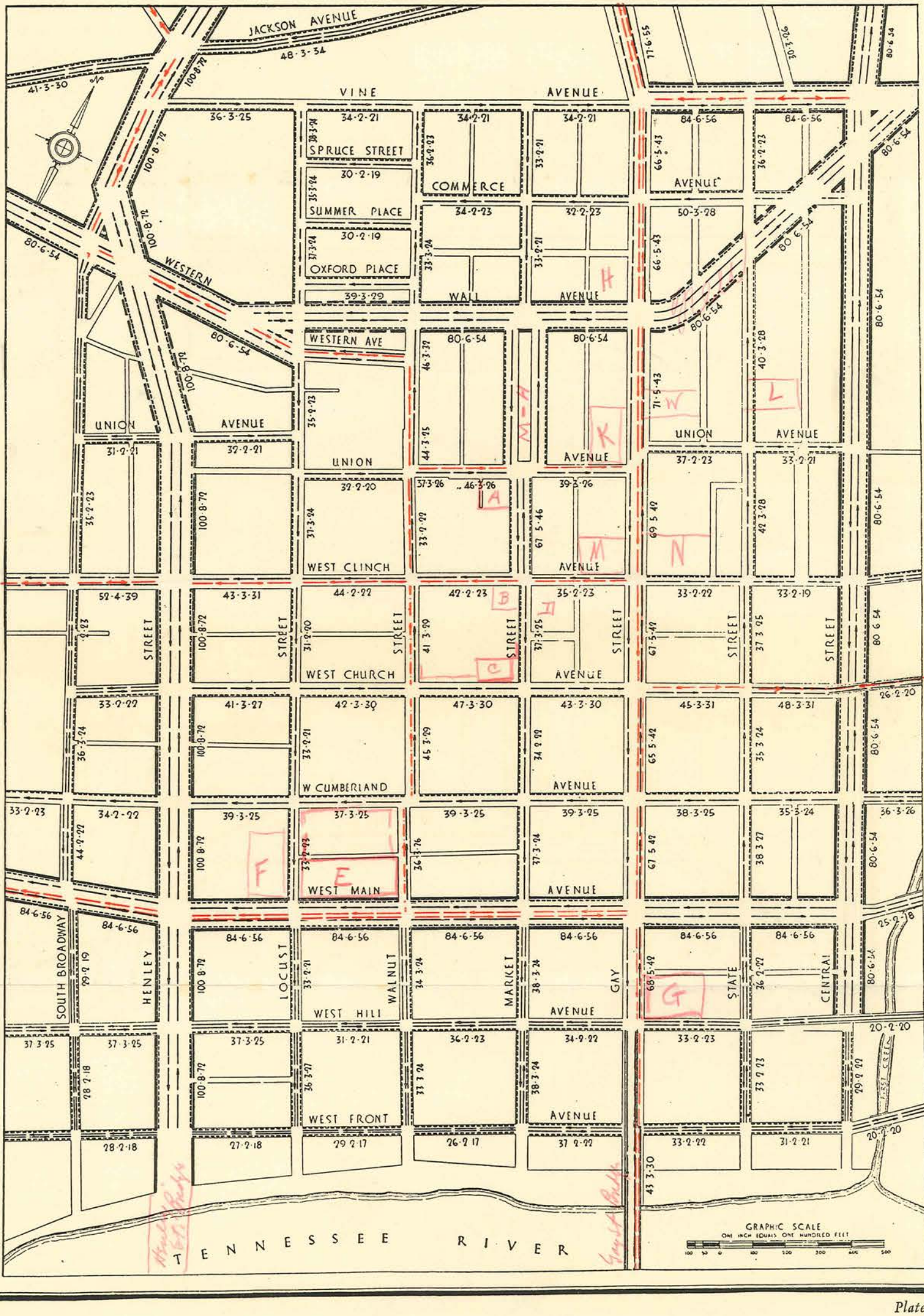


Plate 16

is largely wasted on a short, local byway. If impressiveness is desired on a narrow street, it can be secured by enforcing a building line that will keep the houses back and permit the planting of trees along street lines. Minor streets of residential character often need only a two or three-line roadway. The width of minor streets, however, should seldom be less than fifty feet.

(d) Properly designed roadway.

In designing the roadway the specific traffic rules to be applied to the street in question should be kept in mind. Paving should be definitely related to parking rules.

(1) The unit width of roadway for moving vehicles should be nine feet; for standing, parallel to the curb, eight feet; for parking at thirty degrees, twelve feet; forty-five degrees and at right angles to curb, fifteen feet.

(2) Roadways should be paved for the most economical accommodation of vehicles. In the downtown district, where parking space is greatly needed, the paving on each street should be of sufficient width to care for vehicles standing at a certain angle on either side and a definite number of moving lines in the center. Extra width merely contributes to the traffic hazard. Once the roadway width is determined by presumption of parking at a certain angle, traffic regulations should be devised to insure the use of the street in this way. A roadway planned for forty-five degree parking on either side and two moving lines, with parking lines painted on the pavement, is a safe street. If parking becomes irregular, the variable extra roadway space so released invites dangerous driving. Streets are made safe by being used under definite regulations. Note the following roadways for specified uses:

Four parallel lines, vehicles moving or standing, no street cars . . . 36 feet
Four parallel lines and one center car line . . . . . 46 feet
Two lines moving vehicles and parking at 45 degrees on both sides . . 48 feet
Four parallel lines, vehicles moving or standing, and double car line . . 56 feet
Two lines moving vehicles, two standing at 45 degrees, double car line, 68 feet
Four lines moving vehicles, two standing at 45 degrees, double car line, 86 feet

(3) The placing and routing of street car lines should be thoroughly in accord with the major street system and traffic regulations. The transit facilities of Knoxville today have been disposed with little regard for major traffic ways.

(e) Commodious, but no unnecessarily wide sidewalks.

(f) Easy gradients and curves.

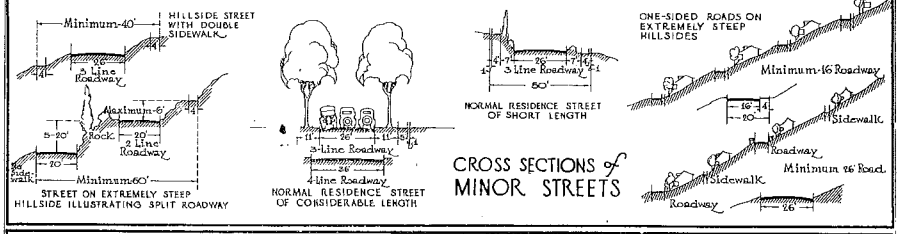
(g) Attractive and durable paving.

(h) Suitable curb radii.

(i) Safety features—platforms, proper lighting, vision clearance at hazardous corners, etc.

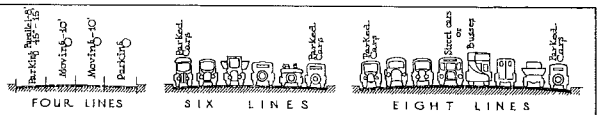
Obviously, in reconditioning old streets in the interior of the city, it will not always be possible to apply all the above standards. Outside the city, however, the major street plan may be executed with full effectiveness. Land subdivision prac-

STANDARD STREET CROSS-SECTIONS
KNOXVILLE · · · TENNESSEE

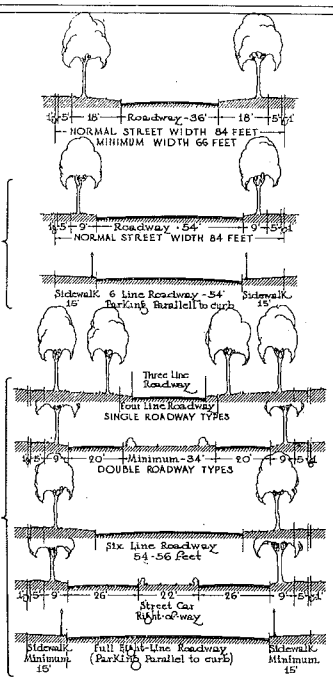


MAJOR STREETS.

THE SIZE OF A STREET IS TODAY BETTER EXPRESSED IN THE NUMBER OF LINES OF VEHICLES WHICH CAN MOVE UPON THE ROADWAY



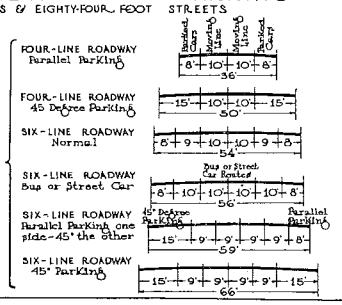
STANDARD ROADWAYS



PROPER ROADWAY WIDTHS FOR PARKING
ADAPTED TO 66 FOOT STREETS & EIGHTY-FOUR FOOT STREETS

STANDARDS FOR DETERMINING TOTAL ROADWAY WIDTHS	
AVERAGE UNIT WIDTH	9 FEET
STREET CAR TRUCK OR BUS LINE	10 FEET
PARKING PARALLEL TO THE CURB	8 FEET
PARKING 45°	15 FEET
PARKING 90°	15 FEET

APPLICATION OF STANDARDS



CITY PLANNING COMMISSION

BARTHOLOMEW & ASSOCIATES
SAINT LOUIS

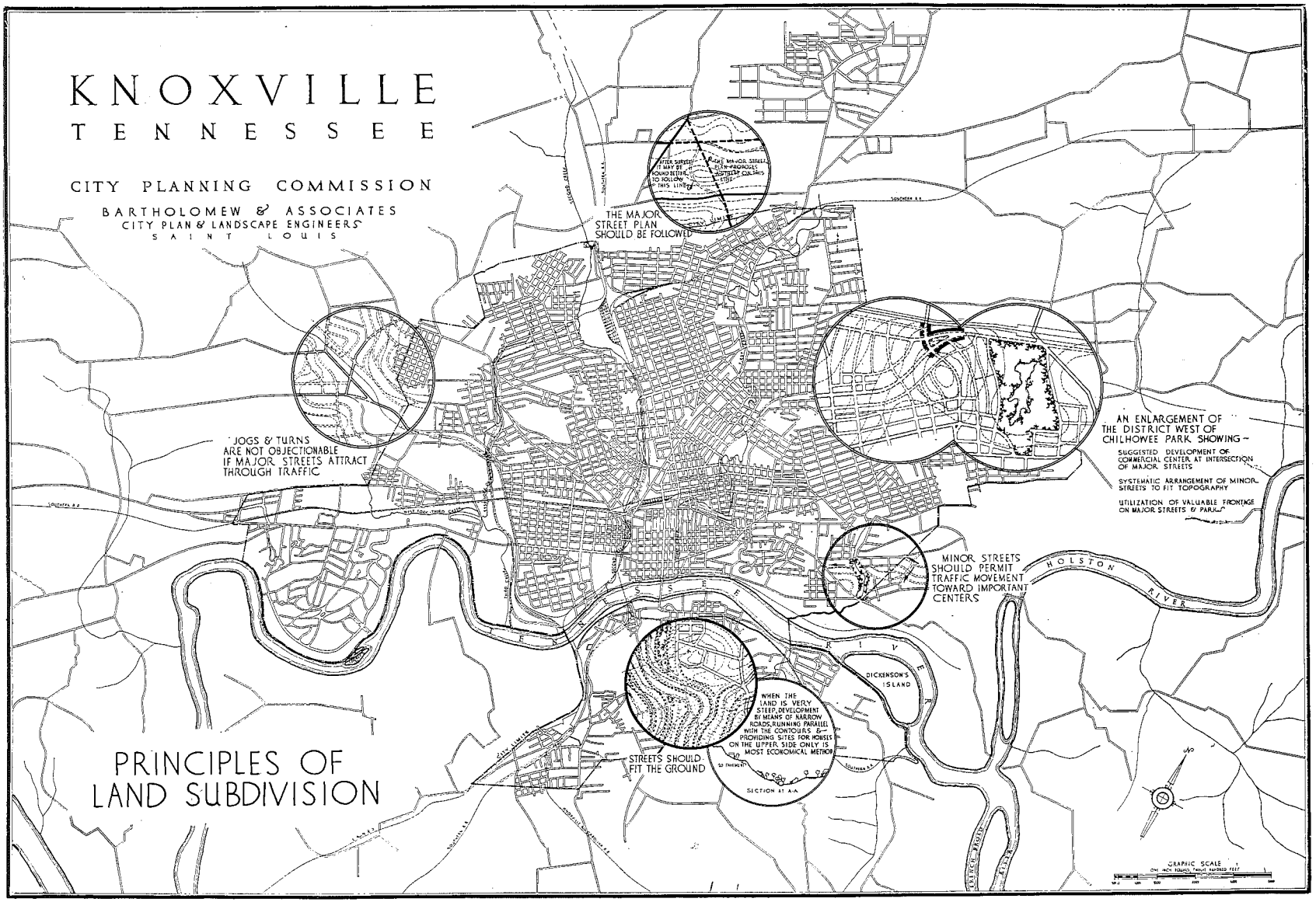
tice, the primary source of past mistakes in street planning, should be modified immediately to meet the requirements of the city's new street development policy.

When a farm tract is subdivided for eventual urban uses a character is impressed upon it that is not easily changed thereafter. If the streets are of adequate width and properly arranged, park areas set aside where parks should be, school and playground sites designated, commercial centers well located and lots are of suitable size and shape for their different uses, the community will derive increasing benefits. And the favorable reaction of the community is bound to be of considerable significance and profit to the promoter of such a subdivision.

PRINCIPLES OF LAND SUBDIVISION

From a community standpoint, as well as from the point of view of property owners, land will be improved for city use if it is subdivided with regard for the following principles:

1. Conformity to the major street plan in the matter of width and alignment. These particular streets should be continuous, as direct as possible, of adequate width and easy gradient.
2. Proper adjustment of streets to the contour of the ground. In general, streets of all types should run parallel to contours. The lots on the upper side of the street will rise to the rear; those on the lower side of the street will drop to the rear. It is found that lots sloping thus are much more easily sold and used for residential purposes than those along a street which runs straight up a hill.
3. Primary consideration should be given to frontage on major streets and pleasure drives. It is ordinarily found that superior land values prevail on these important thoroughfares. It will be an advantage to the property owners and to the city at large because of increased tax revenues, if the maximum frontage is secured on these streets. The platting of streets and lots along diagonal thoroughfares deserves special attention. Pleasure drives, moreover, should be laid out so that full-depth, desirable lots may be laid out on them.
4. Cross streets and those tributary to major streets and pleasure drives should be reduced to a minimum. Reduction of the number of intersections on a major street at once increases the salable frontage and reduces the traffic hazard. The same applies to pleasure drives.
5. The arrangement of minor streets should be such as to favor the general flow of traffic to the principal arteries. Home owners in the quiet residential districts should find it easy to reach a wide, well-improved major street which will take them directly to the business district or to other important centers.
6. Jogs and abrupt turns are especially to be avoided on major streets. On minor residential streets, however, such impediments to traffic serve as a protection against undesirable circulation of heavy, through traffic.
7. Intersections on major streets deserve special study. The property frontage at such points often has a potential value for business purposes. The traffic problem where several important arteries intersect should also be anticipated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THE MAJOR STREET PLAN SHOULD BE FOLLOWED
JOGS & TURNS ARE NOT OBJECTIONABLE IF MAJOR STREETS ATTRACT THROUGH TRAFFIC
AN ENLARGEMENT OF THE DISTRICT WEST OF CHILHOWEE PARK SHOWING -
SUGGESTED DEVELOPMENT OF COMMERCIAL CENTER AT INTERSECTION OF MAJOR STREETS
SYSTEMATIC ARRANGEMENT OF MINOR STREETS TO FIT TOPOGRAPHY
UTILIZATION OF VALUABLE FRONTAGE ON MAJOR STREETS & PARK
MINOR STREETS SHOULD PERMIT TRAFFIC MOVEMENT TOWARD IMPORTANT CENTERS
HOLSTON RIVER
DICKENSON'S ISLAND
WHEN THE LAND IS VERY STEEP, DEVELOPMENT BY MEANS OF NARROW ROADS, RUNNING PARALLEL WITH THE CONTOURS & PROVIDING SITES FOR HOUSES ON THE UPPER SIDE ONLY IS MOST ECONOMICAL METHOD
SECTION AT A-A
STREETS SHOULD FIT THE GROUND
PRINCIPLES OF LAND SUBDIVISION
GRAPHIC SCALE

Plate 18

and the intersection designed to reduce congestion and confusion to a minimum. At such points the arrangement of lots should favor commercial rather than residential improvements.

8. As a general rule 10 per cent of subdivisions over 20 acres in extent should be set aside for park and playground purposes. Rugged slopes, wooded tracts, water courses, lakes and commanding hilltops have a wide appeal. A far-sighted subdivider can frequently use a small park or playground to increase the value and salability of property nearby. Dedication of park, parkway, boulevard or playground land can be turned to advantage if the subdivider properly devises his scheme of lots and streets.
9. School and church sites should be reserved at the time land is platted.
10. All side lot lines should be perpendicular to the street.
11. Alleys should be omitted, except in the rear of lots likely to be commercial.
12. Easements should be reserved on rear and side lot lines for utilities and no poles and wires should appear on the streets. Trees should be planted at the time a new subdivision is put upon the market.

The Planning Commission has taken steps to observe the above principles by adopting a set of rules regulating land subdivisions within the city limits of Knoxville. These rules together with explanatory notes, are reproduced in full in Appendix "A".

TRANSIT

Introduction.

The facilitation of intra-communication is a problem confronting all growing cities. The ease with which one might travel from one part of the city to another is aided or impeded by the design of the city's streets and the efficiency of the transit lines. This particular phase of the City Plan embraces suggestions for the gradual improvement of urban transportation facilities as future conditions warrant.

Few persons are familiar with the progress already made in the art of urban transportation and as a matter of general interest a synopsis of the evolution of urban railway development is given below.

The inception of urban railways dates back less than a century ago. In the early part of the nineteenth century the only means of locomotion were those of foot and horse and, consequently, the extent of community growth was somewhat limited, extending usually not more than three miles from the center of the city.

With the continued increase in population and the development of science, new modes of transporting the public were devised. This came first, in the form of the horse-bus and then the horse-car. The first street railway in the world was a horse railway which originated in New York City in 1832, less than one hundred years ago. Horse railway transit spread throughout all civilized countries and for more than forty years served as the principal means of distributing the population.

The steam railroad for urban transit use was introduced in London in 1863 and later in New York in 1868. Shortly afterwards, in 1873, San Francisco operated the first cable surface line which was followed fifteen years later by the first electric railway. Richmond, Virginia has the distinction of being the first city in the United States to undertake electric railway operation. (1888)

All of these new forms of street railways were the outcome of efforts to provide better intra-communication in rapidly growing cities. The problem has always been a live one and in fact becomes more complex as cities increase in size. It is obvious, therefore, that any comprehensive plan for the physical improvement of the city must include a systematic scheme for the routing of local transportation carriers, whether they be in the form of street cars or buses.

The existing street railway system in Knoxville is the outgrowth of numerous consolidations of competing lines that originated in the latter part of the nineteenth century and the early twentieth century. The Knoxville Power and Light Company has continued operation of the electric lines since its reorganization in 1922.

KNOXVILLE
TENNESSEE

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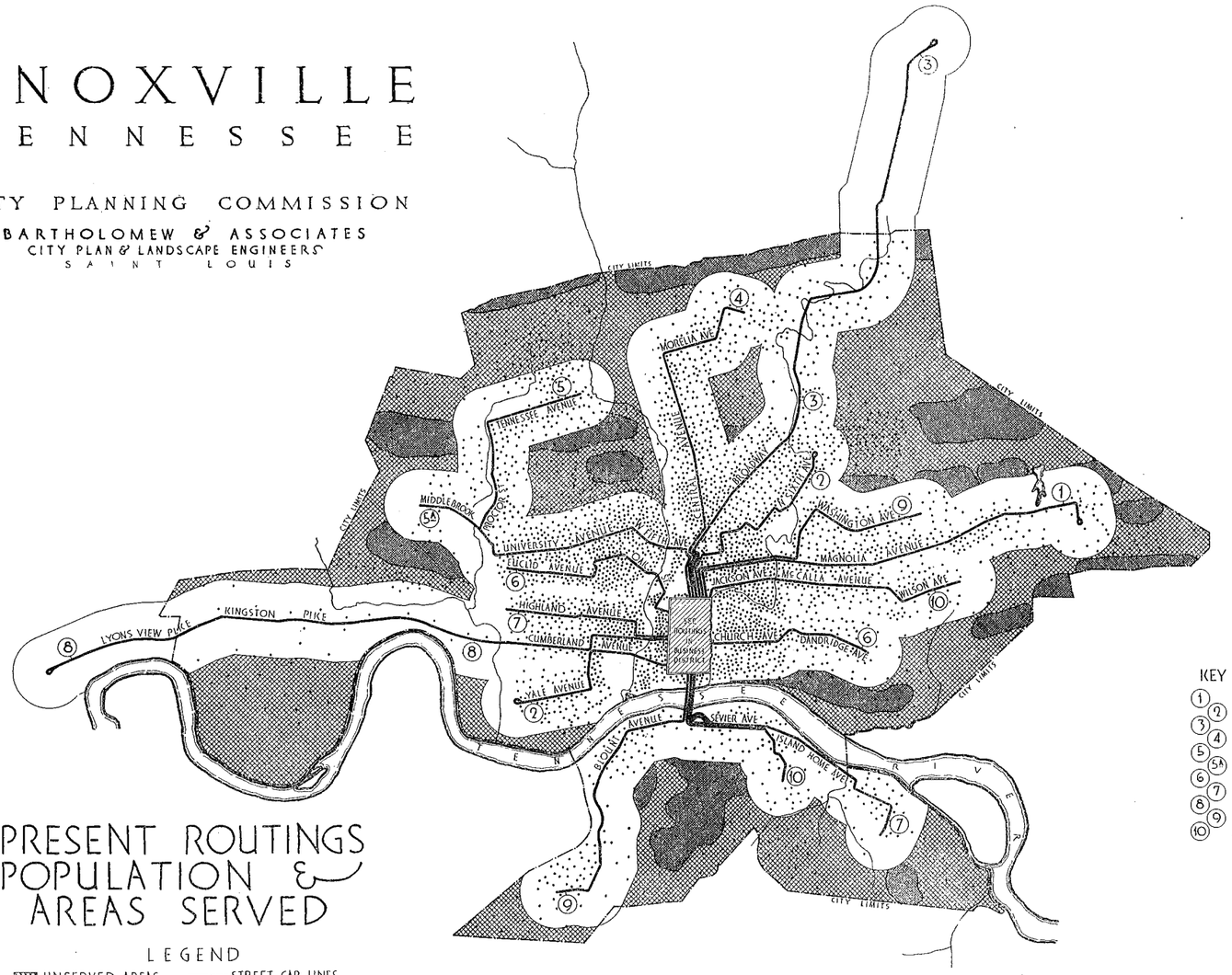


KEY TO ROUTE NUMBERS

1	BURLINGTON
2	YALE AVE. - SIXTH AVE.
3	FOUNTAIN CITY
4	OAKWOOD
5	LONSDALE
5A	MIDDLEBROOK
6	EUCLID AVE. - DANDRIDGE AVE.
7	HIGHLAND AVE - ISLAND HOME
8	LYONS VIEW
9	WASHINGTON AVE - VESTAL
10	McCALLA AVE - SEVIERVILLE PIKE

PRESENT ROUTINGS POPULATION & AREAS SERVED

LEGEND

- UNSERVED AREAS — NOTE - ONE QUARTER MILE WALKING DISTANCE TAKEN AS A BASIS FOR SERVICE
- STREET CAR LINES — EACH DOT REPRESENTS 25 PERSONS
- RUGGED AREAS

GRAPHIC SCALE

Plate 19

Prior to 1917 Knoxville embraced an area of less than four (4) square miles and this small compact district was well served by street cars since as early as 1900. The continued increase in population beyond the city limits necessitated a number of extensions shortly after this period and lines were extended to Lonsdale, Fountain City, Oakwood and South Knoxville. Later development in other sections resulted in the construction of the Lyons View, Vestal and Island Home lines in 1911 and 1913. With the exception of a few minor adjustments, no new track has since been constructed.

Many of the early routes were devious in alignment and poorly distributed. This has been the experience of transit development in nearly all cities and has proved to be a tremendous economic burden upon subsequent operating companies.

The Extent to Which Present Lines Serve the City

The street railway system in Knoxville is operated by the Knoxville Power and Light Company, a subsidiary of the Electric Bond and Share Company of New York. At present, there is no general city franchise and the company is operating under various franchises inherited from the early independent lines. All questions of fare, rate of return on investment and the like are subject to control of the State Public Utilities Commission.

The system is composed of 54.76 miles of track on a single track basis. There are ten lines in operation, five of which loop in the business district and five are operated as through-routes.

Generally speaking, the equipment and rolling stock of the company are in good condition.

Though a few of the cars now in use were originally built for two-man operation, each car is now operated by one man. The company operates from fifty-five to sixty-five cars during the rush periods throughout the year.

The extent of the present transit facilities is illustrated on Plate Number 19. All areas within one-quarter of a mile or five minutes walk of a street car, are assumed to have reasonable service. This is a generally accepted standard for determining adequate accommodations.

Of the total city area, 26.34 square miles, approximately fourteen (14) square miles are now served by transit lines. There are nearly eight square miles of comparatively flat land and about four square miles of rugged areas now without service. All population not within reasonable walking distance of a car line is shown by dots in the cross-hatched areas, each dot representing twenty-five persons.

The natural growth of a city tends to radiate in all directions from the central business district provided, of course, there are no insurmountable barriers. Areas to the northeast, northwest and south, all reasonably close-in, have been retarded apparently because of the lack of proper communication with the central area. The construction of certain major streets and the provision of transit facilities should encourage the development of these districts and the rounding out of the city's growth.

DESCRIPTION OF PRESENT ROUTINGS

1. BURLINGTON (LOOP)
ROUTING

From McCalla Avenue in Burlington north and west on private right-of-way to Magnolia to Gay to Main and return. Loops at Gay Street Terminal, Gay and Main.

Tripper terminates at Sterchi Park using loop Magnolia, Beaman, Linden, Mary. Used during fairs, etc., at Sterchi Park.

2. YALE AVENUE—SIXTH AVENUE (THROUGH)
ROUTING

From 23rd Street east on Yale to Temple to Cumberland to Main to Gay to West Fifth to Morgan to Third to Gill to North Fifth to Albers to North Sixth to Gillespie.

3. FOUNTAIN CITY (LOOP)
ROUTING

From Fountain City south over private right-of-way to Broadway to West Fifth to Gay to Main and return. Loops at Gay Street Terminal.
Arlington trippers terminate at Broadway and Raleigh.

4. LINCOLN PARK (LOOP)
ROUTING

From Gladstone west on Chicamauga to Pershing to Morelia to Central to Broadway to West Fifth to Gay to Main and return. Uses Gay Street Terminal loop.

5. LONSDALE (LOOP)
ROUTING

From Johnston Street west on Tennessee to Schofield to Proctor to Middlebrook to 25th, to University to West Fifth to Gay to Main and return. Use loop at Gay Street Terminal.

5a. MIDDLEBROOK SHUTTLE

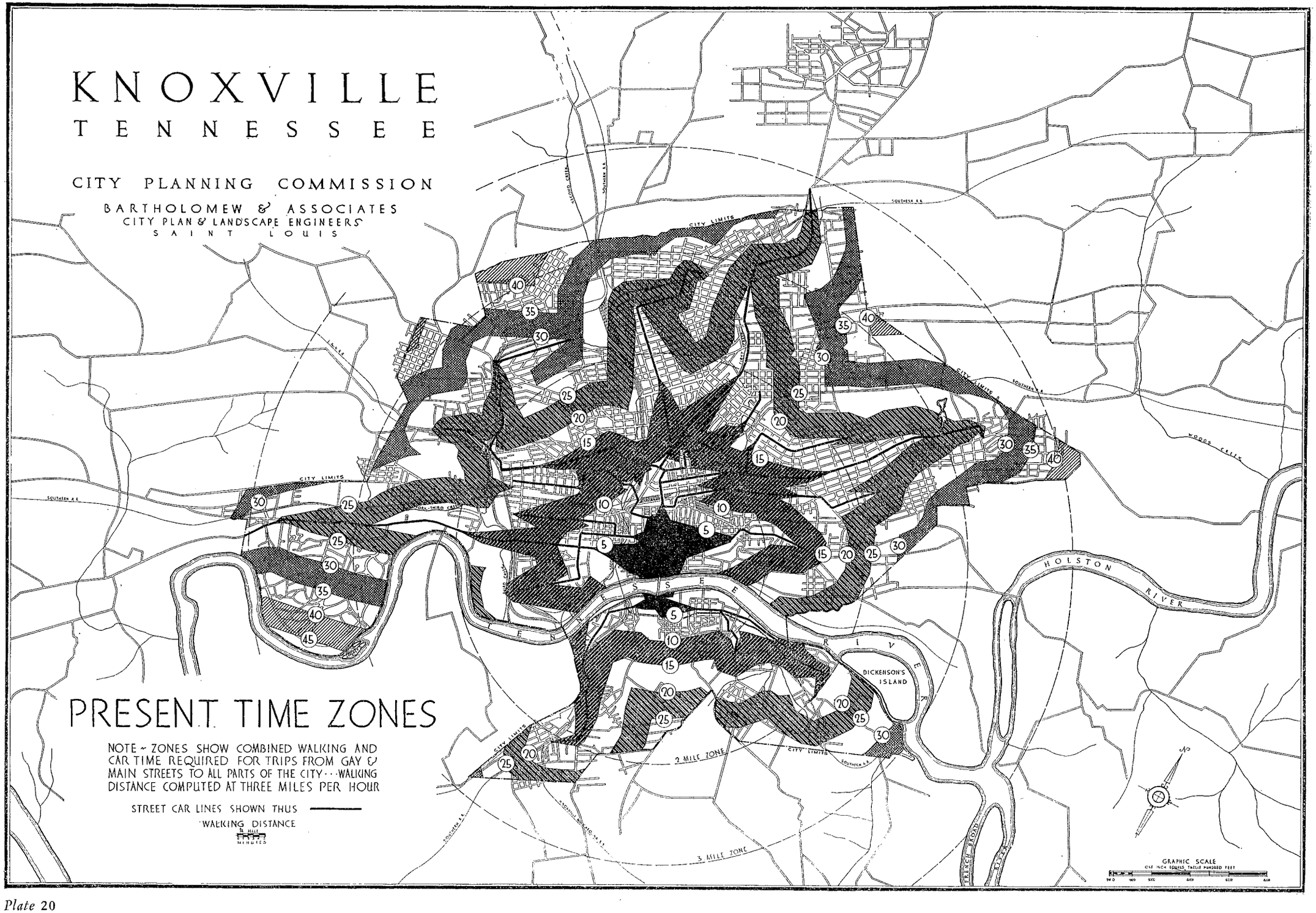
One car operates as shuttle from Middlebrook and Proctor west on Middlebrook to Fay and return.

6. EUCLID AVENUE—DANDRIDGE PIKE (THROUGH)
ROUTING

From 24th Street east on Euclid to Cowan, to Western, to Deaderick, to Oak, to Broadway, to Western, to Walnut, to Union, to Gay, to Church, to Main, to Dandridge, to (near) Wilder Place.

7. HIGHLAND AVENUE—ISLAND HOME (THROUGH)
ROUTING

From Southern Railway east on Highland to 11th, to Clinch, to Walnut, to Union, to Gay, to Sevier Avenue, to Island Home, to Fisher Place, to Island Home Avenue.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PRESENT TIME ZONES
NOTE ~ ZONES SHOW COMBINED WALKING AND CAR TIME REQUIRED FOR TRIPS FROM GAY & MAIN STREETS TO ALL PARTS OF THE CITY···WALKING DISTANCE COMPUTED AT THREE MILES PER HOUR
STREET CAR LINES SHOWN THUS
WALKING DISTANCE
1 MILE
20 MINUTES
CITY LIMITS
SOUTHERN R.R.
2 MILE ZONE
3 MILE ZONE
DICKENSON'S ISLAND
HOLSTON RIVER
WOODS CREEK
FRENCH BROAD
GRAPHIC SCALE
ONE INCH EQUALS TWELVE HUNDRED FEET

Plate 20

8. Lyons View (Loop)
Routing

From Lyons View east on private right-of-way along Lyons View Pike and Kingston Pike to Cumberland to 16th, to Clinch, to Walnut, to Union, to Gay, to Clinch, and return. This line is now being replaced by modern trolley buses. The track will be removed from L. & N. Railroad west. This will give extra width for street purposes.

9. Washington Avenue—Vestal (Through)
Routing

From Vestal north and east on Blount to private right-of-way, to Martin Mill, to Gay, to Magnolia, to Winona, to Washington, to Cherry.

10. McCalla Avenue—Sevierville Pike (Through)
Routing

From Harrison west on Wilson to Ben Hur, to McCalla, to Jackson, to Central, to Vine, to Gay, to Sevier Avenue, to Highland Drive.

PRESENT TIME ZONES

The time required to reach different parts of the city from the intersection of Gay Street and Main Avenue is shown by five minute intervals on Plate Number 20. The distances reached in the various zones are computed from the scheduled time of the street cars and walking time assumed at three miles per hour. For example, the shaded area in the center of the city represents those points which can be reached in five minutes from Gay and Main. The time required to reach other areas is shown by the concentric five minute zones.

The extent of the areas that can be served in a given time depends upon the directness and speed of the car line. Those routes which operate in a direct manner, of course, reach a greater distance in a given time than those which are more tortuous. The Burlington, Fountain City and Lyons View lines have comparatively few turns and possess easy grades. Compare the time zones on these lines with those on the Church Avenue, Sixth Avenue and Lonsdale lines. Because of unfavorable topography and poor street arrangement, the Lonsdale line reaches its objective over a roundabout route. While the outer end of the line is actually less than two and one-half miles, on an air line, from Gay and Main, it requires thirty minutes to make the trip. On the Fountain City and Lyons View lines approximately four miles are travelled in the same length of time.

Experience indicates that the majority of people are unwilling to spend more than thirty or thirty-five minutes in travelling between their homes and places of work. City growth, therefore, is limited not only in distance but by the time required to travel between different points. In Knoxville, practically all parts of the city can be reached in thirty-five minutes, although in certain areas this involves considerable walking.

KNOXVILLE
TENNESSEE

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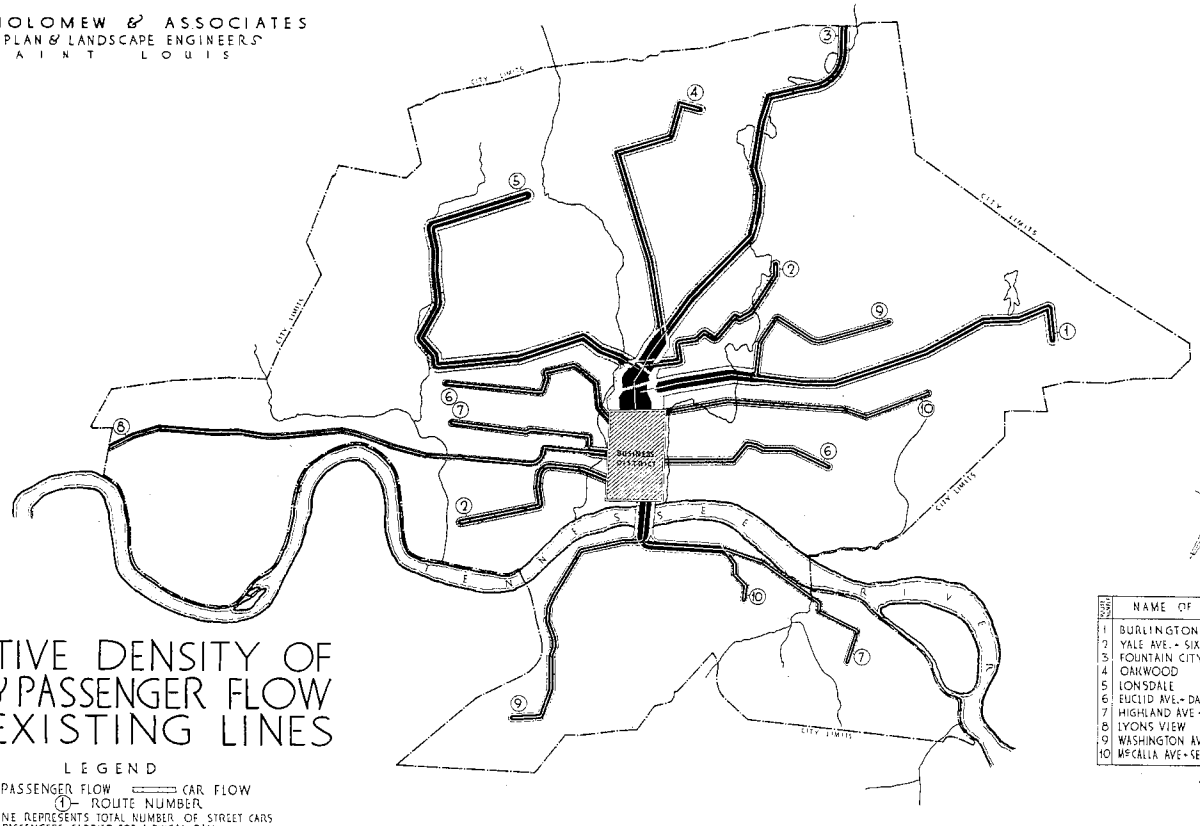


ROUTE NUMBER	NAME OF ROUTE	AVERAGE DAILY PASSENGERS CARRIED	NUMBER OF CARS OPERATED
1	BURLINGTON	6563	102
2	YALE AVE. - SIXTH AVE.	4807	84
3	FOUNTAIN CITY - ARLINGTON	6923	98 1/2
4	OAKWOOD	5808	100
5	LONSDALE	7464	116
6	EUCLID AVE. - DANDRIDGE AVE	3587	71
7	HIGHLAND AVE - ISLAND HOME	2706	48 1/2
8	LYONS VIEW	1340	43
9	WASHINGTON AVE - VESTAL	4470	58 1/2
10	McCALLA AVE - SEVIERVILLE PIKE	3239	56 1/2

RELATIVE DENSITY OF CAR & PASSENGER FLOW ON EXISTING LINES

LEGEND

PASSENGER FLOW — CAR FLOW

(1) — ROUTE NUMBER

WIDTH OF LINE REPRESENTS TOTAL NUMBER OF STREET CARS OPERATED & PASSENGERS CARRIED FOR A TYICAL DAY - - - PASSENGERS CARRIED ARE DAILY AVERAGE FOR MONTH OF OCTOBER-1927 - CAR TRIPS ARE TAKEN FROM SCHEDULE

SCALE

GRAPHIC SCALE

In observing the plan it will be seen that there are several irregularities in the projection of the time zones. These occur in the areas east of Broadway and north of Magnolia Avenue in the vicinity of Oakland and also in Lonsdale. Some improvement can be made in these lines by more direct routes.

RELATIVE DENSITY OF CAR AND PASSENGER FLOW ON EXISTING LINES

Plate Number 21 presents a graphic picture of the relative amount of service provided, and the riding-habit in the various districts, the number of cars operated and the total passengers carried for a typical day are shown by width of line on all the routes. The car flow on the different routes will give an idea of the comparative amount of service furnished on each of the various routes, while the number of passengers carried gives a relative idea of the riding habit in each section of the city.

The volume of street car flow on each route is indicated by a solid black line. This is based upon the number of cars operated on a typical day but does not take into account the number of seats provided on each line. The total number of passengers carried on a typical day are shown by stippled or dotted areas adjoining the car flow lines.

TRACK PLAN AND PRIVATE RIGHTS OF WAY

All the street car track in the city is the property of the Knoxville Power and Light Company. The system comprises 54.76 miles of track on a single mile basis.

UNDEVELOPED AREAS WITHIN THE CITY

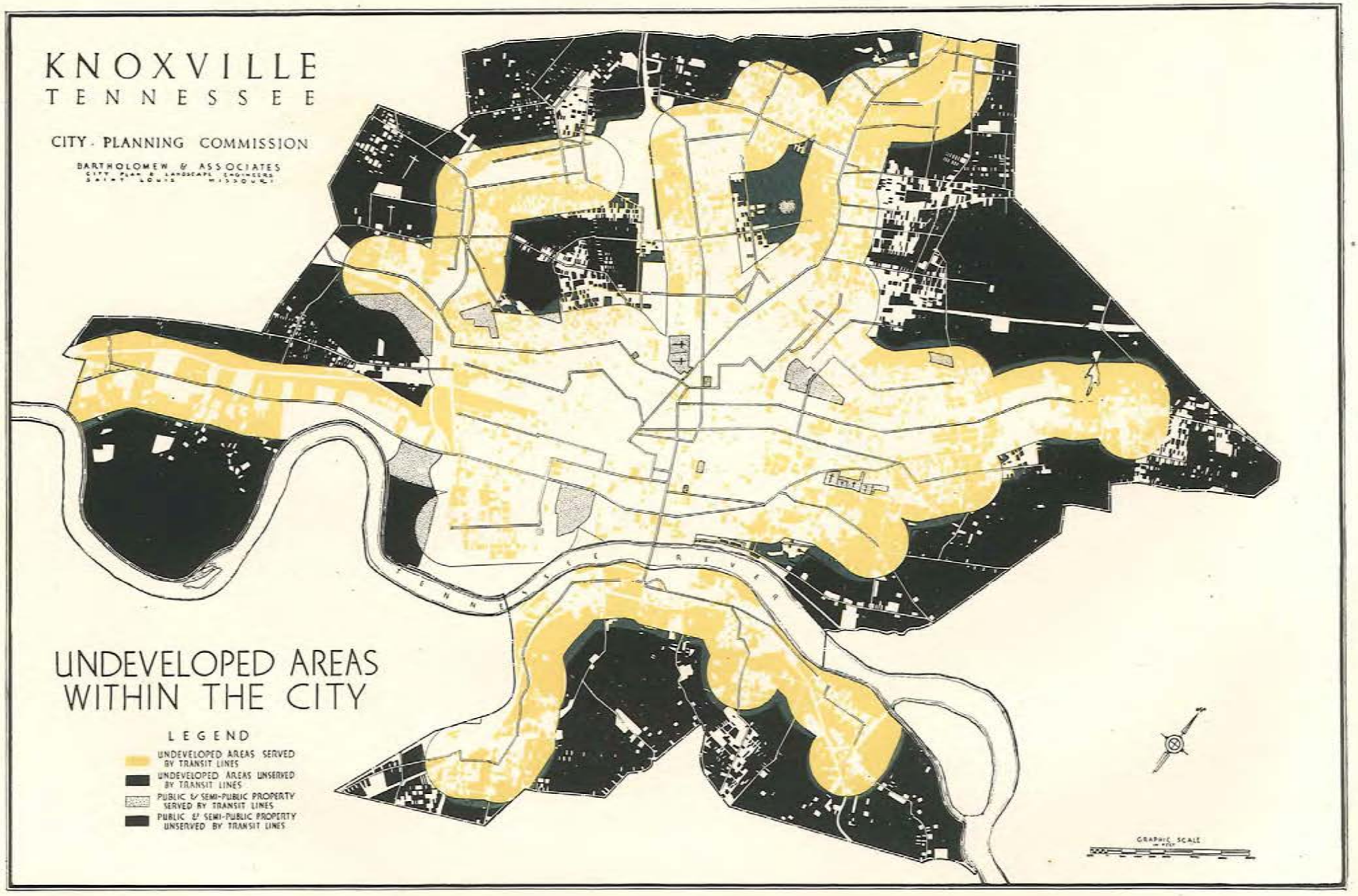
Generally speaking the development in Knoxville has been somewhat uniform as will be seen from Plate Number 22. Of the total area of 26.34 square miles within the corporate limits approximately one-half is now occupied. The undeveloped areas are naturally those most removed from the central district.

Approximately fourteen square miles of the city's area are within one-quarter mile of a street car. Of this amout, 5.40 square miles are yet undeveloped, giving a total area of approximately 8.60 square miles now built up and served by street cars. The built-up areas beyond one-quarter mile of a street car line amount to 4.40, or a total built-up area within the city of approximately thirteen square miles.

Since Knoxville's population, estimated to approximate 105,000, occupies but one-half of the city's present area, it is reasonable to assume, notwithstanding the presence of several rugged areas, that there is sufficient room within the present limits to accommodate a population of more than 200,000. According to the population curve, (Plate Number 2,) this number will not be attained until some time after the year 1950.

RECOMMENDATIONS FOR THE IMPROVEMENT OF TRANSIT FACILITIES

One of the most important aims of city planning is to direct new growth and prevent the recurrence of the many costly mistakes that have been made in the past. It is necessary, of course, both in the case of streets and that of transit lines, to make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TENNESSEE
CITY PLANNING COMMISSION
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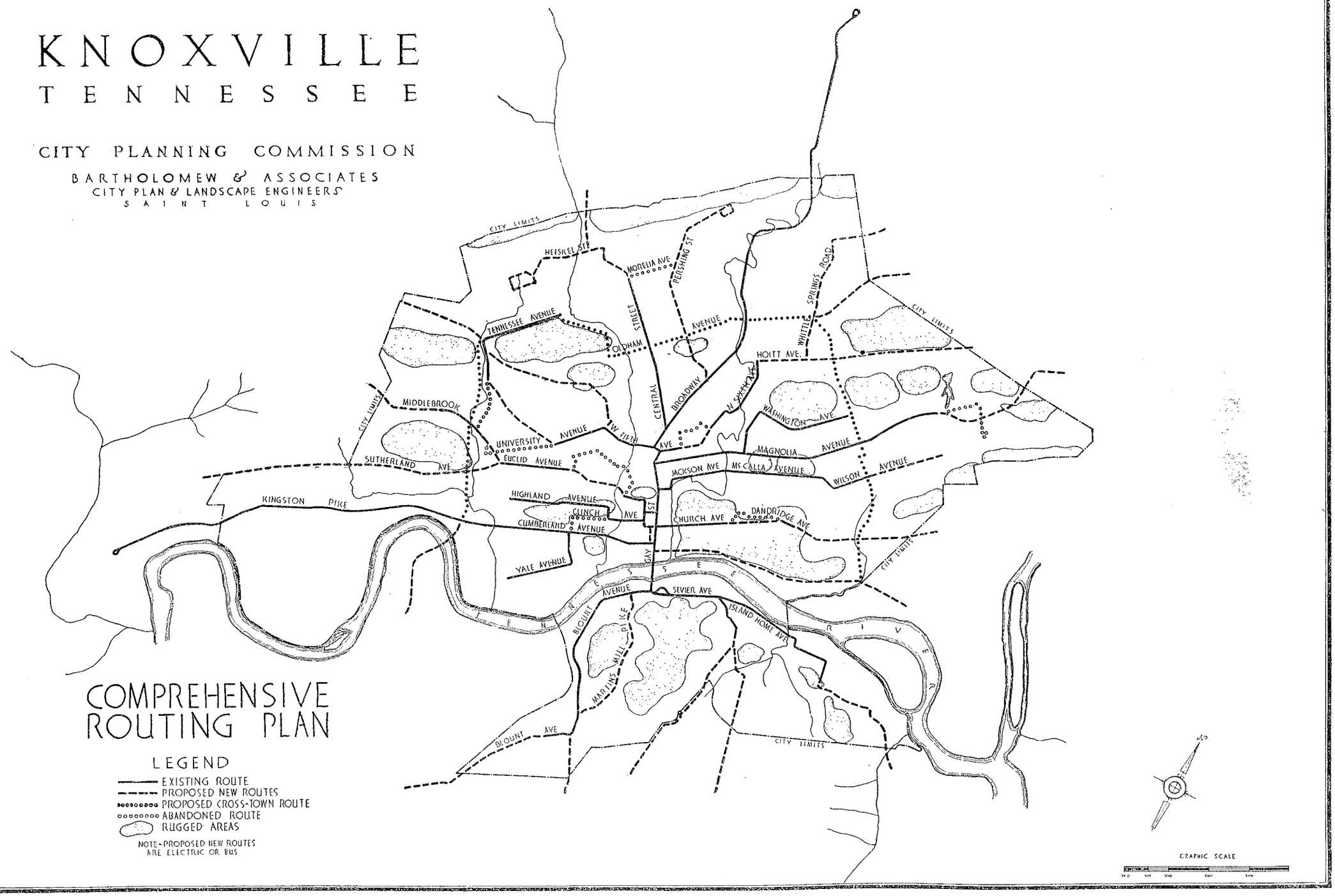
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS MISSOURI
UNDEVELOPED AREAS WITHIN THE CITY
LEGEND
UNDEVELOPED AREAS SERVED BY TRANSIT LINES
UNDEVELOPED AREAS UNSERVED BY TRANSIT LINES
PUBLIC & SEMI-PUBLIC PROPERTY SERVED BY TRANSIT LINES
PUBLIC & SEMI-PUBLIC PROPERTY UNSERVED BY TRANSIT LINES
GRAPHIC SCALE

Plate 22

KNOXVILLE
TENNESSEE

CITY PLANNING COMMISSION

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS



COMPREHENSIVE ROUTING PLAN

LEGEND

- EXISTING ROUTE
- PROPOSED NEW ROUTES
- PROPOSED CROSS-TOWN ROUTE
- ABANDONED ROUTE
- RUGGED AREAS

NOTE - PROPOSED NEW ROUTES ARE ELECTRIC OR BUS

Plate 23

certain re-adjustments in the present layouts in order to form a systematic nucleus from which orderly expansion will be possible.

The comprehensive routing plan has been worked out after a careful analysis of the existing transit plan and the major thoroughfare plan. The comprehensive plan is intended as a definite guide for the rearrangement and extension of facilities over a long period of years. No attempt is here made to designate the type of service or combination of routes that will be necessary in the distant future. This is a matter that time and traffic will determine but it is possible at this time to designate those streets which should ultimately carry transit service whether it be a car line or bus route.

As will be seen on Plate Number 23, only a few changes are recommended in the way of track abandonment. These are indicated by open circles. The present routes retained are shown in solid black while new routes are indicated by dashes. Further, a future circumferential cross-town line is indicated by solid black dots. The rugged areas which are not adapted to intensive development are outlined and indicated by dots. The most important track changes are those along the Lonsdale, Euclid and Sixth Avenue lines.

On the Lonsdale line it is proposed to abandon track on University Avenue and Proctor, and construct new track on Western from University to Proctor. The recent rehabilitation of the car tracks on University Avenue will probably mean a delay of many years in carrying out this proposal.

The Euclid Avenue line would use Western Avenue from Broadway to Cowan Street and be connected and extended out Middlebrook. This change involves the construction of new track on Western Avenue and the proposed new viaduct, as well as the abandonment of track on Deaderick Avenue and Oak Street.

On Sixth Avenue line it is recommended that Fifth Avenue be used and track removed from Gill, Third and Morgan Street.

It is suggested that these several changes be made as soon as track replacement is necessary and conditions will allow. The economical advantages of these proposed changes are summarized in the following table.

	Length of Present Route (Ft.)	Length of New Route One Way	Difference One Way	No. of Round Trips	No. of Track Turns Eliminated		Car Mile Savings Per Day
					R	L	
Lonsdale	7,000	4,500	2,500	116	3	3	110
Euclid	5,250	3,000	2,250	71	5	5	60.5
Fifth	2,500	1,750	750	84	4	4	23.8

These adjustments would result in a saving of approximately 194 car miles per day or a total of approximately 70,800 car miles per year. Assuming an operating cost of eighteen cents ($0.18) per car mile, this would effect a savings of approxi-

mately $12,750 per year. There are, of course, various elements that must be taken into consideration which would reduce this figure somewhat but nevertheless, the savings would be considerable.

Several bus line extensions are recommended for immediate installation in accordance with the comprehensive routing plan. Six extensions were considered and four are recommended for immediate installation. (Arrangements have already been made for the operation of the first four extensions proposed). Those considered were:

1. Beaumont Avenue
2. Lonsdale Avenue
3. Sevierville
4. Whittle Springs
5. Harvey Street
6. Sutherland.

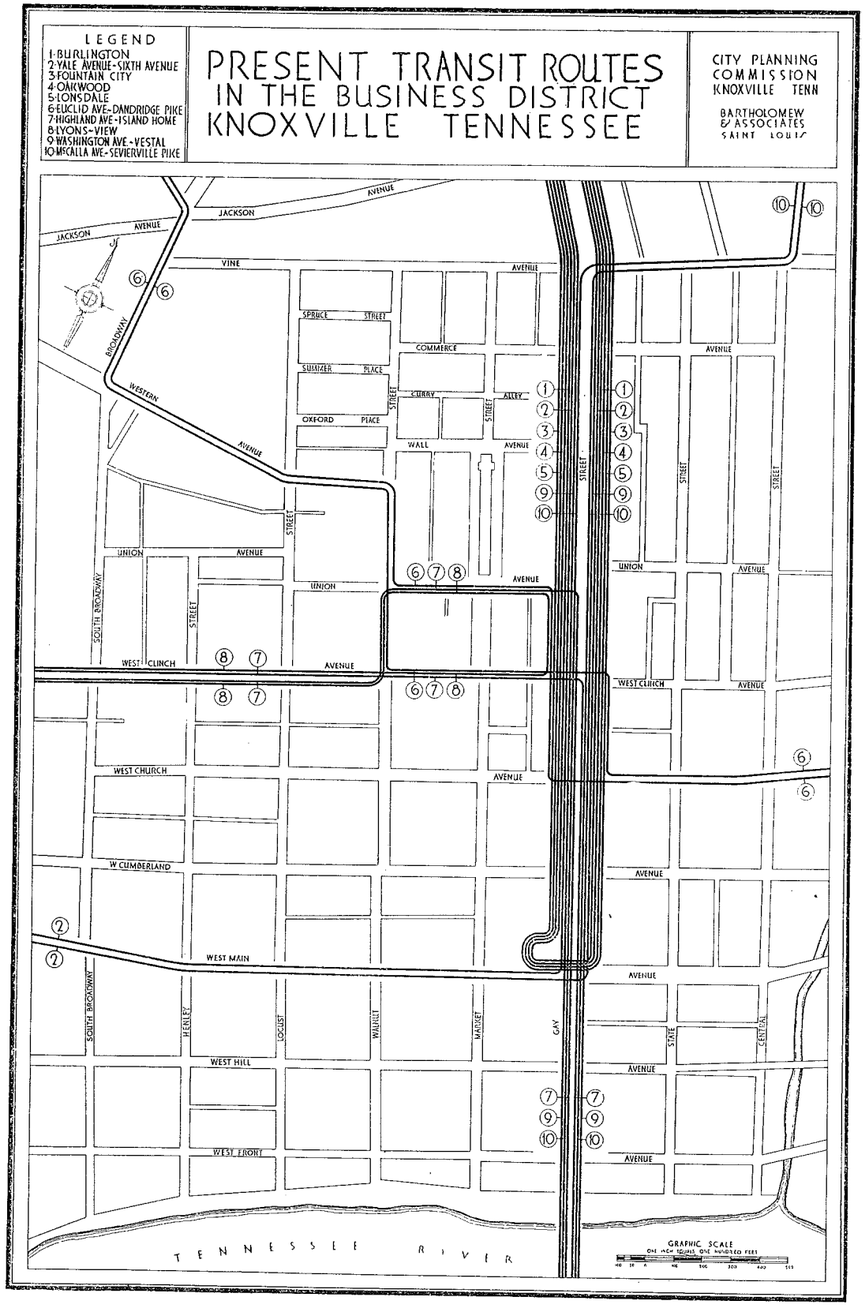
The cross-town line, in all probability, would be a bus line and it would not be necessary to develop it for its full length in the first instance. Certain portions of it could be installed from time to time where traffic movement would justify it.

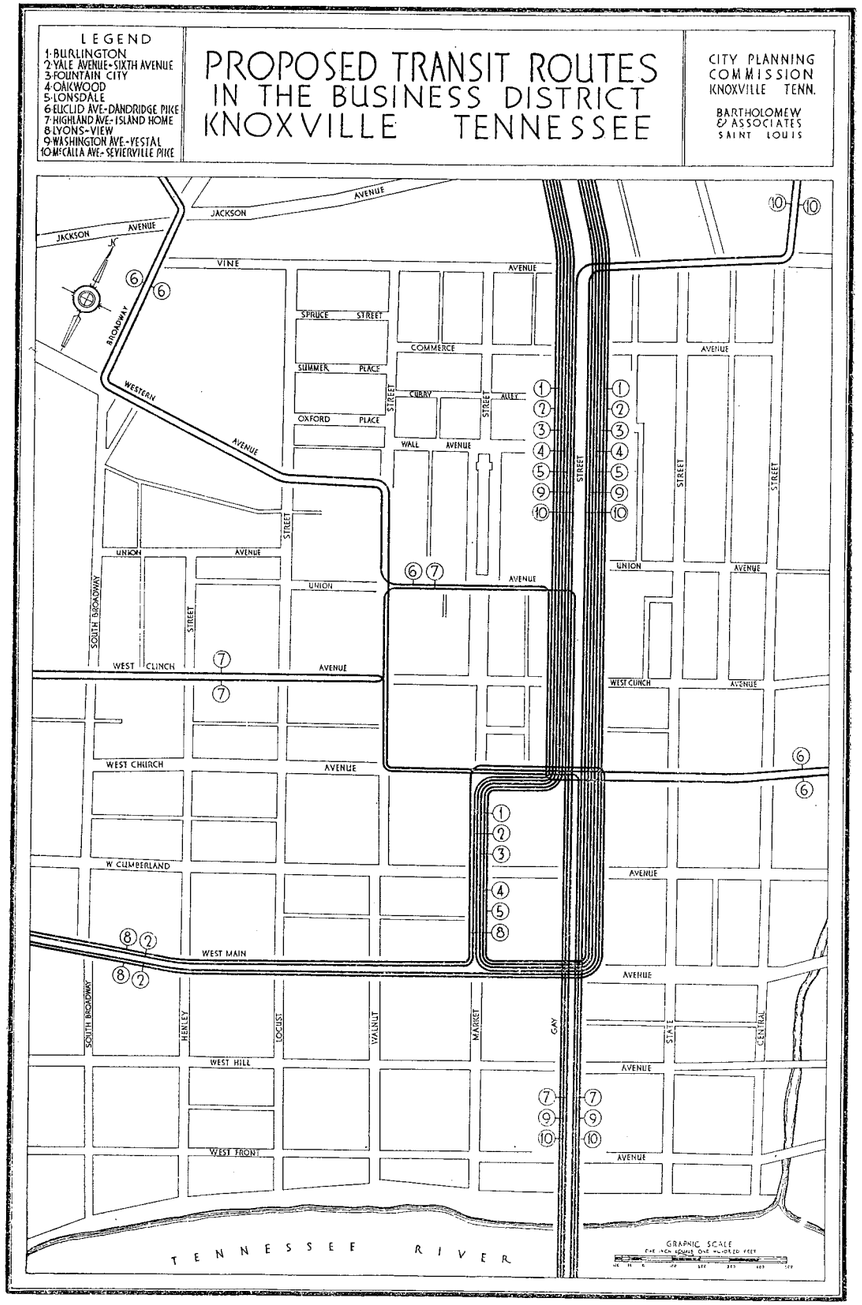
The foregoing discussion covers briefly the salient features of the comprehensive transit scheme. Several track changes are proposed as well as the extension of service into outlying districts which are now sparsely built up but which are developing quite rapidly notwithstanding the absence of transit service. Better communication would undoubtedly give impetus to the development of these various areas and permit the natural expansion of the city.

Bus Extensions

It is generally conceded that if a city is to enjoy a natural and orderly growth, the transit facilities must, to some degree, precede development. While it is true that in the first instance service in the outlying sparsely built-up areas will not be self-sustaining, this again serves to emphasize the need for unification and the place of the bus in the local transit system.

As a matter of economy, the service in these new districts should be furnished at a minimum cost and this can best be done by the use of buses as feeders to the electric lines. Further, any deficit in the operation of these extensions should be absorbed as a part of the cost of operating the entire system. This principle or practice is no different from that which now exists in electric railway operation. There are certain lines in practically all systems which earn more than their share of the cost of operation while others are not self-supporting but are, nevertheless, necessary as a matter of public convenience.


LEGEND
1-BURLINGTON
2-YALE AVENUE-SIXTH AVENUE
3-FOUNTAIN CITY
4-OAKWOOD
5-LONSDALE
6-ELLICLID AVE-DANDRIDGE PIKE
7-HIGHLAND AVE-ISLAND HOME
8-LYONS-VIEW
9-WASHINGTON AVE-VESTAL
10-McCALLA AVE-SEVIERVILLE PIKE
PRESENT TRANSIT ROUTES IN THE BUSINESS DISTRICT KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION KNOXVILLE TENN
BARTHOLOMEW & ASSOCIATES SAINT LOUIS
JACKSON AVENUE
VINE AVENUE
SPRUCE STREET
COMMERCE AVENUE
SUMMER PLACE
OXFORD PLACE
CURRY ALLEY
WALL AVENUE
BROADWAY
WESTERN AVENUE
UNION AVENUE
SOUTH BROADWAY
WEST CLINCH AVENUE
WEST CHURCH AVENUE
W CUMBERLAND AVENUE
WEST MAIN AVENUE
WEST HILL AVENUE
WEST FRONT AVENUE
HENLEY STREET
LOCUST STREET
WALNUT STREET
MARKET STREET
GAY STREET
STATE STREET
CENTRAL AVENUE
TENNESSEE RIVER
GRAPHIC SCALE
ONE INCH EQUALS ONE HUNDRED FEET


LEGEND
1-BURLINGTON
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PROPOSED TRANSIT ROUTES IN THE BUSINESS DISTRICT KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION KNOXVILLE TENN.
BARTHOLOMEW & ASSOCIATES SAINT LOUIS
JACKSON AVENUE
VINE AVENUE
SPRUCE STREET
COMMERCE AVENUE
SUMMER PLACE
OXFORD PLACE
CURRY ALLEY
WALL AVENUE
BROADWAY
WESTERN AVENUE
UNION AVENUE
SOUTH BROADWAY
WEST CLINCH AVENUE
WEST CHURCH AVENUE
W CUMBERLAND AVENUE
WEST MAIN AVENUE
WEST HILL AVENUE
WEST FRONT AVENUE
HENLEY STREET
LOCUST STREET
WALNUT STREET
MARKET STREET
GAY STREET
STATE STREET
CENTRAL AVENUE
TENNESSEE RIVER
GRAPHIC SCALE

Plate 24

TABLE A

POPULATION IN AREAS SERVED BY STREET RAILWAYS

Line		*Population Within ¼ Mile Beyond Business District*	*Aver. Daily No. of Pass.*	*Per Cent*
Burlington		6,775	6,563	97
Fountain City				
Within City Limits	8,025			
Outside City Limits	5,000	13,025	6,923	53
Lonsdale		10,675	7,464	70
Lincoln Park		10,475	5,808	55
Lyon's View				
Inside City Limits	2,675			
Outside City Limits	750	3,425	2,340	68
Yale Avenue—Sixth Avenue				
Yale Avenue	3,675			
Sixth Avenue	4,450	8,125	4,897	60
Euclid Avenue—Church Avenue				
Euclid Avenue	5,800			
Church Avenue	6,975	12,775	3,587	28
McCalla—Sevierville				
McCalla Avenue	6,500			
Sevierville	1,400	7,900	3,239	41
Highland—Island Home				
Highland Avenue	3,175			
Island Home	1,900	5,075	2,706	53
Washington—Vestal				
Washington Avenue	2,000			
Vestal	2,500	4,500	4,470	99
		82,750	47,997	58

Total area of City	26.34	sq. miles.
Rugged area unsuitable for development	4.62	sq. miles.
Area available for development	21.72	sq. miles.
Area served by street railways	14.00	sq. miles.
Area not served by street railways	12.34	sq. miles.
Total population of City	105,870*	
Total population in served areas	82,750	
Population in business district	6,575	
Total population served	89,325	
Population unserved	16,545	

Population figures obtained from distribution of population map and are approximate only. Passengers carried are average number of passengers carried daily during the month of October 1927.

*Includes Fountain City.

TABLE B

PROPOSED BUS EXTENSIONS TO ELECTRIC RAILWAYS

Line	*Length in Miles One Way*	*New Area Served Square Miles*	*New Population Served*
*Beaumont Ave.	2.40	0.48	1800
*Lonsdale	1.52	0.60	1725
*Sevierville	1.59	0.45	550
*Whittle Springs	1.05	0.47	2275
Harvey Street	1.95	0.38	850
Sutherland	1.27	0.42	670
	9.78	2.80	7870

*Bus lines that have already been installed.

The four new routes now installed have been named Beaumont, Lonsdale, Sevierville and Whittle Springs. The routing of each of these lines is given below.

"A"—BEAUMONT:

Beginning at a loop on Fifth, King, Magnolia and Williams, west on West Fifth Avenue, to Arthur, to May, to Marion, to Baxter, to Beaumont, to Schofield and return.

"B"—LONSDALE:

Beginning at Central Avenue and Morelia north on Central, to Heiskell, to Minnesota, to Burwell, to Texas, to Stonewall, to Delaware, to Burnside, to Minnesota and return.

"C"—SEVIERVILLE:

Beginning at Sevier and Island Home, south on Sevier, to the city limits.

"D"—WHITTLES SPRINGS:

From the present terminus of the Sixth Avenue car line at Sixth and Gillespie, east on Gillespie, to Fleming, to Hoitt, to Myers, to Washington, Pike and Whittle Springs Road.

The length of each of the new routes and the additional area and population to be served are given in Table B. After the Sevierville bus extension has been made, the car line south of Island Home Avenue could well be abandoned. Its present location is very unsatisfactory in that it operates on one side of the road for part of the distance and then crosses over and operates on the opposite side. Further, a transfer from bus to street car could just as well be made at Island Home Avenue.

In some instances, the bus routes depart from major thoroughfares but this has been necessary because of bad topography or unpaved streets. Conditions permitting, the bus routes should be confined to the major streets.

Track Changes

Several track changes have been proposed and previously discussed in detail. Those which should be given immediate consideration are:

(a) No. 5, Lonsdale Line to be located on Western Avenue.

(b) No. 6, Euclid Avenue Line to be located on the southern part of Western Avenue.

(c) No. 2, Sixth Avenue Line to operate on Fifth Avenue.

(d) No. 8, Lyons View Line on Kingston Pike should be abandoned and replaced by buses or re-located in the center of the street after widening.

RECOMMENDATIONS FOR IMPROVEMENT OF TRANSIT FACILITIES IN THE CENTRAL BUSINESS DISTRICT

All street cars in the business district are concentrated on Gay Street. The block between Union Avenue and Clinch Avenue on Gay Street is used by every street car operating in the city. During the rush period between five (5:00) and five-thirty (5:30) P. M., approximately seventy (70) cars use the southbound track operating on a headway of about fifty (50) seconds. This interval is conducive to efficient operation provided there are no interruptions due to traffic interferences. In some cities as many as one hundred and twenty (120) cars per hour are operated on a single track which gives a headway of thirty (30) seconds. This is practically the maximum possible and not the maximum desirable. For efficient operation, it is well not to exceed 100 cars per hour. On this basis, the capacity of Gay Street will suffice for some time but it is imperative that this street be relieved of vehicular traffic to some degree in order to expedite street car operation. The widening of Henley Street will materially improve transit service in that Gay Street will be relieved of considerable vehicular traffic, thus facilitating street car operation.

Of the ten lines operating in the city, five continue through the business district as through-routes while the other five loop in the central area. Four of these namely, Burlington, Lonsdale, Lincoln Park and Fountain City terminate at the auditorium loop at the northwest corner of Main Avenue and Gay Street. This loop passes through a building owned by the Knoxville Power and Light Company and is somewhat restricted in size for satisfactory operation. In addition to looping cars on this site, it is also used as storage space. During certain periods of the day, there is considerable backing in and out of cars from Main Avenue which is not only dangerous but is a frequent cause of traffic delay.

The other loop used in the business district is that composed of Clinch Avenue, Walnut Street, Union Avenue and Gay Street. The Lyons View line operates around this loop while Euclid Avenue and Highland Avenue cars use parts of it for their movements through the business district.

The arrangement of transit lines within the business district, or in fact in the whole city, is controlled largely by the street plan. There is usually, however, more flexibility in the outlying districts than in the central congested area. Because of inadequate width and the lack of continuity, Knoxville has, in its downtown area,

one of the most serious street problems of any city of similar size in the country. This situation makes it impossible to attain anything near an ideal plan for business district routings. It is believed, however, that the suggestions contained in this report would materially improve conditions and effect a rather satisfactory solution of the problem. The principal recommendations are:

(a) Creation of a new loop to supplant the auditorium loop. This loop to be located on Church, Market, Main and Gay Streets.

(b) Abandonment of car tracks on Clinch from Walnut to Gay and the construction of new track, in addition to that needed for the loop, on Church between Walnut and Market and on Walnut between Church and Clinch. This would afford a direct crossing of Gay Street for street cars on Church and would likewise facilitate vehicular movement across Gay at Clinch Street. The present arrangement, with cars turning at Gay from Church and Clinch, is not satisfactory and the above suggestions would do much toward improving this situation.

(c) Gay Street would necessarily continue to carry the bulk of transit lines and for this reason it is recommended in fairness to the street car patrons that parking be eliminated, at least during the rush periods in the morning and evening and that this thoroughfare be kept free of any form of bus transportation whether operated in coordination or competition with the electric lines.

As an alternative scheme, it is suggested that the car line be retained on Clinch between Walnut and Gay, and abandoned on Union Avenue between the same points. This would have the advantage of eliminating two turns and reducing the car mileage slightly on line No. 7. Its disadvantage, however, would be that it would place two carline streets, Clinch and Church, one block apart which would interfere with vehicular traffic.

The proposed changes in the business district would affect the present lines as follows:

Lines No. 1, 2, 3, 4, 5, and 8 would use the new loop on Clinch, Market, Main and Gay.

Lines No. 6 and 7 would be re-routed over Church and Walnut Streets instead of the present routes over Clinch Street.

On lines 9 and 10 there would be no changes.

RECOMMENDATIONS FOR IMPROVING THE ROUTINGS OF INTERURBAN BUS LINES

Knoxville has no electric interurban lines, all service to neighboring cities being furnished by bus lines. Plate Number 25 shows the routes travelled in the city by the different lines, together with their destinations and distances from Knoxville. Proposed routings are also indicated.

Practically all buses operate out of the interurban bus terminal located at the corner of State Street and Union Avenue. A few independent companies collect and discharge passengers on the streets,—Western Avenue in front of the City Hall and Depot Street near Williams Street being used for this purpose. The buses operated in this manner are comparatively few and have not been considered in this study.

All present bus lines operate over Gay Street for varying distances while several of them traverse devious routes in reaching the city limits. To eliminate these unfavorable conditions, a number of reroutings are proposed and shown on the plan.

The present routings will, of necessity, be retained until certain major street improvements are made and a new location for the bus terminal acquired. The rerouting plan has been worked out on the assumption that the terminal will be relocated and a number of streets improved. Below is a description of the present and proposed routing for each line.

1. BRISTOL LINE

PRESENT ROUTE. From bus terminal to State, to Commerce, to Gay, to Depot, to Williams, to Magnolia, to Mary, to McCalla, to Rutledge Pike.
PROPOSED ROUTE. New terminal to Henley, to Broadway, to Magnolia, to McCalla, to Rutledge Pike.
The proposed route is dependent upon the re-location of the bus terminal, the opening of Henley Street and the new connection between Magnolia and McCalla through Sterchi Park.

2. JOHNSON CITY 7. ASHEVILLE 9. BEECH SPRINGS LINES.

PRESENT ROUTE. Bus terminal to State, to Commerce, to Gay, to Depot, to Williams, to Magnolia, to Chestnut, to Biddle, to Boyd's Bridge Pike.
PROPOSED ROUTE. New terminal to Church, to Dandridge, to Brooks, to Boyd's Bridge Pike (Sometimes known as McDonald Road).
This route will shorten the present route very materially and eliminate a number of awkward turns. It is dependent upon the new terminal, the direct connection of Church Avenue to Dandridge Avenue and the improvement of Brooks Avenue.

3. CHATTANOOGA 10. ROCKWOOD LINES.

PRESENT ROUTE. Terminal to Gay, to Main, to Cumberland, to Kingston Pike.
PROPOSED ROUTE. New terminal to Main, to Cumberland, to new Major Street, to Kingston Pike.

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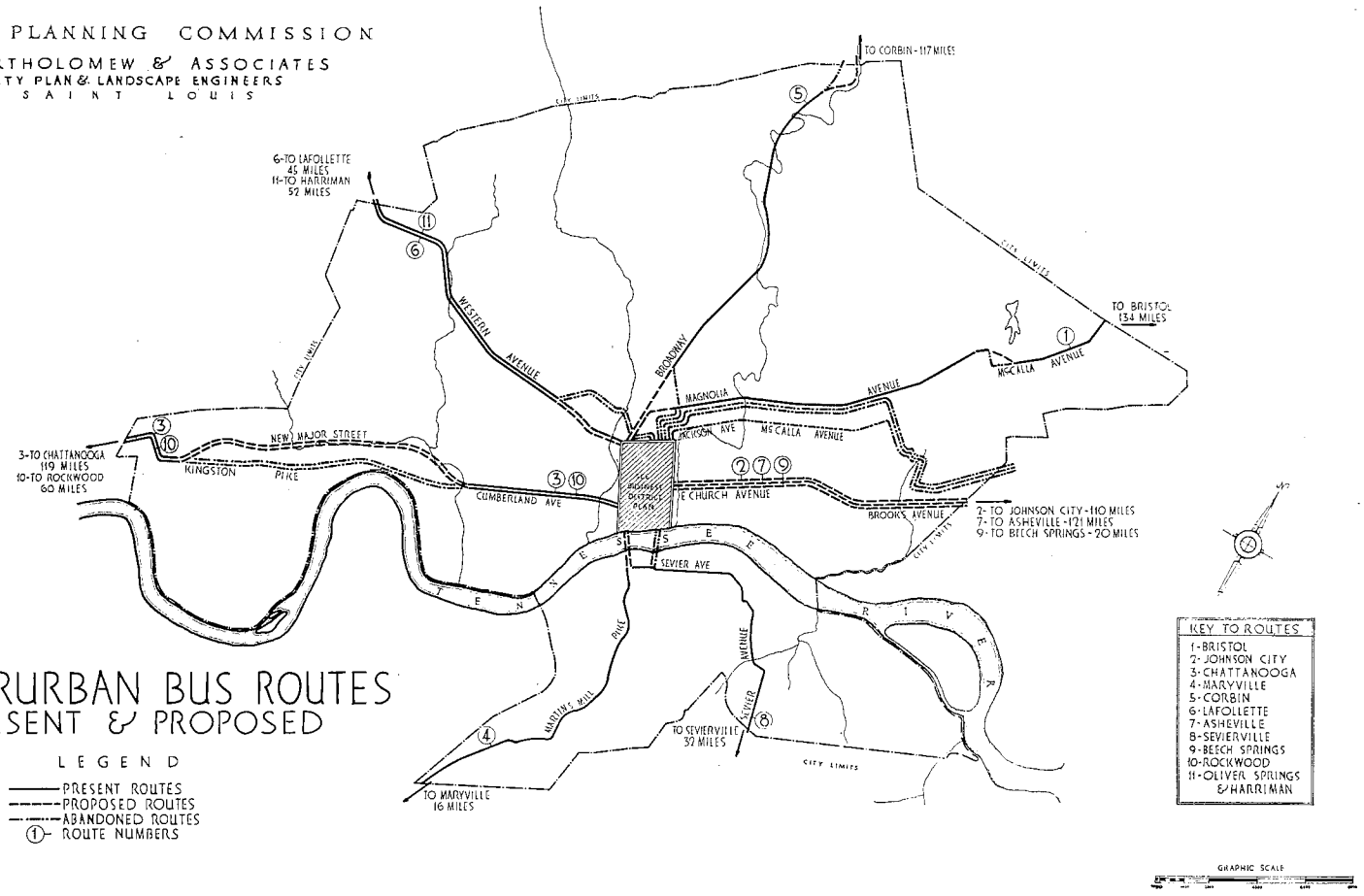


INTERURBAN BUS ROUTES
PRESENT & PROPOSED

LEGEND

——— PRESENT ROUTES
– – – – PROPOSED ROUTES
–·–·– ABANDONED ROUTES
① ROUTE NUMBERS

KEY TO ROUTES

1-BRISTOL
2-JOHNSON CITY
3-CHATTANOOGA
4-MARYVILLE
5-CORBIN
6-LAFOLLETTE
7-ASHEVILLE
8-SEVIERVILLE
9-BEECH SPRINGS
10-ROCKWOOD
11-OLIVER SPRINGS & HARRIMAN

GRAPHIC SCALE

Plate 25

In order to make this change in routing the new terminal must be provided and the new street parallel to Kingston Pike along the Southern Railway must be built. The new street is designed to obviate the necessity of the widening of Kingston Pike and will be used for the diversion of through traffic.

4. MARYVILLE LINE.

PRESENT ROUTE. Terminal to State, to Clinch, to Gay, to Martin's Mill Pike, to Maryville Pike.
PROPOSED ROUTE. New terminal to Henley, to new river bridge, to Martin's Mill Pike, to Maryville Pike.
This route will keep the buses from the over-loaded Gay Street bridge and, like the other proposed re-routings, is dependent upon the new terminal and the Henley Street improvement.

5. CORBIN LINE.

PRESENT ROUTE. Terminal to State, to Commerce, to Gay, to Depot, to Central, to Broadway.
PROPOSED ROUTE. New terminal to Henley, to Broadway.
This route gives a more direct outlet north.

6. LA FOLLETTE 11. OLIVER SPRINGS AND HARRIMAN LINE.

PRESENT ROUTE. Terminal to State, to Commerce, to Gay, to Jackson, to Oak, to Deaderick, to Western.
PROPOSED ROUTE. New terminal to Henley, to new Western Avenue viaduct, to Western Avenue.
The present route is quite tortuous and is used to avoid the grade crossing on Western Avenue near Ramsey Street. Plans are under consideration to construct a new viaduct between Western Avenue and Oak Street. This will eliminate the crossing and will permit a much more direct route than now exists.

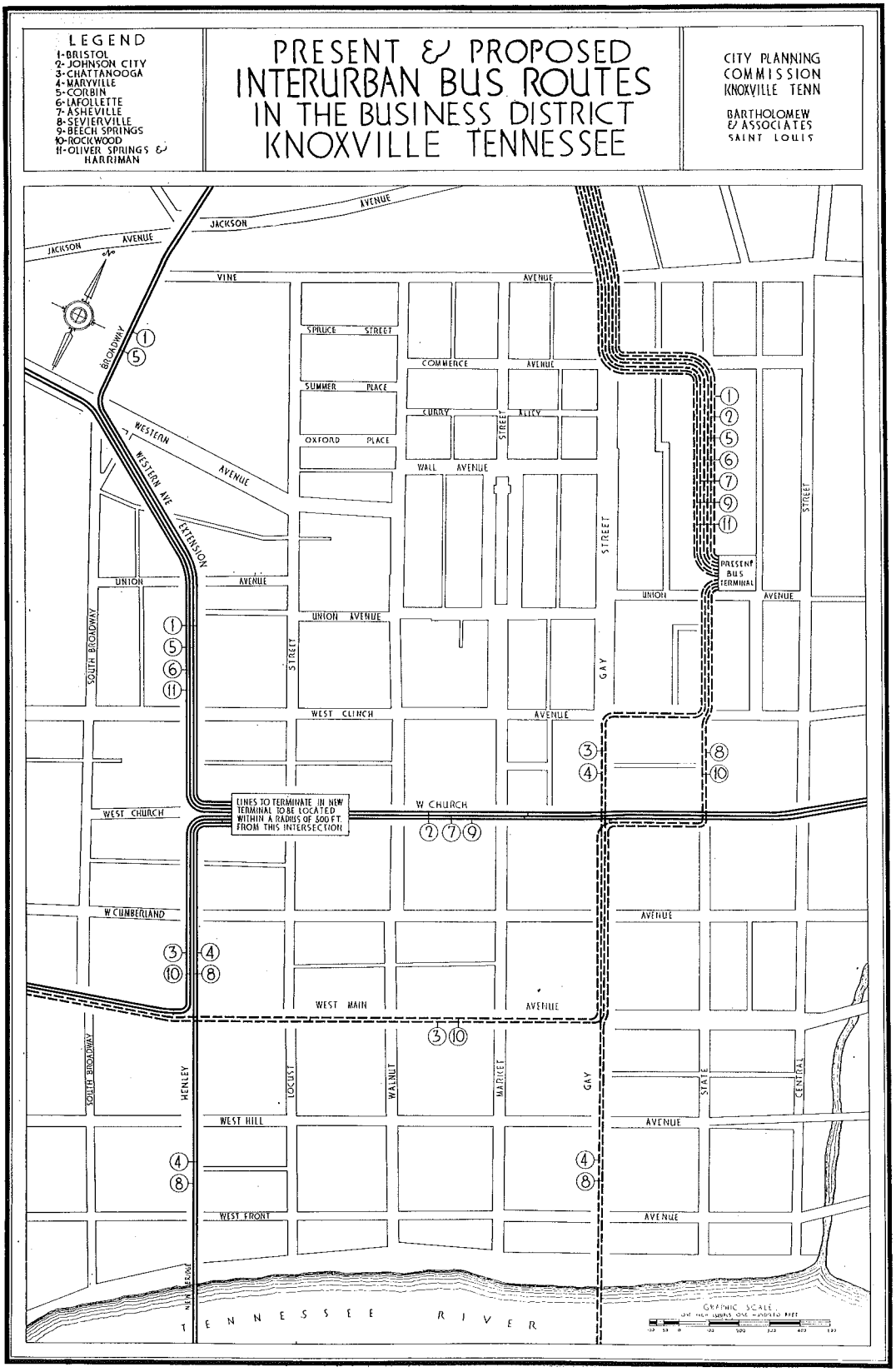
8. SEVIERVILLE LINE.

PRESENT ROUTE. Terminal to State, to Church, to Gay, to Sevier Avenue, to Sevierville Pike.
PROPOSED ROUTE. New terminal to Henley, to new river bridge, to Sevier Avenue, to Sevierville Pike.

INTERURBAN BUS ROUTES WITHIN THE CENTRAL BUSINESS DISTRICT

The present bus terminal is located at the northeast corner of State Street and Union Avenue. There are 150 movements through the terminal daily, 75 buses entering and 75 leaving. Sufficient room for additional service is available although the terminal itself will house but 14 buses at one time.

With the terminal at its present location, very little opportunity exists for re-routing any of the lines to advantage in the business district. Gay Street is, of necessity, used by all lines for varying distances.


LEGEND
1-BRISTOL
2-JOHNSON CITY
3-CHATTANOOGA
4-MARYVILLE
5-CORBIN
6-LAFOLLETTE
7-ASHEVILLE
8-SEVIERVILLE
9-BEECH SPRINGS
10-ROCKWOOD
11-OLIVER SPRINGS & HARRIMAN
PRESENT & PROPOSED
INTERURBAN BUS ROUTES
IN THE BUSINESS DISTRICT
KNOXVILLE TENNESSEE
CITY PLANNING
COMMISSION
KNOXVILLE TENN
BARTHOLOMEW
& ASSOCIATES
SAINT LOUIS
JACKSON AVENUE
VINE AVENUE
SPRUCE STREET
COMMERCE AVENUE
SUMMER PLACE
CURRY ALLEY
OXFORD PLACE
WALL AVENUE
BROADWAY
WESTERN AVENUE
WESTERN AVE EXTENSION
UNION AVENUE
SOUTH BROADWAY
STREET
GAY STREET
PRESENT BUS TERMINAL
WEST CLINCH AVENUE
LINES TO TERMINATE IN NEW TERMINAL TO BE LOCATED WITHIN A RADIUS OF 500 FT. FROM THIS INTERSECTION
W CHURCH
WEST CHURCH
W CUMBERLAND AVENUE
WEST MAIN AVENUE
HENLEY
LOCUST
WALNUT
MARKET
STATE
CENTRAL
WEST HILL AVENUE
WEST FRONT AVENUE
TENNESSEE RIVER
GRAPHIC SCALE

KNOXVILLE
TENNESSEE

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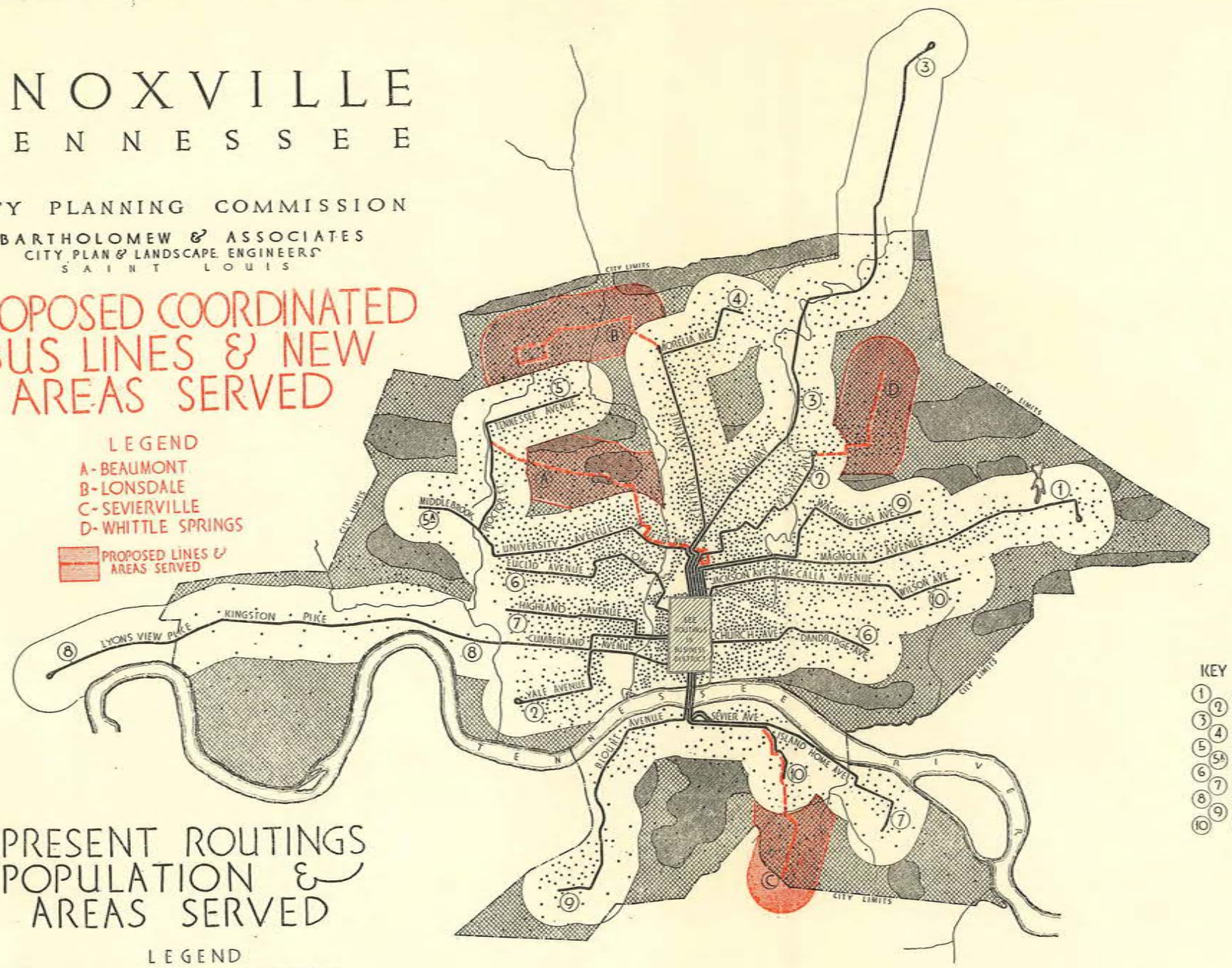
PROPOSED COORDINATED BUS LINES & NEW AREAS SERVED

LEGEND

A - BEAUMONT
B - LONSDALE
C - SEVIERVILLE
D - WHITTLE SPRINGS

PROPOSED LINES & AREAS SERVED



PRESENT ROUTINGS POPULATION & AREAS SERVED

LEGEND

UNSERVED AREAS
NOTE - ONE QUARTER MILE WALKING DISTANCE TAKEN AS A BASIS FOR SERVICE

STREET CAR LINES
EACH DOT REPRESENTS 25 PERSONS

RUGGED AREAS

KEY TO ROUTE NUMBERS

1. BURLINGTON
2. YALE AVE. - SIXTH AVE.
3. FOUNTAIN CITY
4. OAKWOOD
5. LONSDALE
5A. MIDDLEBROOK
6. EUCLID AVE. - DANDRIDGE AVE.
7. HIGHLAND AVE - ISLAND HOME
8. LYONS VIEW
9. WASHINGTON AVE - VESTAL
10. McCALLA AVE - SEVIERVILLE PIKE

GRAPHIC SCALE

Plate 27

A much better location for the terminal, both from an operating standpoint and for traffic reasons, would be west of Gay Street rather than to the east. With a terminal located somewhere within the district bounded by Main, Union, Market and Henley, practically all buses could be eliminated from the congested portions of Gay Street. With the opening of Henley Street and the construction of the new bridge across the river, northbound and southbound buses could use this street and Broadway.

No attempt is made at this time to recommend a definite location for the new terminal. Public convenience and the interest of the bus operators will be served best, however, by re-locating the terminal somewhere within the district outlined above.

With this location, all bus lines would be eliminated from Gay Street and from the congested portions of Main Avenue. No lines would cross Gay except those going to Johnson City, Asheville and Beech Springs. These lines would be routed over Church Avenue and the proposed new Church Avenue viaduct.

Southbound buses to Sevierville and Maryville would use Henley Street and the new river bridge.

Northbound routes to Bristol and Corbin would go directly to Broadway via Henley Street and westbound routes would use Henley Street and Western Avenue. Southwest routes to Chattanooga and Rockwood would use Henley Street and Main Avenue.

TRANSPORTATION

Introduction.

The original railroad structure within a city usually has acquired its form as a result of topographical limitations. Necessarily, it has followed the path of least resistance, which is that of easy grades and low property values. Extraordinary industrial growth, such as has taken place in Knoxville, imposes upon the railroad the necessity of altering and adding to its tracks and facilities so that in time, what was once a simple layout becomes a complicated system, every part of which must function perfectly. If there are two or more railroads serving the city, they become co-partners as well as competitors for business. They may be rivals yet they must act as one in the mutual interchange of cars and in service to industries.

In the railroad's effort to expand by throwing out new spurs, increasing the size of its yards and stations, and multiplying the number of trains and switching movements, it is inevitable that a series of adjustments take place in order to accommodate the city's tendency to grow as well as that of the railroads. There can be no end to this process as long as the city possesses vitality and continues to develop normally. As an economic measure, therefore, it is advisable to anticipate the more important improvements that must be made, in order to insure a coordinated development. If this is not done, situations will arise exceedingly expensive to correct.

This phase of the city plan discusses terminal operations, points out the extent to which the present railroad facilities may require expansion, and indicates how the city's major street and zoning plan may affect these railroads, either in the immediate present or at some future time.

Practically all territory within the city limits tributary to railroad tracks, both main line and industrial, has been zoned for industrial purposes, which also includes commercial uses. About forty-nine per cent (49%) of this zoned area is now occupied by industries (including railroad ownership). There are some 650 industries and semi-commercial establishments within the city, requiring the movement of about 800 cars daily, exclusive of cars interchanged among the railroads and those of through trains. It is probable that the local requirement for cars will increase rapidly, and that through and interchange freight will also become greater in volume. Passenger traffic probably will not grow in proportion to population, but its attendant business of handling mail, parcel post and express, undoubtedly will.

It is, of course, certain that with civic growth will come a more insistent demand for the full and unrestricted use of streets for vehicular traffic. The major street plan has designated certain thoroughfares as major streets. Several of these now cross railroad tracks at grade, as Broadway once did. In many instances the necessity for a separation is not now urgent but it is well to agree upon a method of procedure in any event. The city should not be compelled to undergo the expense of widening a street

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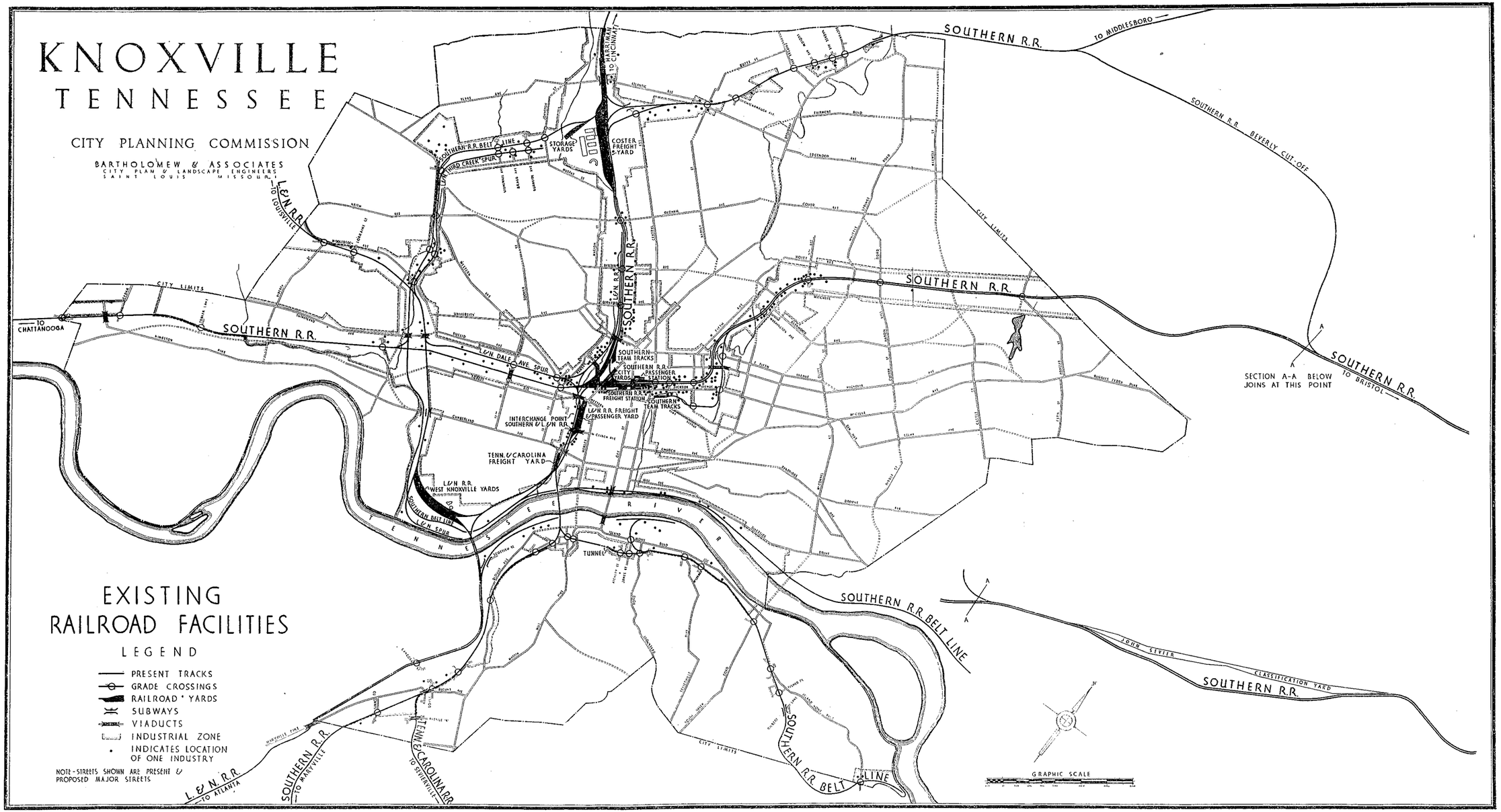


EXISTING RAILROAD FACILITIES

LEGEND

- PRESENT TRACKS
- GRADE CROSSINGS
- RAILROAD YARDS
- SUBWAYS
- VIADUCTS
- INDUSTRIAL ZONE
- INDICATES LOCATION OF ONE INDUSTRY

NOTE - STREETS SHOWN ARE PRESENT & PROPOSED MAJOR STREETS

in anticipation of its passing over or under railroad tracks, only to have it later made impossible to accomplish by some unanticipated action of the railroad or an industry. While the major street plan is much more flexible than the railroad track structure, any radical departure from the adopted street plan should be avoided.

If a study of this sort will enable the public to understand better the vital importance of the railroads, their limitations, and the conditions under which they must operate, and if it conveys to the railroads, with other studies embraced in the city plan, an appreciation of the city's vision of the future as well as its needs for immediate improvements, it will have accomplished its purpose.

PRESENT RAILROAD FACILITIES

Plate Number 28 shows the present railroad facilities of Knoxville, the existing grade crossings and separations, and the location of industries and industrial districts in the city. The fact that there are only two roads operating in Knoxville is largely responsible for the comparatively satisfactory railroad situation. The L. & N. freight classification yards are well located and offer no obstacles to future city growth. The Southern's city yard, which was formerly over-crowded, has been materially relieved since the construction of John Sevier Yard. The city yard constitutes more or less an interruption to a cohesive central business and wholesale district. The construction of the Gay Street and Broadway Viaduct has, to some extent, overcome this handicap but new and larger viaducts are needed at Fifth Avenue and Western Avenue to reduce fully the artificial handicap of this city yard.

The passenger terminals of both railroads are conveniently located to serve the public but their future expansion will be handicapped by lack of room. The single interchange point is an indication of the relative simplicity of the railroad operations. The number and location of the different grade crossings and separations show how a serious problem has been partially met and what remains to be done.

A DESCRIPTION OF PRESENT OPERATING METHODS

A brief description of the operating methods of the several railroads and of their various facilities will assist in arriving at an understanding of the problem and perhaps make the subsequent conclusions and recommendation self-evident.

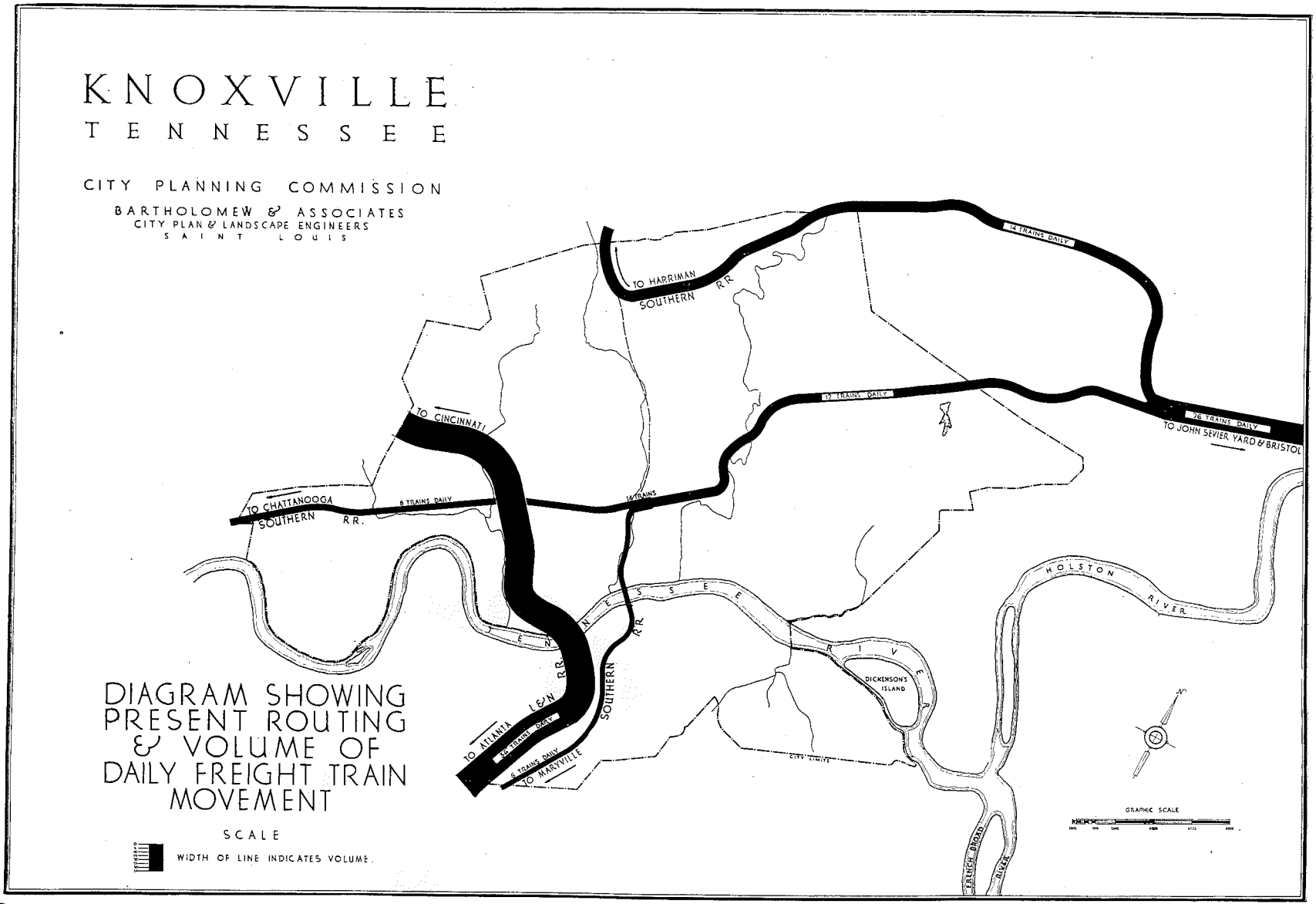
Southern Railway

Knoxville is the gateway and point of concentration for traffic from four divisions of the Southern Railway Systems.

These are conveniently grouped as follows:

Coster, Knoxville and Asheville Division.
Memphis and Knoxville Division.
Coster Division.
Knoxville and Augusta Division.

The Coster, Knoxville and Asheville Division enters the city at its mid-northern boundary. Its route is from Harriman to Coster, then along Second Creek to the terminal district at Broadway; leaving the city to the eastward it follows in general First Creek Valley, to John Sevier, and Morristown. Ultimate destinations are Spartanburg, Charleston, Jacksonville, etc.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SAINT LOUIS
TO HARRIMAN
SOUTHERN R.R.
14 TRAINS DAILY
TO CINCINNATI
17 TRAINS DAILY
76 TRAINS DAILY
TO JOHN SEVIER YARD & BRISTOL
TO CHATTANOOGA
SOUTHERN R.R.
8 TRAINS DAILY
14 TRAINS
HOLSTON RIVER
TENNESSEE RIVER
L&N RR
SOUTHERN RR
DICKENSON'S ISLAND
TO ATLANTA L&N
36 TRAINS DAILY
6 TRAINS DAILY
TO MARYVILLE
CITY LIMITS
FRENCH BROAD RIVER
GRAPHIC SCALE
DIAGRAM SHOWING PRESENT ROUTING & VOLUME OF DAILY FREIGHT TRAIN MOVEMENT
SCALE
WIDTH OF LINE INDICATES VOLUME.

The foregoing is the route followed by passenger trains, but since the construction of the John Sevier classification yard a few years ago, the freight movement of these divisions is deflected at Coster and enters John Sevier Yard via the Coster Division (Middlesboro Branch) to Beverly and over the new Beverly cutoff.

The above routes within the city district may be considered permanent and not subject to change within the near future. The very beneficial effect of the John Sevier Yard, in removing a considerable amount of main line freight traffic from the city's congested districts, is apparent. This is the route of greatest tonnage, as it has both the St. Louis and Cincinnati territory to draw from, and directly penetrates the Carolinas.

The John Sevier Yard, which is located seven miles out of the approximate center of Knoxville, is an excellent example of modern terminal design, and has an extraordinarily large capacity (some six thousand cars) which is evidence of the importance of this district as a gateway for freight traffic. All freight trains are received and made up here for the several divisions except two local trains on the K. and A. Division and one in the Western Division.

The Memphis and Knoxville Division includes that from Memphis to Knoxville via Chattanooga and the line from Knoxville to Bristol. At Bristol, connection is made through the Norfolk and Western to Washington, Baltimore, Philadelphia, and New York. The route of this line through Knoxville is from the midwest city limits, following for a short distance the west fork of Third Creek, and on a direct line to the central freight district, thence over the same route easterly as the Coster, Knoxville and Asheville Division, to John Sevier Yard. Both passenger and freight trains in this case now follow the same route, which is direct but traverses the most congested section of the city, crossing nearly all streets at grade.

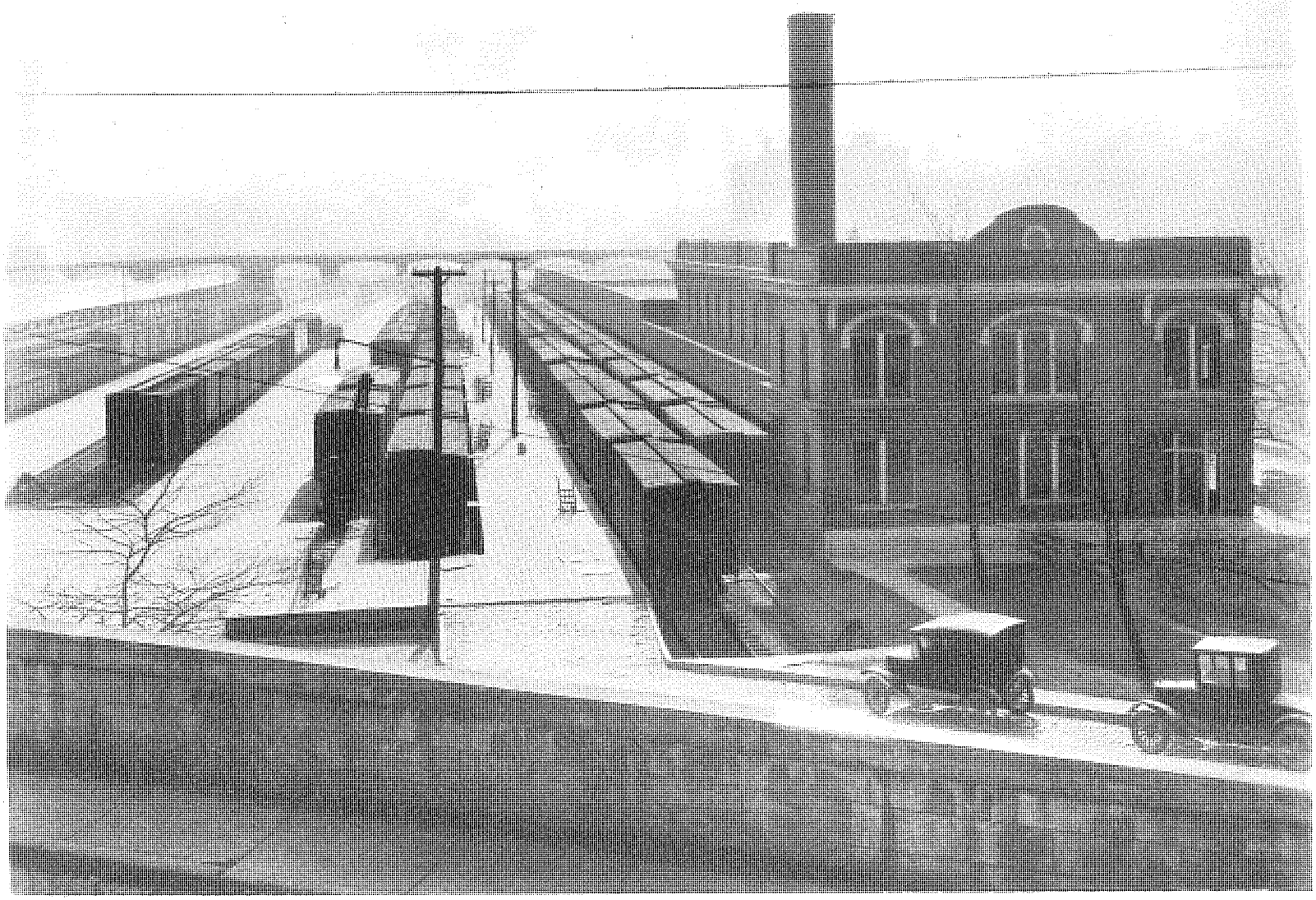
For passenger traffic, the routing above described may be expected to serve indefinitely, but for freight service, it is practically certain that use will be made of the Southern's Belt Railway close to its intersection near Dale Avenue to Coster, in order to bring trains into John Sevier Yard via the Beverly cutoff, thus avoiding the central city district.

The Coster Division embraces the lines from Knoxville to Jellico and Fonde, and from Knoxville to Middlesboro. Traffic over these short branches is relatively light. Their approach in Knoxville is via Coster Station on the north city limits to the central district.

The Knoxville and Augusta division is likewise a short line, (26 miles), to Maryville and Walland. It enters Knoxville over the Southern's bridge, thence along Second Creek, paralleling the L. and N. Railway to city freight yard. Passenger and freight trains follow the same route.

Louisville and Nashville Railroad

The L. and N. Railroad's main line operations through Knoxville are confined to the through passenger and freight service from points north, particularly the Cincinnati gateway to Atlanta, that great railroad center. In Knoxville the main line is well placed just west of the congested area, and its local yard is admirably situated to the south, in the bend of the river where expansion is possible without interference with the city growth.



L. and N. Freight Station.—Team yard and passenger train tracks to the left. A modern freight station of good design. Driveways are wide and well-paved and the grounds exceptionally attractive. The wide driveway in the foreground offers a convenient approach to the track level exits of the passenger station as well as to the freight station.

Knoxville is not a break-up point for the L. and N., and as a rule its freight trains merely set out and pick up cars of city origin and those inter-changed with the Southern. Passenger trains back in from the Wye track just north of the L. and N.'s bridge. This is a somewhat awkward movement but is unavoidable. The present general method of L. and N. operation is likely to continue indefinitely.

The Tennessee and North Carolina Railroad

This road, independently owned, operates a very limited service of a mixed freight and passenger traffic between Knoxville and Sevierville, a distance of 30 miles. Its terminal yard is along the Southern's Augusta branch at Main Avenue. Out of Knoxville this road uses the Southern's track and bridge. The future of the T. and C. Railroad is problematical; at present it serves so limited an area that its continued operation does not appear justified. It is also in very poor physical condition and is not adapted to heavy traffic. However, no additional problems are created by its presence and there are possibilities of some industrial activity along its route.

Inner City Operation

Within practically the geographical and business center of Knoxville each of the railroads carries on rather intensive operations. These have to do with switching a multitude of cars to and from various manufacturing establishments, team tracks and freight houses, and to and from each other. Owing to the convenient location of the terminal district and to the fixed channels of operation, it may be expected that railroad activity in the central district will become more, rather than less, intensive.

TERMINAL FACILITIES

Freight Stations

L. and N. Freight Station.

The L. and N. Freight Station is compactly arranged just south of Western Avenue. The location is ideal in that it is conveniently close to the business district yet offers no obstruction to traffic or to normal city growth.

The freight house itself is about five years old and is a brick and steel fireproof structure exceptionally well designed for its purpose. There are four house tracks having a total capacity of about 100 cars. The team tracks adjacent to the house tracks will hold about the same number. All driveways are well paved, wide, and easy of access.

Automobile unloading platforms are provided. Offices and record rooms are in the second story of the building, and the basement contains a central heating plant which supplies steam for the passenger station near by, as well as for standing passenger trains.

The entire freight station layout is a model of efficiency in its arrangement and methods of operation.

An increase in capacity may be provided at the time a general rearrangement of the tracks leading to the passenger and freight stations becomes necessary. The present capacity seems to be ample for a good many years, however. The house is switched out only once a day, and more frequent switching will take care of increasing business for some time. At present, 60 cars daily are handled out of this station.

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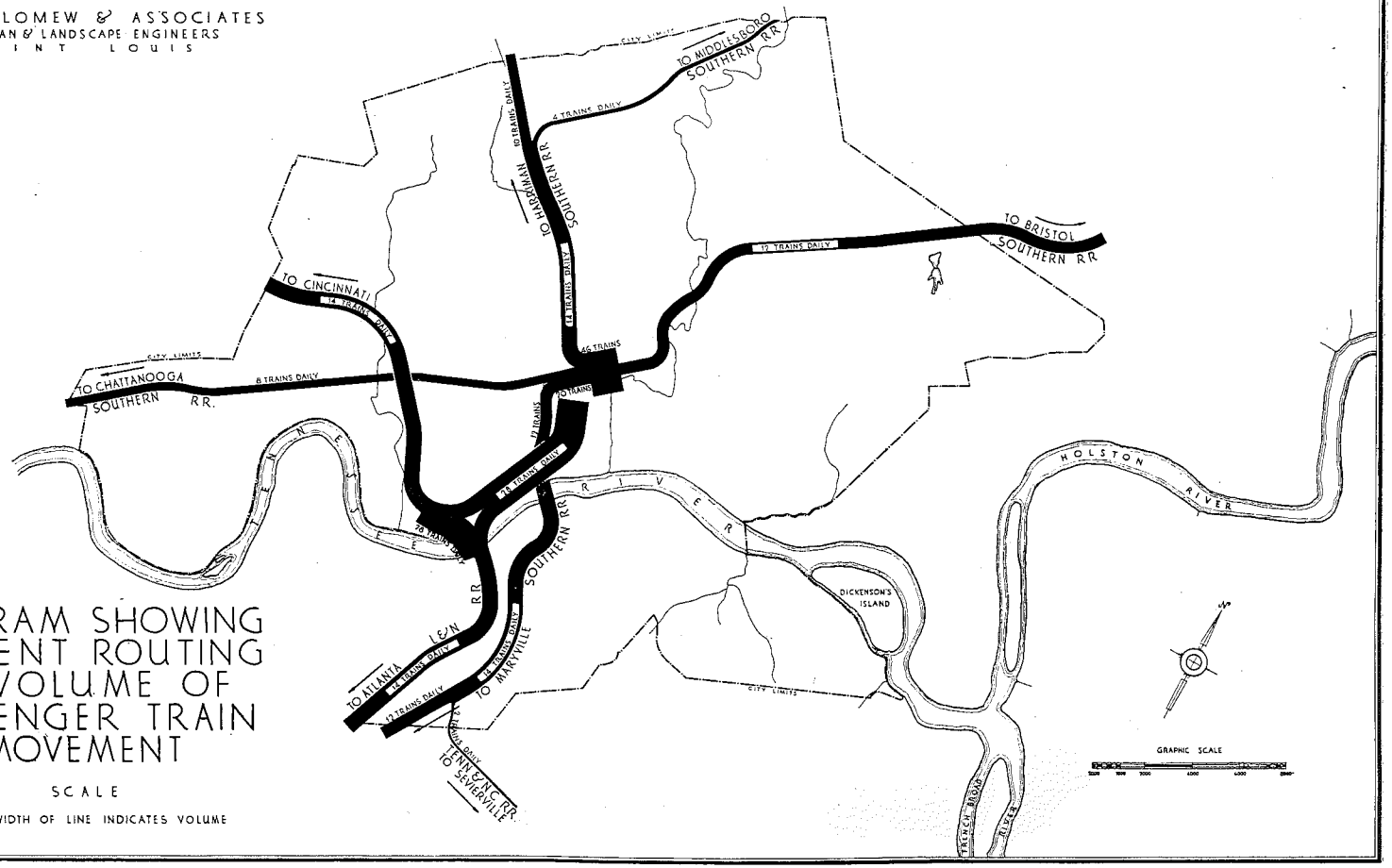

DIAGRAM SHOWING PRESENT ROUTING & VOLUME OF PASSENGER TRAIN MOVEMENT

SCALE

WIDTH OF LINE INDICATES VOLUME

Probably the improvement most desired in connection with the L. and N. freight station and also the passenger station would consist in a local yard some where between the freight station and the West Knoxville yard. By extending the subways of West Cumberland and West Main Avenue, the yard tracks may be lengthened considerably, and it will be possible for the railroad to make use of its land lying between the present track and South Broadway.

The freight station is switched from West Knoxville yard over the same track used for passenger service. Some 230 cars are received from and delivered to this station daily, probably requiring from two to four switching movements.

The Southern Freight Station.

The Southern freight houses consist of two old brick and timber structures, non-fireproof, and apparently in line for replacement in the near future. Their location along Jackson Avenue near Gay Street is conveniently close to the retail and wholesale district, and Jackson Avenue affords excellent access to the houses. The inbound freight house is located east of Gay Street. The outbound house is on the west side of Gay Street. The driveway to the inbound house is narrow and congested and both houses are somewhat overcrowded. Doubtless, plans have been prepared for an entirely new layout as the business transacted here certainly justifies a modern structure. No better location suggests itself for this station. Some 200 cars daily are handled out of the Southern freight station.

The team yard located along Cooper Street adjacent to the city freight yard consists of 6 tracks of about 10 cars capacity each. It is fairly adequate in size and well arranged, considering the limited space available. The driveways are too narrow and should be paved.

The Southern freight station is switched several times daily from the city yard, the cars then being taken to Sevier Yard for consolidation in trains. Practically all transfer of less-than-car-load freight is handled at Sevier Yard. The switching of the freight house increases the train movements considerably across such streets as Central and Morgan Streets.

The Southern has another small team yard located on Willow Street, east of Central Street, at the end of First Creek spur track. It has 3 tracks holding 12 cars. This is also switched from city yard.

Passenger Stations

The L. and N. Passenger Station, located at Western Avenue and Broadway, is a substantial brick building three stories high above street level. The waiting room is practically at street level and the track platforms are reached by stairs and an elevator. It is a stub-end station with four regular train tracks and three additional short tracks for emergency use and storage. Aside from the somewhat limited length of the train tracks (maximum capacity 11 coaches) the station is very well planned and conveniently operated. It is maintained in an extraordinarily neat condition.

In operation all trains are backed in from West Knoxville, using the bridge track and freight yard lead as legs of the Wye. Local trains which start here are made up at

West Knoxville and engines are housed there. This method handicaps yard operation to some extent as the bridge is single track only. There are six through trains daily, also four terminating and four starting from Knoxville daily, or a total of fourteen regular trains handled into and out of the station. This accounts for a total of twenty-eight passenger train movements over the single track to West Knoxville, which track is also used for switching the freight house, handling industrial cars, and interchange to the Southern. The Southern's K and A main line crosses this track at grade which contributes somewhat to delay in operation.

The Southern Railway's passenger station is located on Depot Street at Gay Street, and, like that of the L. and N., has its main waiting room near street level. Seats are also provided at track level which is reached by stairs from the upper main floor. The building itself is two and one-half stories high and rather old, although its architecture presents an agreeable appearance. Probably the principal lack is an adequate number of train tracks. There are only 3 long tracks, and one short stub track with a six car capacity. There are 24 outbound trains leaving the Southern Station daily and 23 incoming trains, or a total of 47 trains handled in and out of the station in 24 hours. Considering that about 30 of these are made up and terminate here, it is apparent that additional station tracks are needed.

The passenger coaches are stored in city yard, and trains are made up here also, which contributes to the extraordinary confusion existing in this yard. The locomotives are housed at Coster, undesirably far from the station and adding to the heavy traffic movements along the main line northward.

Railroads are loath to spend money for the improvement of passenger terminals in view of the diminishing returns from this source of revenue, but in this case a radical revision appears to be desirable in order to improve the handling of passenger trains as well as to conserve much needed space for the more important freight operations.

As operated at present, considerable inconvenience is caused by certain west and east bound freight trains passing through the passenger station layout. Some of these are quite long, and pass between the station and standing passenger trains waiting to take on or discharge passengers. As some of the freight trains are stopped there to fill out their load, passenger trains are further delayed until a track is available for them to pull out or in.

City Freight Yard, Southern Railway

The city freight yard which is located along the main line north from Western Avenue to about Bernard Avenue, is used for collecting and classifying cars from the industries in and around Knoxville, and for assembling cars received and delivered in transfer with the L. and N. It also serves the freight house and team track yard. No trains are made up here except 3 locals, two for the K. and A. Division and one for the Coster Division. Cars from city yard are handled by transfer crews to the John Sevier Yard.

The city yard is a most important facility now and will require expansion from time to time. At present it is almost worked to its limit. By eliminating the Western Avenue crossing at the west end and widening out the throat, additional

tracks may be added. At the east or north end, it may also be possible to extend the tracks, and by eliminating the Bernard Street grade crossing, operations will be facilitated.

The present capacity of this yard is approximately 700 cars and in view of its manifold uses, considerable expansion will be necessary in the future.

Coster Yard, which has a capacity of 1100 cars, is little used other than for storage, principally of "bad order" cars waiting to be run through the shops which are immediately adjacent.

West Knoxville Yard, L. and N. Railroad

This is the one general freight yard of the L. and N. through which is handled all Knoxville business. Several local freights and turnback trains are made up here and it is also the engine terminal and coach yard for terminating passenger trains. The yard is conveniently located. It has a capacity of 500 cars which is insufficient for future business. Its expansion will be a somewhat difficult matter on account of the proximity of the bridge crossing but it will interpose no problems of a civic nature.

Southern Belt Line

The Belt Line of the Southern Railway has proved extraordinarily effective in promoting industrial growth of Knoxville. It has not only attracted numerous industries but has located them in appropriate places. Fortunately there is still much area suitable for manufacturing plants of every description, easily served by the Belt, as may be observed on the zoning plan of the city.

The Belt trackage has increased, since its original construction, by the addition of long spur tracks to isolated industries, which tracks in turn become the feeders of other plants locating along them from time to time. At present, the Southern Belt and industrial trackage approximates 19.8 miles, to which sixty manufacturing plants and other firms have direct access. Additional firms are served indirectly. This useful facility is a material factor in raising the Southern's monthly car requirement to 14,000 for the Knoxville district. On the railroad map are indicated the individual plants on the railroads within Knoxville. From this it is evident that little if any trackage could be eliminated. On the other hand, there does not appear to be any immediate need for a material extension of the Belt. Rather, its future growth should be by the addition of spurs to new industries and the increased intensity of use of present trackage.

Industrial Track, L. and N. Railroad

The L. and N. Railroad operates 9.4 miles of industrial track, practically a belt line service, on which are located over fifty plants. To a certain extent, their Dale Avenue, Second and Third Creek tracks duplicate the operation of the Southern Railway in the same territory, as the tracks of the two railroads are parallel for almost the entire length. In most instances, the industries are served directly by each railroad.

Terminal operations would be improved and grade crossings less intensively used, if all industrial switching were performed by one company. In view of the scarcity of land for terminal yards, however, it is doubtful if a single yard could be obtained from which all industrial cars could be classified and re-distributed to the

several lines. It would still be necessary to use the city yard of the Southern and the West Knoxville Yard of the L. and N. for this purpose. Each yard would serve a certain section of the city.

Because of the predominance of the Southern Railway in the number of industries served, it is doubtful if any arrangement for unified terminal switching could be worked out at the present time. Later, however, such operation will become imperative. An arrangement of this kind would be advantageous to industries, although the interchange agreement now in effect between the Southern and the L. and N. seems to operate satisfactorily. The agreement is revokable by either road on notice, but such action is almost inconceivable as both roads are mutually dependent upon each other in serving the industries.

Union Station

Combined passenger terminal facilities in a union station is a matter that interests and concerns all cities. There has been a great deal of discussion of the subject in Knoxville, the consensus of public opinion being that such a facility is urgently needed and that steps should be taken to induce the two railroads to provide a union station on an undetermined site. No headway has been made, however, as no definite study has been undertaken nor have any plans or estimates been made that would prove or disprove its desirability.

Undoubtedly, a union station would add to the architectural distinction of Knoxville. The probable future passenger service situation, however, leads to the conclusion that a union station is unnecessary at present and that it is very doubtful if such a utility will be economically justified at any time in the future.

From the railroad's point of view, the necessity for combined passenger terminal facilities often arises from inefficient and unsatisfactory operating conditions in the individual passenger stations. In such cases, it is often better to correct these operating defects by combining with other railroads in the joint use of a new union terminal rather than to undertake the expense of a radical revision of individual facilities. Operating conditions in both the L. and N. and the Southern passenger stations are now generally satisfactory, and if the improvements recommended elsewhere in this report are made, future requirements will be fully met.

Where there is a great deal of interchange of passenger traffic between different railroads, a union station is generally desirable and necessary. In Knoxville, passenger traffic interchange between the Southern and the L. and N. is small, and no probable increase of importance can be expected.

To find a satisfactory location with ample room for a union station and the several passenger tracks that would be required, is an almost impossible task.

For these reasons, no union passenger station is recommended in Knoxville.

GRADE CROSSING ELIMINATION

The grade crossing situation in Knoxville shows indications of becoming acute within the next few years. The many viaducts and subways already constructed by the railroads and the city, have in practically every instance demonstrated their

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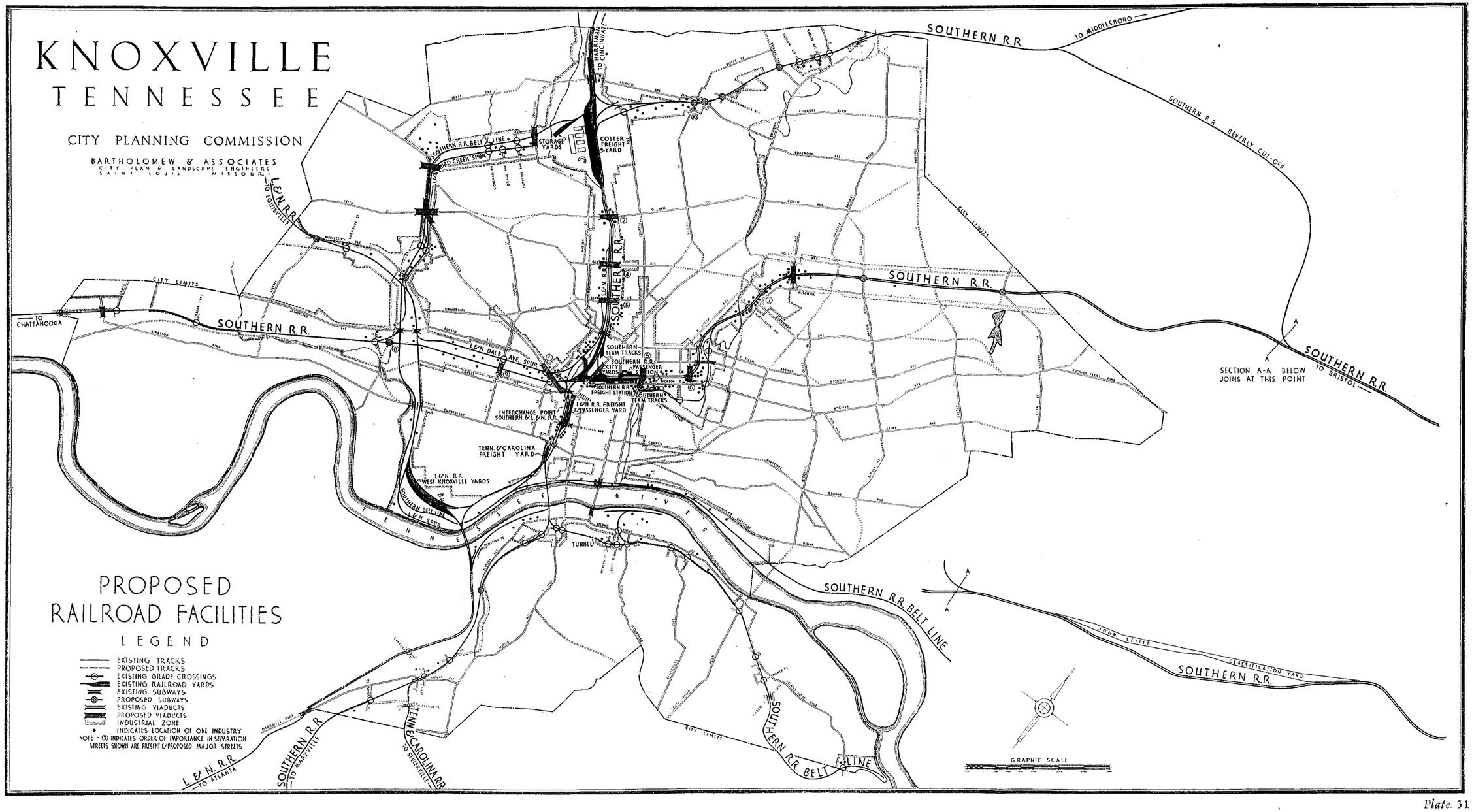


PROPOSED RAILROAD FACILITIES

LEGEND

- EXISTING TRACKS
- PROPOSED TRACKS
- EXISTING GRADE CROSSINGS
- EXISTING RAILROAD YARDS
- EXISTING SUBWAYS
- PROPOSED SUBWAYS
- EXISTING VIADUCTS
- PROPOSED VIADUCTS
- INDUSTRIAL ZONE
- INDICATES LOCATION OF ONE INDUSTRY

NOTE - (2) INDICATES ORDER OF IMPORTANCE IN SEPARATION
STREETS SHOWN ARE PRESENT &/PROPOSED MAJOR STREETS

Plate. 31

beneficial effect in accelerating traffic and contributing toward the development of both industrial and residential areas.

Fortunately, conditions are such that no great number of projects need be undertaken at one time, as practically every existent grade crossing constitutes a separate problem which can be solved independently.

As later described, by far the majority of crossings occur on industrial trackage, only an exceptional few of which will ever require a separation of grades.

While the exact method of elimination of grade crossings cannot, in all cases, be determined without accurate field surveys and the preparation of at least preliminary plans, the following list is submitted with recommendation as to procedure.

The grade crossings may be divided into two general classes, those subjected to main line as well as industrial switching movements and others over which only industrial switching takes place.

GRADE CROSSINGS ON MAIN LINE TRACK

SOUTHERN RAILWAY: Bernard Avenue to Coster:

BERNARD AVENUE: This is a major street with heavy vehicular traffic, and on account of its proximity to the city yard of the Southern is subject to frequent switching movements. In addition, some fourteen passenger trains pass here daily. All of the yard and road engines being housed at Coster, their movement increases the railroad traffic at this crossing. Quite a number of industries are served along the main line, which adds measurably to the frequency of railroad movements. A viaduct is recommended at Bernard Avenue, with little or no change in grade of the railroad tracks.

BAXTER AVENUE: Baxter Avenue is also a major thoroughfare and is destined to carry even more vehicular traffic than Bernard Avenue. Practically the same intensity of railroad movement exists at this crossing as at Bernard, except that the influence of the freight yard is less.

A viaduct over the tracks is appropriate here, and if built in the near future its cost should not be excessive. A complication is the bridge between buildings about 250 feet west of the tracks, but an inspection indicates that this can be adjusted satisfactorily.

OLDHAM AVENUE: At this point there are two main line and two side tracks, the grade of which cannot be materially changed. The street grade descends eastward from the tracks and rises westward at the rate of about 3 per cent. Industries are built up fairly close to the crossings and considerable trouble will be experienced in adjusting the driveways and entrances to new conditions.

It is suggested that a viaduct be constructed here as it is likely to cost less and cause smaller damages than a subway. However estimates should be made for both in this particular instance.

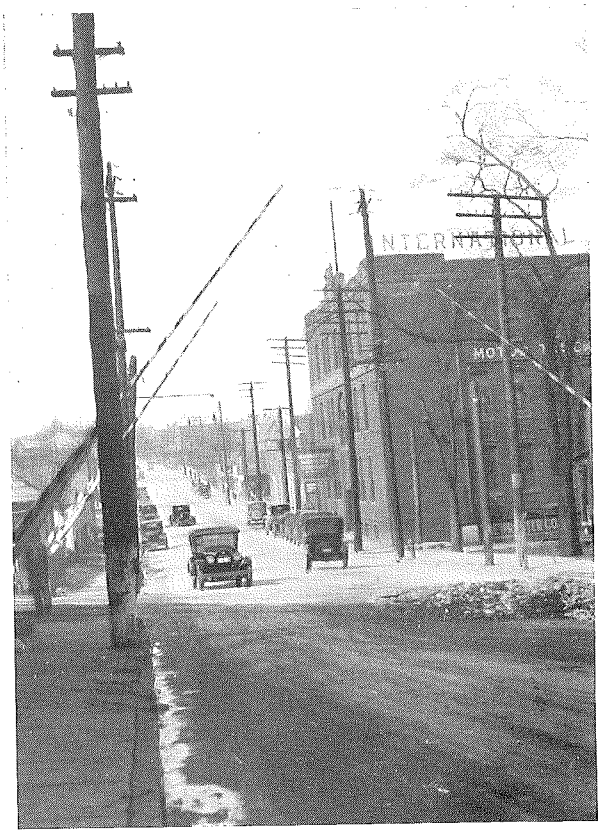
It may be noted that Oldham now carries most of the traffic between North Knoxville and Lonsdale.

Of the above three crossings, it is believed Oldham should receive earliest consideration.

SOUTHERN RAILWAY: Western Avenue to West City Limits. (Chattanooga Division).

This line is peculiarly free from crossings at grade, there being only two that require consideration.

WESTERN AVENUE: This is a very important major street, subject to a heavy vehicular traffic and a considerable number of switching movements. Main line traffic of the railroad consists of 8 passenger trains daily and 8 scheduled freight trains, or a total of 16 train movements. Western Avenue, being directly at the west



The Western Avenue grade crossing is a cause of many delays.

throat of the Southern's city yard, is crossed frequently by switch engines, as the yard is worked from this end. All interchange cuts from the L. and N., for example, are brought out on the lead across Western Avenue, and then distributed in the city yard. Switching to industries across this street is also fairly heavy.

The L. and N. Railroad's Dale Avenue spur track somewhat complicates the situation by its location about 350 feet north of the Southern, making it practically necessary to carry any viaduct required over their track, before coming to grade.

Two plans, both involving viaducts over the tracks, are to be considered. One brings the viaduct directly off the present Western Avenue viaduct, thence over both the Southern and L. and N. tracks, passing just north of the International Harvester Building.

The alternate plan, less expensive but not so satisfactory to the city from the standpoint of vehicular traffic movement, is to construct a viaduct over the Southern tracks just west of the intersection of 13th Street and Grand Avenue, bringing the west approach to grade in Western Avenue at the L. and N. track, leaving it at grade, or, if desirable, extending the viaduct sufficiently to pass over the L. and N., as in the first plan proposed.

During a twelve-hour period (6 A. M. to 6 P. M.) there was a total delay of 1.72 hours to vehicular traffic at this point, and the crossing gates were down 48 times during the observed time. The total number of vehicles passing across the tracks was 3456, or an average of about 300 per hour. Much greater use would be made of this essential route to the business district if this grade crossing were eliminated. A recent fatality here should further emphasize the importance of the crossing's early removal.

SEVENTEENTH STREET: A viaduct over the Southern tracks is now in use at Seventeenth Street, but its roadway is rather narrow and its approaches are unsatisfactory. Its replacement with a new viaduct, having a 36-foot roadway, is recommended, and at the same time the grades should be adjusted to give Grand Avenue a better approach to the viaduct.

CONCORD STREET: The Concord Street crossing is particularly unsatisfactory in its present condition because of the narrow roadway and steep approach grades. There are two railroad tracks, main line and siding. Two industrial plants are on the north side of the tracks. Concord Street is used considerably, as it is the sole thoroughfare leading from Kingston Pike and the University Farm northward to the Marble City section. It is a major street, and some relocation is necessary in order to secure a satisfactory underpass and also to afford a better alignment for traffic purposes. It is probable that a new crossing about 300 feet east of the present one will be suitable.

MINOR CROSSINGS: In addition to the above grade crossings on the Southern line to Chattanooga, there are three of comparatively little importance at Tobler Lane, Cedar Lane, and Old Kingston Pike. The viaduct which was constructed several years ago to carry the Dixie Highway over the Southern, just west of Cedar Lane, relieves the other crossings satisfactorily.

SOUTHERN RAILWAY: Central Street to East City Limits. (Bristol Division).

CENTRAL STREET: As will be noted from the description of terminal operations, this stretch of track through the city was relieved considerably by the new John Sevier classification yard. It is estimated that some 14 scheduled freight train movements which formerly traversed this route, now take the Beverly cut-off. However, there were added a number of freight shuttle movements between John Sevier Yard and City Yard. In addition, there are 12 freight train movements remaining, 8 to and from the Chattanooga line and 4 from the K. and A. Division. It is probable

that eventually the 8 freight trains to and from the Chattanooga Division (more properly the Memphis and Knoxville Division) will be detoured, as indicated on the railroad map, around the Third Creek Section of the Belt to Coster, and via Beverly cut-off to John Sevier yards. This arrangement will reduce the through freight movement across Central Street to 4 from the K. and A. These cannot well be eliminated except by routing straight through to Coster and using the Beverly cut-off. However, this imposes extra mileage on a non-revenue producing line.

The most prolific source of delays at Central Street probably arises from the switching of the freight houses and the passenger station, Central Street being at the east throat of that group of tracks used for this purpose. There are also a number of industries in the immediate vicinity which require regular service to their sidings.

A count taken about a year ago showed a total delay of 3.63 hours due to train operation and switching across Central Street. This was for a twelve-hour period only, (6:30 A. M. to 6:30 P. M.)

Under the major street plan, it is proposed to widen Central Street to 80 feet. At present it is but 45 feet wide. Until this is done, it is not recommended that active steps be taken to eliminate the grade crossing as it is impossible to develop a satisfactory plan under existing conditions. The street is too narrow for a subway without practically destroying adjacent property, and the same may be said of viaduct construction. With an 80-foot (preferably 100-foot) street at the crossing, subway construction is practicable, using a 36-foot roadway, and leaving a narrow, one direction roadway at the present street level to serve the adjacent buildings. Or, as suggested in the major street report, a viaduct may be built which in effect would create a double-deck street, and eventually form a connection to the south with Gay Street at Wall Avenue.

In the meantime, some changes in operating methods, as suggested above, would decrease interference. The indications are that an entirely new freight station layout is imminent, in which event the direction of switching may be reversed, thus relieving the crossing of the bulk of car movements.

MORGAN STREET: Morgan Street is largely an industrial street, dead-ending at Jackson. It might well be closed at the tracks if a subway is used at Central Street, but in case a viaduct is located at Central, Morgan should remain open.

HUME STREET: This street is comparatively little used and should not require a grade separation for many years.

RANDOLPH AND GEORGIA STREETS: One or the other of these streets will require a grade separation in the not distant future. At present, Georgia Street is not in use across the tracks, but its position is such that an overhead crossing (viaduct) is more feasible here than at Randolph Street. The plan indicates a viaduct taking Georgia Street over the tracks with Randolph Street closed.

WASHINGTON AVENUE: Under the street plan, Washington Avenue is replaced by Pratt Street as a major street, and a subway would be necessary when Pratt Street, extended, would cross the railroad. Washington Avenue would remain a grade crossing, open across the tracks as it is essential to industry. Later, if necessary, a subway might be constructed, but located somewhat north of the present crossing in order not to interfere with the Standard Knitting Mill property.

NINTH AVENUE: This is a minor street but used rather heavily, as there are few near-by crossings. When required, the grades may be separated by the use of a viaduct.

HARDIN STREET: Hardin Street is a major street but is comparatively little used at this time. Future grade separation may be by a subway under the tracks.

PROSSER STREET: Prosser Street is an outlying thoroughfare ultimately destined to be a major street but not in use at the present time. Eventually a subway to carry this street under the tracks will be required.

SOUTHERN RAILWAY: Central Street to Northeast City Limits. (Middlesboro or Coster Division).

CENTRAL STREET: This crossing is now used in industrial switching only, and nothing is likely to be required in the way of grade separation.

Grade Crossing and Jog at Atlantic Avenue and Pershing Street.

PERSHING STREET AND ATLANTIC AVENUE: Of the two streets, Pershing Street carries the heavier traffic and also a car line but both are major thoroughfares. The crossing is well protected by bells and signal, and as traffic is not dense, it will be

some time before a separation is necessary. A tentative plan, indicated on the Railroad Map, provides for deflecting Atlantic Avenue northwestwardly in order to intersect the track where an underpass is practicable. At Pershing a subway also is shown. It appears that the tracks may be raised here which will facilitate this form of construction.

CHICAMAUGA AVENUE: A future subway is suggested here. At present the traffic is very light.

FAIRFAX AVENUE: This is a proposed major street but is not at present used very intensively. At some future time a subway will be required.

MINOR CROSSINGS: There are several grade crossings of minor importance on this line, such as at Ludlow, Karnes, and Buchanan Avenues, which may remain indefinitely as they are at present with the usual protective measures employed.

BELT LINE SOUTHERN RAILWAY AND L. AND N.
THIRD CREEK DISTRICT

MIDDLEBROOK AVENUE TO COSTER: The parallel tracks of the L. and N. and Southern Railway create nine grade crossings, four of which are at major streets. In general, as long as these tracks are used for purely industrial switching, as at present, no consideration need be given to separating grades at any of them within the very near future, as the cost would scarcely be justified. At such time as main line traffic is diverted by the Southern Railway over this route, separations of grade should be considered at Middlebrook Avenue, Western and Keith Avenues, Tennessee Avenue and Johnston Street. The L. and N. must necessarily participate in this work, on account of the close proximity of their track to that of the Southern. It is preferable, however, that all switching for this district be performed by one company, as it is clearly a case of duplicating service to the same district. This would somewhat simplify the grade separation problem.

MIDDLEBROOK AVENUE: Under existing conditions, a subway might be built here, as little property damage would result.

WESTERN AVENUE AND KEITH AVENUE: This is an intersecting crossing, very difficult and expensive to treat effectively. A viaduct will be required with double approaches on each side.

TENNESSEE AVENUE: It is not difficult to realign Tennessee Avenue to cross the tracks north of the present crossing and permit the construction of a viaduct over both companies' tracks. An elimination on the present site is impracticable on account of the proximity of Western Avenue at this point.

JOHNSTON STREET: A viaduct can be built here, when required, with little interference in the use of adjacent property.

Practically all remaining crossings, being of use principally to industries, may remain at grade.

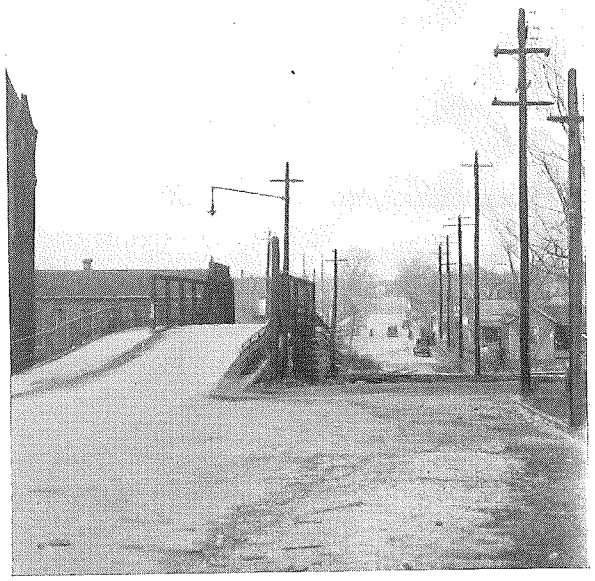
SOUTH KNOXVILLE GRADE CROSSINGS

SOUTHERN AND L. AND N.

In South Knoxville there are some 18 separate crossings at grade on both railroads. Of these, 6 are on the main line (K. and A. Division) of the Southern Railway, and only one on the main line of the L. and N. The remainder are on the various spur tracks to the various groups of industries. None of these grade crossings are in need of separation.

BLOUNT AVENUE AND SOUTHERN RAILWAY

A subway is comparatively easy to install here, especially if located under the trestle bridge just south of the crossing, under which the street railway passes.



The Fort Sanders Street overpass is inadequate and should be replaced by a modern structure.

L. AND N. RAILWAY GRADE CROSSINGS

LIBERTY STREET AND MAIN LINES.

Liberty Street will eventually become a major street, but at present it is little used. A separation of grades will require a revision in alignment of both Middlebrook Avenue and Paper Mill Pike, as they intersect Liberty Street within a few feet of the railroad. The grade of the track is such that it cannot be either raised or lowered an appreciable amount.

DALE AVENUE SPUR—L. AND N.

The grade crossing created by these tracks is subject to industrial switching only, and separation is not likely to be required.

GRADE CROSSING ELIMINATION PROGRAM

Summarizing the grade crossing situation, it appears that although there are some 54 crossings within the city limits, there are but 20 which are likely to require separation. Of these, the most urgent are listed as follows, in the order of their importance.

Western Avenue, Southern and L. and N.
Oldham Avenue, Southern Railway.
Bernard Avenue, Southern Railway. (L.and N. affected.)
Baxter Avenue, Southern Railway. (L.and N. affected.)
Central Street, Southern Railway. (Defer until street is widened.)
Georgia Street or Randolph Street, Southern Railway.
Washington Avenue (or Pratt extended), Southern Railway.
Concord Street, Southern Railway.
Seventeenth Street, Reconstruction, Southern Railway.
Pershing Street, Southern Railway.

The remaining crossings which may require attention are more or less of equal importance.

The above ten proposed separations represent the most urgent needs that now exist or that will probably arise over a period of years. Both the L. and N. and the Southern are affected by these proposed separations, although the Southern is the more heavily involved of the two. In order to cope successfully with the problem it will be necessary for the city and the railroads to become familiar with each other's needs, rights and limitations.

After an understanding is reached it is time to enter into a detailed study of specific plans, based upon the observations and conclusions set forth in this report. After reaching a total estimated cost for the program, the division of expense between the city and the railroads should be agreed upon.

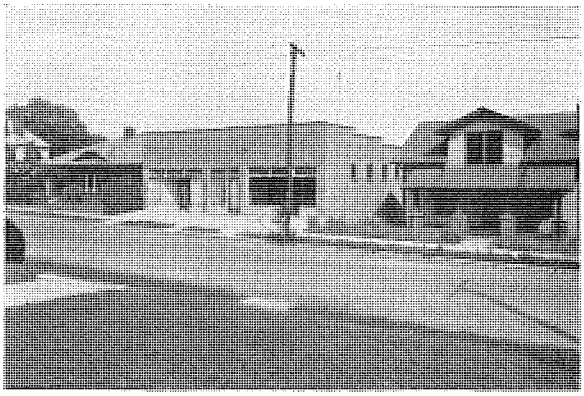
The ten suggested separations might well be the basis for a ten-year grade crossing elimination program. Negotiations for such program were begun by former City Manager Roehl and the Southern Railway, but were never completed.

ZONING

Introduction

By zoning is meant the public regulation of the size, height and use of all new buildings erected or old buildings altered in the city. The regulations form a part of the city plan which is designed to control the character and extent of the city's growth and are established in accordance with some definite plan of city development. The regulations are uniform for like districts in all parts of the city, varying in character usually in accordance with the prevailing building development. The regulations are not retro-active, since they apply only to new buildings and alterations of old buildings. The different zones or districts, whether for height, use or area, are established not for certain sections of the city but for the city as a whole, the variation in character of regulations in different districts being entirely in accordance with a general plan.

Zoning is the application of common sense and fairness in the building of a city by public regulation of the use of private real estate.



Store on Scott Avenue.
The intrusion of stores in residence districts is now prohibited by the zoning ordinance.

Zoning gives to everyone who lives or does business in a community a chance for a reasonable enjoyment of his rights. At the same time, it protects him from unreasonable injury from neighbors who would seek private gain at his expense.

Zoning regulations differ in various districts according to the determined uses of the land for residence, business, or manufacturing, and according to the advisable heights and ground areas. These regulations are, however, the same for all districts of the same type. They treat all persons alike.

Zoning is accomplished by power, delegated to the city by the state, which enables the city to pass regulations to promote the public health, the public safety, the public welfare and the public convenience. To limit the height of buildings and the percentage of the lot covered promotes the public health because it prevents congestion of population. The establishment of restricted residence districts, preventing the invasion of stores or industries, forestalls a vast amount of depreciation of property values.

History of Zoning

More than thirty-seven million people, comprising in excess of sixty per cent of the urban population of the United States now have the protection afforded by zoning ordinances, according to the results of a survey by the Division of Building and Housing of the U. S. Department of Commerce. The 754 cities, towns and villages reported as zoned are well distributed throughout the country. Forty-six (46) states and the District of Columbia have enacted laws permitting cities to zone themselves. In Tennessee, in addition to Knoxville, both Memphis and Chattanooga have passed comprehensive zoning ordinances.

Four cases in which the principle of dividing cities into districts or zones, in which the use, height and areas of buildings are regulated, have been upheld by the United States Supreme Court within the past three years. There are now more than twenty states whose highest courts have upheld comprehensive zoning ordinances.

Of particular interest to Knoxville was the decision of the Supreme Court of Tennessee, which early in 1927, decided that the Memphis zoning ordinance was constitutional and a valid exercise of the power conferred by the State Enabling Act.

Zoning in Knoxville is authorized by the State Enabling Act and by virtue of decisions above mentioned, is permitted by both the state and federal constitutions. The only questions open for courts to decide hereafter will be with regard to the reasonableness and justification of regulations in so far as they affect individual properties.

Need for Zoning in Knoxville

Like most American cities, Knoxville has grown from a small village to a thriving metropolis in a comparatively short period of time. This growth has been largely haphazard and uncontrolled. As a result of such undirected development, desirable residence districts have been ruined because of the intrusion of commercial and industrial enterprises. So great is the density of population in many instances that living conditions have become deplorable, and congestion in the street threatens economic strangulation of certain neighborhoods. Zoning is a means of obviating and correcting such conditions.

The zoning plan is an attempt to bring order out of chaos in city development. Without such a plan, stores crowd in at random among private dwellings, and factories and public garages elbow their way into retail business and apartment house districts. Office buildings are allowed to become so tall and so bulky and in such close proximity that the lower floors not only become too dark and unsatisfactory for human use but for that very reason fail to yield a fair return to the individual investor.

The zoning law prevents an apartment house from becoming a giant, airless hive, housing human beings like crowded bees. It provides that buildings may not be so high and so close to one another that men and women must live and work in rooms never freshened by sunshine or lighted from the open sky.

The great financial loss, resulting from the scrapping of buildings in "blighted districts" may be eliminated by zoning. A blighted district is an area originally developed for residence, business or industry, the normal development of which is seriously retarded because of the fact that the people have lost confidence in its future.

The causes of such "blight" are manifold. The most familiar case is that of the residential district into which have begun to creep various uses, such as sporadic stores or junk yards or factories, which invaribly threaten rapid destruction of its value for residences. It is not that a few such inappropriate uses actually ruin the district, but that the people, having lost confidence, start a panic like a run on a bank. Many of them hurry to sell their property at a sacrifice for any kind of use, no matter how objectionable to their neighbors, and the "blight" is on. Dwellings worth in the aggregate millions of dollars for the purpose for which they were built and physically fit to serve those purposes for many years to come, with a moderate investment in alterations and improvements, are thus annually abandoned to purposes for which they are not fit, or are left to stand practically idle. Expensive public services of water, gas, electricity, sewers and transportation are maintained at great cost in order to get through the blighted district to the more distant and newly fashionable location.

The total economic loss is enormous, and this loss and the risk of it are paid by the people in the price of house rent or otherwise, as inevitably as they pay the price of the enormous fire loss, either directly or through insurance. Proper zoning cuts these losses at their sources, just as proper building regulations and fire protection cut fire losses at their source.

Again, miles of streets and sewers and other utilities such as are ordinarily built when land is newly subdivided for dwellings, need never be constructed if we know that these areas will be devoted mainly to large factories. Industry will be more efficient, as well as homes more wholesome, if kept generally separate. Separation need not mean great distances for workers to travel. Concentration of uses and a fair apportionment of districts should reduce the amount of all transportation and secure economies not only directly for the worker but indirectly in the costs of production and marketing of goods.

Zoning in Knoxville

Knoxville is the third city in Tennessee to enact a comprehensive zoning ordinance. Memphis prepared and passed such an ordinance in 1922, and Chattanooga followed with similar regulations in 1927.

Authority for such legislation was granted to Knoxville by the State Legislature in 1923 as a part of the new charter adopted at that time. As set forth in the charter of the city, Knoxville "shall have power by ordinance to regulate and restrict the height, number of stories, and size of buildings and other structures, the percentage of the lot that may be occupied, the size of yards, courts and other open spaces, the

density of population, and the location and use of buildings, structures and land for trade, industry, residence or other purpose, and to divide residence districts into one-family dwelling districts and into two or more family dwelling districts, and it may also establish setback building lines; to divide the municipality into districts of such shape, number and area as may be deemed best suited to carry out the purpose of this grant of power; and within such districts it may regulate and restrict the erection, construction, reconstruction, alteration, repair or use of buildings, structures or land. All such regulations shall be uniform for each class or kind of buildings throughout each district, but the regulations in one district may differ from those in another district."

Store at Corner of Broadway and Glenwood. This store has been constructed since the zoning ordinance went into effect. Notice the set-backs.

The City Planning Commission, under whose direction the work has been carried on, was created by the same Act.

Study Maps

In order that the zoning regulations may be judiciously applied to all sections of the city as a part of a general plan, it was essential that an intimate knowledge be acquired of existing uses, heights and sizes of buildings and the uses of land throughout the city. In order to obtain this knowledge, painstaking field surveys were made and all available information, such as insurance maps, assessment records, etc., were consulted. From the results of these studies numerous maps were prepared and many computations were made to determine the nature of present property development and its future tendencies.

The maps were prepared in a form convenient for study and analysis. A brief description of each follows:

Use Map: This map showed by different colors the use of every piece of property within the city. Uses were classified into one-family, two-family, and multiple dwellings; retail business, hotels, light industries, heavy industries, parks, cemeteries, and public and semi-public property. The information obtained from existing records was checked carefully in the field to insure accuracy.

HEIGHT MAP: On this map was shown the height of all buildings more than 2½ stories high. Different color indications were used to show buildings 3 stories, 4 to 6, 7 and 8, 9 and 10, 11, 12 and 13 or more stories in height.

DENSITY MAP: This map was prepared in order to study the intensity of the use of land for residential purposes. The number of square feet per family for each piece of property on which people resided was determined and shown on the map in colors. These different indications showed property having 5000 or more square feet per family, 4000 to 4999, 2500 to 3999, 2000 to 2499, 1250 to 1999, 650 to 1249, and property having less than 650 square feet of lot area per family.

LOT WIDTH MAP: This map showed the width of lots in all platted areas of the city. The widths of lots were differentiated by colors. The following widths were shown: 50 feet wide or more, 41 to 49, 36 to 40, 30 to 35, 26 to 29, and less than 26 feet. Lots less than 100 feet in depth were also indicated.

INDUSTRIAL MAP: This map showed all industrial and railroad property in the city and the relationship between the two classes. Industries were divided into four classes: light industry, heavy industry, public garages, and public utility property. Each class was denoted by special color.

PREPARATION OF TENTATIVE ZONE PLAN

The district map which shows areas for different uses and height and area regulations, was prepared after all preliminary information was assembled. The plan was evolved through close study of the existing uses, density of population, etc., supplemented by a careful check in the field. The map was first made up in crayon form and submitted to the Planning Commission for consideration. The Planning Commission held a number of meetings, studied the recommendations closely and suggested certain changes. After a discussion and agreement with the consultants relative to these changes, the map was redrawn in black and white for public presentation. The text of the ordinance likewise was scrutinized closely by the Commission and a number of changes made. The final result was a plan and ordinance that represented the combined views of both the Planning Commission and the consultants.

NON-CONFORMING USE MAP

Following the completion of the tentative district map, a map was drawn to show all existing property whose use was contrary to the regulations for the district in which the property was located. This map served as a check on existing conditions which might have been overlooked and which should receive special attention.

The greatest number of non-conforming uses were found, of course, in the grocery stores, filling stations, and the like, which are scattered indiscriminately throughout the residence districts.

Other uses occurring in districts restricted against them were duplex and apartment houses in single-family and two-family districts.

Very few industries were found to be non-conforming, as practically all uses of this type are found along the railroads, their logical and appropriate locations.

There were 235 non-conforming uses occupying an area of 26.8 acres. This area is .32 percent of the total developed area in the city of 8,269 acres.

Information on Present Development of Knoxville

From the information obtained in working up the study maps and by special investigations, the following data was compiled in order to determine the extent of the development of the different classes of property uses and its trend toward future expansion. All information was as of January 15, 1928.

1. Developed Areas. The total developed area of the city was found to be 12.92 square miles, of which 3.61 square miles were streets and alleys, .11 square miles were parks and playgrounds, 1.48 square miles were devoted to schools, churches, cemeteries, institutions, etc., and 7.72 square miles were built up with residences, business, or industry. The total developed area is approximately fifty per cent of the total city area. It will be noticed that the space devoted to parks and playgrounds is almost negligible. Practically one-half of the city's area is vacant land.

2. Population. The population of the city was estimated to be 102,000, which is 7,900 persons per square mile of developed territory.

3. Single-Family Residences. There were 20,081 single-family dwellings housing 90,036 persons. This amounts to 88.8 per cent of the total population and 42.5 per cent of the total developed area.

4. Two-Family Residences. There were 147 of this type of dwelling, housing 1,323 persons. This represents 1.3 per cent of the population of the city. The area occupied by duplexes was .24 per cent of the total developed area.

5. Multiple Dwellings. (Three or more families) There were 146 apartment houses containing a total of 1,096 apartments and housing 2,744 persons. This is equivalent to 2.68 per cent of the total population and .24 per cent of the total developed area.

6. Retail Business. There were 1,736 stores devoted to commercial and semi-commercial business, occupying 1.86 per cent of the total developed area and having a total store frontage of 52,370 feet. There were 51.3 feet of store frontage for each 100 population.

A study was also made of the distribution of retail business and population by half-mile zones around the central business district. There were eight of these zones and it was found that the frontage per 100 population ranged from 60 feet in the first zone to 5.6 feet in the seventh zone. There was no retail business in the eighth zone.

7. Light Industry. These industries occupied an area of .38 square miles, equivalent to 2.95 per cent of the developed area. Reduced to square feet per 100 population this amounts to 10,400.

8. Heavy Industry. Heavy industries occupied an area of .527 square miles, amounting to 4.07 per cent of the total developed area. This is 14,850 square feet per 100 population.

9. Present Uses in Per Cent of Built-Up Area. One-family dwellings occupied 71.09 per cent; two-family dwellings, .39 per cent; multiple dwellings, .70 per cent; retail business, 3.1 per cent; light industry, 4.82 per cent; heavy industry, 6.81 per cent; and railroad property, 13.09 per cent of the total built-up area of the city.

10. Apartment House Study. The following information was obtained and tabulated for each apartment house in the city: Name, location, height, area of lot occupied, per cent of lot occupied by building, number of families housed, square feet of lot area per family, and, number of persons housed.

11. Building Permits for Each of Past Five Years: By consulting building permit records, figures were obtainable on the number of single-family dwellings, two-family dwellings, and apartment houses built in each of the years from 1923 to 1927 inclusive. It was found that single-family dwelling construction remained fairly constant during the period, an average of about 700 new homes being built each year. Two-family dwellings varied from year to year, the number ranging from 4 to 22. Apartment house construction showed a marked increase in 1927 over the previous years. Twenty-four permits for apartments were issued in 1927 as compared to 2 permits for the previous year.

12. Heights of Buildings in Business District: Two areas were considered in this study: the area now devoted mainly to retail business and the area expected to be devoted mainly to retail business in the future. In the first case it was found that 57.6 per cent of the built-up area was occupied by structures from 1 to 2½ stories in height; 23.6 per cent to 3-story buildings; 9.4 per cent to 4-story buildings; 3.7 per cent to 5-story buildings; 1.8 per cent to 6-story buildings; and less than 1 per cent to 7, 9, 10, 12, 14 and 18-story structures.

In the second district considered, the following percentages for different height buildings were found: One to 2½—70.7 per cent; 3—17.0 per cent; 4—6.7 per cent; 5—2.2 per cent; 6, 7, 9, 10, 12, 14 and 18—less than one per cent.

13. Retail Business by Districts in Residential Areas. In the tentative zone plan, retail business districts were set aside at intervals throughout the city. This study was made to determine the present amount of retail business frontage and population in each district and to determine the amount of retail business frontage that should be provided to serve the future expected population in each district. The study served as a check on the tentative plan and showed in each district whether or not the proper amount of business frontage had been provided.

In a survey and study of the existing commercial and semi-commercial development in relation to present population it was found that for the entire city, there were 51.3 feet of commercial and semi-commercial frontage per one hundred population. This figure, does not, however, hold true in all sections of the city because it included the central business section, the fringe of semi-industrial uses around the center and all of the outlying commercial developments. For outlying commercial districts the figures of 32 to 35 feet per hundred population was adhered to as closely as possible. In computing the commercial and semi-commercial frontage in 93 outlying districts and the future population expected in the residential parts of the city, an average of 47.9 lineal feet per 100 population was allowed. In other words a total of 116,350 lineal feet of frontage was provided for a future expected population of about 250,000. This is in residential zones only and takes no account of commerce and population in industrial zones.

About 20 per cent of the existing commercial frontage is what is termed semi-commercial uses such as garages, laundries, bakeries, cleaning establishments, and the

like. Assuming the same proportion to hold true in the future 9.5 feet should be deducted from the 47.9 feet to arrive at the actual commercial frontage provided.

In all commercial districts endeavors were made to approach this standard of 38.4 feet per 100 population. It was not always possible to do so however, due to many circumstances that necessarily were taken into account.

An excess of about 10 per cent of frontage over what will actually be needed was provided in order that a prospective commercial enterprise would not be unduly hampered in locating a site. If an insufficient amount of frontage was provided there would be a tendency for land prices to be inflated and rents raised as competition would be limited.

14. Retail Business Frontage in Present Business District. A study was made of the frontage of retail stores in the central business section and its relationship to the total population of the city. It was found that there were 21,840 lineal feet of business frontage, or 18.2 feet per 100 population of the city. The area set aside in the zone plan for expansion of the present business section provides a total frontage of 53,080 feet. According to the present ratio of frontage to population this will serve a future population of 246,000. In preparing the Major Street plan, careful studies were made of the rate of growth of the city, and it was estimated that a population of 246,000 would be attained in 1970.

Publicity Procedure

The tentative zone plan was completed and was published, together with the text of the ordinance, by both newspapers, on July 15th, 1928.

In order to present the ordinance to the public for study and suggestion, a diligent effort was made on the part of the Planning Commission to reach every citizen in Knoxville. This was done by publishing in the newspapers a series of articles covering zoning in general and the proposed Knoxville ordinance, by holding public neighborhood meetings in all parts of the city, by conducting public hearings, and by presenting the matter to the various civic organizations at their luncheon meetings.

Twelve articles covering the Knoxville ordinance were published in the newspapers. A number of pictures illustrating some of the injurious practices taking place because of the lack of zoning, were also published. All newspapers gave considerable space on their editorial and news pages to the matter of the ordinance.

Twelve neighborhood meetings were held in different sections of the city during the period between July 23rd and August 10th. At these meetings different members of the Planning Commission presented the ordinance, explained its provisions, and held general discussions. In addition to members of the Planning Commission, the Real Estate Board and the Chamber of Commerce were represented at the meetings by members who entered into the discussion and explained the need for zoning.

Various members of the Planning Commission appeared before a number of luncheon clubs during this period and explained the work that had been done. Among the clubs visited were the Technical Society, Amra Grotto Club, Rotary, Kiwanis, and Optimist.

On August 13th and 15th were held public hearings at which time complaints and requests for changes in the ordinance were received and discussed. These two meetings were held in the Market Hall. On the 13th, property owners in all sections of the city were heard. At the second meeting, property owners in the downtown section appeared.

Written remonstrances were received and acted upon by the Planning Commission. The total number filed was 61, of which the Planning Commission granted 39. The majority of the requests for changes involved changes from residential to commercial classification.

Acting on the suggestions of the Real Estate Board, the Planning Commission authorized the Board to make a survey and submit a report on the establishment of a one-family residence district. On August 20th this report was submitted and taken under advisement by the Planning Commission. At the same meeting the Board was requested to make a study and report on the location of commercial districts in the zone plan. This was done and a report submitted on September 3rd. The Planning Commission gave these two reports very careful study and made a number of changes in the tentative ordinance to meet the suggestions rendered.

By comparing the number of requests for changes and the area represented by such requests with the total number of pieces of property and the total area of the city, it is apparent that the plan as submitted meets the approval of the very great majority of the citizens. The requests for changes exclusive of those from two-family to one-family districts, covered a total area of 223.0 acres. Of the 223 acres requested to be changed, 141 acres were granted. The area of petitions granted was .83 per cent of the total city area. The area of petitions denied was .48 per cent of the total city area.

The ordinance was presented to the City Council by the Planning Commission, with the recommendation that it be passed immediately. After holding a number of hearings, the Council passed the ordinance on October 15, 1928.

Use Districts

Knoxville is a city of single-family homes. As shown in a previous paragraph, 88.8 per cent of all the population live in this class of dwelling. Duplex houses and apartments are comparatively few and scattered, although there is a decided tendency toward a rapid increase in this type of dwelling. Knoxville is just beginning to follow the lead of the larger cities in this trend.

Bad housing conditions exist in many parts of the city, particularly in some of the Negro sections, where rear dwellings are prevalent and overcrowding of land has occurred. This condition has been caused mainly by poor land subdividing with long narrow lots inviting just the class of development that has occurred.

What apartment development has taken place is fairly well concentrated in West Knoxville, North Knoxville, and the Magnolia Avenue Section. Lately, however, there has been a tendency for these structures to invade territory that is primarily suited for one and two-family dwellings. This tendency is particularly noticeable on East Fifth Avenue, and to some extent on Kingston Pike.

As in all cities, not enjoying the benefits of a zoning ordinance, sporadic development of retail business, garages and filling stations has occurred in residential sections. There are a great number of these uses scattered promiscuously throughout the city. Industries, as a rule, have followed a natural development along the railroads, although here and there are found instances of such developments in residential sections.

The zoning ordinance aims to segregate the various types of buildings in their logical and appropriate locations. Areas are set aside for residential, commercial and industrial uses according to the class for which they are best suited. Although much irreparable harm has resulted from the uncontrolled and haphazard growth of the past, the zone plan will prevent the recurrence of such mistakes, and when one considers the rapid rate at which the city is growing it is apparent that an enormous benefit will result to the future city by the enactment of such legislation.

Those areas located somewhat remotely from the business centers that are now used or that are suitable for residential development, have been set aside for residential purposes. Certain sections of the city, where private restrictions have limited development to single-family residences and where such restrictions are wanted by the residents, have been designated for that class of development. The Kingston Pike and Sequoyah Hills section and the Island Home district are of that type. Two-family dwellings are permitted in the largest portion of the residence districts.

By their very nature, apartment houses must be efficient and convenient, not only in their design but in their location as well. They are most convenient when located either immediately adjacent to the central business section or on thoroughfares providing adequate transit service to the downtown district. As cities grow there occur zones near the business section that become undesirable for home districts on account of the increased traffic noise and smoke. These zones sometimes become industrial in character but more often they are blighted, a condition can be in part attributed to the lack of zoning regulations to fix the character of these transitional districts. Because of their location they should logically become the tall apartment district. This idea is carried out in the zoning ordinance by designating the area north of West Cumberland Avenue, the area in North Knoxville in the vicinity of the High School, and the Magnolia and McCalla Avenue section between First Creek and Olive Street.

Small retail business centers have been set aside in all parts of the city as a convenience to the residents. In so far as practicable these sections have been spaced about one-half mile apart, making all residences within a quarter of a mile of a neighborhood store. These retail districts are as a rule located at strategic intersections where business has already been established along the main thoroughfares and at their intersections. The Major Street Plan has contributed largely to the location of districts of this kind in sparsely settled or undeveloped territory.

Industrial districts have been located along the railroads and as large an area as possible has been set aside for this purpose. The central business section has also been zoned for light industry to allow the use of the upper floors of buildings for certain kinds of light manufacturing. It is obvious that if these uses were excluded, a hardship would be imposed in many cases. Several large undeveloped tracts have been zoned for heavy or unrestricted industry. A large tract south of Vestal has been designated for

such use. Other sections lie along the Southern Railway in the west part of the city and in the extreme eastern part. Due to the rugged topography on which Knoxville is laid out it is difficult to find large, level tracts suitable for this class of industry, and developments needing large tracts will no doubt locate outside the city limits.

Area Districts

The present density of population in Knoxville shows a wide variation. In the older sections of the city are found numerous instances of lots providing less than six hundred square feet per family. In the newer residential sections lot areas in excess of 5,000 square feet per family are general. Few lots platted in recent years are less than 40 or 50 feet wide and 125 feet deep.

The zoning ordinance must, of course, recognize that existing conditions cannot be disturbed. It is possible, however, to prevent a further overcrowding of land. The area regulations in the zoning ordinance are designed to be conducive to good living requirements and yet are not so severe that property cannot be developed to yield an adequate financial return.

In the single-family districts, lot areas of 5000 square feet per family are required. In view of the fact that lots in these districts are large the regulations are very reasonable.

In the two-family districts, where duplex houses are allowed, the area requirements are 2500 square feet per family. On a lot 50 x 100 feet in size, two single-family houses may be built.

In the apartment district, lot area requirements are further reduced, as for example, in the high apartment districts where a minimum of 400 square feet per family is required.

In many cities the efficiency apartment development has been exploited with extremely detrimental results to the city. There is no excuse for these apartments to exceed a reasonable height and size. In the majority of cities where this type of housing has gained a foothold, land is plentiful and reasonable in cost. The concentration of population in such buildings is harmful to all concerned except the promoter who generally realizes an abnormal return from his investment. Fortunately, there have been none of these extremely large apartments constructed in Knoxville. The height and area restrictions will prevent this type of development from disrupting property values and will make it possible to forecast with some degree of accuracy the needs of certain districts in the way of schools, public utilities and transit facilities.

The advantages of requiring side, front and rear yards of adequate size in residential districts are so apparent that it is unnecessary to enlarge upon them. These regulations, together with the population density requirements, will insure better living conditions in the future and a much more beautiful and orderly city.

Height Regulations

Height regulations in the zoning ordinance are designed to preserve the character of residential sections by limiting the height of buildings to two and one-half stories. In apartment, industrial and commercial districts, higher structures are, of course, allowed. In the apartment districts three and six-story buildings may be erected;

in the industrial districts—eight stories; and in the business district allowable building heights are based on the width of the street.

While high building construction in Knoxville has not progressed to the point where it has caused serious injury to the city, the narrow streets and the traffic congestion now present, make the question of height and bulk limitation of decided importance. It will be far better from the standpoint of the community that as the city grows the business section be spread over a larger area with buildings of moderate height and bulk rather than to have the district concentrated on one or two streets with extremely high, bulky structures. The height and bulk regulations in the zoning ordinance have been designed to accomplish this result. Emphasis should be placed on the fact that zoning ordinances regulate the size of buildings and only indirectly restrict height. Practically unlimited height may be obtained by taking advantage of the set-back. Height at the street line in the business section is limited to two times the width of the street. No street is considered to be less than 50 feet wide. In the case of two intersecting streets of different widths the wider street shall govern the height of the building at the street line. For example, on Gay Street a building could be built 132 feet in height or about 12 stories. However, if this building were to set back at the fifth story, for example, it could rise to a height of 15 or more stories. Such set-back regulations insure adequate light and air spaces about buildings and promote a type of architecture that is distinctly American and of great beauty. Extremely high and large buildings are one of the principal causes of congestion on streets and sidewalks. In addition, they rob their neighbors of light and air, and constitute serious fire hazards. In fact, there is every good reason from the standpoint of public health, safety and general welfare, to enact such legislation as has been proposed. Experience in other cities having height limitations has clearly demonstrated the value of such legislation.

General Provisions

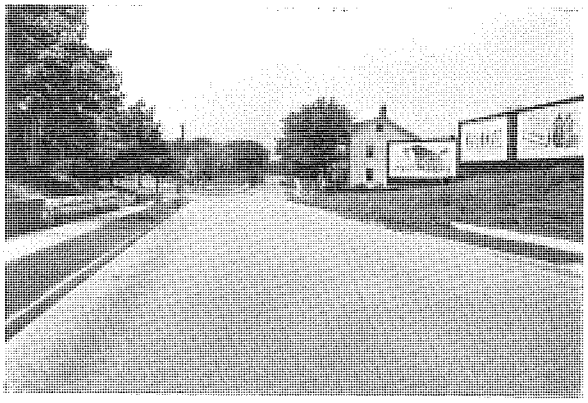
In drawing up the tentative zoning ordinance, and defining the different districts and imposing the various regulations therein, consideration was given to all existing uses and the probable future growth. The ordinance is not retroactive. All uses may continue as they now exist, whether in conformity to the regulations or not. However, in case the use of a building is contrary to the provisions of the ordinance, it may not be structurally altered or enlarged for a continuation of the non-conforming use.

The Planning Commission is given power and authority to interpret the provisions of the ordinance in order that the spirit of the ordinance may be carried out in cases where the strict enforcement of the letter of the law would cause undue hardship. The Planning Commission has specified powers delegated to it in making variations in the ordinance. All such decisions, however, must be approved by the Council before they become effective.

The Planning Commission shall hear appeals from the decision of the Building Inspector under whom the ordinance is administered and shall determine the rights of the aggrieved person.

The ordinance is flexible, provisions being made for its alteration or change as conditions arise making such changes advisable. The City Council has the power on

its own motion or on petition to amend, supplement or change the provisions of the ordinance after report of the Planning Commission and after public hearings. As the city grows, it is inevitable that changes will take place that are impossible to forecast. No zoning ordinance would be practicable or legal that did not anticipate such changes and provide means for meeting them. However, it is not intended that the ordinances shall be amended promiscuously and unnecessarily, and in order to prevent such action, certain precautionary measures are provided.



Billboards on East Fifth Avenue.
The encroachment of these eyesores in residence districts is now prohibited by the zoning ordinance.

SUMMARY OF ZONING ORDINANCE

The zoning regulations are classified under a number of subdivisions. 1 Definitions. 2 Use District Regulations. 3 Non-Conforming Uses. 4 Height and Area Regulations. 5 Administrative Provisions. 6 General Provisions. The ordinance consists of text and a map showing the boundaries of the various districts. The various regulations of the ordinance are set forth briefly as follows:

Use Regulations

The city is divided into eleven districts for the regulation of use, height and area. These are designated "A" One-Family District, "B" Two-Family District, "C" and "D" Apartment District, "E", "F", and "G" Commercial Districts, "H" Business District, "I" and "J" Light Industrial Districts, and "K" Heavy Industrial District. Uses permitted in the different districts are as follows:

"A" One-Family District:
One-family dwellings, churches, schools, public buildings, such as museums and libraries, parks, playgrounds, community centers, golf courses, farming and truck gardening, nurseries and greenhouses (used for propagation of plants only and under certain conditions), accessory buildings, uses incidental to the main use.

"B" Two-Family District:
Any use permitted in the "A" One-Family District, two-family dwellings, nurseries and greenhouses for propagation of plants only.

"C" AND "D" APARTMENT DISTRICT:
Any use permitted in the "B" two-family district, multiple dwellings, boarding and lodging houses, hotels, hospitals, institutions, clubs, fraternities, sororities, lodges, accessory buildings.

"E" "F" AND "G" COMMERCIAL DISTRICTS:
Any use permitted in the "C" and "D" Apartment District, retail stores and light manufacturing incidental to a retail business.

"H" BUSINESS DISTRICT. "I" AND "J" LIGHT INDUSTRIAL DISTRICTS:

Any use permitted in the commercial district and any industry that is not obnoxious by reason of the emission of odor, noise, dust, fumes or smoke.

"K" HEAVY INDUSTRIAL DISTRICT:
Any industry not in conflict with the city ordinances regulating nuisances.

HEIGHT AND AREA DISTRICT REGULATIONS

In each of the eleven districts provisions are made for controlling the maximum height of buildings, the minimum dimensions of yards and courts, and the minimum lot area required for each family. Certain exceptions are made in cases that cannot reasonably comply with the regulations. Following is a summary of the principal height and area regulations for each district:

"A" ONE-FAMILY, AND
"B" TWO-FAMILY DISTRICTS:

HEIGHT: 35 feet or 2½ stories.

REAR YARD:
Not less than 20 per cent of the depth of the lot. Need not exceed 25 feet.

SIDE YARD:
Two, one on each side of the building, each to be not less than ten per cent of the width of the lot. Need not exceed five feet.

FRONT YARD:
25 feet, except that when lots comprising 40 per cent of the frontage are developed with buildings having an average front yard with a variation of not more than 6 feet, no building shall project beyond the average front yard line so established.
On corner lots with reversed frontage the side yard on the street side shall be not less than 50 per cent of the front yard required on the lots in the rear.

LOT AREA PER FAMILY:
"A" District—not less than 5000 square feet per family.
"B" District—not less than 2500 square feet per family.

"C" APARTMENT DISTRICT:

HEIGHT: 3 stories or 45 feet.

REAR YARD:
Not less than 20 per cent of the depth of the lot. Need not exceed 25 feet for interior lots or 15 feet for corner lots.

SIDE YARD:
Two, one on each side of the building, each to be not less than 10 per cent of the width of the lot. Need not exceed 5 feet for buildings not exceeding 2½ stories in height. For buildings more than 2½ stories in height the side yards shall be increased one foot.

FRONT YARD:
25 feet, except that when lots comprising 40 per cent of the frontage are developed with buildings having an average front yard with a variation of not more than 6 feet, no building shall project beyond the average front yard so established.
On corner lots with reversed frontage the side yard on the street side shall be not less than 50 per cent of the front yards required on the lots in the rear.

LOT AREA PER FAMILY:
Not less than 600 square feet per family.

"D" APARTMENT DISTRICT:

HEIGHT: 6 stories, or 75 feet.

REAR YARD:
Not less than 20 per cent of the depth of the lot. Need not exceed 25 feet for interior lots or 15 feet for exterior lots.

SIDE YARD:
Two, five feet wide, on buildings not more than 2½ stories in height. For buildings more than 2½ stories in height the side yard shall be increased one foot for each additional story above the second story.

FRONT YARD:

Twenty-five feet except when the lots comprising 40 per cent of the frontage are developed with buildings having an average front yard with a variation of not more than six feet, no building shall extend beyond the front yard line so established.
On corner lots with reversed frontage, the side yard on the street side shall not be less than 50 per cent of the front yards required on the lots in the rear.

LOT AREA PER FAMILY:
Not less than 400 square feet per family.

"E" COMMERCIAL DISTRICT:

Buildings erected for dwelling purposes shall comply with the side and front yard regulations of the "A" One-Family District.

HEIGHT: 2½ stories or 35 feet.

REAR YARD:
Not less than 20 per cent of the depth of the lot. Need not exceed 25 feet.

SIDE YARD:

Not required when all frontage in block is zoned commercial. Where frontage is zoned both for commerce and residence the front yard requirements of the dwelling district shall apply.

LOT AREA PER FAMILY:

Not less than 2500 square feet per family.

"F" COMMERCIAL, AND
"I" LIGHT INDUSTRIAL DISTRICTS:

Buildings erected for dwelling purposes shall comply with the front and side yard requirements of the "C" Apartment District.

HEIGHT: 3 stories or 45 feet.

REAR YARD:

Not less than 20 per cent of the depth of the lot. Need not exceed 25 feet for interior lots or 15 feet for corner lots. Not required in "I" Industrial District except where the district abuts on a dwelling district. In that case a rear lot of at least 10 feet is required.

SIDE YARD:

Not required except on the side of lot abutting on a dwelling district. In that case a side yard of at least three feet is required.

FRONT YARD:

Not required when all frontage is in the Commercial or Industrial District. Where frontage is zoned for both commercial and residential purposes the front yard requirements for the dwelling district shall apply.

LOT AREA PER FAMILY:

Not less than 600 square feet per family.

"G" COMMERCIAL DISTRICT:

Buildings erected for residential purposes shall comply with the side and rear yard regulations of the "D" Apartment District.

HEIGHT: 6 stories or 75 feet.

REAR YARD:

Not less than ten feet.

SIDE YARD:

Not required except where the diistrict abuts on a dwelling district. In that case, a side yard of at least 3 feet must be provided.

FRONT YARD:

Not required where all frontage in block is zoned Commercial. Where frontage is zoned for both commercial and residential, the front yard requirements of the residential district shall apply.

LOT AREA PER FAMILY:

Not less than 400 square feet per family.

"J" LIGHT INDUSTRIAL, AND
"K" HEAVY INDUSTRIAL DISTRICTS:

Buildings erected for dwelling purposes shall comply with the side and rear yard and "lot area per family" regulations of the "D" Apartment District.

HEIGHT: 8 stories or 100 feet.

REAR YARD:

Not required except where an industrial district abuts on a residential district. In that case a rear yard of at least 10 feet is required.

SIDE YARD:

Not required except on the side of a lot abutting on a residential district in which case a side yard of not less than 3 feet must be provided.

"H" BUSINESS DISTRICT:

Buildings erected for residential purposes shall comply with the side and rear yard and "lot area per family" regulations of the "D" Apartment District.

HEIGHT: Two times the width of the street, but above the height permitted at the street line 4 feet may be added to the height of the building for each foot that the building is set back from the street. The maximum cubical contents of such building shall not exceed the contents of a prism having a base equal to the area of the lot and a height of 150 feet.

HEIGHT AND AREA EXCEPTIONS

In the "H" Business District no street is considered less than 50 feet wide in computing allowable building height. Where two streets of different width intersect, the wider street shall govern the height of the building.

In the 35-foot and 45-foot districts, public and semi-public buildings, hospitals, sanitariums, and schools may be erected to a height not exceeding 75 feet by providing additional open spaces.

In the 35-foot height district, dwellings may be erected to 45 feet in height if additional open spaces are provided.

Chimneys, towers, monuments, and similar structures are not limited in height.

In computing the depth of a rear yard for any building where such lot abuts on an alley, one-half of such alley may be assumed to be a portion of the rear yard.

GENERAL PROVISIONS

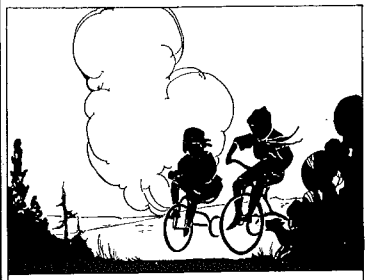
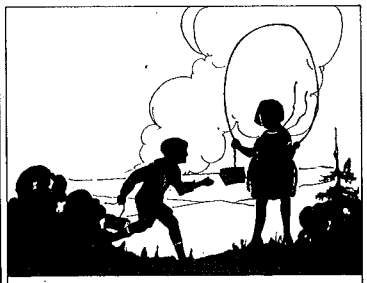
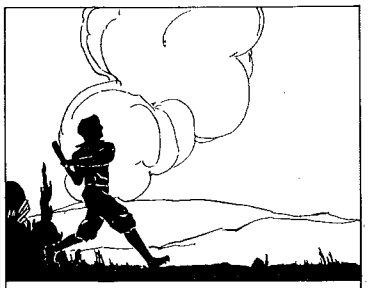
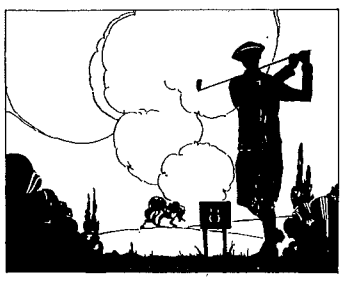
The Zoning Ordinance is administered by the Building Inspector. A certificate of occupancy is required before a new building or a structurally altered building is occupied or before any change is made in the class of use of an existing building.

Any one taking exception to the ruling of the Building Inspector has the right of appeal to the Planning Commission acting as a Board of Adjustment.

Where private restrictions on property are more stringent than the provisions of the zoning ordinance, the private restrictions shall prevail. Where the provisions of the zoning ordinance are more stringent than the private restrictions, then the ordinance shall prevail. The provisions of the ordinance are intended to be the minimum requirements for the promotion of the public health, safety, and welfare.

The ordinance may be amended from time to time by the City Council after public hearings and report by the Planning Commission, but if the property owners in the vicinity of the district manifest sufficient opposition to the change, a favorable vote of eight members of the Council is required.

(See Appendix "C" for text of Zoning Ordinance and Use Map.)

CLASSIFICATION of POPULATION	FACILITIES WHICH SHOULD BE AVAILABLE
 SMALL CHILDREN	HOME GROUNDS INTERIOR BLOCK PLAYGROUNDS NEARBY CHILDREN'S PLAYGROUNDS & KINDERGARTENS DRIVES, PROMENADES } IN PARKS
 SCHOOL CHILDREN	HOME GROUNDS INTERIOR BLOCK PLAYGROUNDS PLAY AREAS IN PARKS SWIMMING POOLS SKATING PONDS COASTING HILLS BOY & GIRL SCOUT CAMPS SCHOOL PLAYGROUNDS PLAYFIELDS FOR ATHLETICS COMMUNITY CENTERS OUTLYING NATURALISTIC PARKS
 YOUTH	
 ADULTS	PLAYFIELDS SWIMMING POOLS SKATING PONDS COASTING HILLS NEIGHBORHOOD PARKS LARGE PARKS COMMUNITY CENTERS PLEASURE DRIVES

RELATIONSHIP OF POPULATION GROUPS TO A SYSTEM OF RECREATION FACILITIES

CITY PLANNING COMMISSION
KNOXVILLE TENNESSEE

BARTHOLOMEW & ASSOCIATES
SAINT LOUIS MISSOURI

RECREATION

History of Park and Recreation Movement in Knoxville.

Knoxville has been slow to appreciate the advantages that would accrue to the city through the development of a comprehensive system of parks and playgrounds. Past efforts toward developing such facilities have been sporadic and productive of little results. Today, with a population in excess of one-hundred thousand and an area of more than 15,000 acres within the corporate limits, Knoxville possesses but ninety-two acres of parks and playground, including the Tyson tract recently acquired by gift from Mrs. L. D. Tyson, whereas it should have an area approximating one thousand acres for this purpose.

The natural beauties abounding in and about Knoxville offer opportunities for developing a park and pleasure drive system exceeded by no other city in the country. Within and close to the city are large, rolling tracts of wooded lands in their virgin state. The rugged topography produces alternate hills and valleys, with numerous small streams throughout the region. The Tennessee River, which divides the city, is lined with picturesque bluffs rising on both sides of its course. Much of this water front is as yet unspoiled. The region is teeming with possibilities. Knoxville has but to develop the natural resources at hand in order to become an outstanding American city.

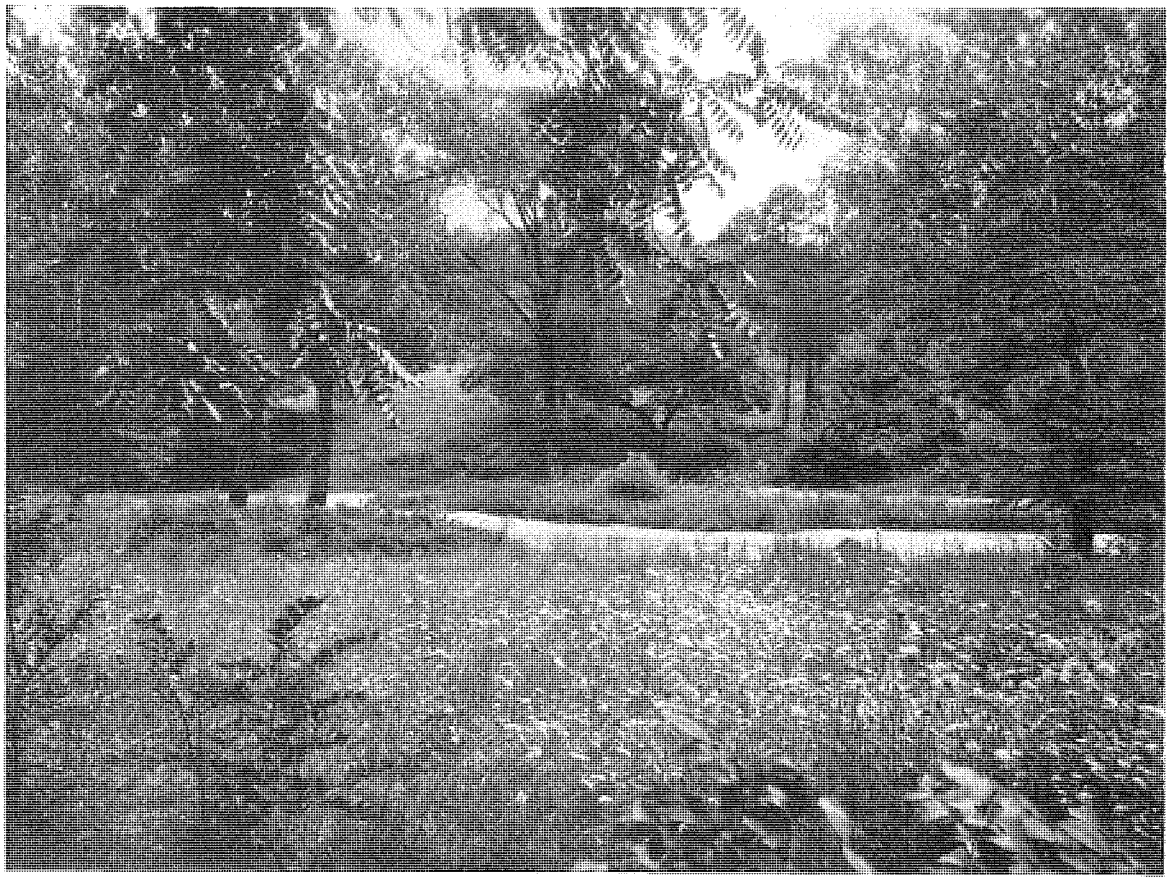
The careless treatment of the natural features of the city during its growth has already caused much irreparable harm. Woodlands have been denuded and, as a consequence, rains have washed out gullies, producing unsightly scars in many places. Beautiful ravines have been turned into dumping grounds, and streams have been converted into open sewers. Fortunately, however, it is not too late to repair some of the damage that has been done and to preserve the remaining natural physical features of the region.

Knoxville was nearly one-hundred years old before it possessed a single park. In 1888, Circle Park was deeded to the City of West Knoxville, and in 1894 the City purchased Emory Park. These two extremely small parcels constituted the entire park system until 1909, when Chavannes Park and Thompson Park were given to the city. It was not long until some of the citizens awakened to the need for parks, and an effort was made to secure the passage of a general bond issue of $50,000 for the purchase of park lands. This effort was defeated at the polls. The bonds did not carry the required two-thirds majority.

In 1916 another issue of $50,000 was brought to a vote and this time the bonds carried. With the money thus provided, the city purchased Clinch Avenue, John Lee, Alexander, and North Central playgrounds. During the same year William Caswell gave Caswell Park to the city.

In 1921, under authority of the State Legislature, $50,000 in bonds were issued to purchase parks for the use of the colored population. From the proceeds of this issue, Leslie Street Park was purchased for $17,000, and Cal Johnson Park was bought for $35,000.

In 1927, the South Knoxville Playground was purchased. At various times between 1909 and 1927, a number of odd-shaped pieces of land were acquired through gift or purchase.



Park Site on Broadway.
This beautiful park site is located almost in the heart of Knoxville.
(This picture was taken from Broadway near Coker Avenue.)

The present City Hall Park was originally the site of the Deaf and Dumb Asylum. In 1924 the City purchased this tract and converted the buildings into use for the City Hall and the Boyd Junior High School. Because of the abundant growth of trees, the tract also is an attractive breathing spot for the downtown district.

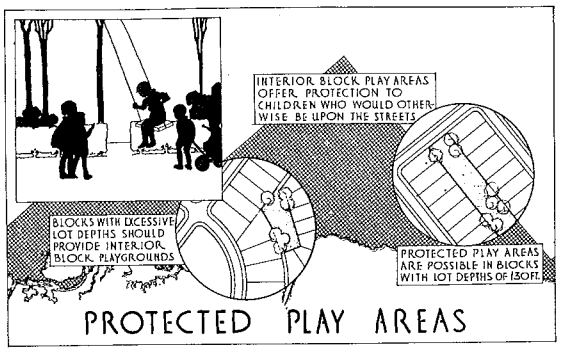
In 1929 Tyson Park was given to the city by Mrs. L. D. Tyson, wife of the late Senator Tyson. It is Mrs. Tyson's wish that this park area be developed as a beauty spot and preserved in its natural state. Tyson Park lies north of Kingston Pike and west of Concord Street. The area was acquired too late for indication on the map which shows "Public Property Available for Recreation Purposes."

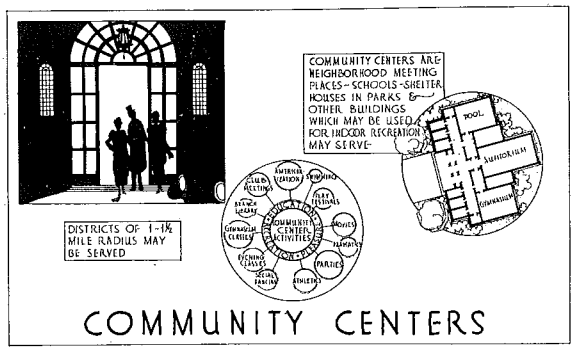
Prior to 1922 very little effort was made to equip and develop the playgrounds that had been acquired. In this year the Knoxville Community Service Council was organized, and through the efforts of the Council, a number of playgrounds were equipped and placed under supervision. This activity was continued under the sponsorship of the organization until 1924 when provisions were made by the City to carry on the work.

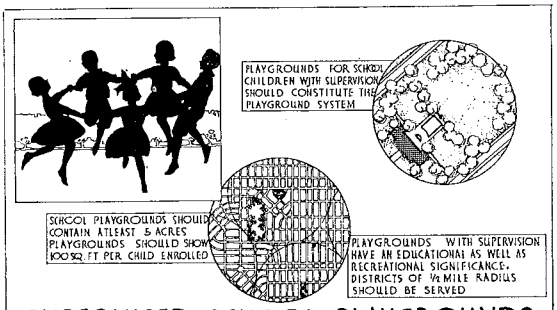
Since 1924 the Bureau of Welfare has provided a department for the supervision and maintenance of parks and playgrounds, and funds have been provided in the budget to carry on the work. Some money had been allowed by previous administrations but the amount of these appropriations was very small. For instance, in 1909, $500 was provided; in 1914, $1,000, and in 1921, $6,000. Obviously, very little could be accomplished with such inadequate amounts. Since 1924, amounts varying from $13,000 to $26,000 have been set aside in the budget for such work.

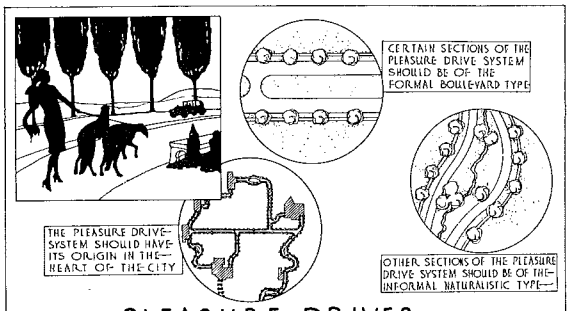
This, briefly, is the history of the Park and Recreation movement in Knoxville. The following table is inserted to illustrate the comparative park acreage for eleven cities having approximately the same population as Knoxville. From this it will be seen that Knoxville has been extremely tardy in providing recreation facilities.

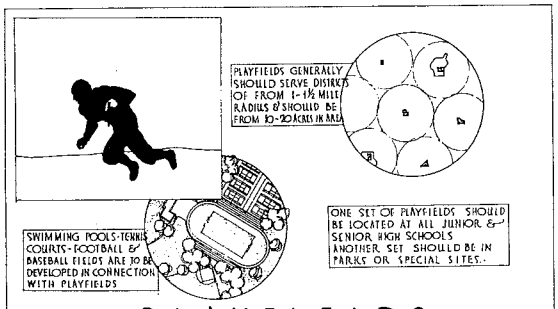
City	*Population in* 1926	*Total Park Acreage*	*Population to 1 Acre of Park*
Reading, Pa.	114,000	469.2	244
Spokane, Wash.	109,000	2,218.1	49
K. C. Kans.	117,000	298.9	392
Lynn, Mass.	104,000	1,911.2	54
Duluth, Minn.	113,000	1,893.8	60
Utica, N. Y.	103,000	707.1	144
Jacksonville, Fla.	96,500	385.0	251
Oklahoma City	104,080	2,243.0	45
Evansville, Ind.	95,100	623.2	153
Wichita, Kan.	92,500	519.5	178
El Paso, Tex.	109,000	696.3	157
Average	105,198	1,087.7	157
Knoxville	100,000	70.0	1,400

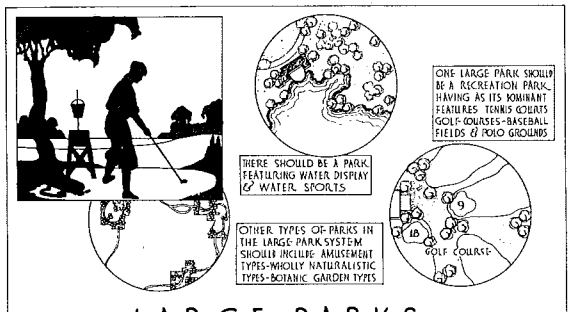


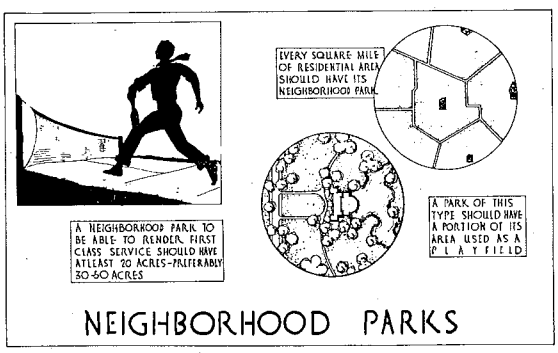












SWIMMING POOLS
SKATING PONDS
OUTDOOR THEATRES
TENNIS COURTS
COASTING HILLS

SPECIAL FACILITIES

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS

TYPES OF RECREATION FACILITIES

KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION

PRINCIPLES UNDERLYING THE STUDY OF A COMPLETE RECREATION SYSTEM

Before entering upon an analysis of present conditions or offering any specific recommendations there should be a definite understanding of the principles and theories underlying the solution of the recreation problem. In the first place, a plan for the basic physical structure of the city has been completed. Major streets and railroads largely determine the general use areas, that is, whether residential, commercial or industrial. Through zoning there are established definite lines for these use districts and also for the control of the density of population. The location of park areas in the city is directly related to the distribution of population and the location of industrial or commercial districts. A fully serviceable system of recreation facilities, therefore, can be worked out only after these other elements of the broad plan have been determined.

The next consideration is a study of population and its classification into age groups. Certain play requirements are characteristic of each age.

The well-organized park and playground system consequently will be equipped to serve small children, school children, youth and adults. Areas for each kind of recreational use must be provided throughout the city. There should be:

(a) *Play areas* for small children, not necessarily under supervision: These small grounds may be located wherever space is available, on vacant lots, in parks or in the interior of residential blocks.

(b) *Playgrounds* for school children, preferably with all-year supervision: These grounds should be adjacent to the elementary schools and constitute the playground system. Because of the supervision they have an educational as well as a recreational significance.

(c) *Athletic or play fields* for youth: Should contain baseball and football fields, tennis courts and other athletic facilities. Locations adjacent to high schools, in parks or on grounds acquired for this special purpose. Swimming pools and the like may be developed in connection with these playfields.

(d) *Community centers*, being neighborhood meeting places, schools, shelter houses in parks and other buildings which can be used for indoor winter recreation activities.

(e) *Small parks, five* (5) acres or less in area, too small for genuine recreational use. Parks of this type should be chiefly beauty spots in the city although some may be large enough to contain a small play area.

(f) *Neighborhood parks,* serving residential districts. Parks of this type should make a contribution to the landscape of the neighborhood. The area should be large enough that it may be used as a playfield, a play area for small children, and a gathering place for all residents of the surrounding district.

(g) *Large parks* to preserve the natural beauty of hills, valleys, lakes and woodlands.

(h) *Parkways,* being pleasure drives laid along natural lines, following streams or hillsides.

(i) *Boulevards,* or pleasure drives of more formal treatment.

A well-organized system of play areas would serve all population groups throughout the entire year and should contain the following types of facilities.

PROTECTED PLAY AREAS FOR SMALL CHILDREN.

These grounds may be located without formula, wherever space may be found. Many small play-parks are needed. Supervision is not essential, for these areas will contain merely sand piles, wading pools, and play apparatus built for little tots. Open spaces in the interiors of residential blocks are frequently needed. They provide opportunities for protected play within sight of parents. Realtors should be urged to consider the value of this useful device for keeping children off the streets and should plan their property with large lots or interior block playgrounds. Prospective apartment districts especially need such facilities.

PLAYGROUNDS FOR SUPERVISED PLAY.

Playground location in the city is amenable to the same formula recommended by educational authorities for the location of public elementary schools. Each elementary school should serve a residential district approximately *a mile square* and should be as near as possible the center of such district.

A modern elementary school of this size is incomplete without an adequate playground, serving all the recreational needs of the children of the district. THE SCHOOL PLAYGROUND SITE SHOULD COMPRISE AT LEAST FIVE (5) ACRES AND NO OTHER INTEREST SHOULD OCCUPY SPACE IN THE SAME BLOCK.

PLAYFIELDS OR ATHLETIC FIELDS.

These recreation areas generally draw from districts approximately a mile and a half in diameter. A playfield should be found at every high school. EVERY JUNIOR HIGH SCHOOL SHOULD HAVE A SITE OF AT LEAST FIFTEEN (15) ACRES AND EVERY SENIOR HIGH SCHOOL SHOULD HAVE A SITE OF AT LEAST TWENTY-FIVE ACRES.

Certain neighborhood parks and large parks should contain playfields, and in some cases parkway areas may be widened to permit development of such facilities. Railroad yards, industrial districts, car lines, major thoroughfares and other factors which seriously affect the usefulness of playgrounds for smaller children, do not interfere so much with the use of playfields, which attract older boys and girls.

COMMUNITY CENTERS.

Every populous neighborhood should have a building for its indoor social and recreational activities. The public school is the logical neighborhood center and should be designed for out-of-school uses, with gymnasium, auditorium, branch library, art gallery, and the like.

NEIGHBORHOOD PARKS.

Being for general neighborhood use, these parks should be within a reasonable walking distance. A neighborhood park should center in approximately each square mile of residential territory; a determination of residential areas is a prerequisite to an effective neighborhood park, school, and playground location. Acquisition of neighborhood park areas should be well in advance of city growth. The appropriate size for a neighborhood park is from twenty (20) to (50) acres; the minimum size should, if possible, be at least (20) acres.

A thirty (30) acre neighborhood park will have within a one-half mile zone about it some 960 acres of land. This land when subdivided will produce approximately 3,200 lots, 50 x 150 feet in size, all of which should share in the cost of acquiring and developing such a park for neighborhood use.

The placement of a neighborhood park should be determined primarily by the boundaries of the district which it is to serve. Considerations of terrain, tree growth and the like are important but should not be permitted to weigh too heavily against centrality of location.

LARGE PARKS OR RESERVATIONS.

Topography should be the dominant factor in locating large parks. Rugged areas, forests, river and lakeside lands, are all suitable and desirable for large parks. At the same time it is important that there be some comparatively level areas that can be used for athletic games. A system of such parks should afford opportunities for the city to develop each one with some distinctive feature. One might feature golf, another offer floral displays and serve the city as an arboretum, another a natural park through which very few motor roads would run, still another might specialize in an animal collection.

PLEASURE DRIVES.

Wide, restricted traffic ways, designed to afford the motorist genuine pleasure in driving over them, should connect all large parks. Such routes should take the form of *boulevards* where topography and existing land platting suggest straight formal lines and *parkways* where streams may be followed and lines may meander over irregular terrain.

In order to permit regulation, pleasure routes should be selected preferably through unplatted territory and be so planned that heavy utilitarian traffic will find no necessity for using either boulevard or parkway as a thoroughfare. A major street should, if possible, parallel every pleasure route. EXISTING STREETS OR HIGHWAYS SHOULD NOT BE CONSIDERED AS POSSIBLE BOULEVARDS EXCEPT WHERE ABSOLUTELY NECESSARY. It is practically impossible to restrict traffic on such routes to purely pleasure vehicles. Courts are reluctant to sustain rules classifying traffic that are made to apply to a street that was originally dedicated and needed for ordinary street purposes. Fee title should be secured to land acquired by purchase or gift for pleasure drive routes so the city will be in a position to determine the appropriate use of its property.

In conclusion it may be said that the city should aim to provide at least one acre of park land for every 100 citizens and the total area devoted to public recreation, including parks, playgrounds, community centers, boulevards, and the like, should approximate ten per cent of the gross area of the city.

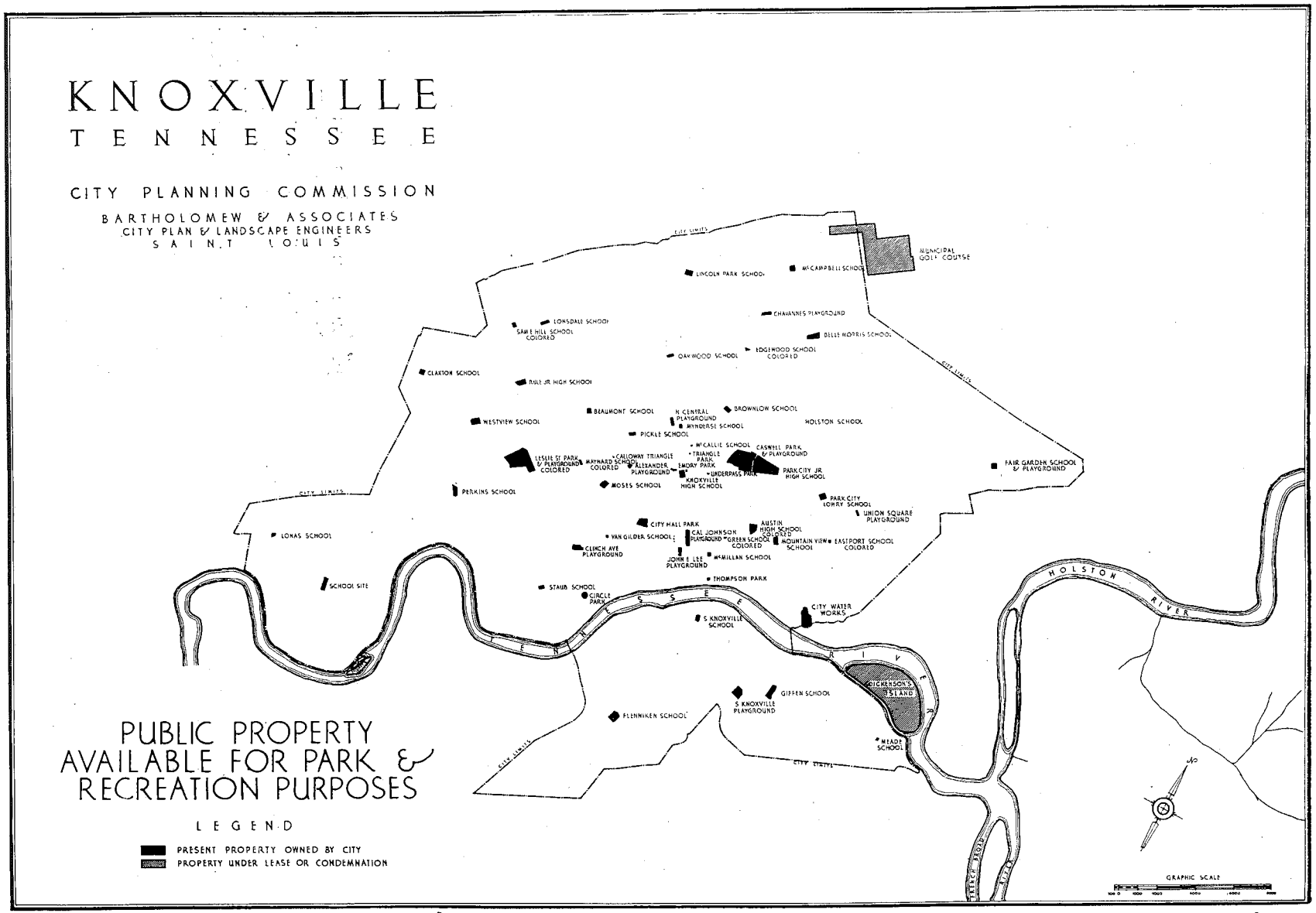

KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
CITY LIMITS
MUNICIPAL GOLF COURSE
LINCOLN PARK SCHOOL
McCAMPBELL SCHOOL
CHAMBERS PLAYGROUND
LONSDALE SCHOOL
SAM E. HILL SCHOOL COLORED
BELLE MORRIS SCHOOL
OAKWOOD SCHOOL
EDGEWOOD SCHOOL COLORED
CLARION SCHOOL
RULE JR. HIGH SCHOOL
BEAUMONT SCHOOL
N. CENTRAL PLAYGROUND
BROWNLOW SCHOOL
WESTVIEW SCHOOL
MYNDERSE SCHOOL
HOLSTON SCHOOL
PICKLE SCHOOL
McCALLIE SCHOOL
CASWELL PARK & PLAYGROUND
LESLIE ST. PARK & PLAYGROUND COLORED
MAYNARD SCHOOL COLORED
CALLOWAY TRIANGLE
ALEXANDER PLAYGROUND
TRIANGLE PARK
EMORY PARK
UNDERPASS PARK
KNOXVILLE HIGH SCHOOL
PARK CITY JR. HIGH SCHOOL
FAIR GARDEN SCHOOL & PLAYGROUND
PERKINS SCHOOL
MOSES SCHOOL
PARK CITY LOWRY SCHOOL
UNION SQUARE PLAYGROUND
CITY HALL PARK
AUSTIN HIGH SCHOOL COLORED
LONAS SCHOOL
VAN GILDER SCHOOL
CAL JOHNSON PLAYGROUND
GREEN SCHOOL COLORED
MOUNTAIN VIEW SCHOOL
EASTPORT SCHOOL COLORED
CLINCH AVE. PLAYGROUND
JOHN E. LEE PLAYGROUND
McMILLAN SCHOOL
THOMPSON PARK
SCHOOL SITE
STAUB SCHOOL
CIRCLE PARK
CITY WATER WORKS
S. KNOXVILLE SCHOOL
HOLSTON RIVER
TENNESSEE RIVER
CHICKAMAUGA ISLAND
GIFFEN SCHOOL
S. KNOXVILLE PLAYGROUND
FLENNIKEN SCHOOL
MEADE SCHOOL
CITY LIMITS
PUBLIC PROPERTY AVAILABLE FOR PARK & RECREATION PURPOSES
LEGEND
PRESENT PROPERTY OWNED BY CITY
PROPERTY UNDER LEASE OR CONDEMNATION
GRAPHIC SCALE

Plate 34

EXISTING RECREATION FACILITIES

Plate Number 34 shows all property, owned by the City of Knoxville, now used or suitable for park and playground purposes. The lack of parks and playgrounds is quite apparent. There are no areas that could be classified as large parks, and but one, (Caswell Park), that could be considered sufficiently large to serve as a neighborhood park. This park contains 20 acres but since it is located adjacent to railroad tracks in an industrial district, the opportunities for developing a pleasing atmosphere are somewhat limited. Further, the park is bisected by First Creek and at present is subject to the overflow waters of that stream. This is almost an annual occurrence and is a very serious handicap.

Leslie Street Park and Cal Johnson Park are the next in size, the former containing 19.6 acres and the latter—5.2 acres. Both these parks have been acquired for use by the colored people. All other parks and playgrounds contain less than five acres each. A complete list of the parks, playgrounds and public recreation areas follow:

RECREATIONAL PARKS AND PLAYGROUNDS

Caswell Park	20.00	Acres
North Central Playground	1.25	"
Clinch Avenue Playground	2.58	"
Alexander Playground	1.79	"
Chavannes Playground	1.95	"
South Knoxville Playground	3.61	"
Union Square Playground	1.12	"
John Lee Playground	1.65	"

SMALL PARKS DEVELOPED AS BEAUTY SPOTS

Circle Park	2.21	Acres
Emory Park	1.61	"
Thompson Park	.50	"

SMALL TRIANGULAR TRACTS

Triangle Park.
Underpass Park.
Calloway Park.

GROUNDS SURROUNDING PUBLIC BUILDINGS

City Hall Park.
General Hospital Grounds.
City Waterworks (Williams Creek).

SCHOOL PLAYFIELDS

Park Junior High School, approximately 19 acres. (Under development.)

ELEMENTARY SCHOOL GROUNDS USED AS PLAYGROUNDS

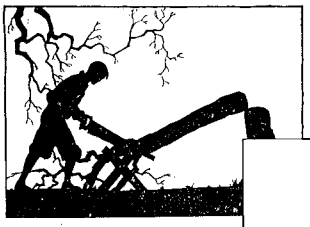
Lonsdale School (Total site area)	1.61	Acres
Fair Garden School (Total site area)	2.25	"

PARKS FOR NEGROES

Leslie Street Park	19.64	Acres
Cal Johnson Park	5.23	"

ADMINISTRATION OF PLAY & RECREATION GROUNDS

ILLUSTRATING CHANGING CONDITIONS SURROUNDING CHILD LIFE IN THE CITY AND SUPPORTING ARGUMENTS FOR ADEQUATE PLAYGROUNDS AT ALL SCHOOLS



WORK FOR CHILDREN AT HOME

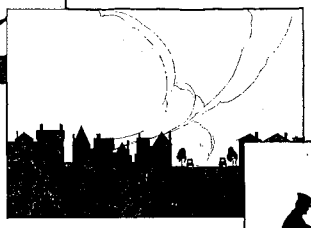
LARGE HOME GROUNDS

THIRTY YEARS AGO

BOOK LEARNING IN SCHOOL

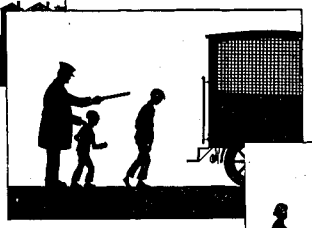
SMALL SCHOOL GROUNDS

NO WORK— PLAY IN STREETS

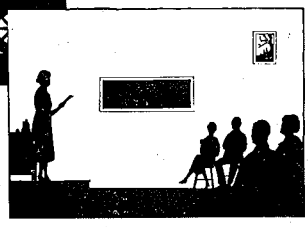


SMALL HOME GROUNDS

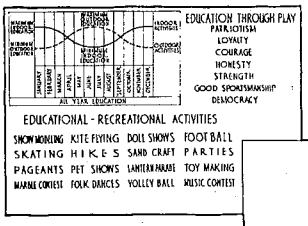
CHANGING CITIES



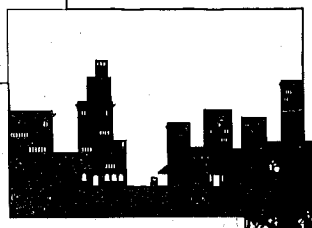
INCREASE OF DELINQUENCY



ORIGIN OF MOVEMENT TO PROVIDE PUBLIC PLAYGROUNDS



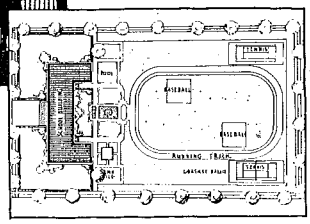
PLAY AN EDUCATIONAL NEED



CHANGED URBAN CONDITIONS- APARTMENT DWELLING INCREASING TRAFFIC IN STREETS

THE PRESENT DAY

LONGER SCHOOL DAY- ALL YEAR SCHOOL



ADEQUATE PLAY FACILITIES NEEDED AT ALL SCHOOLS

KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS MISSOURI

The elementary school playgrounds shown in the foregoing table have been supervised by the Bureau of Recreation. No other school playgrounds are equipped for supervised play. The Bureau operates 14 playgrounds, 4 of which are operated in summer only. Some of the playgrounds are located on property not owned by the city and are not included in the foregoing list.

Luttrell Park

Luttrell Park would be an invaluable asset to the city as a park. Its natural beauty is evident.

The new Park Junior High School site is immediately adjacent to Casewell Park and has an area of almost nineteen acres. This will permit of adequate space for a playfield. Because of the lack of sufficient ground areas at the present Senior High School, plans are being carried out to use the Junior High School site as an athletic field for the Senior High School. It is also proposed to build a new Senior High School building on the Junior High site at some future time. This *should not* be done as the area is large enough only for a Junior High and entirely inadequate for both uses.

The city has an excellent municipal golf course under lease, with option to purchase it at a very reasonable price. This course, acquired and opened to the public in the spring of 1928, has proved to be extremely popular and fills a very pressing need for this form of recreation. The city should by all means exercise its option and acquire the land permanently.

There are no public swimming pools or city owned community centers within the city. A few tennis courts exist in Caswell, Leslie Street and Cal Johnson Parks and in North Central and South Knoxville playgrounds. Some of these courts are not in playable condition and those that can be used are too few in number.

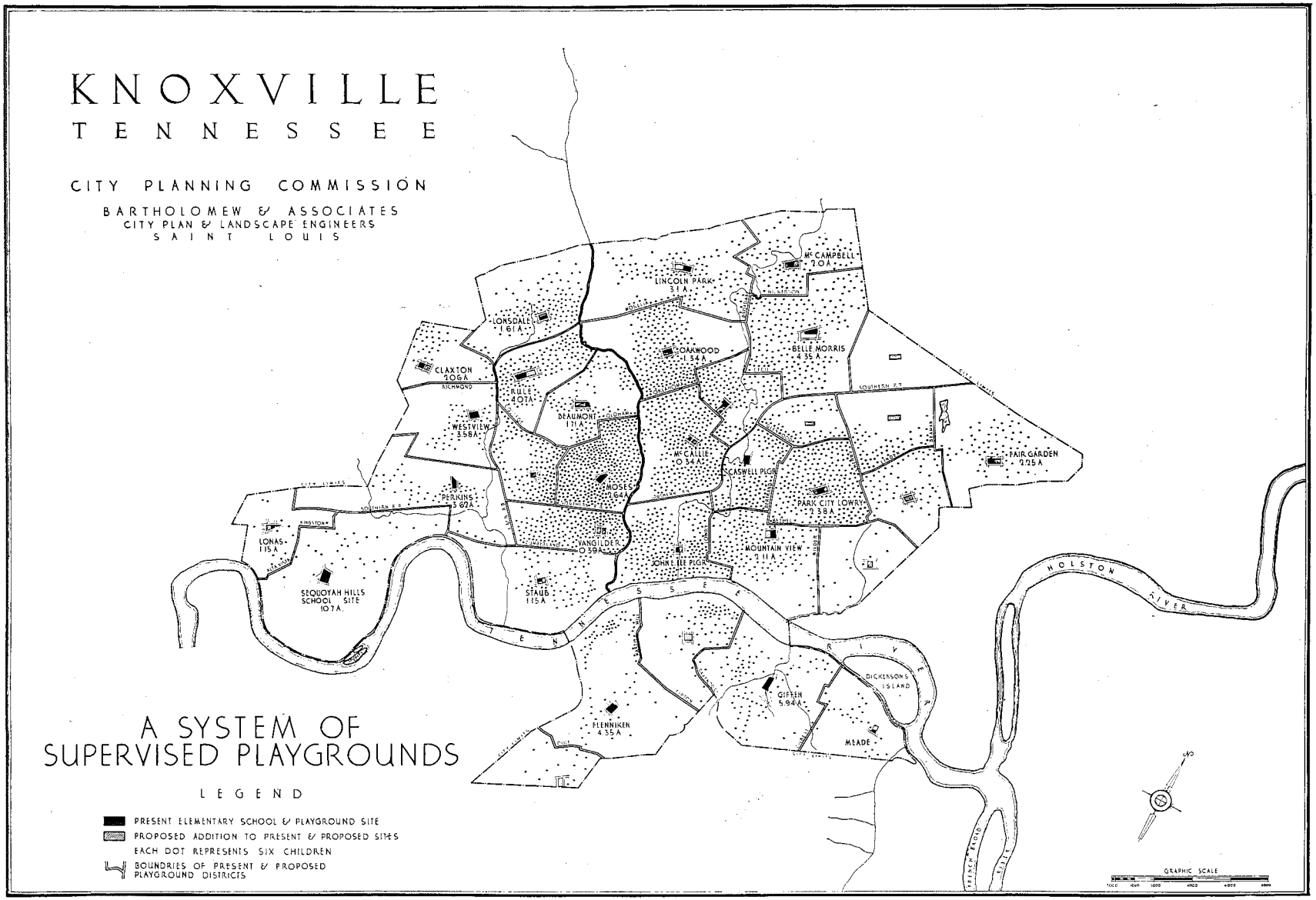

KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
A SYSTEM OF
SUPERVISED PLAYGROUNDS
LEGEND
PRESENT ELEMENTARY SCHOOL & PLAYGROUND SITE
PROPOSED ADDITION TO PRESENT & PROPOSED SITES
EACH DOT REPRESENTS SIX CHILDREN
BOUNDRIES OF PRESENT & PROPOSED PLAYGROUND DISTRICTS
LINCOLN PARK 31 A
Mc CAMPBELL 20 A
LONSDALE 16 A
OAKWOOD 34 A
BELLE MORRIS 4.55 A
CLAXTON 2.06 A
RULE 4.07 A
BEAUMONT 17 A
WESTVIEW 3.58 A
Mc CALLIE 10.34 A
CASWELL PLGR
FAIR GARDEN 9.25 A
PARK CITY LOWRY 2.38 A
PERKINS 3.62 A
LONAS 1.15 A
VANGILDER 0.59 A
JOHN LEE PLGR
MOUNTAIN VIEW 2.11 A
SEQUOYAH HILLS SCHOOL SITE 10.7 A
STAUB 1.15 A
TENNESSEE RIVER
HOLSTON RIVER
DICKENSON'S ISLAND
GIFFEN 5.94 A
MEADE
FLENNIKEN 4.35 A
FRENCH BROAD RIVER
GRAPHIC SCALE

Plate 36

The following facilities for recreation are available for public use:

Horse-shoe courts	8	
Tennis courts	8	
Baseball diamond	1	(part time only)
Golf course (18 hole)	1	
Diamond ball diamonds	9	
Volley ball courts	12	
Basketball courts (Outdoor)	11	
Wading pool	1	

OUTDOOR GYMNASIUM APPARATUS

Junior frame	4
Giant stride	8
Ocean wave	3
Horizontal bars	3
Swings	54
Horizontal ladders	2
See-saws	23
Rock-a-bye swings	2
Flying jennies	1
Slides	6
Merry-go-round	1

There are no running tracks, soccer or football fields, swimming pools, or archery ranges.

The degree of popularity of the different playgrounds is indicated by the total attendance at each during the season of 1927 and 1928.

PLAYGROUNDS OPERATED BOTH SUMMER AND WINTER

1.	Caswell	18,504
2.	Alexander	11,630
3.	S. Knoxville	9,389
4.	North Central	8,659
5.	John Lee	6,978
6.	Fair Garden	4,209
7.	Lonsdale	3,999
8.	Dale	3,698
9.	Chavannes	2,987

PLAYGROUNDS OPERATED DURING SUMMER ONLY

10.	Clinch	2,915
11.	Union Square	2,620
12.	Lions	1,415

PLAYGROUNDS FOR COLORED PERSONS

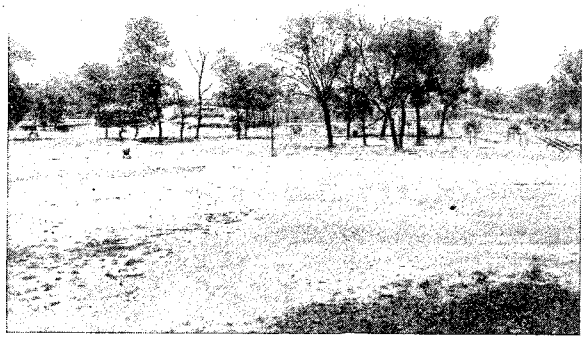
13.	Cal Johnson	18,474	(Summer and winter)
14.	Leslie Street	5,311	(Summer only)

TOTAL ATTENDANCE 101,042

Next to Caswell Park, Alexander is the most popular. This playground is located in a densely populated district and in addition to the regular playground equipment and game facilities there is a shelter house, built and donated to the city by the Optimist Club, which contains a superintendent's office, handicraft room and toilet facilities. South Knoxville playground is third in attendance. As stated above, the playground is the only one south of the river, in an area of 4½ square miles. It is larger than most playgrounds, but its full use is restricted by the frequent overflow of the small stream which passes through it. North Central playground serves a territory similar to that served by Alexander, but it is quite small and unattractive because of the lack of shade and proper planting. John Lee is located in an industrial district, the surroundings are unattractive and the playground is much too small. Fair Garden playground is operated alternately on Fair Garden school grounds and on loaned property in Burlington. Both locations are inadequate in size and equipment. Lonsdale playground is well located to serve a large population but is unsatisfactory because of the lack of room. The playground is located on the Lonsdale school grounds. The Dale Avenue playground, located on loaned property in an industrial district, is very small and quite unattractive. Chavannes playground is the most attractive of the entire group but is very small. This playground has a wading pool and numerous trees, in addition to the regular apparatus.

Of the playgrounds operated in summer only, Clinch Street has the heaviest attendance. The play area is too small and lies in a deep depression. Union Square contains little more than an acre. Lions' playground is located on property provided and equipped by the Lions' Club.

Cal Johnson is the principal playground for the colored. Its total annual attendance is almost equal to that of Caswell. The playground is well located to serve the colored population and is larger than any of the playgrounds for white children with the exception of Caswell. Its topography, however, is such that full use cannot be made of it for recreation purposes. Leslie Street Park is a comparatively large tract, almost wholly undeveloped now. There is little equipment in usable shape and few facilities for active recreation. The rugged topography is a serious handicap to laying out baseball fields, tennis courts and the like.



Caswell Park is the only city-wide recreation area in Knoxville. It should be supplemented by numerous other parks.

A COMPREHENSIVE SYSTEM

OF

RECREATION FACILITIES

SUPERVISED PLAYGROUNDS:

Knoxville has established a number of playgrounds during the past few years. These have been put into operation as expediency directed and funds permitted. No definite plan has been followed in establishing these play areas, and the inevitable result is a haphazard arrangement. Each district of the city should be served by a playground. The playground district should not be so large as to cause overcrowding of the playground, nor so small as to cause overlapping with another district.

Practically all playgrounds in Knoxville are separated from the elementary schools. As a result, during nine months of the year they are usable only after school hours. This is a wasteful duplication, for if the playgrounds were located at the schools they could be used at all times. Under this plan the play activities (which are of an educational nature) may be directed every day of the year by one agency.

The following recommendations are therefore made:

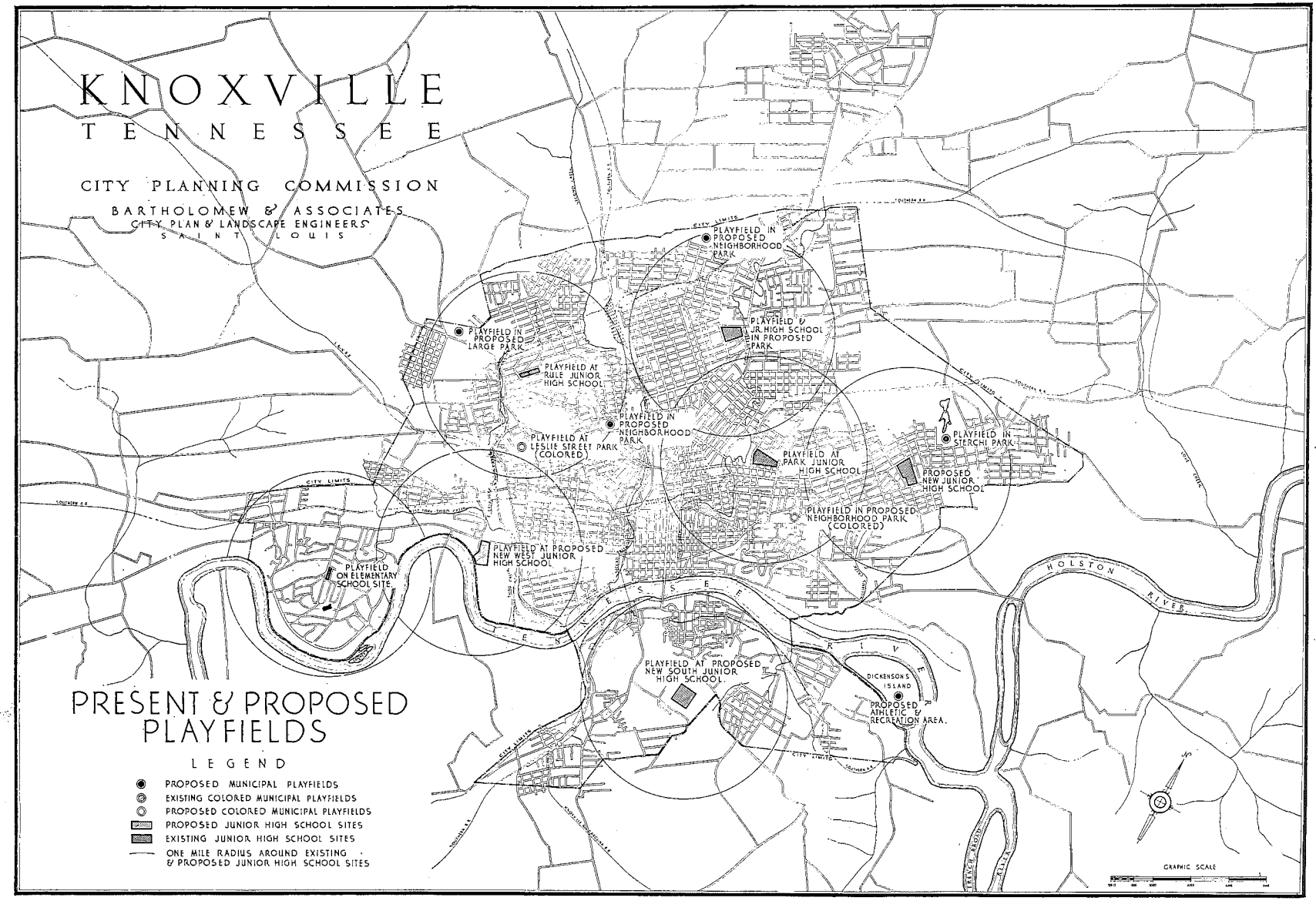
(1) The system of playgrounds should be under the supervision of one agency. Whether this supervision should be vested in the City of Knoxville through its Recreation Bureau or through the Board of Education is a matter that should be decided by the two bodies.

(2) Every permanent elementary school should have a recreation supervisor and the school building with its play area should function together throughout the entire year as the center of all children's activities. Supervision should be concentrated primarily on these playgrounds, the park playgrounds and others remote from schools being equipped for use without supervision. The economy of this plan is that children's playgrounds will be easily reached, will be in use all year, will serve as an educational medium, and park areas will be left for older boys and girls.

(3) Efforts should be made constantly to enlarge older school grounds and bring them up to modern standards. In this matter the council of the City of Knoxville can be of material assistance to the Board of Education through the condemnation and purchase of property adjacent to schools. If money is available for the purchase of playgrounds, let this money be expended in buying property adjacent or close to a permanent school location.

(4) The specific system of playgrounds recommended is shown on Plate Number Thirty-Six.

The plan calls for the eventual establishment of thirty-three playgrounds in the territory now included within the corporate limits of Knoxville. The recommended playgrounds are, with but few exceptions located at permanent elementary schools. Those schools which are deficient in playground space are indicated, together with the amount of land which should be acquired to bring them up to a reasonable standard. The aim of the plan is to provide playgrounds in such numbers and in


KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
PRESENT & PROPOSED PLAYFIELDS
LEGEND
PROPOSED MUNICIPAL PLAYFIELDS
EXISTING COLORED MUNICIPAL PLAYFIELDS
PROPOSED COLORED MUNICIPAL PLAYFIELDS
PROPOSED JUNIOR HIGH SCHOOL SITES
EXISTING JUNIOR HIGH SCHOOL SITES
ONE MILE RADIUS AROUND EXISTING & PROPOSED JUNIOR HIGH SCHOOL SITES
PLAYFIELD IN PROPOSED NEIGHBORHOOD PARK
PLAYFIELD IN PROPOSED LARGE PARK
PLAYFIELD & JR. HIGH SCHOOL IN PROPOSED PARK
PLAYFIELD AT RULE JUNIOR HIGH SCHOOL
PLAYFIELD IN PROPOSED NEIGHBORHOOD PARK
PLAYFIELD AT LESLIE STREET PARK (COLORED)
PLAYFIELD AT PARK JUNIOR HIGH SCHOOL
PLAYFIELD IN STERCHI PARK
PROPOSED NEW JUNIOR HIGH SCHOOL
PLAYFIELD IN PROPOSED NEIGHBORHOOD PARK (COLORED)
PLAYFIELD AT PROPOSED NEW WEST JUNIOR HIGH SCHOOL
PLAYFIELD ON ELEMENTARY SCHOOL SITE
HOLSTON RIVER
TENNESSEE RIVER
PLAYFIELD AT PROPOSED NEW SOUTH JUNIOR HIGH SCHOOL
DICKENSON'S ISLAND
PROPOSED ATHLETIC & RECREATION AREA
CITY LIMITS
GRAPHIC SCALE

such locations that no child will be more than one-half mile from a play area. In a few instances, where present schools are located in industrial districts as determined by the zoning ordinance, relocations are recommended. In a few other instances, it is recommended that existing playgrounds be used rather than school playgrounds where enlargement of the present school site is unduly expensive. New school sites for future acquisitions are suggested. These sites should be acquired in advance of actual need.

The following table is an evaluation of the present white elementary school system. The data shown in the table furnishes the basic information for determining the needs for a system of playgrounds.

ELEMENTARY SCHOOL DATA (WHITE)

Name of School	*Age*	*Area Bldg.* (*Sq. Ft.*)	*Area Site* (*Sq. Ft.*)	*Area* (*Acres*)	*Play-ground* (*Sq. Ft.*)	*Enroll-ment* 1928	*Play Space per child* (*Sq. Ft.*)
Moses	12(1)	16,400	114,800	(2.64)	98,400	1108	88
Park City-Lowry	23	25,120	105,500	(2.38)	80,380	1461	55
Oakwood	14	13,400	58,500	(1.34)	45,100	816	55
S. Knoxville	12	8,050	72,275	(1.66)	64,225	446	143
Lonsdale	22	11,100	70,000	(1.61)	58,900	568	103
Van Gilder	12	9,800	16,800	(.39)	7,000	487	14
Lincoln Park	12	8,550	135,000	(3.10)	126,450	496	254
Belle Morris	13(1)	19,200	190,000	(4.35)	170,800	707	241
Mynderse	38	5,500	22,500	(.52)	17,000	354	48
McCallie	21	6,550	15,000	(.34)	8,450	458	19
Perkins	1	15,200	157,700	(3.62)	142,500	453	314
Brownlow	13(1)	17,860	84,000	(1.92)	66,140	662	99
Beaumont	13	4,875	75,000	(1.71)	70,125	435	161
Mountain View	x	11,375	92,400	(2.11)	81,025	389	208
Bell House	28(1)	8,110	24,190	(..55)	83,753	413	38
Fair Garden	12(1)	14,522	98,275	(2.25)	16,080	635	131
Flenniken	9(1)	12,700	189,200	(4.35)	176,500	431	409
West View	12	4,450	156,350	(3.58)	151,900	330	460
Staub	13	4,525	50,100	(1.15)	45,575	271	168
Pickle	x	2,700	37,500	(.86)	34,800	119	291
Giffin	1	8,912	267,790	(6.15)	261,878	232	1128
Claxton	1	4,300	90,000	(2.06)	85,700	123	696
Lonas	x	1,350	50,225	(1.15)	48,875	26	1879
Holston	x	850	10,000	(.24)	9,150	43	212
McCampbell	1	6,600	87,000	(2.00)	80,400	111	724

x—Unknown.

Note: Under Age Column, figures in parentheses indicate age of new additions.

From the foregoing table it may be seen that a number of the older schools are quite deficient in play space. The commonly accepted standard is 100 square feet of play space per child. The schools whose sites need enlarging are nearly all in the

thickly populated sections where playgrounds are needed most. It is urged, therefore, that the Board of Education, together with the City of Knoxville, take steps to carry out the following recommendations as soon as possible.

1. LONAS SCHOOL. This school is located in a rapidly growing section of the city, and because of its age and inadequacy, must be replaced soon. When this is done, additional land should be acquired. By purchasing the property west of the school to Colony Street and 150 feet to the east a site of 3.00 acres in size could be obtained. In case this school is abandoned entirely, the children in the district could use the Sequoyah Hills playground.

2. CLAXTON SCHOOL. Although this is a new school with rather small enrollment (123) the present site of 2.06 acres should be enlarged to 4.47 acres by acquiring the block directly east of the present site. This land is unoccupied by improvements now and can be acquired at very reasonable cost.

3. LONSDALE SCHOOL. This is one of the oldest schools in the city and will necessarily be replaced in a comparatively short time. The site is quite small and because the school is in the center, the available play space is further reduced. The north half of the block should be acquired, which would increase the site from 1.61 acres to 3.45 acres. If this school is replaced, the new building should be relocated at one end of the site rather than in the center.

4. VAN GILDER SCHOOL. The School Board faces a serious problem in bringing this school up to normal play area standards. It is one of the older schools which has a very small site and is entirely surrounded by expensive improvements. A few years ago a site for the relocation of this school could have been obtained at a reasonable cost but this was not done and the entire district which the school serves has been almost solidly built up. The present play space is little more than a dooryard. Although very expensive, the area bounded by Highland, Laurel, 13th and 15th Streets should be acquired. This would necessitate the closing of 14th Street from Highland to Laurel and Frazee Street from 13th to 14th.

5. RULE ELEMENTARY AND JUNIOR HIGH SCHOOL. This is one of the new buildings and is destined to be exclusively a junior high school in the future. The site is entirely inadequate for such use, and because of the topography of the section adjacent to the school there is very little land available for play activities. It is recommended that the remainder of the block be acquired, which will make a total area of 7.08 acres.

6. BEAUMONT SCHOOL. Property west of the present school site extending to Reed Street should be acquired, increasing the size of the site from 1.71 acres to 5.30 acres.

7. MOSES SCHOOL. By reason of its location in one of the most densely populated districts of the city, Moses School stands second in enrollment (1108). An addition has recently been made and the school site enlarged. The site (2.64 acres) is still inadequate for the needs of the district and should be further enlarged by acquiring the half block to the south and the half block to the north of the school. This additional land will give a total area of 4.42 acres.

8. STAUB SCHOOL. This school, which is thirteen years old, is located in West Knoxville and occupies a site containing only 1.15 acres. The remainder of the block should be acquired, which would make a total area of 3.31 acres.

9. McCallie School. The North Knoxville section in which the McCallie School is located is intensely developed. The school site of .34 acres can be increased only at great cost because of this fact. By acquiring the remainder of the block in which the school is located and the block to the east, bounded by Gill, an alley, Lovenia and Luttrell, the site may be increased to 3.10 acres.

10. Oakwood School. This is another of the older schools with a very heavy enrollment and a small site. The school is located in a district where a playground is urgently needed. The remainder of the block should be purchased as soon as possible. The addition of this ground would make a total site area of 3.70 acres.

11. Lincoln Park School. This school has a fairly adequate site but in view of the fact that population in the district is increasing very rapidly, steps should be taken to anticipate the future needs by acquiring the remainder of the block. This will make a total site area of 6.00 acres.

12. McCampbell School. A new school in a district that is growing very rapidly. The present site of 2.0 acres should be increased before development makes the cost prohibitive. It is recommended that the remainder of the block be purchased, making a total area of 5.43 acres.

13. Brownlow School. One of the largest schools in the city, with a site of 1.92 acres. To bring this site up to standard will necessitate the acquisition of the property directly south of the school extending to Wells Street, thus securing a total site area of 6.05 acres.

14. Fair Garden. This school is in the Burlington district where a rapid growth is certain to take place. Its site of 2.25 acres should be enlarged to 4.73 acres by the acquisition of the remainder of the block.

15. Park City—Lowry School. This is one of the oldest schools in the city and has the largest enrollment, (1461). The site of 2.38 acres is entirely too small and by all means should be increased to 5.37 acres by purchasing the property in the remainder of the block.

16. Mountain View School. Land directly to the west of the school (150 x 400 feet) may be acquired at a reasonable cost. This acquisition will increase the area of the site from 2.11 acres to 3.50 acres.

17. Meade School. A very small school with a limited enrollment but located in a section of the city that will eventually need a large school. Undeveloped land adjacent to the present site should be purchased to make a total area of 5.0 acres.

In a few instances it is recommended that schools be re-located to serve the district more adequately and to remove them from industrial districts. Specifically the following recommendations are made:

1. Holston School. A small, antiquated structure, but sufficient to serve the needs of the community in which it is located for some time to come. It is poorly located, however, and the topography around the site makes it impossible to develop an adequate playground. When certain major street improvements are carried out the school should be relocated, as indicated on the plan.

2. SOUTH KNOXVILLE SCHOOL. This school is almost entirely surrounded by industries and when replaced should be located farther to the south. Such a location will place the school in the center of the district which it serves and will remove it from the undesirable industrial surroundings.

As the city grows and districts now sparsely settled are built up, new schools will be needed. The sites for these schools should be acquired before actually needed, as adequate sites are difficult and expensive to secure after the district has developed. It is recommended, therefore, that school sites of at least five acres each be acquired near the center of the following districts.

1. VESTAL SECTION. District bounded by Candora Street, Ogle Avenue, south and west city limits.

2. BROOK AVENUE DISTRICT. Bounded by Wilder Place, Bethel Avenue, Mountain View Avenue and southeast city limits.

3. PARK CITY DISTRICT (SOUTH) Bounded by Cherry Street, Linden Avenue, Beaman Street, Mountain View Avenue and southeast city limits.

4. PARK CITY DISTRICT (NORTH) Bounded by Southern Railway, Sterchi Park, Linden Avenue and Cherry Street.

5. NORTH HILLS DISTRICT. Bounded by Southern Railway, northeast city limits and a north and south line about 1000 feet east of Cherry Street extended.

6. UNIVERSITY AVENUE DISTRICT. Bounded by Southern Belt Line, Western Avenue, College Street, Leslie Street, Clyde Street, and Southern Railway main line.

In two cases it is recommended that playgrounds now in use be continued rather than to use adjacent schools. These are:

1. CASWELL PLAYGROUND. With development of a complete system of playgrounds at schools there will be a district, bounded by Bertrand Street, Glenwood Avenue, the Southern Railway and Linden Avenue, that will be unserved. As Caswell Park is within this district, the playground there should be continued.

2. JOHN LEE PLAYGROUND. The district, adjacent to the retail business section, contains a large population. The site of the Bell House elementary school has only .55 acres. Because of the highly developed surroundings, an enlargement of the site can be made only at an excessive cost. John Lee Playground is located within a short distance of the school and while it is small, the area could be increased at a reasonable cost.

The remainder of the recommended playgrounds are located at schools whose sites are adequate. These schools are as follows:

1. Sequoyah Hills
2. Perkins School.
3. Westview School.
4. Flenniken School.
5. Giffin Schol.
6. Belle Morris School.

Summarizing the foregoing recommendations, 17 school sites should be enlarged, 6 sites are of sufficient size, 2 schools should be relocated, 2 existing playgrounds should be used, and 6 new sites should be acquired. These recommendations cover the entire proposed system of 33 playgrounds.

The following table shows at a glance the above detailed recommendations for the comprehensive playground system.

TABLE SHOWING RECOMMENDATIONS FOR DEVELOPING A COMPREHENSIVE PLAYGROUND SYSTEM

	Name of School	Present Elementary School Population in District	Estimated Elementary School Population in District 1944	Area of Present Site in Acres	Area of Proposed Site in Acres	Assessed Valuation of Property Enlargement
			SITES TO BE ENLARGED			
1.	Lonas	65	130	1.15	2.95	$ 27,300.00
2.	Claxton	177	292	2.06	4.47	2,300.00
3.	Lonsdale	481	792	1.61	3.45	27,900.00
4.	Van Gilder	667	970	.39	4.13	119,750.00
5.	Rule	493	600	4.07	7.08	13,100.00
6.	Beaumont	230	447	1.71	5.30	28,400.00
7.	Moses	1480	1507	2.64	4.42	49,390.00
8.	Staub	387	524	1.15	3.31	25,235.00
9.	McCallie	1242	1246	.34	3.10	100,145.00
10.	Oakwood	767	1177	1.34	3.70	31,445.00
11.	Lincoln Park	423	723	3.10	6.00	33,150.00
12.	McCampbell	284	456	2.00	5.43	19,200.00
13.	Brownlow	567	757	1.92	6.05	60,930.00
14.	Fair Garden	292	843	2.25	4.73	15,800.00
15.	Park City-Lowry	679	1302	2.38	5.37	69,595.00
16.	Mountain View	647	957	2.77	3.50	2,000.00
17.	Meade	110	400	------	5.00	10,000.00
	TOTAL			30.22	77.99	$635,640.00
			SCHOOLS TO BE RELOCATED			
18.	Holston	217	426	.24	5.00	(At least)
19.	S. Knoxville	312	576	1.66	5.00	(At least)
			NEW SITES			
20.	Vestal	82	146	------	5.00	(At least)
21.	Brooks Avenue	35	125	------	5.00	(At least)
22.	Park City (S)	243	480	------	5.00	(At least)
23.	Park City (N)	235	585	------	5.00	(At least)
24.	North Hills		138	------	5.00	(At least)
25.	University Ave.	658	800	------	5.00	(At least)
			PLAYGROUNDS			
26.	Caswell	434	501	------	------	
27.	John Lee	915	703	------	------	
			SCHOOLS NOT TO BE ENLARGED			
28.	Belle Morris	600	1137	4.35	------	
29.	Sequoyah Hills	106	351	10.67	------	
30.	Perkins	191	371	3.61	------	
31.	Westview	239	588	3.58	------	
32.	Flenniken	359	589	4.35	------	
33.	Giffin	366	598	5.94	------	
	TOTAL . .	13,983	21,235			

The population figures in the foregoing table were taken from studies made by the School Board through their consultant, Wm. B. Ittner, Architect, St. Louis, Missouri, who made a survey and report on the needs of the Knoxville schools in 1924.

The figure of $635,640 is large but the expenditure of this sum should be budgeted over a period of ten to fifteen years and disbursed as opportunities arise for purchasing property for the enlargement of school sites.

PLAYFIELDS

Boys and girls in Junior and Senior High Schools and those in the same age groups not attending school should have play areas for more active sports, such as tennis, baseball, football, soccer and the like.

The recreational needs of this population group could best be met as follows:

1. There should be a playfield at every Junior High School. A site of at least 15 acres should be provided to take care of all outdoor athletic facilities needed.
2. Playfields should be established at all Senior High Schools. The accepted standard for Senior High School sites is 25 acres.
3. Municipal playfields should occur frequently throughout the city. Ordinarily these athletic areas should be located in neighborhoods or large parks to serve boys and girls who are no longer in school.

Plate Number Thirty-Seven shows the recommended play areas to be established.

PRESENT JUNIOR HIGH SCHOOLS

There are, at present, three Junior High Schools in Knoxville. Boyd Junior High School is located in City Hall Park. Park Junior High School is located on Bertrand Street, and Rule Junior High School on Vermont Avenue.

BOYD JUNIOR HIGH is a more or less temporary expedient, the present group of buildings being taken over after fire destroyed the original school. The area now occupied is inadequate, poorly located, and will be needed for the Civic Center. A relocation of this school within a very short time is imperative.

PARK JUNIOR HIGH is one of the new buildings recently completed by the Board of Education. *The school occupies a site of approximately 19 acres and the building is an excellent example of a modern, up-to-date and efficient school plant.*

RULE JUNIOR HIGH SCHOOL is an excellent new building located on an inadequate site.

FUTURE JUNIOR HIGH SCHOOLS

In the previously mentioned report of the Knoxville Board of Education, a program for the future development of a Junior High School system is outlined. In brief, 4 Junior High Schools are recommended, all of them to be completed by 1934. Of these schools, 2 have been constructed, namely, Park and Rule. One building,

yet to be constructed, is to be located in the northern part of the city. The fourth building is to be located in South Knoxville.

Supplementing these recommendations and looking beyond the year 1934, two additional Junior High School sites are suggested, one to be located in the west part of the city and the other to be located in the Burlington district.

Park Junior High School.
The Park Junior High School occupies a site that has great potential value as an athletic field if properly designed.

The future Junior High School system would therefore consist of the following buildings:

1. Park (Now in use)
2. Rule (Now in use)
3. North (To be constructed)
4. East (To be constructed)
5. West (To be constructed)
6. South (To be constructed)

The PARK JUNIOR HIGH SCHOOL site is adequate in size.

The RULE JUNIOR HIGH occupies a site that is entirely too small for a playfield and which by reason of the topography of the surrounding land is difficult to expand for such use. This school is now used for both elementary and junior high school purposes and it will be a number of years before the population in the district will be sufficient to make it necessary to use the school exclusively as a Junior High. It is therefore recommended that the present site be enlarged to include the entire block and that the future playfield for the school be located in the proposed neighborhood park on Virginia Avenue, which would be near the school.

NORTH JUNIOR HIGH SCHOOL. It is recommended that this school occupy the north portion of the proposed neighborhood park along Broadway near Ledgerwood Street. This arrangement will provide needed play facilities not only for the school itself but, in conjunction with the neighborhood park, for the entire district.

EAST JUNIOR HIGH SCHOOL. In order to serve the Burlington section and the east portion of Park City it is recommended that a future new school be established on the vacant tract now used for a tourist camp and the playground leased and operated by the Lions' Club. A portion of this tract is now owned by the Board of Education. The entire tract contains about fifteen acres and would make an admirable playfield site.

WEST JUNIOR HIGH SCHOOL. Within a very few years there will be urgent need for a Junior High School in the western part of the city, located in the vicinity of Kingston Pike. The site suggested on the plan is in an ideal location to serve both the Sequoyah Hills and the West Knoxville sections but as it is located on state property there is a serious question whether it could be obtained.

SOUTH JUNIOR HIGH SCHOOL. South Knoxville is a rapidly growing section and an early acquisition of a Junior High School site is important. A site in the general vicinity of the one suggested on the plan is centrally located for the entire district and would be suitable for development of a play and athletic area. At least fifteen acres should be obtained.

SENIOR HIGH SCHOOL

The present Senior High is practically the geographic center of the city. There are no facilities for athletics and as the surrounding neighborhood is completely built up, there is no possibility of providing such an area. Additional facilities will be needed when the capacity of the present group of buildings is reached. Plans are under way for developing the Park Junior High grounds into a Senior High School athletic field. This location is fairly close to the Senior High School and appears to be the most logical solution to the problem. Such an athletic field could be used jointly by the Junior and Senior Schools. The construction of a stadium on this site would not only provide a place for school athletics but would also provide means for city-wide recreation activities such as pageants, festivals, and similar activities.

MUNICIPAL PLAYFIELDS

Six municipal playfields are recommended, in addition to the Junior and Senior High School athletic fields. These are as follows:

1. SITE OF CITY INCINERATOR. This area is proposed as a neighborhool park to be devoted largely to athletics. The present use of the property is extremely objectionable to the section adjacent to it and the removal of the incinerator would create an opportunity to provide the people of the cotton mills district with urgently needed athletic facilities. There should be one baseball diamond, one football field and two tennis courts provided on this site.

2. SEQUOYAH HILLS SITE. This recommended play area is now owned by the Board of Education and is to be used for an elementary school. The site is sufficiently large (10.67 acres) not only to give an adequate playground for the elementary school children but also to provide space for tennis courts, baseball diamonds, etc.

3. NORTHWEST LARGE PARK. This site, a portion of a proposed large park, is located on Western Avenue at Texas Avenue and has sufficient level area to provide a

complete athletic field. There should be in addition to other facilities six tennis courts, one baseball field, one football field and an outdoor gymnasium.

4. NORTH LARGE PARK. This proposed large park lies along Sharp's Ridge and the portion recommended to be used as a playfield is at the foot of the hill. The topography is such that it is doubtful if more than a few tennis courts and a baseball field could be provided.

5. STERCHI PARK. A portion of this area is suitable for the development of a very complete athletic center. Here should be provided twelve tennis courts, two baseball fields, one football field, one running track and an outdoor gymnasium.

6. DICKENSON'S ISLAND. Proposed as a combination airport and recreation area. An exceptional opportunity exists to develop this large area into a recreation area that will be city-wide in scope. Not only does the topography lend itself to development of athletic facilities but opportunities for water sports are excellent. The eventual equipment should include a bathing beach, facilities for boating and canoeing and for water pageants and sports. There should be a large number of tennis courts and several baseball diamonds and football fields.

COLORED PLAYFIELDS

LESLIE ST. PARK. By acquiring additional area on Leslie Street an opportunity will be created for developing an athletic area that will serve the entire colored population in the University Avenue section. Provision should be made for six tennis courts, a baseball diamond and an outdoor gymnasium.

EAST KNOXVILLE. Opportunities for developing an athletic area in this densely populated colored section are limited. Cal Johnson Park now provides some opportunities for tennis and baseball but the space is limited and expansion difficult. The proposed park to be established at the present county cemetery site will provide for additional tennis courts and perhaps an outdoor gymnasium.

In addition to the above recommended athletic or play fields Knoxville needs some public swimming pools. It is suggested that the city negotiate with the Whittle Springs Company with the view of taking over the swimming pool now operated at Whittle Springs and convert it into a public natatorium. This pool is not centrally located but being adjacent to the municipal golf course would prove very popular.

COMMUNITY CENTERS

Community centers constitute an important part of the city's recreational system. Every residential section should have a building for its indoor social and recreational activities.

Knoxville has no municipally-operated indoor recreation centers. There are, however, a number of semi-public agencies that offer services usually found in a public community center. Among these are the Y. M. C. A. and the Y. W. C. A. and the Christian Union Community Club.

Fortunately, however, the city possesses the basic structure for a well-rounded community center system in its school buildings. All the new elementary and high schools are equipped with auditoriums and gymnasiums which could be made available for community use after school hours.

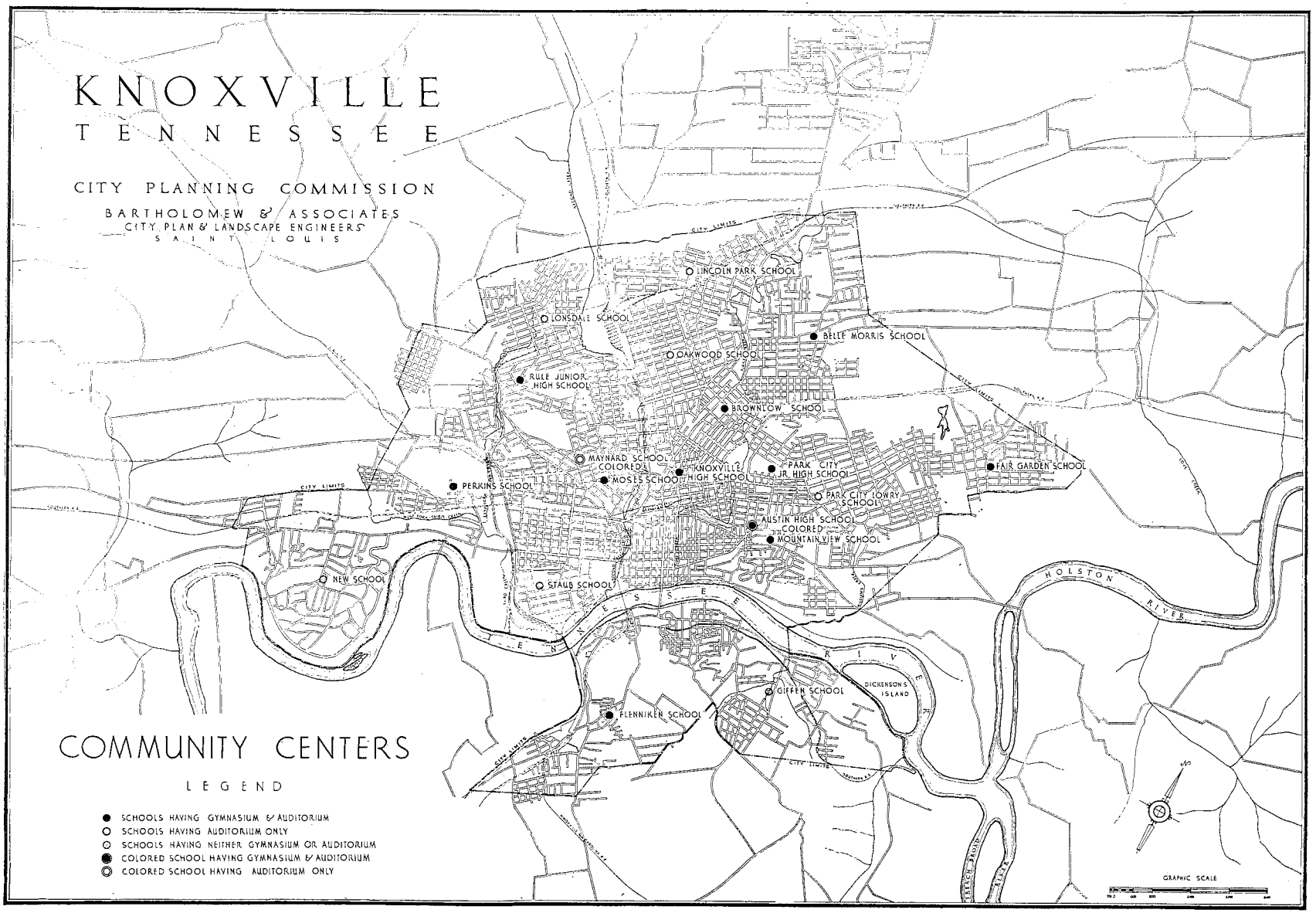

KNOXVILLE
TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
LINCOLN PARK SCHOOL
LONSDALE SCHOOL
BELLE MORRIS SCHOOL
OAKWOOD SCHOOL
RULE JUNIOR HIGH SCHOOL
BROWNLOW SCHOOL
MAYNARD SCHOOL COLORED
KNOXVILLE HIGH SCHOOL
PARK CITY JR HIGH SCHOOL
FAIR GARDEN SCHOOL
MOSES SCHOOL
PERKINS SCHOOL
PARK CITY LOWRY SCHOOL
AUSTIN HIGH SCHOOL COLORED
MOUNTAIN VIEW SCHOOL
NEW SCHOOL
STAUB SCHOOL
HOLSTON RIVER
TENNESSEE RIVER
DICKENSON'S ISLAND
GIFFEN SCHOOL
FLENNIKEN SCHOOL
CITY LIMITS
COMMUNITY CENTERS
LEGEND
SCHOOLS HAVING GYMNASIUM & AUDITORIUM
SCHOOLS HAVING AUDITORIUM ONLY
SCHOOLS HAVING NEITHER GYMNASIUM OR AUDITORIUM
COLORED SCHOOL HAVING GYMNASIUM & AUDITORIUM
COLORED SCHOOL HAVING AUDITORIUM ONLY
GRAPHIC SCALE

Plate 38

The Knoxville Bureau of Recreation, through the cooperation of the Board of Education has, to a small degree, utilized some of the school gymnasiums for basketball games and other activities. A more intensive and wider use of the school buildings as neighborhood social centers would be of great benefit to the public.

Following is a list of schools that could well constitute the Community Center system for Knoxville. These schools are conveniently located and equipped with both auditoriums and gymnasiums.

Belle Morris	Moses
Fair Garden	Perkins
Brownlow	Rule Junior High
Flenniken	Park Junior High
Mountain View	Knoxville High

Some of the older schools have auditoriums but not gymnasiums. These are:

Lonsdale	Oakwood
Lincoln Park	Park City-Lowry

It is recommended that, when the above schools are rebuilt or remodeled, gymnasiums be provided.

Other schools well located for community centers but which have neither auditorium nor gymnasium are:

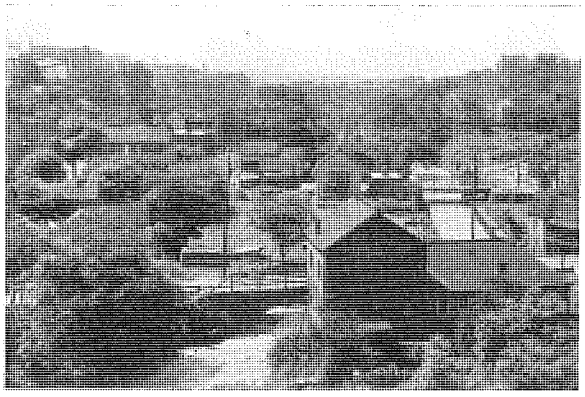
Giffin	Staub

An endeavor should be made to equip these schools with the necessary facilities.

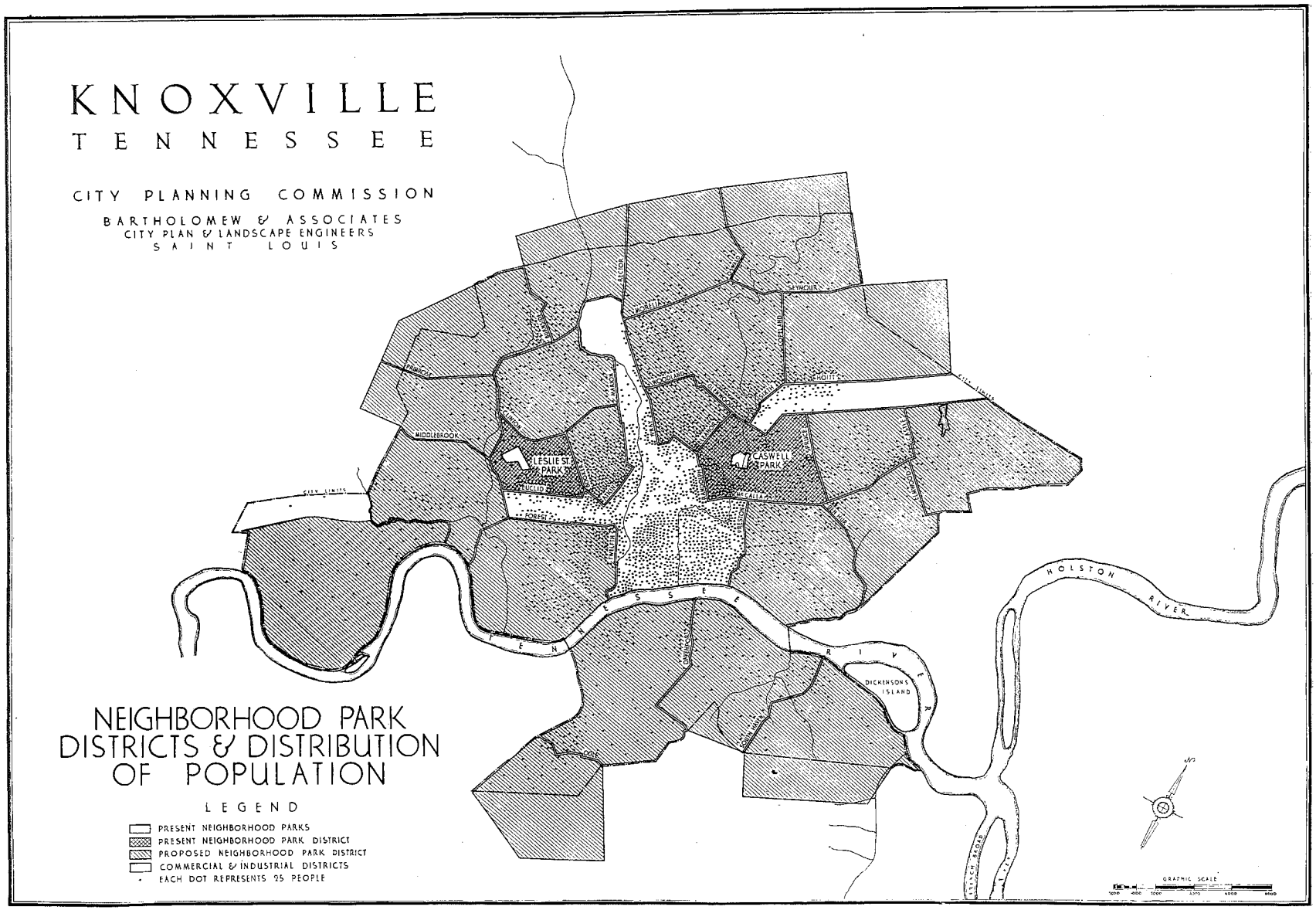
The new Austin High School for colored is an up-to-date plant and contains both a gymnasium and an auditorium. Its location would make it ideal for use as a community center for the East Knoxville colored district.

Maynard School is located in the University Avenue section and would serve the colored population of that district. It contains an auditorium but does not have a gymnasium.

Each of the foregoing schools is located to serve a large population if used for community centers. Financial returns from incidental uses would reduce the cost of operation to a comparatively low figure and the benefits derived from them would be inestimable.



First Creek Valley should be converted into a close-in park.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NEIGHBORHOOD PARK DISTRICTS & DISTRIBUTION OF POPULATION
LEGEND
PRESENT NEIGHBORHOOD PARKS
PRESENT NEIGHBORHOOD PARK DISTRICT
PROPOSED NEIGHBORHOOD PARK DISTRICT
COMMERCIAL & INDUSTRIAL DISTRICTS
EACH DOT REPRESENTS 95 PEOPLE
LESLIE ST. PARK
CASWELL PARK
DICKENSON'S ISLAND
HOLSTON RIVER
TENNESSEE RIVER
SEYMOUR
MIDDLEBROOK
FOREST
GRAPHIC SCALE

Plate 39

NEIGHBORHOOD PARKS

Neighborhood parks perform a distinct service in the recreation system. Their nature is such that one should be located in each square mile of residential territory. They should be so located that no one need walk more than one-half mile to reach the park.

Knoxville lacks such facilities. There are but two parks that are of sufficient area to warrant their classification as neighborhood parks. These are Caswell and Leslie Street, the latter being reserved for the colored.

In the built-up sections, where population is dense, the acquisition of neighborhood parks will prove expensive. In thinly-populated outlying sections such areas should be acquired in advance of actual need, before rising land values and improvements make their cost excessive.

The city incinerator site should be renovated and converted into a neighborhood recreation park.

The cost of the acquisition of these parks should be financed through special assessments against the property that benefits from being in proximity of such an asset. Bond money derived from general taxation should be used to purchase large parks of city-wide importance rather than neighborhood parks. The city of Knoxville should procure the necessary legislation to enable neighborhood park districts to be established, and the cost of purchase and improvement of the park to serve the district charged, in whole or in part, against the property within the district. Minnesota has provided such a law which has enabled the city of Minneapolis to establish numerous neighborhod parks.

Plate Number Thirty-Nine shows the recommended districts, both existing and proposed and the distribution of population. There are twenty-three districts, two of which are now served by parks. The remaining twenty-one are in urgent need of such facilities. It is difficult to say in which districts parks should first be established. Obviously, the densely populated sections are most in need, but the cost will be great in the majority of instances.

A careful study has been made of available neighborhood park sites and their relation to the district they would serve. Following is a description of each district, the recommended park site and its acreage, and the assessed valuation of the land involved in the acquisition.

EXISTING AND PROPOSED NEIGHBORHOOD PARKS AND DISTRICTS.

	Area in Acres	*Assessed Valuation*
1. District in Marble City section bounded by W. City Limits, Middlebrook Pike, L. & N. Railroad, Concord Street, Tennessee River, and the West Fork of Third Creek.		
Recommended Site		
Tract adjoining Perkins School fronting on Sutherland Avenue. Part owned by State	13.0	$ 15,000
2. Leslie Street Park District. Bounded by Proctor Street, Clinton Road, College Street, Booker Street, Euclid Avenue, and L. & N. Railroad.		
Recommended addition to present site.		
Tract adjoining present site, fronting on Leslie Street	4.5	17,800
3. District in Beaumont section bounded by Southern Belt Line, Second Creek, Bellaire Avenue, Clinton Road, Schofield Street and McPherson Street.		
Recommended site		
Tract lying between Beaumont Avenue and Virginia Avenue	47.3	29,400
4. District in Beaumont section bounded by Bellaire Avenue, Marion Street, W. Fourth Avenue, Atkin Street, Western Avenue, Booker Street and College Street.		
Recommended site		
Tract on Elm Street now used in part by city as incinerator	11.0	35,400
5. W. Knoxville District bounded by Forest Avenue, 12th Street, 2nd Creek, Tennessee River and Concord Street.		
Recommended site		
Tract at Rose Avenue and 20th Street	9.1	84,700
6. District in northwest part of city bounded by west city limits, Primrose Street, a line through New Gray Cemetery, Schofield Street, Proctor Street and Middlebrook Avenue.		
Recommended site		
Tract on Keith Avenue near Richmond Hill reservoir	19.5	7,900
7. District in northwest part of city (partially outside city limits) bounded by Primrose Street, a line through New Gray Cemetery, McPherson Street, Southern Belt Line, Burnside Street, Ambrose Street, north city limits.		
Recommended site.		
Part of Fitzgerald farm lying within city limits.	25.0	12,500

8.	District in north part of city (partially outside city limits) bounded by line north of city limits, Rector Street, Coster yards, Southern Belt Line, Burnside Street, and Ambrose Street.		
	Recommended site		
	Tract at Heiskell Street and Central Street	20.00	15,000
9.	District in north part of city (partially outside of city limits) bounded by line north of city limits, Fairfax Avenue, Oswald Avenue, Morelia Avenue and Rector Street.		
	Recommended site		
	Part of proposed large park lying along north city limits	15.00	9,000
10.	District in north Knoxville bounded by Morelia Avenue, Hiwassee Avenue, Tennyson Avenue, Copeland Street, Fleming Street, 6th Avenue, Glenwood Avenue, Woodland Avenue, Worth Street, and Davanna Street.		
	Recommended site		
	Tract adjoining Broadway, lying between Bluff Street and Ledgerwood Avenue	55.1	132,300
11.	District in Whittle Springs Section (partially outside city limits) bounded by line north of city limits, east city limits, Boright Avenue, Seymour Avenue, Tennyson Avenue, Hiwassee Avenue, Oswald Avenue, Fairfax Street.		
	Recommended site		
	Tract lying along First Creek and Knoxville Power and Light Co. right-of-way	28.5	35,300
12.	District in northeast part of city (partially outside city limits) bounded by Seymour Avenue, Boright Avenue, Boright Avenue extended, line lying east of city limits, line parallel to Southern Railway, Hoitt Avenue and Copeland Street.		
	Recommended site		
	Tract east of Whittle Springs Road and south of Washington Pike	44.0	16,800
13.	District in North Knoxville bounded by Woodland Avenue, Glenwood Avenue, Eleanor Street, Lovenia Avenue, Bernard Avenue and Wray Street.		
	Recommended site		
	Tract at Baxter Avenue and Folsom Street	10.9	80,850
14.	Caswell Park District. Bounded by Glenwood Avenue, Mitchell Street, Spruce Street, McCalla Avenue, Randolph Street and Eleanor Street.		
15.	District in Park City bounded by line south of Southern Railway, Castle Street, McCalla Avenue, Spruce Street.		
	Recommended site		
	Tract lying north of Woodbine Avenue and east of Cherry Street	19.4	15,500

16.	Burlington district, bounded by east city limits, south city limits, Fairmount Street, Elmwood Avenue, Castle Street, line south of Southern Railway.		
	Recommended site		
	Part of Sterchi Park expanded east	15.0	15,000
17.	District in Park City bounded by McCalla Avenue, Elmwood Avenue, Fairmount Street, South City Limits, Williams Creek, Ben Hur Avenue.		
	Recommended site		
	Tract near Chestnut Street and Biddle Street	12.9	23,150
18.	District in Park City bounded by McCalla Avenue, Ben Hur Avenue, Williams Creek, Tennessee River, McCammon Street, Ferry Street, and Preston Street.		
	Recommended site		
	Tract lying west of Wilder Place and north of Dandridge Avenue	30.0	70,000
19.	District in South Knoxville bounded by Tennessee River, Davenport Road, Woodlawn Pike, South city limits, Ogle Avenue, Candoro Street, and city limits.		
	Recommended site		
	Tract lying west of Martin Mill Pike extending from Fort Avenue to Good Avenue	92.0	43,700
20.	District in South Knoxville bounded by Tennessee River, Watson Place, South Haven Road, South city limits, Woodlawn Pike, Davenport Road.		
	Recommended site		
	Tract along Sevierville Pike and Moody Avenue	21.7	25,650
21.	District in South Knoxville bounded by city limits, south Haven Road and Watson Place.		
	Recommended site		
	Tract lying west and north of Gilbert Lane	30.2	20,350
22.	District in Vestal District (Partially outside city limits) bounded by line south of city limits, Ogle Avenue and Candoro Street.		
	Recommended site		
	Tract lying just south of city limits on Martin Mill Pike	22.0	13,200
23.	District in Sequoyah Hills section bounded by Tennessee River, Southern Railway, and west fork of Third Creek.		
	Recommended site		
	Tract lying along Tennessee River	80.0	80,000
	TOTAL	626.1	$798,500

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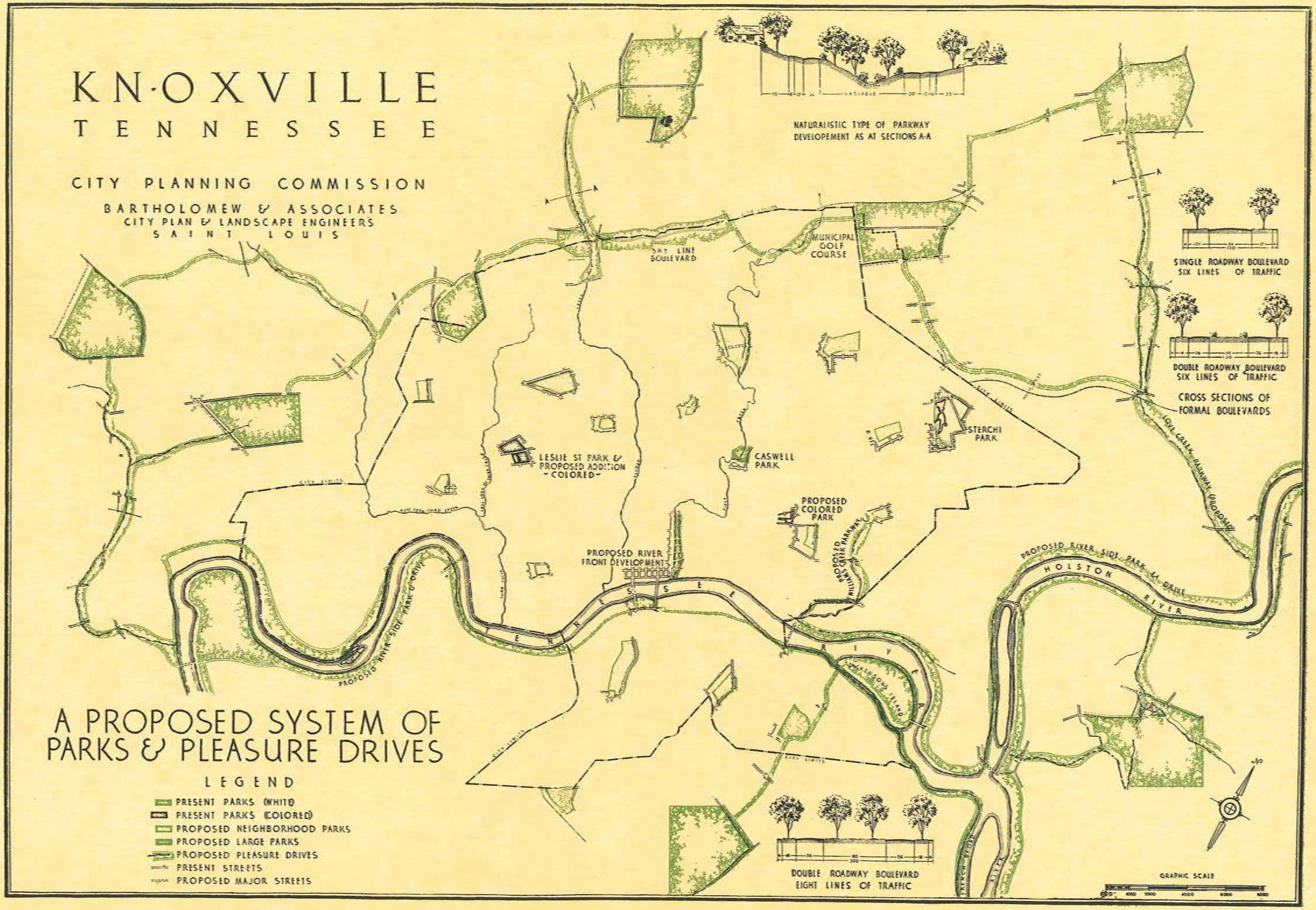


A PROPOSED SYSTEM OF PARKS & PLEASURE DRIVES

LEGEND

- PRESENT PARKS (WHITE)
- PRESENT PARKS (COLORED)
- PROPOSED NEIGHBORHOOD PARKS
- PROPOSED LARGE PARKS
- PROPOSED PLEASURE DRIVES
- PRESENT STREETS
- PROPOSED MAJOR STREETS

Plate 40

The foregoing cost figures for the bare land alone may appear to be formidable but when it is considered that this expense is to be spread over practically the entire city, the cost will not be excessive. One of the most pressing needs at this time is the passage of a law similar to the Minnesota Elwell Law to facilitate the acquisition of these properties.

A SYSTEM OF PARKS AND PLEASURE DRIVES.

The plan for a comprehensive park and pleasure drive system for Knoxville includes areas both within and beyond the city limits. The topography and natural beauty of the Knoxville region presents possibilities for the creation of a park system that would be unexcelled by any community.

The sites recommended have been selected with careful regard to their natural features but the exact locations of either parks or pleasure drives can be determined only by detailed study of individual sites and routes. The intention of the plan is to suggest locations rather than to prescribe the exact size and precise boundaries of individual tracts.

The system is composed of three general classes of parks.

1. LARGE OUTLYING PARKS. Located at some distance beyond the city's limits and interconnected by pleasure drives.

2. INTERMEDIATE LARGE PARKS. Located adjacent to the city, in some cases being partly inside the city's boundaries. These are also connected by pleasure drives.

3. NEIGHBORHOOD PARKS. These are smaller parks located entirely within the city limits. (See Plate Number Thirty-Nine.)

The pleasure drive system is composed of three general classes of drives.

1. FORMAL BOULEVARDS. This type is appropriate where topography permits of a more or less straight alignment.

2. NATURALISTIC PARKWAYS. To take advantage of the charms of meandering streams, this type of roadway is suggested.

3. RIVERSIDE DRIVES. To be laid out along and close to the river wherever opportunity exists. Such drives take advantage of the views and outlook over the river.

The above summary outlines the salient features of the plan. It has been designed to meet the complete recreation needs of the city for many years to come. It is not expected that the city will be able to acquire the land and develop the entire system within the space of a few years, but rather that the plan should serve as a guide to be followed when opportunities arise to acquire park sites or pleasure drives. When viewed in this way, the recommendations are obviously not too ambitious for the progressive and rapidly growing city of Knoxville.

The Outer Park System is made up of six (6) tracts ranging in size from 300 to 400 acres.

These areas are to be joined by naturalistic parkways, by more or less formal boulevards and by riverside drives. Specifically, it is recommended that the city acquire sites for large parks as follows:

1. Tract containing 400 acres located to the northeast of the city on Tazewell Pike.

2. Tract containing 350 acres lying to the north of the city and to the west of Fountain City on both sides of Cedar Lane.

3. Tract containing 350 acres lying northwest of the city on Middlebrook Pike.

4. Tract lying southwest of the city on the bend of the river opposite the Cherokee Country Club and containing 400 acres.

5. Tract containing 350 acres lying directly south of the city.

6. Tract containing 300 acres located southeast of the city.

The general routes for the connecting drives as indicated on the accompanying plan are more or less self-explanatory. There are numerous opportunities to develop parkways along creek valleys such as Love Creek and Second Creek. Every effort should be made to acquire the undeveloped river front lands in order that the city may preserve the natural beauty of the stream and its shores. Pleasure drives along the river could be made most attractive.

Wherever possible, entirely new routes are recommended for pleasure drives, rather than the use of designated major streets. These, however, are difficult to obtain in and adjacent to Knoxville as most of the available routes with reasonable grades have been absorbed by highways and railroads. Beyond the built-up areas of the district numerous opportunities exist for pleasure drives, as illustrated on the park plan.

The Intermediate Park System consists of five park sites ranging in size from 100 to 260 acres. Four of these parks are located north of the city in line with the greatest future growth, and the fifth area is to the southeast of the city. The above areas are specifically described as follows and their acquisition is recommended:

1. Tract west of the city lying between Lonas Road and Paper Mill Pike, containing 230 acres.

2. Tract known as Fitzgerald farm adjoining the city on the west and containing 105 acres.

3. Tract lying along Sharps Ridge on the northern boundary of the city, containing 230 acres.

4. Site of municipal golf course, at present containing 100 acres with additional ground to the east and south to make a total of 260 acres.

5. Dickenson's Island, containing 160 acres.

In addition to the various neighborhood park sites there are two recommended small park areas lying inside the city. These tracts are distinguished from the neigh-

borhood parks by reason of having city-wide benefit and the cost of the acquisition should be borne largely or entirely by the city. These parks sites are as follows:

1. Land on both sides of First Creek (20 acres) extending from the River to Vine Avenue.

2. Tract known as Luttrell Park (17 acres) on the south side of the river.

The above described sites and routes make up the comprehensive park and pleasure drive system. Each park area has been selected with a view to the use to which it could be put. The outlying parks should be in the nature of reservations to preserve the natural features of the area. They should serve as retreats for the inhabitants of the city who wish to escape the noise and dirt of city life. As the city growth approaches these areas they might well be designed for more intensive use.

The intermediate parks should be put to more specialized use as they are acquired. Additional public golf courses will be needed in the future. The present course should be the distinctive feature of the proposed park at that place. The tract on Paper Mill Pike might also be used to advantage for a golf course. One such park should be used for an animal collection and another for floral displays or an arboretum. Dickenson's Island should be developed as an airport and city-wide athletic and recreation field.

The appropriate uses for neighborhood parks have been discussed at length in another section of the report.

The two small parks recommended along First Creek and on the south side of the river represent projects of major importance. The acquisition will be very expensive but the benefits to be derived by the city in rehabilitating the First Creek section will be inestimable.

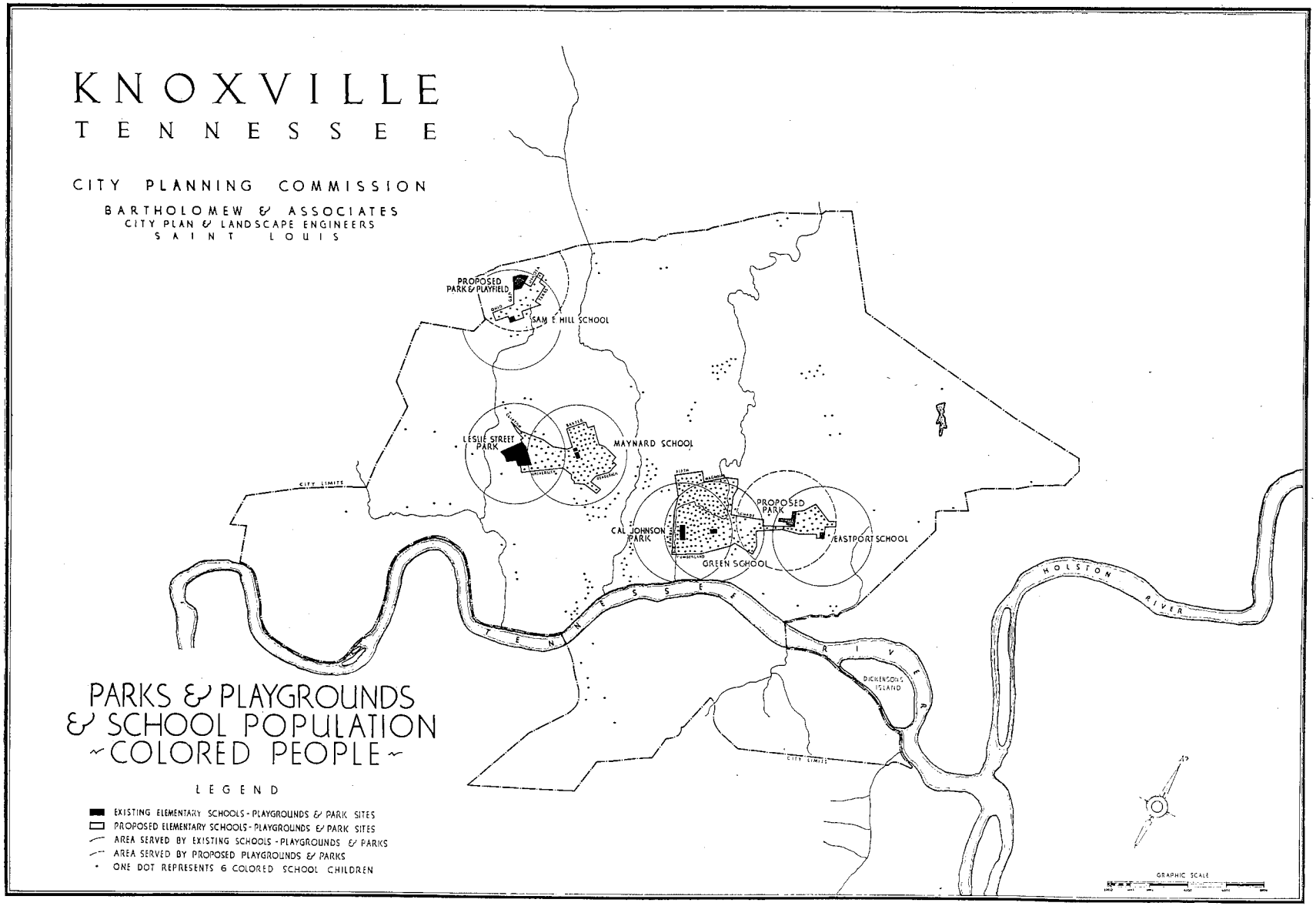
The importance of acquiring Luttrell Park cannot be over-emphasized. The city is spending about one million dollars in the construction of the Henley Street bridge and unless its approaches, particularly on the south side, are protected, the inevitable cluster of filling stations, stores and garages will destroy the effectiveness and beauty of the bridge. The destructive influence of such invasion cannot be reckoned in dollars and cents but it is safe to say that the cost of the land needed to prevent it will be far smaller than the damage resulting from failure to protect the bridge approach.

In order to determine roughly the approximate cost of the land needed to make up the park and pleasure drive system a study was made of the assessed valuation of the land needed. The total assessed valuation of the 3,800 acres included in the system was found to be approximately $3,200,000. This figure is for the large parks and neighborhood parks and does not include the pleasure drives connecting the outer intermediate park system.

COLORED PARKS AND PLAYGROUNDS

Knoxville's colored population, which is approximately fifteen thousand (15,000) is concentrated in a number of well-defined districts. The four principal districts are as follows:

1. LONSDALE. Portions of Texas Avenue, Ohio Avenue and Minnesota Avenue.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SAINT LOUIS
PROPOSED PARK & PLAYFIELD
SAM E HILL SCHOOL
LESLIE STREET PARK
MAYNARD SCHOOL
CITY LIMITS
CAL JOHNSON PARK
PROPOSED PARK
EASTPORT SCHOOL
GREEN SCHOOL
HOLSTON RIVER
TENNESSEE RIVER
DICKENSONS ISLAND
CITY LIMITS
GRAPHIC SCALE
PARKS & PLAYGROUNDS
& SCHOOL POPULATION
~COLORED PEOPLE~
LEGEND
EXISTING ELEMENTARY SCHOOLS - PLAYGROUNDS & PARK SITES
PROPOSED ELEMENTARY SCHOOLS - PLAYGROUNDS & PARK SITES
AREA SERVED BY EXISTING SCHOOLS - PLAYGROUNDS & PARKS
AREA SERVED BY PROPOSED PLAYGROUNDS & PARKS
ONE DOT REPRESENTS 6 COLORED SCHOOL CHILDREN

2. UNIVERSITY AVENUE. District bounded approximately by Western Avenue, University Avenue and Deaderick Avenue on the South, and by College Street and Baxter Avenue on the North.
3. E. KNOXVILLE. District bounded approximately by Central Street on the west, Fifth Avenue and Magnolia Avenue on the north, Bell Street on the east, and East Cumberland and East Main Avenues on the south.
4. BETHEL STREET. This district merges with the E. Knoxville section and is located principally on Bethel Street, E. Vine Avenue and McConnell Street.

In addition to the four main sections described above, there are a number of smaller areas located as follows:

1. Along 15th Street and Detroit Avenue in West Knoxville.
2. On Blount Avenue in S. Knoxville.
3. On Cooper Street (formerly Jacksboro St.)
4. On Folsom Street and Fremont Street in North Knoxville.
5. On Fine Avenue and Cecil Street.

The plan for parks and playgrounds for the colored people shows the distribution of elementary school children, the approximate boundaries of the principal colored districts, and the proposed system of parks and playgrounds. The following specific recommendations are made:

DISTRICT NUMBER 1.

PLAYGROUND. This district now contains one elementary school, the Sam E. Hill. The school occupies a site of 1.4 acres and has an enrollment of 228. The present site provides 240 square feet of play space per child. This should be sufficient play area for many years to come. The school playground should be equipped and supervised.

PARK. A suggested site for a neighborhood park and playfield is indicated on the plan. A site containing from 15 to 20 acres should be acquired to be used for a small park and athletic field. In selecting a site, care should be taken that sufficient level space is available for ball diamonds, tennis courts, etc.

DISTRICT NUMBER 2.

This is one of the largest Negro districts in the city and will probably continue to grow in population. The Knoxville College, which is a great asset to the community, is located here.

PLAYGROUND. The Maynard School has an enrollment of 711 pupils, making it the largest school in the city for the colored. Unfortunately the site is small, occupying only 1.2 acres. Play space per child is 55 square feet, little more than half of the accepted standard of 100 square feet. The site needs enlarging, and sufficient land should be acquired to the north of the present site to make a total area of five acres. The playground should be equipped and supervised.

PARK. Leslie Street Park was acquired by the city in 1921 at a cost of $17,000. The site contains 19.64 acres. Much of the park area is extremely rugged and available space for athletics is limited. There is some outdoor

gymnasium equipment in place, one or two tennis courts are provided, and a baseball diamond is cleared off. In order to give more space for athletics it is recommended that approximately 4.5 acres adjacent to and west of the present park frontage on Leslie Street be acquired. There are some houses on this tract which would have to be removed. The total assessed value of the recommended acquisition is $17,800.

DISTRICT NUMBER 3.

The East Knoxville Negro district contains approximately the same population as the University Avenue section. In this district is located the Austin High School, recently completed, Cal Johnson Park, and the Green Elementary School.

PLAYGROUND. The Green School, the second largest school for colored children in the city, has an enrollment of 581. Like the Maynard School, the site is entirely inadequate, containing but 1.1 acres. This area provides play space of sixty square feet per child. In order to provide adequate playground space it is recommended that steps be taken to acquire the entire block in which the school is located. The playground should be equipped and supervised.

PARK. Cal Johnson Park, containing 5.23 acres, was acquired by the city in 1921 at a cost of $35,000. This play area is intensively used and in the period from October 1, 1927 to September 30, 1928, had an attendance of 18,474. The site is small and athletic facilities are limited. If the supervised playground for small children were removed to the Green School, more space would be available for baseball, football, tennis and similar activities. Opportunities for enlarging the site are limited, as surrounding development would make the cost extremely high.

DISTRICT NUMBER 4.

This district lies to the east of the E. Knoxville section and is in line for considerable development due to the improving of Bethel Avenue and the laying out of several new colored subdivisions.

PLAYGROUND. Eastport school which serves this district, has an enrollment of 175 and occupies a site of about one-half acre. It is a very old school and is poorly located for enlargement. It is recommended that when this school is rebuilt, the site be abandoned and the school relocated in a more central location for the district. When this is done sufficient area should be obtained to develop an adequate playground for the district.

PARK. The play activities for this section are carried on in Cal Johnson Park. As the park is at a considerable distance from the district and is overcrowded, it is recommended that a new park for the colored people be established. A location which is near the center of the district and which could possibly be obtained in the near future is that of the present county cemetery. This cemetery contains 7.1 acres. It is badly run-down and neglected. The area would serve a very useful purpose as a Negro park and the transfer of the cemetery to another location should not prove unduly difficult.

CIVIC ART

Appearance of the City.

Prior to the World's Fair held in Chicago in 1893, Americans paid little thought to the idea of civic beautification. The buildings at this exposition reached such a high standard of beauty that it brought to the public a realization that such an attribute might have some value in their lives. The term "City Beautiful," however, with its narrow translation into terms of imposing public buildings and statuary scattered about the cities, gave rise to derision from many practical people. These people saw that such application was entirely superficial and could well be termed extravagant and impracticable, a reaction which came about because those who sponsored the movement very largely emulated the show places of European cities. To create these improvements called for huge expenditures which could not be justified on the grounds of esthetics alone.

As cities grew, complex problems of congestion, housing, traffic and the like, arose and continued to multiply. Hence, it is now generally realized that the solution of these economic problems is in itself a means of expressing true civic beauty.

How to produce a sightly, agreeable locality to live in is a problem which confronts every American city. Knoxville is no exception. There are two general classes of development,—that under control of the public government and that under control of private individuals.

In the first category belong the public buildings, the parks and other open spaces, and the streets. The second includes private building development and the spaces surrounding such buildings.

The recommendations in this chapter are aimed to point the way to means for improving both classes so that the appearance of the City of Knoxville may be enhanced.

STREETS AND ALLEYS

Cleanliness is, of course, the prime requisite for attractive streets. The city has an obligation to maintain the streets in a clean and neat condition but cannot accomplish this without the cooperation of the citizens. Receptacles for depositing waste paper and other rubbish should be provided in greater numbers along the streets.

The design of street pavements is an important factor in the appearance of the streets. A common practice in Knoxville is that of building such wide pavements on streets in residential sections that when the sidewalks are constructed no space is left for trees, shrubbery, or grass plots. In many cases a narrow pavement strip is justified and, in addition to providing a better-appearing street, saves considerable money on paving costs. (See Street Cross-section Chart. Plate Number 17.)

STREET CURBS AND CURVES

Sharp curb corners mar many street intersections in Knoxville. A minimum of thirty feet for the radius should be adhered to even if in some instances it is necessary to round off the corner of the abutting property. This procedure, of course, expedites traffic flow and also adds greatly to the appearance of the street. This is of particular importance in new subdivisions where rounded corners may be obtained easily.

Many Knoxville streets have changes in alignment due to the rugged topography. Too often, in the past, such changes have been made abruptly with no attempt to ease the break by means of a curve.

The topography of Knoxville presents opportunities for attractive street design in residential subdivisions by following the natural lay of the land with curved streets. The land subdivision rules in effect offer suggestions for the better design of subdivisions and these rules should be closely adhered to.

SIDEWALK OBSTRUCTIONS

Sidewalk space is at a premium in Knoxville. The average width of all sidewalks in the downtown district is but eight feet. It is very important, therefore, both from the standpoint of the pedestrian and that of appearance, that this space be kept free from all unnecessary obstructions.

The use of sidewalk space for display of goods on sale is well regulated. In some instances, however, trash is stored on the walks for long periods before it is collected.

Curb pumps are an unsightly nuisance and those now in use should be removed.

OVERHANGING SIGNS

The uncontrolled use of overhanging signs on all the downtown streets is a great detriment to the appearance of the business district. The multiplicity of these signs has largely impaired their usefulness as a medium of advertising because each one obstructs the view of the other.

A well designed electrical sign, kept close to the building, is not a detriment to the appearance of the street, but garish wooden signs extending the full width of the sidewalk and the temporary canvas signs which exist in great numbers along Gay Street produce a country fair effect that is decidedly not in keeping with the progressiveness and size of Knoxville.

It is probable that the entire elimination of overhanging signs cannot be accomplished, but regulation should be established to limit the projection from the building and the minimum height above the sidewalk.

BILLBOARDS

Billboards existing in many parts of the city are not only extremely unattractive but constitute traffic hazards by obstructing the view at street intersections.

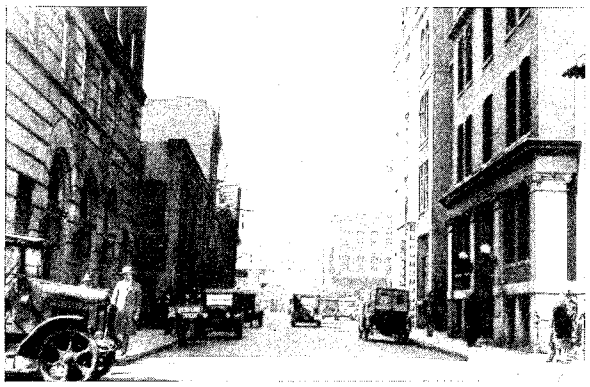
The zoning ordinance, recently passed, prohibits this form of advertising in all

dwelling districts. The eventual elimination of these nuisances will add to property values and enhance the appearance of the city.

POLES AND WIRES

Through cooperation of the Knoxville Power and Light Company the city has made commendable progress in eliminating overhead wires in the downtown district. The program now being carried out will eventually place these utilities underground throughout the business district. The Bell Telephone Company is also making progress in the residence section by installing underground cables to carry their wires.

Poles and Wires on Market Street.
The overhead wires and wooden poles mar the appearance of this block on Market Street. Note the improved appearance of the street where wires have been placed underground.



Absence of Poles and Wires on Market Street.

Where wires cannot be placed underground they should be carried in the alleys or through easements in the rear of lots rather than on the streets. Such procedure will insure the preservation of street trees and improve the appearance of the street as well.

STREET LIGHTS

Knoxville's street lights are of the arc type, now considered obsolete. These lights are neither so effective nor so pleasing in appearance as are the modern electric street lights mounted on well designed standards.

The type of light now used in the business district is surmounted by a shade which deflects all the light onto the street surface. No provision is made for diffusion.

The Knoxville Power and Light Company is engaged in working out a comprehensive system of street lights for the entire city. The plan differentiates between streets for Retail Business, Industrial, Local Residential, and Through Traffic, as determined by the Major Street Plan and the Zoning Ordinance, and sets up a standard for each type of thoroughfare. This plan, if ultimately put into effect, will greatly improve the appearance of the entire city.

STREET SIGNS

One of the greatest needs of Knoxville is an adequate system of street signs. In this respect, the city is woefully backward. Those few signs which exist are unattractive and do not lend to the appearance of the city. Since many of the street names have been changed recently and the old signs not removed, much confusion results.

A type of sign should be selected that will be not only legible and durable but also of a character that will add to the attractiveness of the city. Such signs should be so placed that they will be illuminated by the street lights at night as well as being plainly visible during the day.

TRAFFIC SIGNS AND SIGNALS

A great variety of signs pertaining to traffic routings, one-way streets, parking regulations, stop streets, and the like exist all over the city. These signs have been placed by the city, state and by automobile clubs and, in many instances, are somewhat unsightly. There is at present a concerted movement among various agencies to standardize and improve the appearance of such signs. A report recently issued by the American Engineering Council recommends certain standards as to the general make-up of street traffic signs. The city should adopt these or similar standards and, as funds permit, gradually replace the present signs with new ones.

Knoxville has recently greatly improved the appearance of the business section by removing the antiquated traffic towers from the center of the streets and installing an up-to-date, efficient system of automatic traffic control signals. The old towers were not only obstructions to traffic and expensive to operate but were very unsightly.

STREET TREES

Proper tree planting along residential streets is a great asset to the city, not only from the standpoint of beauty but also from that of comfort in hot weather. Certain parts of Knoxville present particularly barren and unattractive appearances because of the absence of trees bordering the streets. Tree planting should be carried on by the city in much the same manner as other street improvements. The charter

gives the City Council power to "regulate the planting of shade trees in front of private property along the public streets, ways and thoroughfares of the city and to provide the kinds of trees that shall be placed, and to regulate the pruning thereof and care to be taken of said trees". . . . "to assess against abutting property within the corporate limits the cost of planting shade trees."

Cherokee Boulevard.
Cherokee Boulevard will be even more attractive when the newly-planted trees along the roadway have attained a large size.

Knoxville needs either a City Forester operating through the Park Department or a separate forestry department to carry on a systematic tree planting program and to exercise proper care in the maintenance of the existing trees.

Knoxville should have many more street trees planted with regard for (1) practical consideration of resistance to diseases and insect pests, adaptability to limited food and water supply, and amount of shade given, and (2) esthetic considerations of uniformity of appearance along the street, proper spacing of trees to avoid crowding, and variety of types throughout the city.

With the equable climate and abundant rainfall in Knoxville, there is no reason why its streets should not be lined with beautiful trees such as now exist on Temple Avenue, Magnolia Avenue and a few other streets.

WATER FRONT

No part of Knoxville's water front has been acquired and developed by the city In place of river-front parks, the banks are lined with squatters' shacks, sand and gravel dips, and various nondescript developments.

Plans for the reclamation of this great asset to the city should be carried out, in line with the recommendations set forth in another section of this report.

PARKS

In respect to parks, Knoxville might aptly be called "The city of neglected opportunities." Considering the fact that the city is unsurpassed for sheer natural beauty, the failure to take advantage of the existing assets is indeed surprising.

The section of this report devoted to parks presents a complete and comprehensive plan for supplying these deficiencies, which if followed out, will place Knoxville in the front rank of attractive and beautiful American cities.

MONUMENTS

Considering the historical background of the city, Knoxville is greatly lacking in monuments. With the exception of the few on the court house lawn and the markers on Sixteenth and Seventeenth Streets commemorating the Battle of Fort Sanders in the Civil War, no cognizance has been taken of the intensely interesting persons and events that helped make the early history of Knoxville.

No doubt there will be numerous monuments and memorials erected in the future. When this is done they should not only be designed with great artistic care and be given the benefit of appropriate planting, but they should also be located for greatest effectiveness, as for example, at points where they will terminate street vistas or path vistas in a park.

REGULATION OF VACANT LOTS

Vacant lots and tracts of ground abound throughout Knoxville. Where these occur there is a tendency for their owners to allow them to grow up in weeds or to be utilized as convenient repositories for tin cans and other refuse. A city ordinance requires as a health measure that weeds be removed and this regulation should be strictly enforced. In many communities annual city-wide clean-up days are set aside each spring and through wide publicity much good is accomplished. Such an idea could well be sponsored by one of the civic clubs of Knoxville and made an annual event.

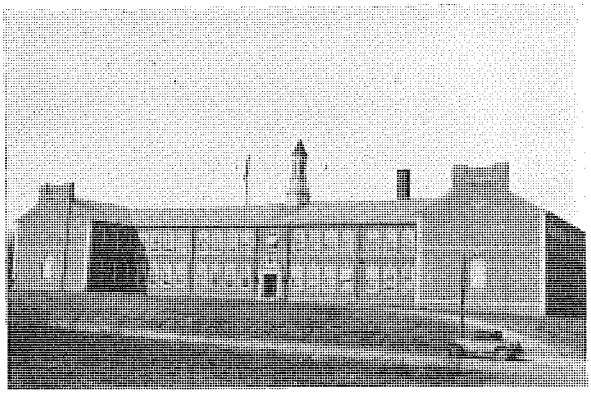
BRIDGES

Knoxville has many bridges and viaducts. In the downtown district alone there are at present ten such structures with a magnificent new bridge being erected across

the Tennessee River. Practically all of the old viaducts and bridges are unattractive, antiquated structures. As they are replaced, too much care cannot be taken to insure that their designs are architecturally correct. A wonderful opportunity exists in the design of the new Henley Street bridge to create an imposing and beautiful structure. The city should scrutinize the plans of this structure to be sure that proper attention has been paid to detail and general proportion. Ornateness in such a structure is not so important as are simple, well proportioned lines.

PUBLIC BUILDINGS

Through its administrative officers the City of Knoxville is responsible for the creation of attractive public buildings. Such buildings as schools, libraries and fire halls are frequently constructed. Not only must a beautiful design be given to each building but adequate space and suitable planting must also be considered necessary elements of successful treatment.

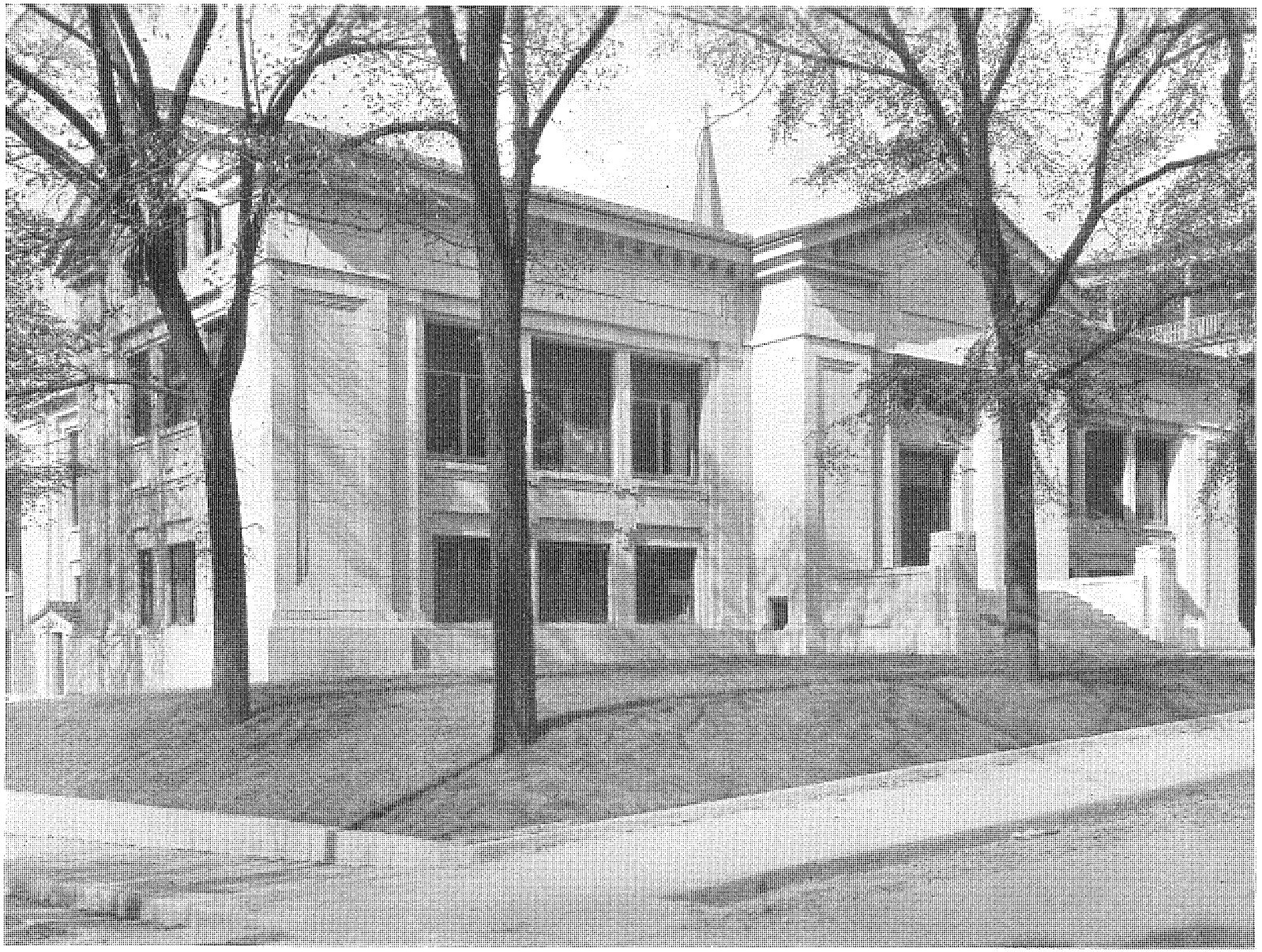


Perkins School.
A school-house of this type is a distinct asset to the community. The appearance would be greatly improved, however, by landscaping.

The Board of Education has recently completed a large construction program. Ten new buildings were erected and seven large additions made to existing school buildings. Through its architects, the Board very wisely decided upon a type of architecture to be followed and each individual building was designed in harmony with others. Since this high standard of architecture has been established it no doubt will serve as a precedent for future school constructions.

Too little attention has been paid in the past to proper setting of public buildings. An example of this is the Lawson-McGhee Library. This structure is built on the top of Summit Hill with scarcely any open space about it.

Some attractive results have been achieved in the construction of fire stations in residential sections. By utilizing a bungalow type of architecture, together with attractive planting, the character of the districts in which they are built has been preserved.



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Lawson-McGhee Library

Among the semi-public buildings that have attained a distinctive appearance should be mentioned the First Baptist Church. The pleasing appearance of this structure is due not only to good design of the building itself but also to the generous allotment of lawn space and the distance it is set back from the street. The contemplated new Methodist Church will occupy an entire city block and should indeed be an asset to the city.

The University buildings as a whole present an attractive appearance. Unfortunately, the site is small and as a result, overcrowded. A campus plan that contemplates the acquisition of considerably more land is now being prepared and its development will insure the city added attractiveness.

CIVIC CENTER

No better opportunity exists for Knoxville to improve the appearance of its central business section than through the development of the Civic Center. This important project was made the subject of a separate study and report, and is included in this volume.

RETAIL STORES

Well-kept stores are an important factor in the appearance of a city. Their promiscuous scattering in the outlying sections has caused much damage to the residential charm of districts by reason of the almost universal custom of setting the building flush with the street line. The zone ordinance will remedy this evil in the future by requiring such local store groups to observe the setback established in the block for the dwellings.

Under the zone plan certain strategic intersections are set aside for the development of local commercial centers. In many cities real estate promoters are giving special attention to developing a uniform and attractive type of architecture in these store groups. In the Sequoyah Hills section, there is now under development such a commercial center. When completed this center will be an attractive feature in the community.

The appearance of Gay Street is marred by the prevalence of antiquated and unattractive store fronts. This is a condition that is gradually being rectified, for owners of retail business property are beginning to realize that unattractive store fronts impair the value of property and if they are to be able to meet competition the owners must bring their buildings up to date.

FACTORIES

Knoxville is largely an industrial city. It now possesses a large number of factories and a great many more are to be expected in the future. Factory managers are beginning to realize that attractive buildings have a value through the stimulation of pride in the workers. A notable example of such a factory is that of the Holston Manufacturing Company. This building is pleasing in appearance and is surrounded by green lawns and shrubbery. One or two of the marble companies have also contributed to the appearance of the city by building attractive offices at their plants.

RAILROADS

The first impression gained by a stranger entering the city is that afforded by the appearance of the railroad station and its surroundings. Too often in American cities, this impression is not a good one.

Both the L. & N. and the Southern station lack appropriate surroundings. Although little can be done, except at great cost, to improve the immediate surroundings of the Southern station, there is an opportunity to accomplish a great deal of good near the L. & N. station. With the opening of Henley Street, between Union Avenue and Western Avenue, a large open space will be created east of the L. & N. station. This could be enlarged by the acquisition and demolition of the cheap property on Broadway south to Union Avenue, and a plaza opened up at a reasonable expense.

HOMES

Private dwellings occupy the great bulk of the city's area. The individual home owners must assume the responsibility for producing and maintaining the good appearance of the neighborhood.

The city has no power to prevent the jumble of architectural styles and the placing of buildings of all shapes, colors and types along the same street.

The zone ordinance will be of considerable help, however, in promoting orderly home building. Maximum building heights are designated for each district and minimum side, rear and front yards are required. These provisions are not based on esthetic considerations but their effect in improving the city's appearance is evident.

THE PROPOSED CIVIC CENTER

The creation of a civic center in Knoxville would serve two distinctive purposes. First, it would facilitate the transaction of public business by having the public buildings conveniently arranged in a group, and in addition to this practical consideration, would afford an unsurpassed opportunity for a true expression of civic pride. Indeed, it is one of the greatest single opportunities a city has to manifest its appreciation of orderliness and beauty as well as convenience and economy.

The grouping of public buildings, where this can be done without sacrificing the purpose for which the structures are intended, serves as a convenience to the public and, through imposing architectural treatment and proper landscaping, makes possible an expression of civic consciousness that will be an inspiration and a source of pride to the entire community.

Knoxville has made rapid strides in emerging from the small-town stage to the city of metropolitan proportions and the past few years have seen the awakening of a realization that high ideals in civic affairs should be set up and adhered to. Although blessed with natural beauties probably unsurpassed by any city, Knoxville has not taken full advantage of the opportunities of utilizing these resources.

The development of a civic center naturally accompanies the acquisition of park lands, the establishment of playgrounds, the creation of wide streets and boulevards, and the control of building development through zoning.

In determining the proper location for a civic center there are a number of factors to consider.

These include:

1. Proximity to central business section.
2. Focal position or accessibility.
3. Character of site and surroundings.
4. Character of buildings comprising the group.

Each of these factors must be dealt with satisfactorily if the civic center is to attain the highest ideals of usefulness and beauty. Such a large public enterprise can justify itself only when it is broadly conceived and well executed in its detail.

In planning for the future of Knoxville, the present city must be regarded as the nucleus of a large metropolitan area, comprising all of Knox County and most of the several adjacent counties. Political boundaries mean nothing so far as the needs of this region are concerned. Often they are apt to become obstacles to efficient planning and administration. Modern trends in municipal government are toward unification of those services having to do with physical growth in metropolitan districts. The civic center, therefore, should be conceived of as the principal future seat of government for the entire region.

Proximity of Civic Center to Central Business District

The civic center should not be located within the area comprising the central business district. Not only would an adequate site be prohibitive in cost, but such a group would be detrimental rather than beneficial to retail business and its expansion. In order to be convenient to the largest number of people and yet not an obstruction to commercial development, the civic center should be located on the edge of the central business section. A location adjacent to but not within the highly developed retail shopping district would be removed from intensive traffic congestion. This is of importance in considering the character and use of certain buildings of this group.

FOCAL POSITION OF THE CIVIC CENTER

The central business district is the heart of the City of Knoxville. It is the objective of traffic from all parts of the metropolitan region. In order to reach this center, certain thoroughfares must be used and, according to the population tributary thereto, some are more intensively used than are others. A juncture of two or more of these heavily traveled major traffic streets constitutes a focal point where such traffic naturally converges. If possible, the civic center should be located at or near such a point in order that the large numbers of people going to and from the business district may have daily opportunity to see the imposing group of buildings with their wellkept lawns and shrubbery. In no other way may civic pride be better stimulated.

All other things being equal, the civic center should be located nearest the section of the city wherein reside the major part of the population. If population were equally distributed throughout a city it would make little difference on which side of

the business district the civic center were located. In Knoxville, however, with the bulk of the population residing north and west of the business district, the proper location for the Civic Center is in that direction, which would allow it to be reached without traversing the congested section.

CHARACTER OF SITE AND SURROUNDINGS

Generally speaking, the topography of Knoxville is extremely rugged and the wide variations in terrain give rise to alternate high and low places. This is an element to be considered, as it is obvious that a much more imposing group of public buildings can be devised on ground that stands above its surroundings than on that in the lower areas.

The character of surrounding property has considerable significance in the location and design of a civic center. Where the surroundings are made up of industrial and cheap commercial and residential property, the beauty of the civic center must necessarily be created through harmonious architectural design of a self-contained group. Where natural beauty exists it should be utilized and blended with the design of the civic center. Knoxville has opportunities in this respect that should not be neglected.

CHARACTER OF BUILDINGS COMPRISING THE GROUP

There are two classifications of public buildings that may comprise a civic center, i. e., buildings of an administrative character and those whose purpose is entirely cultural. The City Hall, Municipal Courts and County Court House are included in the first group; the Library, Art Museum and Auditorium in the second. Some cities combine the two groups on one site, while others provide entirely separate locations.

Buildings of both types are contemplated for Knoxville. The present City Hall was originally built in 1848 as an institution for deaf mutes, and will need to be replaced before many years. A new city jail and municipal courts building is of immediate and pressing importance. Bonds for the erection of a Municipal Auditorium were recently defeated but such a structure is sorely needed and should be constructed in the near future. The Lawson McGhee Library has already reached the capacity of its present building and must be enlarged within a comparatively short time. The Knoxville Art League has recently acquired property for a museum that will serve for a number of years to come, but there is a strong desire on the part of the members to have a site reserved in the civic center plan for a future museum building.

In addition to the above municipal buildings, Knox County is now making plans for the immediate construction of a new jail building and for the replacement of the present court house within a very short time.

The public building program as outlined above is both a challenge and an opportunity. Through the adequate treatment of its public building group, Knoxville may establish herself as the leader of the entire South in the expression of civic consciousness.

POSSIBILITIES OF A CIVIC CENTER LOCATION

The location of the present business section of Knoxville has undergone few changes since the founding of the city. The original settlement was on the banks of the Tennessee and as the town has grown the business center has gradually receded from the river until at present it is about six blocks north from the original location. The area within which the business section is located is hemmed in on all sides by obstructions. On the south is the Tennessee River, on the north the Southern Railway terminal and yards, on the east First Creek valley, and on the west the Second Creek valley and the L. & N. yards. All of these obstructions must be crossed by means of viaducts and bridges. There is, at present, one bridge across the river at Gay Street, and plans are being made for a second one at Henley Street. These two structures are matched by viaducts crossing the railroad property on the north. First Creek is spanned by two structures, one being at Hill Avenue and the other at Church Avenue. There are also two viaducts over Second Creek, located at Clinch Avenue and at Western Avenue.

It would seem that a business section located in such a district would be fixed for all time to come, provided sufficient room existed for expansion. The area is entirely surrounded by almost insuperable obstacles. In recent years, however, there has been a tendency to break these bonds and expand to the north, but as there is sufficient area within the district for a business section large enough to serve a population several times the present population of Knoxville, such a shift, if continued indefinitely, would result in a widespread depression of established property values and an economic loss of large proportion.

The threatened shift of the business district has been caused by the almost intolerable traffic congestion and the difficulty of access to the central area. The construction of the new Broadway Viaduct has been an important factor in relieving the Gay Street traffic situation, and with the completion of the Henley Street widening and extension, together with the new Henley Street Bridge, the acute congestion will be further lessened. The Henley Street widening will open up what has been virtually stagnant property, thus allowing for the expansion of retail trade, and it is anticipated that the business section will gradually move westward until the entire area between Main Avenue, Wall and Western Avenues, and Broadway and State Street will be devoted to intensive retail development. There will be no necessity for additional area for expansion in the immediate future.

For many years, the traffic load on the various streets feeding into the business center has been greatly unbalanced. Previous to the construction of the Broadway viaduct, practically all traffic from the north entered on Gay Street. The River Bridge was and is at present the only point of entry from the south. With the completion of the Broadway Viaduct the traffic from the north is now nearly equally divided between Gay Street and Broadway. The new Henley Street Bridge will undoubtedly be the principal entry from the south, but as the Gay Street Bridge carries the street railway lines, it will always remain an important entry.

The Major Street Plan, under which the various street improvements are being carried out, contemplates the eventual development of wide distributor streets

around the entire central business section. The rectangular street layout within these distributors will feed traffic uniformly throughout the district. It is to be hoped that after the completion of Henley Street, Wall Avenue may be extended and widened to form the northern distributor street.

Anticipating these street improvements and the future business district, the following conclusions may be drawn:

1. In view of the fact that buildings of both a cultural and an administrative character are planned for the future there is an opportunity to combine the two groups in one location.
2. The civic center should be immediately adjacent to one of the boundary streets of the future business district, namely, Henley Street, Wall and Western Avenues, Main Avenue or Central Street.
3. The civic center site should be along the northern or western boundary of the business district since the bulk of the population resides in these directions and the intensive future growth will be largely in these directions.
4. Considering the factors of accessibility, availability, proximity to business district, focal position, character of site and surroundings, and character of buildings comprising the group, the present location of the City Hall Park is the best available for the civic center. The only other site that could be considered is on Main Avenue between Gay Street and Henley Street and extending south to the river front.

MAIN AVENUE SITE

The chief advantage of this location lies in the opportunity for developing a terraced river front park between the public building group and the river. Main Avenue lies two blocks from and about one-hundred feet above the river. The present County Court House now occupies one block in the proposed site. A limited additional area could be acquired and developed into an imposing setting for the several buildings.

The location, however, has numerous serious disadvantages. The necessary land to be acquired is almost prohibitive in price. In addition to the improvements already existing in this district, there are a number of projects proposed for early development, which when completed will add further to the cost. Also, because of the steep grades from Main Avenue to the river, the available building area is very limited, being confined solely to the frontage on Main Avenue.

Another principal objection to this site is that it lies on the opposite side of the business section from which the bulk of the population is located. This would be a serious handicap to the majority of citizens wishing to transact business at the City Hall, as it would necessitate traversing the entire business district to reach the objective.

PRESENT CITY HALL PARK SITE

The present location of the City Hall is by far the best available for the civic center. The site lies just outside the business district to the northwest, is at the

junction of two very important traffic arteries, and occupies ground that is elevated above its surroundings. Although the size of the tract now owned by the city is inadequate to accommodate all the buildings needed, additional land could be acquired at a reasonable cost.

Broadway is now the most important traffic artery in the city. Upon the completion of the Henley Street Bridge and the connection of Broadway and widened Henley Street, the route will be continuous from the south city limits to the northern boundary.

Western Avenue is the most important entry to the business district from the west, tapping as it does the densely populated West Knoxville district and the large area lying in the northwest part of the city. The juncture of these two highways forms the most important focal point in the city.

The site faces Western Avenue and Wall Avenue, the northern boundary streets of the business district. When Wall is extended west to make a direct connection with Western Avenue and east to Central Street, a much needed east and west distributor street will have been established. This street improvement will make the City Hall Park easily accessible from the east and the west.

The City Hall Park site consists of approximately seven acres of land at an elevation of about 150 feet above the river. The site occupies a portion of what is known as Summit Hill which lies at a considerable height above the business district. Although the present seven acre tract is not large enough for the ultimate needs of the city, land directly east of the site may be acquired at a reasonable figure. This land is now largely occupied by old residences and apartments and, because of the steep grades and narrow streets leading to it from the business district, will probably never be utilized for retail business purposes. Ultimately the city should purchase all the land lying between Vine Avenue and Wall Avenue extended and Locust and Walnut Streets. This would provide a site sufficiently large to take care of both the administrative and cultural groups and would provide sufficient open spaces for effective settings of the buildings.

The City Hall Park site is not without its disadvantages, however. The close proximity of the L. & N. and Southern Railroads causes much noise and smoke. This condition will probably adjust itself eventually through the substitution of electrical motive power for coal. Much progress is being made in reducing locomotive smoke through operation of the recent smoke abatement ordinance. The situation will also be improved by enlarging the site through the acquisition of land to the east, directly away from the yards.

The present surroundings of the site are mostly cheap commercial enterprises and low-cost residential property. However, with the increase in land values that will come about as a result of the Henley Street improvement, the class of the surrounding development will undoubtedly be greatly improved.

THE CIVIC CENTER PLAN

After a thorough study of all the possible sites, space requirements of various buildings to be provided, the amount and cost of the land needed to give an effective setting and best arrangement of buildings to fit the site and the topography, the plan shown at the right was chosen as the most appropriate. If the proposed plan appears too ambitious a project for the City of Knoxville to accomplish, it must be remembered that it will be many years before the entire plan is consummated and Knoxville will have become a much more populous City than it is now. But if such a plan is not followed, it is probable that fully as much or more money will be spent in purchasing sites and carrying out individual projects as expediency might direct, and the final results would be much less satisfactory.

The plan shown on Plate Number 42 provides sites for the City Hall, County Court House, combined Municipal and County Jail and Court buildings, the Library, the Art Museum, and one building as yet unassigned. In order that these buildings be given adequate space and that there may be developed a landscape treatment in keeping with the types of buildings contemplated, the recommended site includes the present City Hall Park and a considerable amount of land directly to the east. Specifically, it is recommended that the city acquire, over a period of years, the following property:

1. The block bounded by Vine Avenue, Walnut Street, Hickey Place and Locust Street.
2. The block bounded by Hickey Place, Walnut Street, Summer Place and Locust Street.
3. The block bounded by Summer Place, Walnut Street, Oxford Place and Locust Street.
4. Incidental to the extension of Wall Avenue, the block bounded by Oxford Place, Walnut Street, Western Avenue and Locust Street.

The acquisition of the above described property would practically double the present City Hall Park site and would provide a total area of approximately fourteen acres.

Property values in the district are not high and will probably not appreciate greatly during the next decade, as intensive commercial development will not occur because of the steep grades and narrow streets.

Estimates of the probable cost of buildings to be erected on the site are impossible to make in a report of this kind and can only be arrived at when the building requirements are determined and as detailed plans are prepared for the individual buildings.

The topography of the site offers an oportunity for unique and impressive grouping of the buildings. By placing the buildings near the top of the hill adjacent to Vine Avenue the entire area from that point to Western Avenue can be opened up and terraced to make a very effective setting.

The County Court House would be near Broadway and would face a wide, open plaza, at the east end of which would be located the Library and Art Museum. The City Hall would be located close to the extended axis of Locust Street which would be closed between Western Avenue and Vine Avenue.

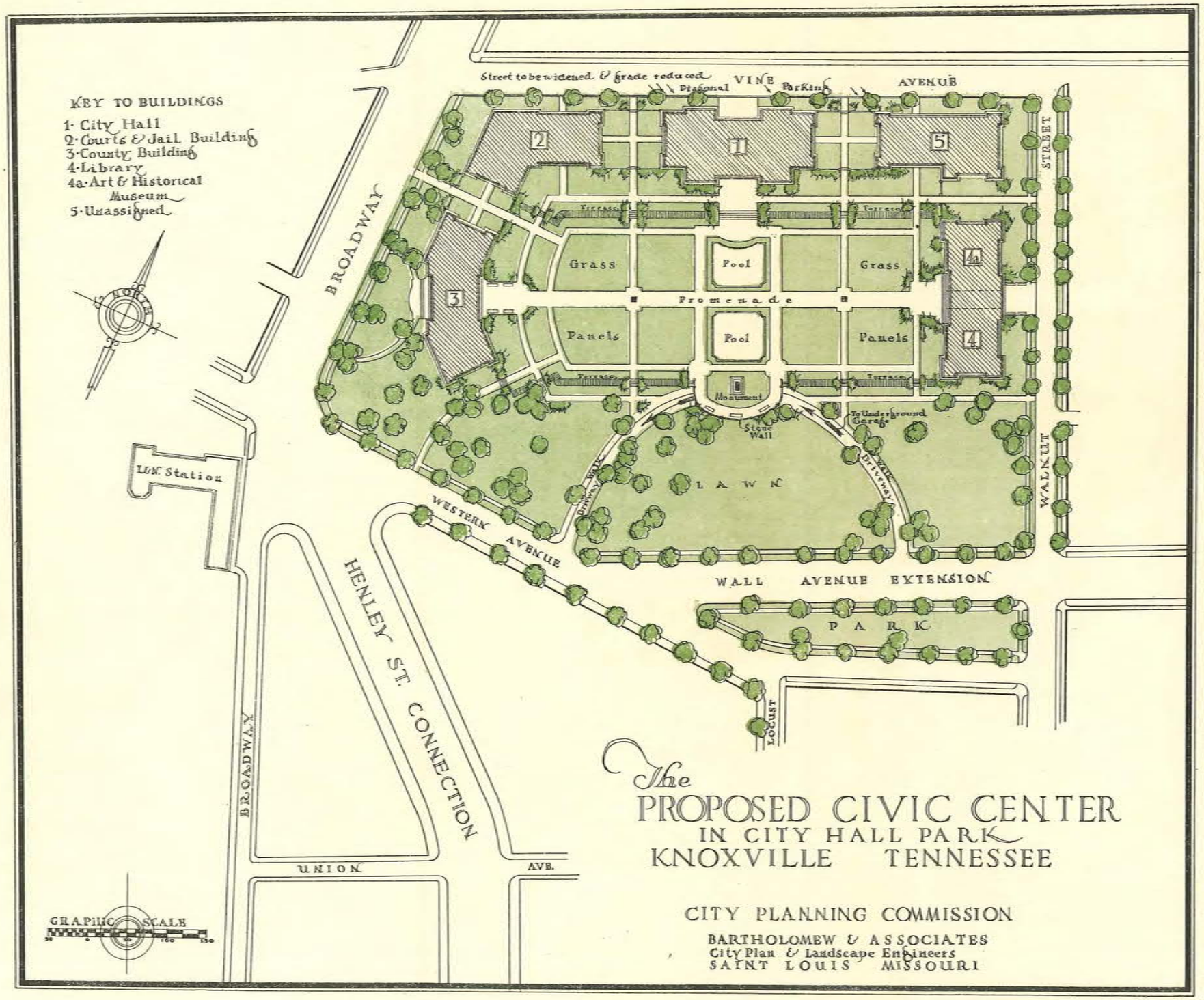

KEY TO BUILDINGS
1· City Hall
2· Courts & Jail Buildings
3· County Building
4· Library
4a· Art & Historical Museum
5· Unassigned
NORTH
Street to be widened & grade reduced
Diagonal
VINE
Parking
AVENUE
BROADWAY
STREET
WALNUT
Terrace
Grass
Pool
Promenade
Panels
Monument
To Underground Garage
Stone Wall
Driveway
LAWN
L&N Station
WESTERN AVENUE
HENLEY ST. CONNECTION
WALL AVENUE EXTENSION
PARK
LOCUST
BROADWAY
UNION
AVE.
GRAPHIC SCALE
The
PROPOSED CIVIC CENTER
IN CITY HALL PARK
KNOXVILLE TENNESSEE
CITY PLANNING COMMISSION
BARTHOLOMEW & ASSOCIATES
City Plan & Landscape Engineers
SAINT LOUIS MISSOURI

Plate 42

One of the features of the plan is in the handling of parked vehicles. The space in front of the City Hall beneath the plaza could be utilized for an underground parking place. Persons desiring to transact business at the City Hall would enter from Western Avenue and by means of sloping driveways enter the underground parking space, leave their cars, and gain access to the City Hall by underground passageways. This plan is very flexible and the parking space could eventually be built to accommodate 250 cars or more. This plan would keep the plaza entirely free from automobile traffic and parking and would be a great convenience to the public, especially in inclement weather.

If it is not financially possible to work out the parking scheme, as outlined above, during the initial stages of the civic center development, sufficient space could be provided in the rear of the buildings to accommodate a large number of cars. Access to these parking spaces could be had from Vine Avenue.

In proposing the development of the civic center it is, of course, assumed that provisions will be made for the relocation of Boyd Junior High School in the very near future. The present school is inappropriately located and its physical condition makes efficient operation impossible. The Board of Education has made tentative plans for the removal of the school to another location within the next few years.

One of the pressing needs of both the city and the county is that of a new jail building. The site at the corner of Broadway and Vine has been designated for such use with the idea of having the city and the county join in the construction of a combined building for jail use. The Department of Safety and the Municipal Courts could also be located in this building which could be one structure or two separate buildings connected by an arcade, as shown on the plan. The construction of this building may be accomplished without disturbing any of the existing structures on the site.

ARCHITECTURE

Too much care cannot be taken by the city to insure the proper architectural treatment of the building group. The plan shows the modern set-back type of architecture for illustrative purposes only. Final decision on the type to be used rests with the city and the local architects.

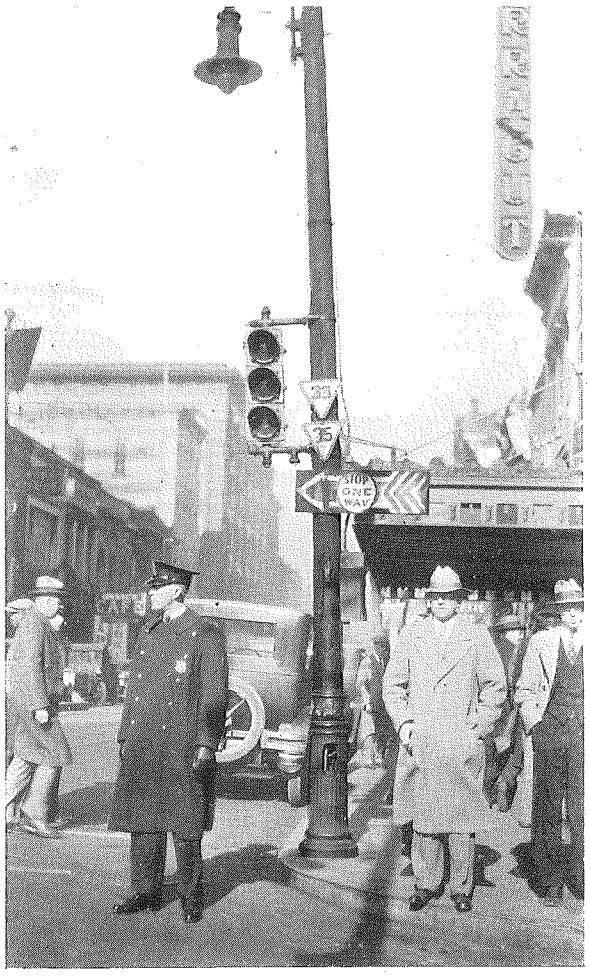
Plans should be made for the entire group of buildings in advance of the construction of any one building. Some arrangement between the city and the local architects should be worked out whereby each building would be designed in harmony with every other building. Unless this is done a different architect might design each building with a disregard for its relation to the other structures.

It is recommended that an agreement similar to that in effect in St. Louis be worked out in Knoxville. St. Louis is building a magnificent civic center. Before commencing work on the architectural design of the buildings, the city selected a group of architects from a list submitted by the St. Louis Chapter of the American Institute of Architects. The chapter submitted twelve names from which eight were chosen by the city. In addition to the eight architects, two structural engineering firms were appointed as members of the Committee, and there are two ex-officio members, such as the President of the Board of Public Service and the Engineer of the City Plan Commission.

After the Committee was appointed it met and organized as a corporation. Three buildings were to be designed and the Committee divided the work among its members, allotting one building to each of three groups. The Committee received a fee for the design of the three buildings, the same as if the city had employed an individual architect. In addition to designing the individual buildings the Committee is also working on a plan for the entire plaza group.

MUNICIPAL AUDITORIUM

Municipal auditoriums are often included in civic center groupings. The Civic Center Plan for Knoxville, however, does not recommend such a location. Entirely satisfactory arrangements are being worked out between the city, county, and state for the construction of such a building adjacent to the University, a location which is convenient both to the city and to the University. The economies to be effected in construction and operation are so great as to offset any advantage that might be gained by placing the Auditorium in the civic center grouping.



The new traffic control signals present a much better appearance than the former towers. An improvement could be made in the type of street light and one-way traffic sign.

PARKING AND TRAFFIC PROBLEMS IN THE BUSINESS DISTRICT

This was not originally included in the comprehensive City Plan made by Bartholomew and Associates, but was made at the request of City Manager Roehl. However, in as much as the problem of traffic control is intimately related to many city planning problems, it has been deemed advisable to include some of the findings of this study in this report.

The situation in Knoxville, according to the report, is more acute than in the average city—due to the abnormally narrow streets that have been established in the central business section. This restricted street area not only curtails the amount of space available for parking purposes but also is the cause for much interference between moving vehicles and those standing at the curbs. A large number of vehicles enter the restricted area daily, their owners having shopping to do or business of one kind or another to transact. In order that this business may be attended to it is, of course, necessary that a place be found where the vehicles may be stored until such time as the driver has completed his errand. It is obviously impossible for all vehicles coming into the business section to find parking space at the particular time and place desired and for a period to suit the individual convenience.

In making this study, two principles have been closely adhered to. These principles may be stated as follows:

1. In case the storage of vehicles along the curbs unduly interferes with the expeditious movement of traffic in the street, the privilege accorded the parked vehicle should be subordinated to those accorded the moving vehicle.
2. The length of time which a vehicle may be parked should be adjusted to the public demand for such privilege.

There are two methods of regulating the parking of vehicles. The first and most severe is that of prohibiting parking entirely on certain streets. This regulation is justified in cases where parked vehicles interfere seriously with moving traffic. The second method is that of establishing time limits on parking privileges. The regulation does not increase the traffic capacity of the street but does afford a more equitable distribution of the available space. The most serious shortcomings of the time limit regulation lie in the difficulty with which it is enforced. Knoxville has only a few policeman available to enforce the existing regulations. It is obviously impossible for these men to cover the entire congested area adequately.

After a careful check and survey it was shown that 55 minutes was the average length of time which vehicles parked in the district. Of the 1907 cars checked, 574 (or 29.5%) were found to be violators of one regulation or another. This figure seems high and is due to a number of causes. Some of the parking on streets where such practice is prohibited was due partly to the exigencies of loading and unloading commodities and partly to the lack of policemen. This study was not made with the idea of casting reflection upon the Department of Public Safety, but rather with the idea of determining present practices and methods for improving them.

In the summer of 1927 and the spring of 1928, counts were made to ascertain the number of vehicles which enter and leave the downtown business section during

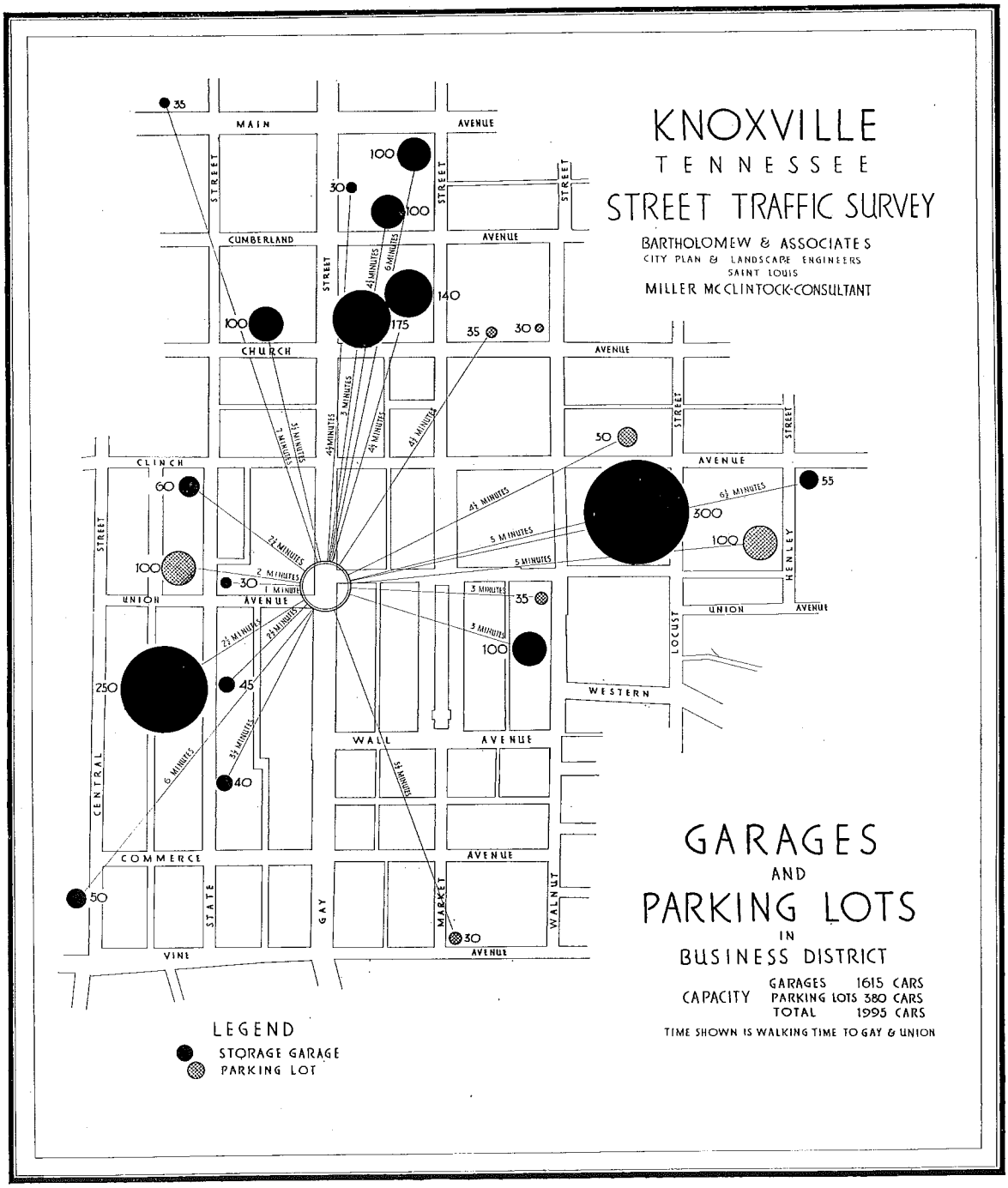

KNOXVILLE
TENNESSEE
STREET TRAFFIC SURVEY
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
MILLER MCCLINTOCK-CONSULTANT
MAIN AVENUE
CUMBERLAND AVENUE
CHURCH AVENUE
CLINCH AVENUE
UNION AVENUE
COMMERCE AVENUE
VINE AVENUE
WALL AVENUE
WESTERN AVENUE
HENLEY STREET
LOCUST
CENTRAL
STATE
GAY
MARKET
WALNUT
GARAGES AND PARKING LOTS IN BUSINESS DISTRICT
CAPACITY
GARAGES 1615 CARS
PARKING LOTS 380 CARS
TOTAL 1995 CARS
TIME SHOWN IS WALKING TIME TO GAY & UNION
LEGEND
STORAGE GARAGE
PARKING LOT

Plate 43

a twelve-hour period. These counts showed that approximately 26,000 vehicles enter the business section daily between the hours of 6:30 a. m. and 6:30 p. m. For the purpose of the parking survey the district considered as composing the central business section and territory immediately adjacent thereto is bounded by Main Avenue, Broadway, Vine Avenue and Central Street. The total length of the curbs along the streets in this district is 61,220 feet. However, it is necessary that certain restrictions be placed on parking along these curbs. Such restrictions are the prohibition of parking within ten feet of a fire hydrant, ten feet of an intersection, in front of driveways and in spaces set aside for the loading and unloading of merchandise. These restrictions, as set forth in the table below, reduce the available curb parking space by 6,390 feet, leaving a net figure of 54,830 lineal feet of parking space.

PARKING RESTRICTIONS

Fire Hydrants	1145 feet
Driveways	2900 feet
Loading Spaces	2345 feet
Total	6390 feet

Assuming a parked car to require eighteen feet, the number of vehicles which may be accommodated in this area at one time amounts to 3,046. If the various time limits which are now in force were strictly adhered to, it would be possible for 9,536 cars to be parked during the twelve-hour period. Assuming the average time that vehicles were found to be parked in the study covering ten typical blocks would hold true over the entire district, the curbs would theoretically accommodate 17,661 cars daily. However, much of this space is a considerable distance from the heart of the retail shopping district and for that reasonis not utilized to the fullest extent.

The area covered by the parking study as above outlined, is in the heart of the business section. The available space in this district is used almost to capacity from morning until night. The following table shows the relation of the supply and the demand during the day.

Time	*No. of Cars*
8:30—9	260
9:—9:30	288
9:30—10	295
10—10:30	285
10:30—11	271
11—11:30	287
11:30—12	282
12—12:30	296
12:30—1	308
1—1:30	290
1:30—2	299
2—2:30	309
2:30—3	300
3—3:30	280
3:30—4	288

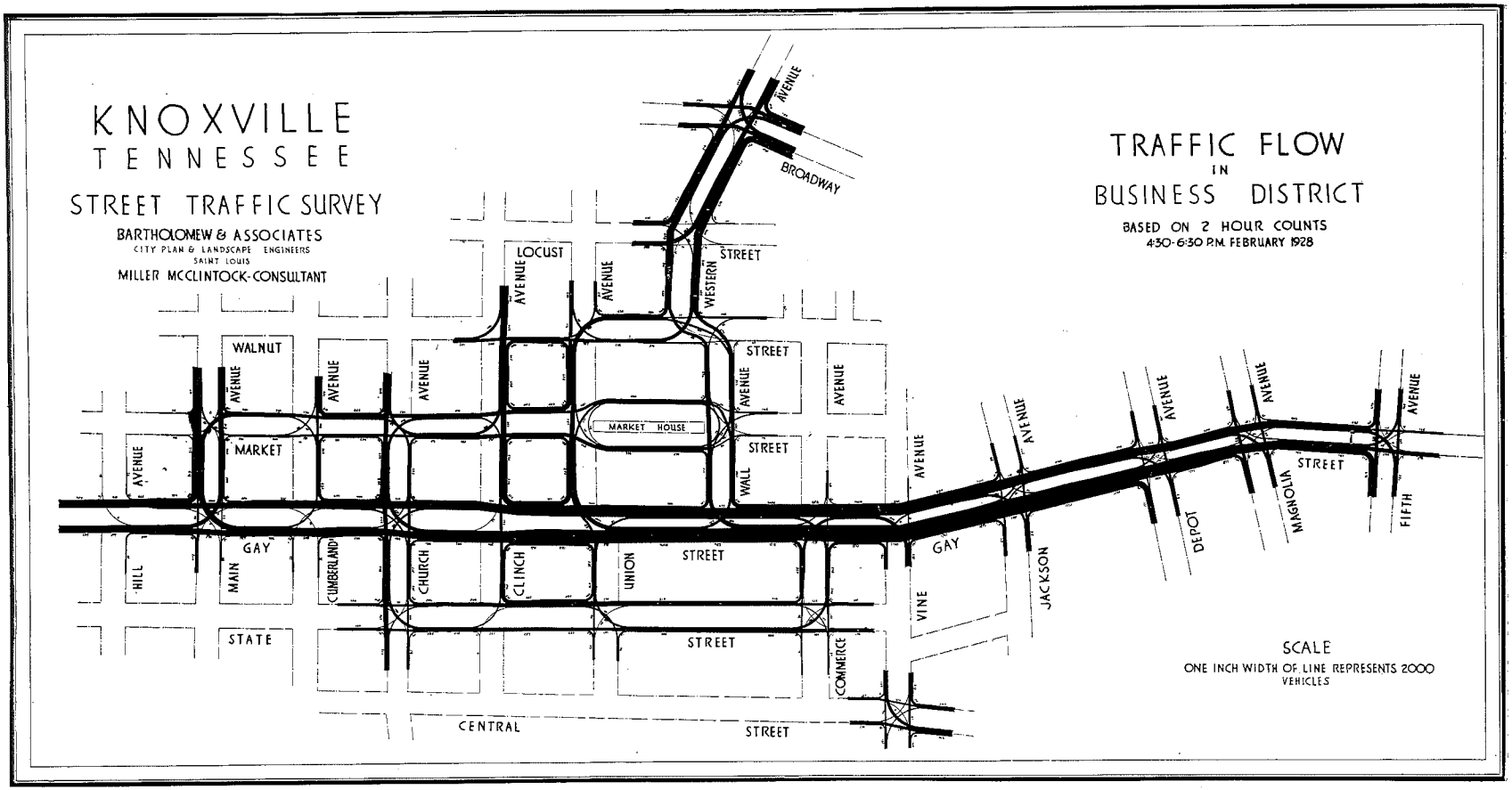

KNOXVILLE
TENNESSEE
STREET TRAFFIC SURVEY
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
MILLER MCCLINTOCK-CONSULTANT
TRAFFIC FLOW
IN
BUSINESS DISTRICT
BASED ON 2 HOUR COUNTS
4:30-6:30 P.M. FEBRUARY 1928
SCALE
ONE INCH WIDTH OF LINE REPRESENTS 2000
VEHICLES
BROADWAY
AVENUE
LOCUST
WESTERN
STREET
WALNUT
MARKET
MARKET HOUSE
WALL
GAY
HILL
MAIN
CUMBERLAND
CHURCH
CLINCH
UNION
STATE
CENTRAL
COMMERCE
VINE
JACKSON
DEPOT
MAGNOLIA
FIFTH

Plate 44

In Knoxville, at present, there is one automobile for every 5.5 persons. In certain parts of the country the point has been reached where there is one automobile to every 2.5 persons, a density of more than twice that of Knoxville.

The area studied in this survey is destined to serve for a great many years as the principal business section. As the street space is already inadequate to meet the demands for parking, it is apparent that conditions in the future will be much more aggravated. The only solution to the problem is to provide space from the city's streets for the storage of vehicles. The time is rapidly approaching when all important traffic-carrying streets in the congested sections will be cleared of parked vehicles to allow the greatest possible freedom of moving traffic.

The development of garage facilities in Knoxville has progressed rapidly and has reached the point where 1,995 automobiles may be accommodated in storage garages and parking lots. This is approximately 66 per cent of the total curb capacity.

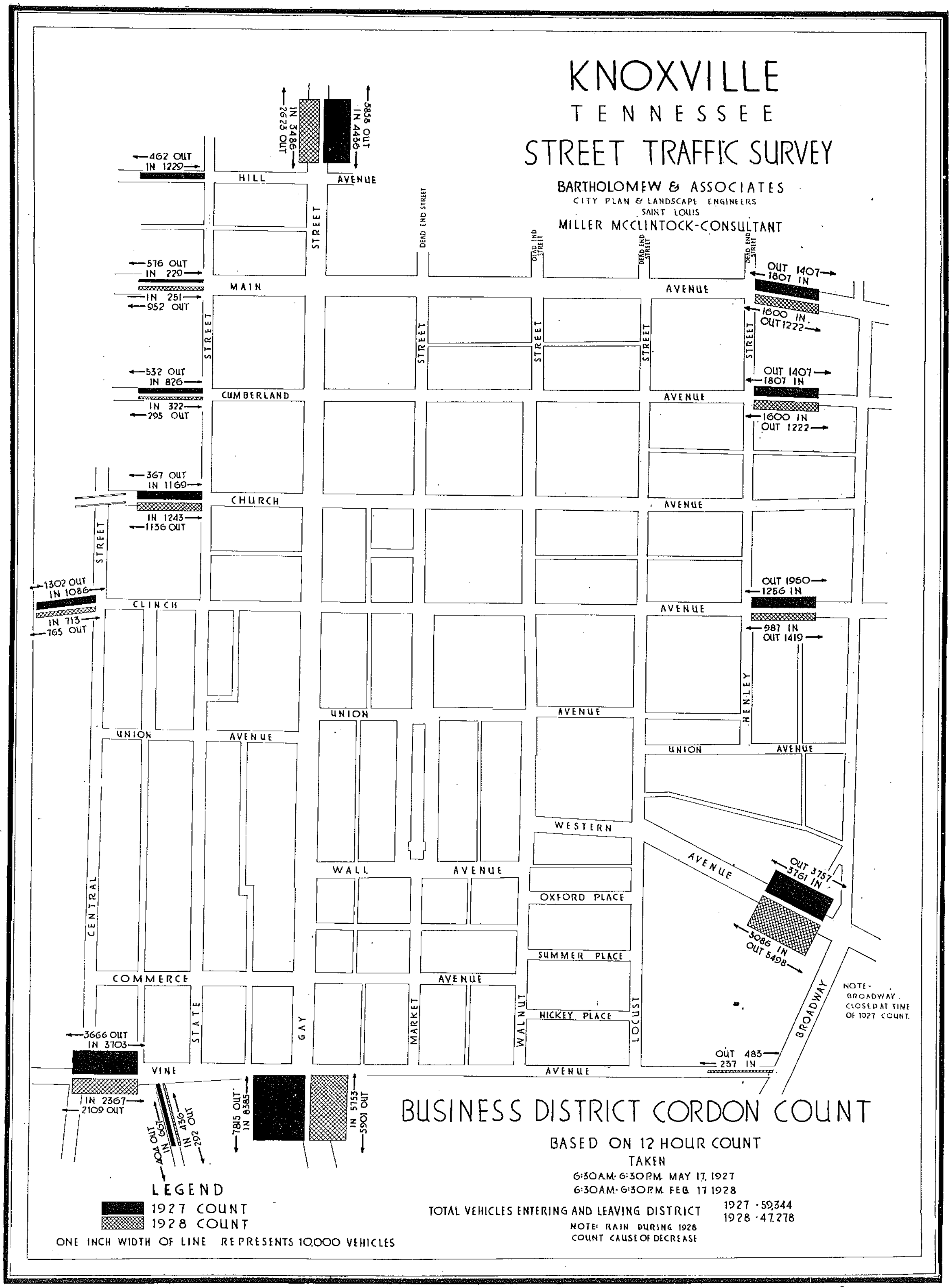
The study of the relationship of curb parking to the retail merchants in this city was made possible by the cooperation and assistance of the managers and employees of these establishments. During the day on which the study was made 4,768 customers cast ballots indicating the means of transportation used by them in going to the business district from their homes. It was found that 45.8% of the customers used automoblies in reaching the business district and that 32% were able to find parking space at the curb. The remaining 13.8% availed themselves of parking garages or lots; 35.1% of the total used street cars while 19.1% walked. In Chicago only 1.5% of the customers were able to park at the curbs, while in San Francisco 11% were able to park at the curb.

It is apparent that curb parking plays a very important part in retail trade in Knoxville and that much care must be exercised in imposing any severe restrictions upon parking. To this end, only such prohibitions and restrictions are recommended that are reasonable and essential.

As a result of the study made of the parking situation in Knoxville the following recommendations are herewith submitted. It is not contemplated or advised that these suggestions be carried out as a whole at one time, but rather that the placing of the recommended restrictions be spread out over a period of several months.

That parking be prohibited between the hours of 6:30 a. m. and 6:30 p. m. except for loading and unloading of passengers and merchandise on the following streets where parking is now permitted.

a. Gay Street from 5th Avenue to Hill Avenue.
b. Union Avenue from Walnut Street to Gay Street.
c. Market Street from Church Avenue to Main Avenue.
d. Locust Street from Clinch Avenue to Main Avenue.
e. The east side of State Street from Vine Avenue to Commerce Avenue, and from Church Avenue to Main Avenue.
f. The east side of Walnut Street from Union Avenue to Clinch Avenue.
g. The north side of Wall Avenue from Market Street to the alley east of Market Street.


KNOXVILLE
TENNESSEE
STREET TRAFFIC SURVEY
BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS
MILLER McCLINTOCK-CONSULTANT
BUSINESS DISTRICT CORDON COUNT
BASED ON 12 HOUR COUNT
TAKEN
6:30AM-6:30PM MAY 17, 1927
6:30AM-6:30PM FEB 17 1928
TOTAL VEHICLES ENTERING AND LEAVING DISTRICT
1927 - 59,344
1928 - 47,278
NOTE: RAIN DURING 1928 COUNT CAUSE OF DECREASE
LEGEND
1927 COUNT
1928 COUNT
ONE INCH WIDTH OF LINE REPRESENTS 10,000 VEHICLES
NOTE- BROADWAY CLOSED AT TIME OF 1927 COUNT.
HILL AVENUE
MAIN AVENUE
CUMBERLAND AVENUE
CHURCH AVENUE
CLINCH AVENUE
UNION AVENUE
WESTERN AVENUE
WALL AVENUE
OXFORD PLACE
SUMMER PLACE
HICKEY PLACE
COMMERCE AVENUE
VINE AVENUE
CENTRAL STREET
STATE
GAY STREET
MARKET
WALNUT
LOCUST
HENLEY STREET
BROADWAY
DEAD END STREET
462 OUT
IN 1229
516 OUT
IN 229
IN 251
952 OUT
532 OUT
IN 826
IN 322
295 OUT
367 OUT
IN 1169
IN 1243
1136 OUT
1302 OUT
IN 1086
IN 713
765 OUT
3666 OUT
IN 3703
IN 2367
2109 OUT
5858 OUT
IN 4436
IN 3486
2623 OUT
OUT 1407
1807 IN
1600 IN
OUT 1222
OUT 1960
1256 IN
987 IN
OUT 1419
OUT 3757
3761 IN
3086 IN
OUT 5498
OUT 483
237 IN
7815 OUT
IN 8385
IN 5753
5901 OUT
IN 436
292 OUT

Observation over a period of many months, coupled with the results of this survey has led to the conviction that the public interest will best be served by the prohibition of parking on certain streets in the downtown area. The streets recommended to be cleared are all narrow and are heavily congested with traffic. For the convenience of a few, a great many people are subjected to annoying and expensive delays, due to interference between the parked vehicles and the moving traffic. This interference is particularly acute on those streets upon which street railway lines are operated. It is extremely important that parking be eliminated from Gay Street, the double track car line, the concrete loading platforms and the parked cars so reducing the street space that traffic moves with the greatest difficulty. The parking of cars along this thoroughfare also adds greatly to the danger to pedestrians by obscuring their vision in crossing the street.

Intersection counts in February 1928 from 4:30 to 6:30 p. m. (a two hour period) revealed that Gay and Jackson carried the heaviest traffic followed in order by Gay and Commerce, Gay and Union and Broadway and Western, the total number of vehicles passing these intersections running from 2,400 to 2,713.

A count was made to determine the number of vehicles entering and leaving the central business section during the day. This count was made on February 17, 1928, for the twelve hour period beginning at 6:30 a. m. and ending 6:30 p. m. A similar count was made in May of 1927, at the time the Broadway viaduct was under construction. A comparison of the two brings out some interesting points. The 1927 count showed a total of 59,344 vehicles entering and leaving the business district as compared to 47,278 counted in 1928. The difference in the two counts may be accounted for in two ways. The 1927 count was made in the early summer and included a large number of out-of-town cars. The day was clear and warm and was conducive to motoring. The 1928 count was made in the winter on a very rainy day.

The effect of the opening of the Broadway viaduct on Gay Street traffic is very marked. In 1927, while the viaduct was under construction, 16,200 cars passed the intersection of Vine and Gay, while in 1928 this number was reduced to 11,654. In 1927, 7,518 vehicles passed the intersection of Broadway and Western while in 1928 this number had increased to 10,584. The other intersections were more or less unchanged.

With more than 25,000 vehicles moving within the business district of Knoxville every day, it is obviously beyond the power of the Police Department to exercise more than the most casual supervision over the actions of each individual driver. The problem of traffic law enforcement, therefore, is largely a problem of self-enforcement. The public must be made traffic conscious, and aware of the obligation which each street user bears, to protect public convenience as well as public safety.

It is recommended that four officers be retained for parking enforcement service and that their routes be rotated in such a manner that periodically they will cover all of the principal arteries of travel. In addition to these four officers, part of the time of the three officers used in general enforcement under the automatic signal system, may be used for parking enforcement, especially during the lighter hours of the day. In connection with parking enforcements, special notice should be given to the

elimination of double line parking, inasmuch as this practice on the narrow streets in Knoxville almost always results in a serious inconvenience to traffic flow. In this connection it is also recommended that a wider use be made of reserved parking places or loading zones, before the entrances to buildings where there is a frequent loading and unloading of passengers or merchandise.

The plan inaugurated by the present Director of Public Safety,—that of using the part time services of regular beat officers for the covering of difficult or dangerous traffic posts in central or outlying districts,—is fully commended. Eighteen school crossings and four busy intersections in the central district are covered by such part-time officers during the periods when their services are needed. This is a practice which leads to efficiency and economy and should be expanded so far as regular police routine service permits. In connection with the school crossing duty, attention is called to the valuable results which have been obtained in many cities through the full development of a school crossing patrol, serving as an adjunct to the police department and composed of the older school boys. With the proper police supervision and direction this patrol can be of great assistance.

It is recommended that there be established in the police department an organization to be known as the Knoxville Traffic Patrol. This patrol should be composed of the nine motorcycle officers now attached to the police department with three additional motorcycles and officers. To this patrol there should also be added three additional officers to be provided with motor cars. These motor cars should be purchased by the city and attached to the police department as are the motorcycles at the present time.

Efficient enforcement of such regulations as those relating to speeding and reckless driving depend primarily upon the mobility of the enforcing officer. Foot officers are obviously of little value in such matters. Motorcycles are effective for general patrol purposes for outlying routes and the twelve recommended should be assigned routes of operation which will make possible the periodic and frequent covering of the more important thoroughfares. Emphasis should be placed upon the preventive value of such a patrol service rather than upon its use for the operation of speed traps.

In fact, it may be said that from the standpoint of crime prevention and the apprehension of criminals, the police department could hardly possess a more effective agency than that represented by the proposed traffic patrol. With such an organization in existence the Chief of Police will be provided at all times with a well trained and highly mobile unit which may be used in any public safety emergency.

APPENDICES

A—Land Subdivision Rules.

B—Tabulation of Major Streets.

C—Zoning Ordinance.

D—Ordinance Creating a Park Board.

E—City Planning Enabling Act.

F—Zoning Enabling Act.

APPENDIX A

LAND SUBDIVISION RULES

1. PRELIMINARY PLAN.

In seeking to subdivide land into building lots and to dedicate streets, alleys, or other lands for public use, the owner shall submit two copies of a preliminary sketch plan to the City Planning Commission before submission of final plan. The preliminary plan shall be at 100 feet to the inch or larger scale, and shall show:

a. The location of property lines, buildings, water courses, and other existing features.

b. The proposed location and widths of streets, alleys, lots and building lines, and similar facts regarding existing conditions in property immediately adjacent.

c. The title under which the proposed subdivision is to be recorded, and the name of the allotter and of the engineer or surveyor platting the tract.

d. The names of all adjoining subdivisions.

e. The location and size of existing sewers and water mains, if any, on adjoining property.

f. The Commission may require a contour map, showing contour intervals of three (3) or more feet.

The approval of the preliminary plan does not constitute an acceptance of the subdivision.

Note—The purpose of requiring submission of a preliminary plan is to give the subdivider of land an opportunity to secure the judgment of the Commission regarding his scheme of streets and lots before he has carried the matter too far. The observance of this requirement may mean a considerable saving to the promoter.

Two copies are required so that one may be corrected or altered by the Planning Commission and returned to the subdivider and the other retained in the files of the Commission.

These preliminary plans should not be unchangeable. They should be rough sketches giving all the information which will be required for a proper estimate of the merits of the subdivision. The necessary data is specifically requested under a, b, c, d, e and f above. If the subdivider has followed the general rules of the Commission with respect to lot sizes, street widths, alleys and the like, and has observed the requirements of the major street plan as it affects his property, his preliminary plan in all likelihood will be approved by the Commission and he will be able then to go ahead with his final plans. If the final plan is merely a refinement of the preliminary and does not differ from it in essentials, its acceptance will be a matter of course.

2. FINAL PLAN.

The original and three copies of the final plan shall be submitted to the City Planning Commission. This plan shall be made at 100 feet to the inch or larger scale from an accurate survey drawn on a sheet whose dimensions are 8 inches by 11 inches or multiple thereof.

Note—After a land subdivision plan in preliminary form has been checked over and approved by the City Planning Commission, the owner is free to have his final plan prepared. When this is finished, the original and three copies must be brought to the Commission. The final approval of the Commission is placed upon the original and it may be recorded. The three copies are then distributed among the files of the Commission and the City Engineer. The size specified is merely for the purpose of securing uniformity among plans.

The final plan shall show:

a. The boundaries of the property; the lines of all proposed streets and alleys with their width and names; and of any other portions intended to be dedicated to the public use. In the case of branching streets the line of departure from one street to another shall be indicated.

Note—These facts and those below are required to be shown upon the final plan in order that the record of each subdivision may be complete. It is certain to lead to confusion and expense if plats are recorded lacking essential information. Every land subdivision plat should show clearly where the property is located, how wide all streets are, who made the plat, who surveyed the property, the dimensions of the tract, the location of corner stones, and similar facts which ought to be on record. It is to safeguard private interests quite as much as those of the general public that the Planning Commission seeks to elevate and standardize subdivision practice, and to require each plat to bear all necessary information. The requirements which follow are more or less self-explanatory.

b. The lines of all adjoining properties; the lines of adjacent streets and alleys, with their width and names.

c. All lot lines, and numbers for all lots and blocks; building lines and easements with figures showing their dimensions.

d. All dimensions, both linear and angular, necessary for locating boundaries of subdivisions, lots, streets and alleys, easements and building line set-backs, and any other public or private use. The linear dimensions shall be expressed in feet and decimals of a foot.

e. Radii, arcs and chords, points of tangency, central angles for all curvilinear streets; and radii for all rounded corners.

f. All monuments, together with their descriptions.

g. Title and description of property subdivided, showing its location and extent, points of compass, scale of plan, and name of subdivider and of engineer platting the tract; also classification of property under the zoning law, if such exists.

h. Profiles may be required of all streets and alleys where topography makes it advisable, (forty feet horizontal scale and four feet vertical, or fifty feet horizontal and five feet vertical recommended). Major streets shall in so far as possible conform to the contours to avoid grades in excess of three (3) per cent., unless special conditions make it advisable to alter this rule; minor streets to avoid grades in excess of ten (10) per cent.

i. Any private restrictions shall be shown on plat or reference to them made thereon; and plats shall contain proper acknowledgments of owners and mortgagee accepting said platting and restrictions.

Note—A subdivision which the owner wishes to put upon the market with certain restrictions should have these restrictions summarized or indicated in a general way upon the plan which is filed for record.

3. ACRE SUBDIVISIONS.

Where the parcel is subdivided into larger tracts than for building lots, such parcels shall be divided so as to allow for the opening of major streets and the ultimate extension of adjacent minor streets.

Note—Owners of real estate on the outskirts of the city frequently wish to plat property in tracts somewhat larger than the ordinary city lots. These acre subdivisions or "small city farms," as they are often called, usually remain in that state only so long as it is possible to preserve their semi-agricultural character. Whenever the growth of the city seems to demand the cutting up of the "small farms," the owners are quick to take advantage of the opportunity. Unless the tract originally has been laid out with the idea of being subdivided later, each individual goes about making a small subdivision of his particular holding without reference to the others. The result is generally the misplacement of streets, confusion among the lots and frequently a squeezing of the land, which is detrimental to the community. This provision of the rules aims to secure consideration of the ultimate subdivision of every tract, regardless of the intermediate stages through which it may pass.

4. RELATION TO ADJOINING STREET SYSTEM.

The arrangements of streets in new subdivisions shall make provision for the continuation of the principal existing streets in adjoining additions (or their proper projection where adjoining property

is not subdivided), in so far as they may be necessary for public requirements. In general such streets shall be of a width at least as great as the existing streets. The street and alley arrangement must also be such as to cause no hardship to owners of adjoining property when they plat their own land and seek to provide for convenient access to it.

Note—The requirement above is to prevent the creation of unnecessary and absurd jogs and offsets. Knoxville is afflicted with more than its proper share of these impediments to traffic.

5. STREET AND ALLEY WIDTHS.

a. The widths for major streets shall conform to the widths designated on the major street plan.

b. The minimum width for minor streets shall be fifty (50) feet, except that in cases where the topography or special conditions make a street of less width more suitable, the City Planning Commission may waive the above requirements.

Note—The most satisfactory width for minor streets is 60 feet. When the requirements of the major street plan seem to absorb an unreasonable amount of an owner's land in the view of the City Planning Commission, they may advise the platting of 50 foot streets as a compensation.

c. The minimum width of an alley in a residential block shall be twelve (12) feet, if an easement and building line at least three (3) feet wide be provided along each side of the alley; where no easements or building lines are provided, the width of alleys shall be at least sixteen (16) feet. A five-foot cut-off shall be made at all acute and right-angle alley intersections. Alleys in the rear of business lots shall be at least twenty (20) feet wide.

Note—While alleys in residential blocks are referred to and provisions made for minimum widths, the Planning Commission discourages the platting of alleys except in the rear of property that may some day be used for commercial purposes. The wide alleys required for business lots will serve to relieve the streets of a certain amount of traffic that can at times become very annoying in the vicinity of stores.

d. Where alleys are not provided, easements of not less than four feet in width shall be provided on each side of all rear lot lines and side lines where necessary, for poles, wires, conduits, storm and sanitary sewers, gas, water and heat mains. Easements of greater width may be required along lines or across lots where necessary for the extension of main sewers and similar utilities.

Note—Modern subdivision practice requires the placing of all poles and wires along rear lot lines instead of in the street. It is often more economical to place sewers, especially trunk sewers, along these lines. For such purposes easements must be indicated upon subdivision plats. The easement widths required are generally accepted as standard.

6. BLOCKS.

a. No blocks shall be longer than one thousand (1,000) feet between street lines. Blocks over seven hundred and fifty (750) feet in length shall have a cross walk near the center of the block. The right-of-way for such walks shall be not less than ten (10) feet.

Note—In the days of horse-drawn vehicles it was customary to make blocks rather short. The automobile has made longer blocks unobjectionable and generally safer. Wider streets, however, are necessary so there may be a sort of compensation in each subdivision. The minor streets can be made narrow in order that the major thoroughfares may be wide, and the number of cross streets through a given area may be reduced and the space thus gained also added to the width of the principal arteries. To overcome the disadvantage of long blocks to pedestrians, cross walks are needed.

b. In new subdivisions at a distance from property already platted, block widths shall be established, except for special reasons, at from two hundred and forty (240) to three hundred (300) feet.

Note—When land is being subdivided at a considerable distance from other subdivisions, there is often a temptation to make lots extra deep and of unusually generous width. The plan of streets adopted under circumstances will in all probability, not be of the sort that subdividers of adjacent land

can follow. The rules require that the street system of a new subdivision conform to those existing in adjacent subdivisions. Under certain circumstances this might be a hardship. If a man platting a piece of property two miles beyond the city limits lays out lots 175 feet deep, his streets become 350 feet apart. It may be a number of years before any others plat near him, but when they eventually do so, they may reasonably object to conforming to the street system already established. If all blocks are made between 200 and 300 feet wide, regardless of where they are platted, it will not be difficult to require conformity.

c. Where it is desired to subdivide a parcel of land, which, because of size or location, does not permit an allotment directly related to a normal street arrangement, there may be established a "Place." Such a place may be in the form of a court, a non-connecting street or other arrangement; provided, however, that proper access shall be given to all the lots from a dedicated place (street or court) and the minimum size of each allotment of this sort shall be permanently established so as to assure a building arrangement commensurate with the foregoing requirements for normal additions.

Note—This provision makes it possible for an owner of an odd-shaped parcel surrounded on all sides by built-up property to lay out a self-contained "court" or "place." The rule is amplified so as to make it impossible, after such a court or place is laid out and all other regulations complied with, for someone else to enter and further subdivide the lots or change the scheme so as to do harm to the community. These courts or places, especially where dead-end streets are involved, are to be avoided if possible. In all cases provision should be made for the free movement of vehicles in and out. A stub-end street should be wide enough for vehicles to pass, even if two are standing abreast at the curb, and at the end there should be a turn-around of a diameter sufficient to permit the complete turning of large vehicles.

7. LOTS.

In all rectangular lots and so far as possible all other lots, the side lines shall be at right angles to the street on which the lot faces. Lots with double frontage shall be avoided.

Note—This is a requirement that is especially emphasized. When lot lines are not at right angles to the street, there is confusion in the mind of the builder who wishes to use the lot. If he places his building parallel to the street, it stands askew across his lot, cutting down his space for a drive and making hedges and walks run at peculiar angles to the street. If he places his house square upon the lot, with its sides parallel to the side lines of the lot, his neighbor may do something different. If his neighbor follows his example, the houses stand in sawtooth fashion along the street, the rear of each one exposed to the front of the one next to it. All this annoyance can be avoided if land subdividers will but give reasonable consideration to the interests of those who will make use of the property they expect to sell.

b. The minimum dimensions for lots shall be forty (40) feet for width and one hundred and twenty (120) feet for depth, and in no case shall a rectangular or irregular-shaped lot contain less than forty-eight hundred (4800) square feet.

Note—It is not desirable to establish a standard width for all lots. The requirements of lot purchasers differ, the precedent already established in a certain district is hard to break, the effect of topography upon platting cannot always be foreseen.

The Commission directs attention to the importance of proper lot planning necessary to protect the public interest. The custom of platting 25-foot lots is productive of building conditions which are not a credit to the city. The City Planning Commission advocates a 50-foot standard for the average lot, but has written into its rules a 40-foot minimum to cover instances where a 50-foot requirement would be a hardship on the platter.

The tendency to plat extremely deep lots should also be corrected. In the day of the horse and carriage, when stables were common, a deep lot was required to keep these nuisances as far from the dwellings as possible. In the present age, however, an excessively deep lot is not particularly advantageous. This is especially true in districts where alleys have been left out. A lot 120 feet deep is adequate for all ordinary residential requirements, yet not so deep as to invite rear dwellings.

An over-extensive use of land generally brings about conditions that are detrimental and the protection of the city from such conditions is a purpose of these rules.

c. Corner lots shall have extra width sufficient to permit the maintenance of building lines on both front and side. In normal cases the width required will be not less than the amount of the established building line on the side street plus the irreducible buildable width and such side yard requirements as may be provided for by a zoning ordinance.

Note—It is desirable to promote a wider use of building lines in new subdivisions. The city has suffered in the past through the tendency of builders to crowd out to the street lines with stores and dwellings. It is impossible to make a first class city under such conditions. A building line of at least 30 feet should prevail upon every residential street. At corners, especially where lots front upon side streets, the building line should be carried around the corner. The store or home on the corner lot should not violate the building line observed on either street, even though it may distinctly face only one street. The use of a larger lot at the corner is recommended as a means of correcting this condition. A lot wider, by the amount of the building line on the side street, than the general run of those fronting the same direction, will permit the continuance of the building line around the corner and make each street intersection at once safer and more attractive.

d. Lots on major street intersections and at all other points likely to be dangerous shall have a radius of not less than fifteen (15) feet at the street corner.

Note—The reason for this provision is obvious. There is no more urgent need in American cities today than the adaptation of roadway and street planning practice to the requirements of modern traffic. Sharp projecting curb corners at thoroughfare crossings are decidedly dangerous to pedestrian and driver alike, due to the sweeping turn that quickly takes an automobile to the wrong side of the intersecting street. A rounding of the corner of each lot at a street intersection will not lessen the value of the lot but will make the roadway much safer.

8. BUILDING LINES.

Building lines shall be shown on all lots intended for residential use of any character, and they shall not be less than required by the zoning ordinance when one is adopted. Until a zoning ordinance is adopted, the City Planning Commission will require building lines in accordance with the needs of each addition. Provision shall be made for all enclosed parts of buildings to be set back to such building lines.

9. GRADING OF STREETS.

A grading plan may be required with the final plan, showing grades approved by the City Engineer.

Note—If the Commission questions the adaptability of a street layout to the land which it is to serve, a grading plan of the subdivision may be required. The mere preparation of such a plan may convince the developer of the tract that his scheme is impracticable and more costly than he realized.

10. PARKS, SCHOOL SITES, ETC.

In subdividing property, due consideration shall be given to the dedication of suitable sites for schools, parks and playgrounds, so as to conform as nearly as possible to the recommendations of the City Planning Commission in its general plan of the city and nearby areas. Such provision should be indicated on the preliminary plan in order that it may be determined when and in what manner such areas will be dedicated to the city.

Note—The opportunities for co-operation of the sort implied in the rule above have scarcely yet been touched. Any subdivision of reasonable size is almost certain to have a church or a school in it at some time. A neighborhood park of at least twenty acres should be made available for development in each square mile of residential area; and a small park of at least one acre should be laid out for each ten acres of residential property. These incidental features of every residence district should be planned at the time the land is platted. A distribution of a portion of the selling value of these areas among the remaining lots will generally make it possible for the promoter of the subdivision to offer such areas at

prices that will permit immediate acceptance. Small areas for parks, if of usuable size, may, with profit to the subdivider, be dedicated free to the city, under agreement by the latter to improve the park when the residence population warrants the expense. The advantages of the park may be capitalized in the sale of the lots, and generally enough revenue realized to more than pay the original cost of the land given to the city.

11. STREET NAMES.

Streets that are obviously in alignment with others already existing and named shall bear the names of the existing streets.

12. CHANGE TO MORE RESTRICTED USE DISTRICT.

Wherever property is subdivided with the intention that it shall have a use more restricted than that designated on the zone plan, such use shall be stated and the building lines and other rules affecting such more restricted use shall be shown and noted on the plat.

Such designation shall also constitute a petition to the city to change the use designated for such property on the zone plan.

13. ABSTRACT OF TITLE.

The final plat shall be accompanied by an abstract of title showing the ownership of all property to be dedicated to the city.

APPENDIX B
TABULATION OF MAJOR STREETS

	Present			Proposed		
	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Atlantic Avenue						
Central-Felts	40	20	2			
Felts-Pershing	50	24	3			
Pershing-Broadway	60	24	3			
Central-Henegar				80	54	6
Henegar-Broadway				60	36	4
Edgewood Avenue						
Broadway-City Limits	50	Unpaved		60	36	4
Baxter Avenue						
Beaumont-Wray	35	24	3			
Wray-Central	70	40	4			
Central-Stewart	70	50-47	5			
Stewart-Cornelia	63	44	5			
Cornelia-Pratt		New Connection				
Beaumont-Pratt				80	54	6
Ben Hur Avenue						
McCalla-Selma	60	30	3	80	54	6
Selma Avenue						
Ben Hur-Castle	50	Unpaved				
Castle-Ridge		New Connection				
Ben Hur-Ridge				80	54	6
Ridge Road						
Conn.-City Limits	30	Unpaved		80	54	6
Bertrand Street						
Vine-McCalla	35	Unpaved				
McCalla-Magnolia	35	24	3			
Magnolia-Woodbine	35	Unpaved				
Vine-Olive				80	54	6
Woodbine-Johnson	43	Unpaved				
Johnson-Olive		New Connection				

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
BROADWAY			
Western-Viaduct	63	52	6
Viaduct	63	46	5
Viaduct-Fifth	63	48	5
Fifth-Central	63	48	5
Central-Gill	72-63	55-50	6
Gill-Silver	63-50	50-36	5-4
Silver-Bluff	50-60	41-36	4
Bluff-Raleigh	40-50	30-36	4
Raleigh-Mineral Road	40	26	3
Mineral Road-City Limits		New Street	
HENLEY STREET			
Western-Hill	40	24	3
BLOUNT AVENUE			
Martin Mill-Goode	36	20	2
FLETCHER STREET			
Goode-Martin Mill	35	20	2
BROOKS AVENUE			
Dandridge-City Limits	50	Unpaved	
CENTRAL STREET			
Front-Vine	35	24	2
Vine-Depot	45	30	3
Depot-200's. of 5th	50	36	4
200's. of 5th-4th	60	44	5
4th-Broadway	60	45	5
Broadway-Bernard	64	46	5
Bernard-Oklahoma	80	50	5
Oklahoma-Columbia	65	41	5
Columbia-Quincy	90	41	5
Quincy-Southern Ry.	60	38	4
So. Ry.-City Limits	35	24	3

Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
BROADWAY			
Western-City Limits	100	72	8
HENLEY STREET			
Hill-Western	100	72	8
BLOUNT AVENUE			
Martin Mill-Goode	66	36	4
FLETCHER STREET			
Goode-Martin Mill	66	36	4
BROOKS AVENUE			
Dandridge-City Limits	80	54	6
CENTRAL STREET			
Front-City Limits	80	54	6

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
CASTLE STREET				CASTLE STREET			
S. City Limits-Mt. View		New Connection		S. City Limits-North Hills	100	72	8
Mt. View-Wilson	35	Unpaved					
Wilson-Woodbine	50	26	3				
Woodbine-North Hills		New Connection					
NORTH HILLS BOULEVARD				NORTH HILLS BOULEVARD			
Connection-Washington Pike	80	Unpaved		Connection-Maxwell	100	72	8
Washington Pike-Maxwell		New Connection					
MAXWELL STREET				MAXWELL STREET			
Connection-Boright	40	Unpaved		Connection-Valley View	100	72	8
Boright-Valley View		New Connection					
CHURCH AVENUE				CHURCH AVENUE			
Gay-Bridge	45	31	3	Gay-Jasper	80	54	6
Bridge	27	21	2				
Bridge-Main	50	36	4				
Main-Jasper		New Connection					
JASPER STREET				JASPER STREET			
Yeager-Hazen	50	Unpaved		Yeager-Dandridge	80	54	6
Hazen-Dandridge		New Connection					
CONCORD STREET				CONCORD STREET			
River-Kingston Pike	20	Unpaved		River-Western Ave.	80	54	6
Kingston Pike-3rd Creek	30	22	2				
3rd Creek-Western		New Connection					
DAVENPORT ROAD				DAVENPORT ROAD			
Sevier-S. City Limits	35	Unpaved		Sevier-S. City Limits	80	54	6
DANDRIDGE AVENUE				DANDRIDGE AVENUE			
Saxton-City Limits	35	22	2	Saxton-City Limits	80	54	6

TABULATION OF MAJOR STREETS

PRESENT	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
FIFTH AVENUE (E) AND (W)			
University-Arthur	40	25	3
Arthur-Clark	65-45	55-30	6-3
Clark-Bridge	40	27	3
Bridge		20	2
Bridge-Gay	42	29	3
Gay-Williams	70	52	6
Williams-Georgia	75	50	6
Georgia-Underpass	73	38	4
Underpass-Bertrand	60	30	3
Bertrand-Olive	50	30	3
Olive-Magnolia		New Connection	
FOURTH AVENUE (W)			
University-5th	40	27	3
FIFTH AVENUE (N)			
E. 5th-Glenwood	65	45	5
Glenwood-N. 4th		New Connection	
FOURTH AVENUE (N)			
Pratt-Hoitt	50	30	3
HOITT AVENUE			
4th-Hardin Hill Road	50	Unpaved	
Hardin Hill Road-City Limits		Extension	
FAIRMONT BOULEVARD			
Atlantic-Broadway		New Connection	
Broadway-Orlando	65	Unpaved	
Orlando- Whittle Springs Road		New Connection	
AVIATON ROAD			
Whittle Springs Road-City Limits	40	Unpaved	

PROPOSED	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
FIFTH AVENUE (E) AND (W)			
University-Olive	80	54	6
FOURTH AVENUE (W)			
University-5th	66	36	4
FIFTH AVENUE (N)			
E. 5th-N. 4th	65	36	4
FOURTH AVENUE (N)			
Pratt-Hoitt	65	36	4
HOITT AVENUE			
4th-City Limits	65	36	4
FAIRMONT BOULEVARD			
Atlantic-Whittle Springs Road	80	54	6
AVIATION ROAD			
Whittle Springs Road-City Limits	80	54	6

TABULATION OF MAJOR STREETS

	Present			Proposed		
	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Fern Street						
S. City Limits-McCalla	40	24	3	80	54	6
Prosser Street						
McCalla-N. City Limits	30	18	2	80	54	6
Forest Avenue						
Western-12th	45	35	4	80	54	6
12th-13th	45	20	2			
13th-21st	50	24	3			
21st-Railroad	50	Not Graded				
Gay Street						
River Bridge		30	3	66	36	4
Bridge-Vine	66	42	5			
Vine-Viaduct	65-88	45-65	5-7			
Viaduct	74	53	6			
Viaduct-5th	60	40	4			
5th-Emory	51-42	30-35	4			
Georgia Street						
5th-1st Creek	40	30	3	60	36	4
1st Creek-Bethel		New Connection				
Glenwood Avenue						
Mitchell-Hardin Hill	40	26	3	80	54	6
Hardin Hill-City Limits		New Connection				
Hill Avenue (E)						
Bridge		20	2	80	54	6
Bridge-Henderson	35-41	23-29	3			
Henderson-Swan	35	23	3			
Swan-Cardwell	40	27	3			
Cardwell-McCammon		New Connection				

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Riverside Drive			
McCammon-Dandridge	35	22	2
Harvey Street			
Folsom-Oklahoma	50	Unpaved	
Oklahoma-Warren	50	Unpaved	
Warren-Morelia	50	29	3
Pershing Street			
Harvey-Morelia		New Connection	
Morelia-Chickamauga	50	30	3
Hanover Street			
Chickamauga-Butte	40	Unpaved	
Butte Street			
Hanover-Fairfax	40	Unpaved	
Fairfax Avenue			
Broadway-Butte	40	22	2
Butte-City Limits		New Connection	
Hardin Hill Road			
Whittle Springs-Hardin Hill		New Connection	
Connection-Hoitt	20	Unpaved	
Hoitt-Washington	30	Unpaved	
Cherry Street			
Washington-Magnolia	50	Unpaved	
Magnolia-Lay	40	Unpaved	
Lay-Biddle		New Connection	
Biddle Street			
Lay-Boyd's Bridge Pike	35	22	2
Boyd's Bridge-Dandridge		New Connection	

Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Riverside Drive			
McCammon-Dandridge	80	54	6
Harvey Street			
Folsom-Morelia	60	36	4
Pershing Street			
Morelia-Chickamauga	60	36	4
Hanover Street			
Chickamauga-Butte	60	36	4
Butte Street			
Hanover-Fairfax	60	36	4
Fairfax Avenue			
Broadway-City Limits	80	54	6
Hardin Hill Road			
Whittle Springs-Washington	66	36	4
Cherry Street			
Washington-Biddle	66	36	4
Biddle Street			
Lay-Dandridge	66	36	4

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
JACKSON AVENUE			
Gay-Central	50	34	4
Central-Morgan	50	36	4
Morgan-Alley E. of Humes	45	28	3
Alley E. of Humes-Florida	50	36	4
Florida-Georgia	50-42	35-50	4
Georgia-1st Creek	50	36	4
McCALLA AVENUE			
1st Creek-Ben Hur	65	40	4
Ben Hur-Harrison	60-65	30	3
Harrison-Lawson	70	30	3
Lawson-Summer	60	30	3
Summer-Castle	50-35	30-24	3
Castle-Lakeside	50	30	3
Lakeside-Prosser	40	30	3
Prosser-Shelby	35	30	3
Shelby-City Limits	35	20	2
JOHNSON STREET			
Heiskell-Massachusetts	50	Unpaved	
MURPHY STREET			
Massachusetts-Marion	35	Unpaved	
MARION STREET			
Murphy-Oldham	50	Unpaved	
Oldham-Baxter	40	Unpaved	
Baxter-May	50	Unpaved	
MAY STREET			
Marion-Maple	35	Unpaved	
MAPLE STREET			
Wray-Fourth	35	2	

Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
JACKSON AVENUE			
Gay-First Creek	80	54	6
McCALLA AVENUE			
1st Creek-Bentley	80	54	6
Bentley-City Limits	100	72	8
JOHNSON STREET			
Heiskell-Massachusetts	66	36	4
MURPHY STREET			
Massachusetts-Marion	66	36	4
MARION STREET			
Murphy-May	66	36	4
MAY STREET			
Marion-Maple	66	36	4
MAPLE STREET			
Wray-Fourth	66	36	4

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
KEITH AVENUE			
City Limits-Glenn	40	Unpaved	
Glenn-Jordan	50	24	3
BEAUMONT AVENUE			
Jordan-Elm	50	24	3
ELM STREET			
Beaumont-Fourth	35	20	2
KINGSTON PIKE			
City Limits-L. & N. RR.	20	20	2
CUMBERLAND AVENUE			
L. & N.-Melrose	65	45	5
Melrose-15th	65	50	5
15th-14th	65	44	5
14th-W. Main	63-50	43-36	5-4
LIBERTY STREET			
Kingston Pike-Liberty		New Connection	
Liberty-Middlebrook	35	Unpaved	
MCCAMMON STREET			
Main-Swan		New Connection	
Swan-Ferry	35	Unpaved	
FERRY STREET			
McCammon-Bowerman	30	Unpaved	
BOWERMAN STREET			
Ferry-Isabella	30	Unpaved	
ISABELLA AVENUE			
Bowerman-Groner	35	Unpaved	
GRONER STREET			
Isabella-Amherst	35	Unpaved	

Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
KEITH AVENUE			
City Limits-Jordan	80	54	6
BEAUMONT AVENUE			
Jordan-Elm	80	54	6
ELM STREET			
Beaumont-Fourth	66	36	4
KINGSTON PIKE			
Concord-L. & N. RR.	80	54	6
CUMBERLAND AVENUE			
L. & N.-W. Main	80	54	6
LIBERTY STREET			
Kingston Pike-Middlebrook	66	36	4
MCCAMMON STREET			
Main-Ferry	66	36	4
FERRY STREET			
McCammon-Bowerman	66	36	4
BOWERMAN STREET			
Ferry-Isabella	66	36	4
ISABELLA AVENUE			
Bowerman-Groner	66	36	4
GRONER STREET			
Isabella-Amherst	66	36	4

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
AMHERST STREET			
Groner-Wyoming	35	Unpaved	
WYOMING STREET			
Connection-Chilhowee	40	Unpaved	
CHILHOWEE STREET			
Wyoming-McConnell	35	Unpaved	
MARTIN MILL PIKE			
Gay-Blount	40	30	3
Blount-Ogle	35	20	2
Ogle-City Limits	35	Unpaved	
MAGNOLIA AVENUE			
Broadway-Central	60	44	5
Central-Bridge	50	35	4
Bridge		35	4
Bridge-Beaman	100	60	6
Beaman-McCalla		New Connection	
MIDDLEBROOK AVENUE			
City Limits-25th	35	20	2
25th-Euclid		New Connection	
MAIN AVENUE			
Cumberland-2nd Creek	45-50	32	4
2nd Creek-Gay	65	40-44	4-5
Gay-1st Creek	65	42	5
Bridge		20	2
Bridge-Lowry	40	30	3
Lowry-Owen	60-45	40-30	4-3
Owen-Vine	45	30	3
OGLE AVENUE			
Martin Mill-Blount	35	20	2

Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
AMHERST STREET			
Groner-Wyoming	66	36	4
WYOMING STREET			
Connection-Chilhowee	66	36	4
CHILHOWEE STREET			
Wyoming-McConnell	66	36	4
MARTIN MILL PIKE			
Gay-Blount	80	54	6
Blount-Ogle	100	72	8
Ogle-City Limits	80	54	6
MAGNOLIA AVENUE			
Broadway-McCalla	100	72	8
MIDDLEBROOK AVENUE			
City Limits-Euclid	80	54	6
MAIN AVENUE			
Cumberland-Vine	80	54	6
OGLE AVENUE			
Martin Mill-Blount	100	72	8

TABULATION OF MAJOR STREETS

	Present			Proposed		
	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Blount Avenue						
Ogle-City Limits	35	20	2	100	72	8
Oldham Avenue						
Keith-Reed		New Connection				
Reed-Marion	40	Unpaved				
Marion-Cornelia	50	30	3			
Cornelia-Helen	50	Unpaved				
Helen-Broadway		New Connection				
Keith-Broadway				80	54	6
Coker Avenue						
Broadway-Nadine	80	40	4			
Nadine-Brice	40	Unpaved				
Brice-Washington Pike		New Connection				
Broadway-Washington				80	54	6
Proctor Street						
Middlebrook-Western	35	Unpaved		66	36	4
Schofield Street						
Western-Tennessee	35	Unpaved		66	36	4
Ruggles Ferry Pike						
McCalla-City Limits	35	24	3	80	54	6
Sutherland Avenue						
City Limits-L. & N. Overpass	40	Unpaved				
Overpass		24	3			
Overpass-S. Overpass	40	Unpaved				
Overpass		20	2			
Overpass-Euclid		New Connection				
City Limits-Euclid				80	54	6
Euclid Avenue						
24th-Clyde	50	Unpaved				
Clyde-Cowan	50	30	3			
Cowan-Dale	35	Unpaved				
Connection-Dale				80	54	6

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
DALE AVENUE				DALE AVENUE			
Euclid-Western	40	30	3	Euclid-Western	80	54	6
SEVENTEENTH STREET (FORT SANDERS ST.)				SEVENTEENTH STREET			
Cumberland-Forest	70	40	4	Cumberland-University	66	36	4
Forest-Southern Ry.	70	45	5				
Overpass		20	2				
Overpass-Dale	70	45	5				
Dale-Euclid	70	36	4				
Euclid-Ailor	50	Unpaved					
Ailor-University		New Connection					
COLLEGE STREET (BOOKER STREET)				COLLEGE STREET			
University-Moses	50	26	3	University-Beaumont	66	36	4
Moses-Beaumont		Unpaved					
WALKER STREET				WALKER STREET			
Beaumont-Jourolmon	35	Unpaved		Beaumont-Oldham	66	36	4
Jourolmon-Oldham		New Connection					
SOUTH HAVEN ROAD				SOUTH HAVEN ROAD			
Island H.-Sevierville Pike	30	Unpaved		Island Home-Sevierville	100	72	8
SEVIER AVENUE (*Formerly Island Home Ave.*)				SEVIER AVENUE			
Gay-Sevierville Pike	50	30	3	Gay-City Limits	80	54	6
Sevierville Pike-S. Haven	40	24	3				
South Haven-City Limits	35	20	2				
SEVIER AVENUE (*Formerly Sevierville Pike*)				SEVIER AVENUE			
Island Home-Highland Dr.	40	30	3	Island Home-City Limits	66	36	4
Highland Drive-City Limits	40	24	3				
THIRTEENTH STREET				THIRTEENTH STREET			
Cumberland-Dale	40	27	3	Cumberland-Ramsey	80	54	6
Dale-Ramsey		New Connection					

TABULATION OF MAJOR STREETS

	Present			Proposed		
	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Ramsey Street						
Dale-Oak	35	22	2	80	54	6
Richards Street						
Oak-McGhee	35	Unpaved		80	54	6
McGhee-Fifth	40	27	3			
Texas Avenue						
Western-Minnesota	35	20	2	80	54	6
Minnesota Avenue						
Ambrose-Heiskell	50	Unpaved		80	54	6
Heiskell Street						
Minnesota-Central	50	Unpaved		80	54	6
Tennessee Avenue						
McPherson-Johnson	60	Unpaved		80	54	6
University Avenue						
24th-Western	100	Unpaved				
Western-Wallace	60	40	4			
Wallace-Boyd	60-40	40-26	4-3			
Boyd-Bernard	40	26	3			
24th-Bernard				80	54	6
Bernard Avenue						
5th-Elm	40	26	3			
Elm-Wray	50	24-35	3-4			
Wray-Central	50	36	4			
5th-Central				80	54	6
Stewart Street						
Central-Silver Place	30	Unpaved				
Silver Place-Baxter		New Connection				
Central-Baxter				80	54	6
Heller Place						
Baxter-Folsom	30	Unpaved		80	54	6

TABULATION OF MAJOR STREETS

Present	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Folsom Street			
Heller-Glenwood	35	Unpaved	
Vine Avenue			
Gay-Central	40-80	28-60	3-6
Central-Nelson	50	30	3
Nelson-Mee	40	30	3
Mee-McCalla	35-40	22	2
Winona Street			
McCalla-Caswell Park	50	27	3
Caswell Park-Mitchell		New Connection	
Mitchell Street			
Woodbine-Ninth	40	26	3
9th-12th	40	Unpaved	
12th-Avenue B		New Connection	
Avenue B			
12th-Hardin Hill Road	35	Unpaved	
Hardin Hill Road-City Limits		Extension	
Preston Street			
Vine-McCalla	40	27	3
Western Avenue			
City Limits-Mississippi	40	22	2
Mississippi-Sevier	50	22	2
Sevier-Orange	85	22	2
Orange-Lucky	40	22	2
Lucky-University	50	35	4
University-Deaderick	35	24	3
Deaderick-Viaduct	50	35	4
Viaduct		43	5
Viaduct-Locust	65	43	5

Proposed	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
Folsom Street			
Heller-Glenwood	80	54	6
Vine Avenue			
Gay-McCalla	80	54	6
Winona Street			
McCalla-Mitchell	66	36	4
Mitchell Street			
Woodbine-Avenue B	66	36	4
Avenue B			
12th-City Limits	66	36	4
Preston Street			
Vine-McCalla	66	36	4
Western Avenue			
City Limits-Tennessee	100	72	8
Tennessee-Locust	80	54	6

TABULATION OF MAJOR STREETS

PRESENT	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles	PROPOSED	Street Width in Feet	Roadway Width in Feet	Lines of Vehicles
WALL AVENUE				WALL AVENUE			
Western-Walnut		New Connection		Western-Vine	80	54	6
Walnut-Gay	50	35	4				
Gay-Vine		New Connection					
WHITTLE SPRINGS ROAD (*Including Zelda St., Cherry St., Myers St.*)				WHITTLE SPRINGS ROAD			
Mineral Spring Road-Brown	35	Unpaved		Mineral Spring Road-Hoitt	100	72	8
Brown-Hoitt		New Connection					
BOONE STREET				BOONE STREET			
Hoitt-Southern Ry.	35	Unpaved		Hoitt-Adams	100	72	8
Southern Ry.-Adams		New Connection					
OLIVE STREET				OLIVE STREET			
Adams-Linden	50	Unpaved		Adams-Vine	100	72	8
Linden-McCalla	50	27	3				
McCalla-Parkview	40	27	3				
Parkview-Vine		New Connection					
MCCONNELL STREET (*Wilder Place*)				MCCONNELL STREET			
Vine-Riverside	35	Unpaved		Vine-Riverside	100	72	8

APPENDIX C

ZONING ORDINANCE

AN ORDINANCE to regulate and restrict the location and use of buildings, structures, and land for trade, industry, residence, or other purposes, the height, number of stories, and size of buildings and other structures, the size of yards and other open spaces, and the density of population, and for said purposes to divide the municipality into districts of such number, shape and area as may be deemed best suited to carry out these regulations; to prescribe penalties for the violation of its provisions and to provide for its enforcement.

WHEREAS, by the provisions of Chapter 412 of the Private Acts of the General Assembly of the State of Tennessee for the year 1923 and as amended by Chapters 93, 248 and 298, Acts 1925, authority is conferred upon the City of Knoxville to establish districts or zones within its corporate limits for the purpose of regulating the use of land and buildings, the height of buildings, the size of open spaces surrounding buildings, and density of population, and

WHEREAS, the Council of the City of Knoxville deems it necessary in order to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provisions of transportation, water, sewerage, schools, parks and other public requirements, and otherwise to promote the public safety, health, convenience and the general welfare in accordance with a comprehensive plan; Now, Therefore,

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF KNOXVILLE, TENNESSEE,

SECTION 1.—DEFINITIONS.

For the purpose of this ordinance certain terms and words are herewith defined as follows:

Words used in the present tense include the future; words in the singular number include the plural, and words in the plural number include the singular; the word "building" includes the word "structure," and the word "shall" is mandatory, and not directory.

ACCESSORY BUILDING: A subordinate building or portion of main building, the use of which is incidental to that of the main building.

ALLEY: A way which affords only a secondary means of access to abutting property.

APARTMENT HOUSE: See—Multiple Dwelling.

BASEMENT: A story partly underground and having at least one-half of its height above the average level of the adjoining ground. A basement shall be counted as a story if subdivided and used for dwelling or business purposes.

BOARDING HOUSES A building other than a hotel, where lodging and meals for five or more persons are served for compensation.

BUILDING, HEIGHT OF: The vertical distance measured from the curb level to the highest point of the roof surface, if a flat roof; to the deck line of mansard roofs and to the mean height level between eaves and ridge for gable, hip and gambrel roofs. For buildings set back from the street line the height of the building may be measured from the average elevation of the finished grade along the front of the building.

BUILDING: A structure having a roof supported by columns or walls, and when separated by a division wall without openings, each portion of such building shall be deemed a separate building except as provided in Section 18.

BUSINESS: Includes the Commercial, Light Industrial and Heavy Industrial Uses and Districts as herein defined.

CELLAR: A story having more than one-half of its height below the average level of the adjoining ground. A cellar shall not be counted as a story for purposes of height measurement.

CURB LEVEL: The level of the established curb in front of the building measured at the center of such front. Where no curb has been established, the city engineer shall establish such curb level or its equivalent for the purpose of this ordinance.

DWELLING, ONE-FAMILY: A detached building designed for or occupied exclusively by one family.

DWELLING. TWO-FAMILY: A detached or semi-detached building designed for or occupied exclusively by two families.

DWELLING, MULTIPLE: A building or portion thereof used or designed as a residence for three or more families or households living independently of each other.

FAMILY: One or more persons occupying a premises and living as a single housekeeping unit, as distinguished from a group occupying a boarding house, a lodging house, or hotel, as herein defined.

GARAGE, PRIVATE: A garage with capacity for not more than four (4) self-propelled vehicles for storage only. Provided, however, a private garage may exceed a four (4) vehicle capacity if the lot whereon such garage is located contains not less than fifteen hundred (1500) square feet for each vehicle stored.

GARAGE, PUBLIC: Any premises except those described as a private or storage garage, used for the storage or care of self-propelled vehicles, or where any such vehicles are equipped for operation, repaired or kept for remuneration, hire or sale.

GARAGE, STORAGE: Any premises, except those described as a private or public garage, used exclusively for the storage of self-propelled vehicles.

HOTEL: A building occupied as the more or less temporary abiding place of individuals who are lodged with or without meals and in which there are more than twelve (12) sleeping rooms usually occupied singly and no provision made for cooking in any individual room or apartment.

LODGING HOUSE: A building, other than a hotel, where lodging for five (5) or more persons is provided for compensation.

LOT OF RECORD: A lot which is a part of a subdivision, the map of which has been recorded in the office of the Register of Knox County.

LOT: Land occupied or to be occupied by a building and its accessory buildings together with such open spaces as are required under this ordinance, and having its principal frontage upon a street or officially approved place.

CORNER LOT: A lot situated at the junction of two or more streets, and having a width not greater than seventy-five (75) feet.

INTERIOR LOT: A lot other than a corner lot.

THROUGH LOT: An interior lot having frontage on two parallel or approximately parallel streets.

LOT LINES: The lines bounding a lot as defined herein.

NON-CONFORMING USE: A building or land occupied by a use that does not conform with the regulations of the use district in which it is situated.

PLACE: An open unoccupied space other than a street or alley permanently reserved as the principal means of access to abutting property.

STABLE, PRIVATE: A stable with capacity for not more than two horses, provided, however, that the capacity of a private stable may be increased if the premises whereon such stable is located contains an area of not less than 2500 square feet for each horse accommodated.

STABLE, PUBLIC: A stable with a capacity for more than two horses,

STORY: That portion of a building included between the surface of any floor and the surface of the floor next above it, or if there be no floor aboveit, then the space between such floor and the ceiling next above it.

STORY, HALF: A story under a gable, hip or gambrel roof, the wall plates of which on at least two (2) opposite exterior walls are not more than two (2) feet above the floor of such story.

STREET: A thoroughfare which affords principal means of success to abutting property.

STRUCTURE: Anything constructed or erected, the use of which requires more or less permanent location on the ground or attached to something having a permanent location on the ground.

STRUCTURAL ALTERATIONS: Any changes in the supporting members of a building, such as bearing walls, columns, beams or girders.

YARD: An open space on the same lot with a building unoccupied and unobstructed from the ground upward except as otherwise provided herein.

FRONT YARD: A yard extending across the front of the lot between the inner side yard lines and measured between:

(a) The front line of the lot and front line of the building, and

(b) the front line of the lot and the nearest line of any porch or paved terrace.

REAR YARD: A yard extending across the full width of the lot and measured between the rear line of the lot and the rear line of the building.

SIDE YARD: A yard between the building and the side line of the lot and extending from the street line to the rear yard.

SECTION 2. DISTRICTS

In order to regulate and restrict the location of trades and industries and the location of buildings erected or altered for specified uses, and to regulate and limit the height and bulk of buildings hereafter erected or altered, to regulate and determine the area of yards and other open spaces, and to regulate and limit the density of population, the City of Knoxville is hereby divided into districts of which there shall be eleven (11), known as:

"A" One-Family District.
"B" Two-Family Districts.
"C" Apartment District.
"D" Apartment District.
"E" Commercial District.
"F" Commercial District.
"G" Commercial District.
"H" Business District.
"I" Light Industrial District.
"J" Light Industrial District.
"K" Heavy Industrial District.

The City of Knoxville is hereby divided into eleven (11) districts aforesaid and the boundaries of such districts are shown upon the map attached hereto and made a part of this ordinance, being designated as the "District Map" and said map and all the notations, references and other information shown thereon shall be as much a part of this ordinance as if the matters and information set forth by said map were all fully described herein.

Except as hereinafter provided:

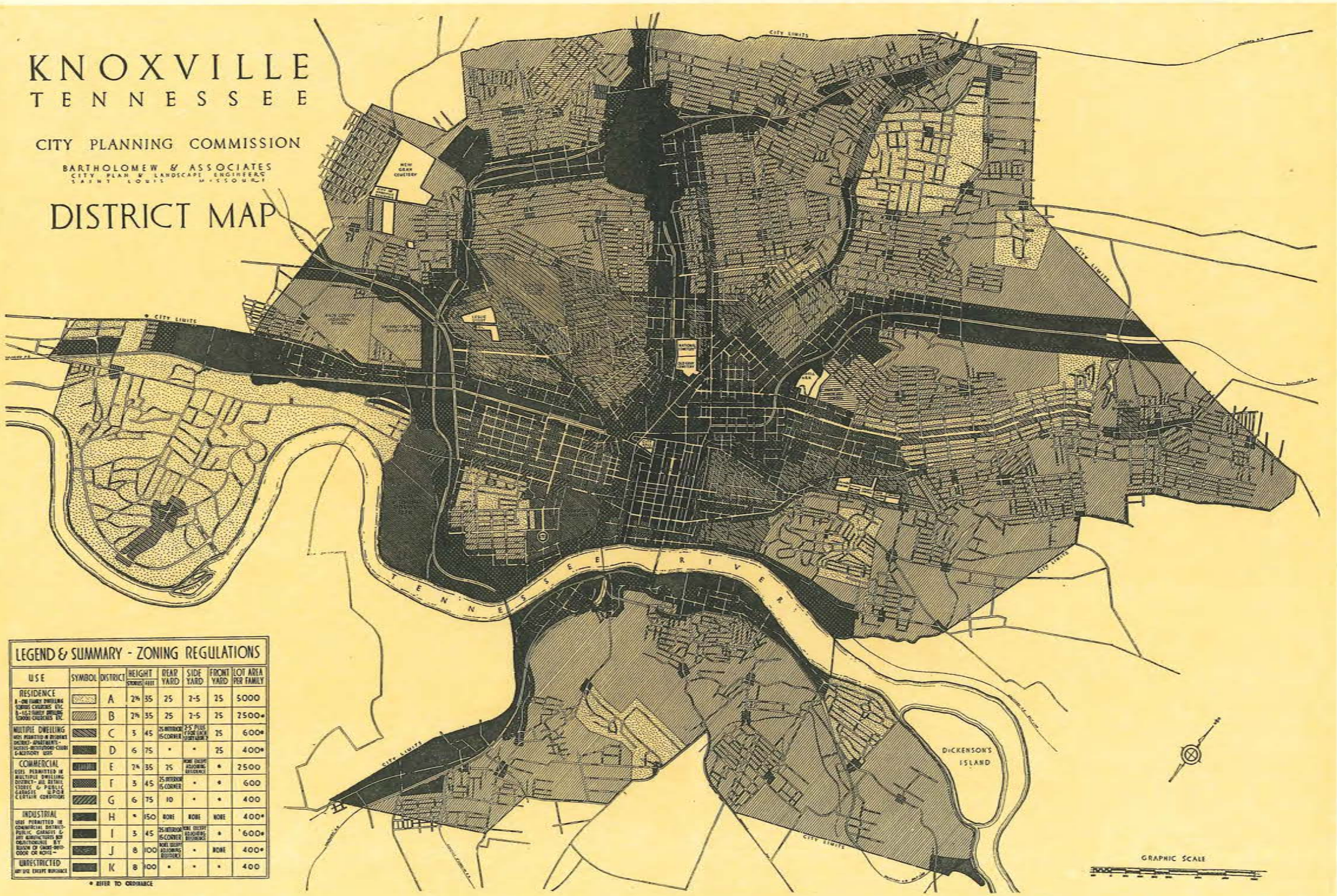
(1) No building shall be erected, reconstructed or structurally altered, nor shall any building or land be used for any purpose other than is permitted in the district in which such building or land is located.

KNOXVILLE
TENNESSEE

CITY PLANNING COMMISSION

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS
SAINT LOUIS MISSOURI

DISTRICT MAP



LEGEND & SUMMARY - ZONING REGULATIONS

USE	SYMBOL	DISTRICT	HEIGHT STORIES	HEIGHT FEET	REAR YARD	SIDE YARD	FRONT YARD	LOT AREA PER FAMILY
RESIDENCE A-ONE FAMILY DWELLING SCHOOLS CHURCHES ETC. B-1&2 FAMILY DWELLING SCHOOLS CHURCHES ETC.		A	2½	35	25	2-5	25	5000
		B	2½	35	25	2-5	25	2500*
MULTIPLE DWELLING USES PERMITTED IN RESIDENCE DISTRICT- APARTMENTS - HOTELS - INSTITUTIONS - CLUBS & ACCESSORY USES		C	3	45	25 INTERIOR 15 CORNER	2-5' PLUS 1 FOR EACH STORY ABOVE 2	25	600*
		D	6	75	*	*	25	400*
COMMERCIAL USES PERMITTED IN MULTIPLE DWELLING DISTRICT- ALL RETAIL STORES & PUBLIC GARAGES - UPON CERTAIN CONDITIONS		E	2½	35	25	NONE EXCEPT ADJOINING RESIDENCE	*	2500
		F	3	45	25 INTERIOR 15 CORNER	*	*	600
		G	6	75	10	*	*	400
INDUSTRIAL USES PERMITTED IN COMMERCIAL DISTRICTS- PUBLIC GARAGES & ANY MANUFACTURE NOT OBJECTIONABLE BY REASON OF SMOKE-ODOR OR NOISE -		H	*	150	NONE	NONE	NONE	400*
		I	3	45	25 INTERIOR 15 CORNER	NONE EXCEPT ADJOINING RESIDENCE	*	600*
		J	8	100	NONE EXCEPT ADJOINING RESIDENCE	*	NONE	400*
UNRESTRICTED ANY USE EXCEPT NUISANCE		K	8	100	*	*	*	400

* REFER TO ORDINANCE

Plate 46

(2) No building shall be erected, reconstructed or structurally altered to exceed the height or buik limit herein established for the district in which such building is located.

(3) No lot area shall be so reduced or diminished that the yards or other open spaces shall be smaller than prescribed by this ordinance, nor shall the density of population be increased in any manner except in conformity with the area regulations herein established.

(4) Every building hereafter erected shall be located on a lot as herein defined and in no case shall there be more than one building on one lot except as hereinafter provided.

SECTION 3. USE REGULATIONS "A" ONE-FAMILY DISTRICT

In the "A" One-Family District no building or land shall be used and no building shall be hereafter erected or structurally altered, unless otherwise provided in this ordinance, except for one or more of the following uses:

1. One-Family dwellings.
2. Churches.
3. Schools, elementary and high.
4. Museums, Libraries, Parks, Playgrounds or Community Centers owned and operated by the City of Knoxville.
5. Golf Courses.
6. Farming and Truck Gardening.
7. Nurseries and Green houses for the propagating and cultivating of plants only, provided, however, that before permit is issued, there are on file in the office of the Building Inspector, the written consents of the owners of the majority of the area of all real estate within three hundred (300) feet of any part of the premises.
8. Accessory Buildings, including one private garage or private stable when located not less than sixty (60) feet from the front lot line nor less than five (5) feet from any other street line, or a private garage constructed as a part of the main building.
9. Uses customarily incident to any of the above uses when situated in the same dwelling, including home occupation such as the office of a physician, surgeon, dentist, musician, nor artist. Provided no name plate exceeding one (1) square foot in area, nor bulletin boards, nor signs exceeding twelve (12) square feet in area appertaining to the lease, hire or sale of a building or premises, nor advertising sign of any other character shall be permitted in any One-Family District.

SECTION 4. USE REGULATIONS "B" TWO-FAMILY DISTRICT

In the "B" Two-Family District no building or land shall be used and no building shall be hereafter erected or structurally altered, unless otherwise provided in this ordinance, except for one or more of the following uses:

1. Any use permitted in the "A" One-Family District.
2. Two-Family Dwellings.
3. Nurseries and Greenhouses used only for the propagating and cultivating of plants.

SECTION 5. USE REGULATIONS "C" AND "D" APARTMENT DISTRICTS

In the "C" and "D" Apartment District no buildings or land shall be used and no building shall be hereafter erected or structurally altered, unless otherwise provided in this ordinance, except for one or more of the following uses:

1. Any use permitted in the "B" Two-Family District.
2. Multiple Dwellings.
3. Boarding and Lodging Houses.
4. Hotels, excepting those containing business for other than the sole convenience of the guests in the building.

5. Hospitals and Clinics.
6. Institutions of an educational or philanthropic nature.
7. Private Clubs, Fraternities, Sororities, Lodges, except those the chief activity of which is a service customarily carried on as a business.
8. Accessory buildings and uses customarily incident to any of the above uses when located on the same lot and not involving the conduct of a business including private and storage garages when located not less than sixty (60) feet from the front lot line nor less than five (5) feet from any other street line or a private or storage garage constructed as a part of the main building.

SECTION 6. USE REGULATIONS "E", "F" AND "G" COMMERCIAL DISTRICTS

In the "E", "F" and "G" Commercial Districts all buildings and land except as otherwise provided in this ordinance, may be used for any use permitted in the Apartment Districts or for any other use except the following:

1. Bakery (employing more than five (5) persons on the premises.)
2. Blacksmith or horseshoing shop.
3. Bottling works.
4. Building material storage yard.
5. Carting, express, hauling or storage yard.
6. Contractor's plant or storage yard.
7. Coal, coke or wood yard.
8. Cooperage works.
9. Dyeing and cleaning works (employing more than five (5) persons on the premises.)
10. Ice plant or storage house of more than five (5) tons capacity.
11. Laundry (employing more than five (5) persons on the premises.)
12. Livery stable or riding academy.
13. Lumber yard.
14. Machine shop.
15. Public garage, except as provided in Section 19.
16. Milk distributing station other than a retail business conducted on the premises.
17. Stone monumental works (employing more than five (5) persons.
18. Storage warehouse.
19. Wholesale houses.
20. All uses excluded from the industrial districts.
21. Any kind of manufacture or treatment other than manufacture or treatment of products clearly incidental to the conduct of a retail business conducted on the premises.

In the "G" Commercial District, public garages shall be permitted provided that repair and storage facilities for automobiles shall be purely incidental to an automobile sales room where the major business is the display and sale of new automobiles by an authorized agency and provided further that the area allowed for the repair and storage of cars shall not be nearer than thirty (30) feet from the front line of the building.

SECTION 7. USE REGULATIONS "H" BUSINESS DISTRICT AND "I" AND "J" LIGHT INDUSTRIAL DISTRICTS

In the "H" Business District and the "I" and "J" Light Industrial Districts all buildings and land except as otherwise provided in this ordinance, may be used for any use permitted in the Commercial Districts or for any other use except the following:

1. Acetylene gas manufacture or storage.
2. Acid manufacture.
3. Alcohol manufacture.
4. Ammonia, bleaching powder, or chlorine manufacture.
5. Arsenal.

6 Asphalt manufacture or refining.
7. Bag cleaning.
8. Blast furnace.
9. Boiler works.
10. Brick, tile or terra cotta manufacture.
11. Candle manufacture.
12. Celluloid manufacture.
13. Cement, lime, gypsum or plaster of paris manufacture.
14. Coke ovens.
15. Cotton gin.
16. Creosote treatment or manufacture.
17. Disinfectants manufacture.
18. Distillation of bones, coal or wood.
19. Dyestuff manufacture.
20. Explosives, manufacture or storage.
21. Exterminator and insect poison manufacture.
22. Emery cloth and sand paper manufacture.
23. Fat rendering.
24. Fertilizer manufacture.
25. Fireworks or explosive manufacture or storage.
26. Fish smoking and curing.
27. Forge plant.
28. Garbage, offal or dead animals, reduction or dumping.
29. Gas (illuminating or heating) manufacture.
30. Glue, size or gelatine manufacture.
31. Gunpowder, manufacture or storage.
32. Iron, steel, brass or copper foundry or fabrication plant.
33. Lamp black manufacture.
34. Match manufacture.
35. Oilcloth or linoleum manufacture.
36. Oiled or rubber goods manufacture.
37. Ore reduction.
38. Paint, oil, shellac, turpentine, or varnish manufacture.
39. Paper and pulp manufacture.
40. Petroleum products, refining or wholesale storage of petroleum.
41. Planing mills.
42. Potash works.
43. Pyroxlin manufacture.
44. Rock crusher.
45. Rubber or gutta-percha manufacture or treatment.
46. Rolling mill.
47. Salt works.
48. Sauerkraut manufacture.
49. Shoe polish manufacture.
50. Smelting of tin, copper, zinc or iron ores.
51. Soap manufacture, other than liquid soap.
52. Soda and compound manufacture.
53. Stock yards or slaughter of animals.
54. Stone mill or quarry.
55. Storage or baling of rags, iron or junk.
56. Stove polish manufacture.
57. Sulphuric, nitric or hydrochloric acid manufacture.
58. Tallow, grease or lard manufacture or refining from animal fat.
59. Tanning, curing or storage of raw hides or skins.
60. Tar distillation or manufacture.

61. Tar roofing or waterproofing manufacture.
62. Tobacco (chewing) manufacture or treatment.
63. Vinegar manufacture.
64. Wool pulling or scouring.
65. Yeast plant.
66. And in general those uses which may be obnoxious or offensive by reason of emission of odor, dust, smoke, gas or noise.

SECTION 8. USE REGULATIONS "K" HEAVY INDUSTRIAL DISTRICT

In the "K" Heavy Industrial District buildings and land may be used for any purposes whatsoever not in conflict with any ordinance of the City of Knoxville regulating nuisances; provided, however, that no building or occupancy permit shall be issued for any of the following uses until and unless the location of such use shall have been approved by the Council.

1. Acid manufacture.
2. Cement, lime, gypsum or plaster of paris manufacture.
3. Distillation of bones.
4. Explosives, manufacture or storage.
5. Fat rendering.
6. Fertilizer manufacture
7. Garbage, offal or dead animal reduction or dumping.
8. Gas manufacture.
9. Glue manufacture.
10. Petroleum refining.
11. Smelting of tin, copper, zinc or iron ores.
12. Stock yards or slaughter of animals.

SECTION 9. NON-CONFORMING USES

The lawful use of land existing at the time of the passage of this ordinance, although such use does not conform to the provisions hereof, may be continued, but if such non-conforming use is discontinued, any future use of said premises shall be in conformity with the provisions of this ordinance.

The lawful use of the building existing at the time of the passage of this ordinance may be continued, although such use does not conform with the provisions hereof, and such use may be extended throughout the building provided no structural alterations, except those required by law or ordinance, are made therein. If no structural alterations are made, a non-conforming use of a building may be changed to another non-conforming use of the same or more restricted classification.

The foregoing provisions shall also apply to non-conforming uses in districts hereafter changed.

Nothing in this ordinance shall be taken to prevent the restoration of a building destroyed to the extent of not more than fifty percent of its reasonable value, by fire, explosion or other casualty, or act of God, or the public enemy, nor the continued occupancy or use of such building or part thereof which existed at the time of such partial destructions.

SECTION 10. HEIGHT AND AREA REGULATIONS "A" ONE-FAMILY AND "B' TWO-FAMILY DISTRICTS

In the "A" One-Family and "B" Two-FamilyDistricts the height of buildings, the minimum dimensions of yards and the minimum lot area per family shall be as follows:

HEIGHT: No building hereafter erected or structurally altered shall exceed two and one-half (2½) stories or thirty-five (35) feet. See Section 18.

REAR YARD: There shall be a rear yard having a depth of not less than twenty (20) per cent of the depth of the lot, provided such rear yard need not exceed twenty-five (25) feet. See Section 18.

SIDE YARD: There shall be a side yard on each side of a building having a width of not less than ten (10) per cent of the width of the lot, provided such side yards need not exceed five (5) feet in width. See Section 18.

FRONT YARD: There shall be a front yard of not less than twenty-five (25) feet to the front line of the building and not less than fifteen (15) feet to the front line of a porch or paved terrace, provided, however, that:

(1) Where lots comprising forty (40) percent or more of the frontage are developed with buildings having an average front yard with a variation of not more than six (6) feet, no building hereafter erected or structurally altered shall project beyond the average front yard line so established, provided, further, that this regulation shall not be so interpreted as to require a front yard of more than fifty (50) feet.

(2) On corner lots the side yard regulation shall apply to the street side of the lot except in the case of reversed frontage where the corner lot faces an intersecting street. In this case there shall be a side yard on the street side of the corner lot of not less than fifty (50) per cent of the front yard requirement for lots in the rear of such corner lot, and no accessory building on said corner lot shall project beyond the front yard line on the lots in the rear; provided further that this regulation shall not be so interpreted as to reduce the buildable width of a corner lot facing an intersecting street and of record at the time of the passage of this ordinance to less than twenty-eight (28) feet nor to prohibit the erection of an accessory building where this regulation cannot reasonably be complied with.

LOT AREA PER FAMILY: In the "A" One-Family District every building hereafter erected or structurally altered shall provide a lot area of not less than five thousand (5,000) square feet per family.

In the "B" Two-Family District every building hereafter erected or structurally altered shall provide a lot area of not less than twenty-five hundred (2500) square feet per family.

Provided, however, that where a lot has less area than herein required and was of record at the time of the passage of this ordinance, said lot may be occupied by not more than one family.

SECTION 11. HEIGHT AND AREA REGULATIONS "C" APARTMENT DISTRICT

In the "C" Apartment District the height of buildings, the minimum dimensions of yards and the minimum lot area per family shall be as follows:

HEIGHT: No building hereafter erected or structurally altered shall exceed three (3) stories or forty-five (45) feet. See Section 18.

REAR YARD: There shall be a rear yard having a depth of not less than twenty (20) per cent of the depth of the lot, provided such rear yard need not exceed twenty-five (25) feet for interior lots nor fifteen (15) feet for corner lots.

SIDE YARD: For buildings not exceeding two and one-half (2½) stories in height, the side yard requirement shall be the same as required in the One and Two-Family Districts.

For buildings more than two and one-half (2½) stories in height, the side yard shall be increased one (1) foot in width for each additional story above the second story.

FRONT YARD: There shall be a front yard of not less than twenty-five (25) feet to the front line of the building and not less than fifteen (15) feet to the front line of a porch or paved terrace, provided, however, that:

(1) Where lots comprising forty (40) per cent or more of the frontage are developed with buildings having an average front yard with a variation of not more than six (6) feet, no building hereafter erected or structurally altered shall project beyond the average front yard line so established, provided further, that this regulation shall not be so interpreted as to require a front yard of more than fifty (50) feet.

(2) On corner lots the side yard regulation shall apply to the street side of the lot, except in the case of reversed frontage where the corner lot faces an intersecting street. In this case, there shall be a side yard on the street side of the corner lot of not less than fifty (50) per cent of the front yard required on the lots in the rear of such corner lot, and no accessory building on said corner lot shall project beyond the front yard line on the lots in the rear; provided further, that this regulation shall not be so interpreted as to reduce the buildable width of a corner lot facing an intersecting street and of record at the time of the passage of this ordinance to less than twenty-eight (28) feet, nor to prohibit the erection of an accessory building where this regulation cannot reasonably be complied with.

LOT AREA PER FAMILY: Every building hereafter erected shall provide a lot area of not less than six hundred (600) square feet per family, provided, however, that this regulation shall not apply to hotels or apartment hotels where no cooking is done in any individual room, suite or apartment. See Section 18.

SECTION 12. HEIGHT AND AREA REGULATIONS "D" APARTMENT DISTRICT

In the "D" Apartment District the height of buildings, the minimum dimensions of yards and the minimum lot area per family shall be as follows:

HEIGHT: No building hereafter erected or structurally altered shall exceed six (6) stories or seventy-five (75) feet. See Section 18.

REAR YARD: There shall be a rear yard having a depth of not less than twenty (20) per cent of the depth of the lot, provided such rear yard need not exceed twenty-five (25) feet for interior lots nor fifteen (15) feet for corner lots.

SIDE YARD: For buildings not exceeding two and one-half (2½) stories in height the side yard requirement shall be the same as required in the One and Two-Family Districts.

For buildings more than two and one-half (2½) stories in height the side yard shall be increased one (1) foot in width for each additional story above the second story.

FRONT YARD: There shall be a front yard of not less than twenty-five (25) feet to the front line of the building and not less than fifteen (15) feet to the front line of a porch or paved terrace, provided, however, that:

(1) Where lots comprising forty (40) per cent or more of the frontage are developed with buildings having an average front yard with a variation of not more than six (6) feet, no building hereafter erected or structurally altered shall project beyond the average front yard line so established, provided further, that this regulation shall not be so interpreted as to require a front yard of more than fifty (50) feet.

(2) On corner lots the side yard regulation shall apply to the street side of the lot except in the case of reversed frontage where the corner lot faces an intersecting street. In this case, there shall be a side yard on the street side of the corner lot of not less than fifty (50) per cent of the front yard required on the lots in the rear of such corner lot, and no accessory building on said corner lot shall project beyond the front yard line on the lots in the rear; provided further that this regulation shall not be so interpreted as to reduce the buildable width of a corner lot facing an intersecting street and of record at the time of the passage of this ordinance to less than twenty-eight (28) feet, nor to prohibit the erection of an accessory building where this regulation cannot reasonably be complied with.

LOT AREA PER FAMILY: Every building hereafter erected shall provide a lot area of not less than four hundred (400) square feet per family, provided, however, that this regulation shall not apply to hotels or apartment hotels where no cooking is done in any individual room, suite or apartment. See Section 18.

SECTION 13. HEIGHT AND AREA REGULATIONS "E" COMMERCIAL DISTRICT

In the "E" Commercial District the height of buildings, the minimum dimension of yards, and the minimum lot area per family shall be as follows, provided, however, that buildings erected for dwelling purposes shall comply with the Front and Side Yard Regulations of the "A" One-Family District.

HEIGHT: No building hereafter erected or structurally altered shall exceed two and one-half stories or thirty-five (35) feet. See Section 18.

REAR YARD: There shall be a rear yard having a depth of not less than twenty (20) per cent of the depth of the lot, provided such rear yard shall not exceed twenty-five (25) feet. See Section 18.

SIDE YARD: Not required except on that side of a lot abutting upon the side of a lot zoned for dwelling purposes in which case there shall be a side yard of not less than three (3) feet. In other cases a side yard, if provided for a commercial building, shall be not less than three (3) feet.

FRONT YARD: Where all the frontage on one side of the street between two intersecting streets is located in the Commercial District, no front yard shall be required. Where the frontage on one side of the street between two intersecting streets is located in the Commercial District and the Dwelling District, the front yard requirement in the Dwelling District, including the side yard on a reversed corner lot only, shall apply to the Commercial District.

LOT AREA PER FAMILY: Every building hereafter erected or structurally altered shall provide a lot area of not less than twenty-five hundred (2500) square feet per family.

SECTION 14. HEIGHT AND AREA REGULATIONS "F" COMMERCIAL AND "I" LIGHT INDUSTRIAL DISTRICTS

In the "F" Commercial and "I" Light Industrial Districts the height of buildings, the minimum dimension of yards and the minimum lot area per family shall be as follows, provided, however, that buildings erected for dwelling purposes exclusively shall comply with the Front and Side Yard regulations of the "C" Apartment District.

HEIGHT: No building hereafter erected or structurally altered shall exceed three (3) stories or forty-five (45) feet. See Section 18.

REAR YARDS In the "F" Commercial District there shall be a rear yard having a depth of not less than twenty (20) per cent of the depth of the lot, provided such rear yard need not exceed twenty-five (25) feet for interior lots nor fifteen (15) feet for corner lots.

In the "I" Industrial District no rear yard shall be required except where the "I" Industrial District abuts on the Dwelling District in which case there shall be a rear yard of not less than ten (10) feet.

SIDE YARD: Not required except on that side of a lot abutting upon the side of a lot zoned for dwelling purposes in which case there shall be a side yard of not less than three (3) feet. In other cases a side yard, if provided for a business building, shall be not less than three (3) feet.

FRONT YARD: Where all the frontage on one side of the street between two intersecting streets is located in the Business District no front yard shall be required. Where the frontage on one side of the street between two intersecting streets is located in the Business District and a Dwelling District the front yard requirement in the Dwelling District shall apply to the Business District, provided however, that no side yard shall be required on the street side of any corner lot used for business purposes.

LOT AREA PER FAMILY: Every building hereafter erected shall provide a lot area of not less than six hundred (600) square feet per family, provided, however, that this regulation shall not apply to hotels or apartment hotels where no cooking is done in any individual room, suite or apartment. See Section 18.

SECTION 15. HEIGHT AND AREA REGULATIONS "G" COMMERCIAL DISTRICT

In the "G" Commercial District the height of buildings, the minimum dimension of yards and the minimum lot area per family shall be as follows, provided, however, that buildings or portions thereof erected for dwelling purposes shall comply with the Side and Rear Yard regulations of the "D" Apartment District.

HEIGHT: No building hereafter erected or structurally altered shall exceed six stories or seventy-five (75) feet. See Section 18.

REAR YARD: There shall be a rear yard of not less than ten (10) feet.

SIDE YARD: Not required except on that side of a lot abutting upon the side of a lot zoned for dwelling purposes in which case there shall be a side yard of not less than three (3) feet. In other cases a side yard, if provided for a commercial building, shall be not less than three (3) feet.

FRONT YARD: Where all the frontage on one side of the street between two intersecting streets is located in the Business District no front yard shall be required. Where the frontage on one side of the street between two intersecting streets is located in the Business District and a Dwelling District, the front yard requirement in the Dwelling District shall apply to the Business District, provided, however, that no side yard shall be required on the street side of any corner lot used for business purposes.

LOT AREA PER FAMILY: Every building or portion thereof hereafter erected or structurally altered shall provide a lot area of not less than four hundred (400) square feet per family, provided, however, that this regulation shall not apply to hotels or apartment hotels where no cooking is done in any individual room, suite or apartment. See Section 18.

SECTION 16. HEIGHT AND AREA REGULATIONS "J" LIGHT INDUSTRIAL AND "K" HEAVY INDUSTRIAL DISTRICTS

In the "J" Light Industrial and "K" Heavy Industrial Districts the height of buildings and the minimum dimensions of yards shall be as follows, provided, however, that buildings erected or structurally altered for dwelling purposes shall comply with the Side and Rear Yard and Lot Area per Family Regulations of the "D" Apartment District. See Section 18.

HEIGHT: No building hereafter erected or structurally altered shall exceed eight (8) stories or one hundred (100) feet. See Section 18.

REAR YARD: No rear yard shall be required except where an Industrial District abuts on a Dwelling District, in which case there shall be a rear yard of not less than ten (10) feet.

SIDE YARD: Not required except on that side of a lot abutting upon the side of a lot zoned for dwelling purposes in which case there shall be a side yard of not less than three (3) feet. In other cases a side yard, if provided for a business building, shall be not less than three (3) feet.

SECTION 17. HEIGHT AND AREA REGULATIONS "H" BUSINESS DISTRICT

In the "H" Business District the height and size of buildings shall be as follows, provided, however, that buildings erected or structurally altered for dwelling purposes shall comply with the Side and Rear Yard and Lot Area per Family Regulations of the "D" Apartment District. See Section 18.

HEIGHT: No building hereafter erected or structurally altered shall exceed a height at the street line of two (2) times the width of the street but above the height permitted at the street line four (4) feet may be added to the height of the building for each one (1) foot that the building or portion thereof is set back from the street line; provided, however, that the cubical contents of such building shall not exceed the contents of a prism having a base equal to the area of the lot and a height of one hundred and fifty (150) feet. See Section 18.

SECTION 18. HEIGHT AND AREA EXCEPTIONS

The foregoing requirements in the height and area districts shall be subject to the following exceptions and regulations:

HEIGHT: (a) That in the thirty-five (35) and forty-five (45) foot height districts, public or semi-public buildings, hospitals, sanitariums or schools may be erected to a height not exceeding seventy-five (75) feet when the front, side and rear yards are increased an additional foot for each foot such buildings exceed thirty-five (35) and forty-five (45) feet respectively, in height.

(b) One-family dwellings in the thirty-five (35) foot height district may be increased in height by not more than ten (10) feet when two (2) side yards of not less than fifteen (15) feet each are provided. Such dwellings, however, shall not exceed three (3) stories in height.

(c) Chimneys, towers, penthouses, scenery lofts, sugar refineries, monuments, cupolas, domes, spires, false mansards, parapet walls, similar structures and necessary mechanical appurtenances may be erected as to their height in accordance with existing or hereafter adopted ordinances of the City of Knoxville.

(d) On through lots one hundred and fifty (150) feet or less in depth the height of a building may be measured from the curb level on either street. On through lots more than one hundred and fifty (150) feet in depth the height regulations and basis of height measurements for the street permitting the greater height shall apply to a depth of not more than one hundred and fifty (150) feet from that street.

(e) In the "H" Business District for a building located on a lot at the intersection of streets of different widths the height permitted on the wider street shall be allowed along the narrower street.

(f) In the "H" Business District where streets are less than 50 feet wide, the same height regulations shall apply as on streets fifty (50) feet in width and on streets more than one hundred (100) feet wide, the same height regulations shall be applied as on streets one hundred (100) feet in width.

(g) Buildings may exceed the height limits where foundations or structural provisions have been made prior to the passage of this ordinance in anticipation of a definite height.

AREA: (h) For the purpose of side yard regulations, semi-detached (two-family) dwelling or a double duplex (four-family) dwelling shall be considered as one building occupying one lot.

(i) In the case of group houses or court apartments buildings may rear upon the required side yard, provided that:

(1) For group houses the required side yard shall be increased by one (1) foot for each building abutting thereon.

(2) For apartment houses the required side yard shall be increased by one (1) foot for each stairway opening onto or served by such side yard.

(3) The width of the place or court shall not be less than three (3) times the width of the side yard as required in this provision, provided that open, unenclosed porches may project into a required place or court not more than twenty (20) per cent of the width of such place or court.

(4) Where a roadway is provided in the place or court the width allowed for such roadway shall be in addition to that required above.

(5) All other requirements, including front, side, and rear yards, shall be complied with in accordance with the district in which such group houses or court apartments are located.

(j) The side yard requirement for dwellings shall be waived where dwellings are erected above stores.

(k) In computing the depth of a rear yard, for any building where such yard opens onto an alley, one-half of such alley may be assumed to be a portion of the rear yard.

(l) An accessory building not exceeding twelve (12) feet in height may occupy not more than thirty (30) per cent of a required rear yard.

(m) Every part of a required yard or court shall be open from its lowest point to the sky unobstructed, except for the ordinary projection of sills, belt course, cornices, buttresses, ornamental features and eaves; provided, however, that none of the above projections shall extend into a court more than six (6) inches nor into a minimum side yard more than twenty-four (24) inches.

(n) No cornices shall project over the street line more than five (5) per cent of the width of such street, and shall in no case project more than four (4) feet.

(o) Open or enclosed fire escapes, fireproof outside stairways and balconies projecting into a yard or court not more than three and one-half (3½) feet, and the ordinary projections of chimneys and flues may be permitted by the Building Inspector where same are so placed as not to obstruct the light and ventilation.

SECTION 19. ADJUSTMENTS
PURPOSE, JURISDICTION, AND APPROVAL

Where there are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of this ordinance, the City Planning Commission (hereinafter referred to as the Planning Commission) shall have the power to vary or modify any of the rules, regulations or provisions contained herein so that the spirit of the ordinance shall be observed, public welfare secured and substantial justice done. Provided, however, that any action or decision of the Planning Commission in permitting a variation of the application of the regulations herein established must be approved by the Council before such variation is allowed.

The Planning Commission shall also have the following specific powers, provided, however, that before any variation is allowed or any permit is issued the same must be approved by the Council.

(1) To hear and decide appeals where it is alleged there is error in any order, requirement, decision or determination made by the Building Inspector in the enforcement of this ordinance.

(2) Permit the extension of a district where the boundary line divides a lot in a single ownership at the time of the passage of this ordinance.

(3) Permit a temporary building for commerce or industry in a Dwelling District which is incidental to the residential development, such permit to be issued for a period of not more than one (1) year.

(4) Permit public utility or public service uses and structures in any district when found to be necessary for the public health, convenience, safety or welfare.

(5) Permit the location of the following uses in a district from which they are prohibited by this ordinance: Cemetery, Amusement Park, Airport, Tourist Camp, Nursery, Greenhouse, Library, Museum, Community Center, Hospital, and Institution of the Educational or Philanthropic Nature.

(6) Permit a public garage in a Commercial District where it is deemed necessary for the public convenience or welfare.

(7) Interpret the provisions of this ordinance in such a way as to carry out the intent and purpose of the plan, as shown upon the map, fixing the several districts, accompanying and made a part of this ordinance, where the street layout actually on the ground varies from the street layout as shown on the maps aforesaid.

(8) Adopt from time to time such rules and regulations as may be deemed necessary to carry into effect the provisions of this ordinance.

APPEAL

The City Planning Commission shall hear appeals from the action of the Building Inspector and determine the rights of such applicant. Appeal to the Planning Commission may be taken by any person aggrieved and such appeal shall be taken within such reasonable time as provided by the rules of

the Planning Commission by filing with the Building Inspector and the Planning Commission a notice of appeal specifying the grounds thereof. The Building Inspector shall forthwith transmit to the Planning Commission all papers constituting the record upon which the action appealed from was taken.

MEETINGS

Meetings of the Planning Commission for the purpose of considering zoning adjustments shall be held at least once a month or at the call of the chairman at such other times as the Planning Commission may determine. The Planning Commission shall adopt its own rules of procedure and keep a record of its proceedings showing the action of the Planning Commission on each question considered.

SECTION 20. CERTIFICATE OF OCCUPANCY

No vacant land shall be occupied or used, except for agriculture uses, and no building hereafter erected or structurally altered shall be occupied or used until a certificate of occupancy shall have been issued by the Building Inspector.

CERTIFICATE OF OCCUPANCY FOR A BUILDING

Certificate of Occupancy for a new building or the alteration of an existing building shall be applied for coincident with the application for a building permit and said certificate shall be issued within three days after the requests for same shall have been made in writing to the Building Inspector after the erection or alteration of such building or part thereof shall have been completed in conformity with the provisions of these regulations. Pending the issuance of a regular certificate a temporary certificate of occupancy may be issued by the Building Inspector for a period not exceeding six months, during the completion of alterations or during partial occupancy of a building pending its completion. Such temporary certificate shall not be construed as in any way altering the respective rights, duties or obligations of the owners or of the city relating to the use or occupancy of the premises or any other matter covered by this Ordinance, and such temporary certificate shall not be issued except under such restrictions and provisions as will adequately insure the safety of the occupants.

CERTIFICATE OF OCCUPANCY FOR LAND

Certificate of Occupancy for the use of vacant land or the change in the character of the use of land as herein provided, shall be applied for before any such land shall be occupied or used and a certificate of occupancy shall be issued within three (3) days after the application has been made, provided such use is in conformity with the provisions of these regulations.

Certificate of Occupancy shall state that the building or proposed use of a building or land complies with all the building and health laws and ordinances and with the provisions of these regulations. A record of all certificates shall be kept on file in the office of the Building Inspector, and copies shall be furnished, on request, to any person having a proprietary or tenancy interest in the building affected. No fee shall be charged for a certificate of occupancy.

No permit for excavation for any building shall be issued before application has been made for certificate of occupancy.

SECTION 21. PLATS

All applications for building permits shall be accompanied by a drawing or plat, in duplicate, showing the lot plan; the location of the building on the lot; accurate dimensions of building and lot and such other information as may be necessary to provide for the enforcement of these regulations. A careful record of the original copy of such applications and plats shall be kept in the office of the Building Inspector and the duplicate copy shall be kept at the building at all times during construction.

SECTION 22. BOUNDARIES OF DISTRICTS

Where uncertainty exists with respect to the boundaries of the various districts as shown on the map accompanying and made a part of this ordinance, the following rules shall apply:

(a) The district boundaries are either streets or alleys unless otherwise shown, and where the designation on the map accompanying and made a part of this ordinance indicating the various

districts are approximately bounded by street or alley lines, said street or alley shall be construed to be the boundary of such district.

(b) Where the district boundaries are not otherwise indicated and where the property has been or may hereafter be divided into blocks and lots, the district boundaries shall be construed to be lot lines and where the designation on the map accompanying and made a part of this ordinance indicating the various districts are approximately bounded by lot lines, said lot lines shall be construed to be the boundary of such district unless said boundaries are otherwise indicated on the maps.

(c) In unsubdivided property, the district boundary lines on the maps accompanying and made a part of this ordinance shall be determined by use of the scale contained on such map.

SECTION 23. INTERPRETATION, PURPOSE AND CONFLICT

In interpreting and applying the provisions of this ordinance, they shall be held to be the minimum requirements for the promotion of the public safety, health, convenience, comfort, prosperity or general welfare. It is not intended by this ordinance to interfere with or abrogate or annul any easements, covenants or other agreement between parties, provided, however, that where this ordinance imposes a greater restriction upon the use of buildings or premises or upon height of buildings, or requires larger open spaces than are imposed or required by other ordinances, rules, regulations or by easements, covenants or agreements, the provisions of this ordinance shall govern.

SECTION 24. CHANGES AND AMENDMENTS

The City Council of the City of Knoxville may from time to time, on its own motion, or on petition after report by the City Planning Commission and after hearing and public notice of such hearing given by one publication in the official newspaper at least ten (10) days before the time of hearing, amend, supplement or change the regulations and districts herein or subsequently established. Whenever the owners of 50 per cent or more of the area of all the property within a radius of two hundred (200) feet of any area proposed to be changed, shall present to the Council a petition duly signed and acknowledged by them, requesting any such amendment, supplement or change of the regulations prescribed for such district, or part thereof, the Council shall act upon such petition within ninety days after the filing thereof. No amendment, change or supplement of the regulations or of the boundaries of districts herein established shall be made except by a majority vote of the Council, and if at the time of the hearing thereon a protest against such amendment, supplement or change is presented, duly signed and acknowledged by the owners of twenty per cent or more of the frontage of property which will be directly affected by the proposed amendment, supplement or change, or by the owners of twenty per cent of the frontage of property which is immediately adjacent thereto, either in the rear, on the side, or across the street, no such amendment, change, or supplement shall be adopted except by vote of at least eight members of the Council.

SECTION 25. VALIDITY

Should any section, clause or provision of this ordinance be declared by the Court to be invalid, the same shall not affect the validity of the ordinance as a whole or any part thereof, other than the part so declared to be invalid.

SECTION 26. ENFORCEMENT, LEGAL PROCEDURE, PENALTIES

It shall be the duty of the City Manager through the proper department to enforce this ordinance.

Any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this ordinance shall be fined not less than five (5) dollars or more than fifty (50) dollars for each offense. Each day that a violation is permitted to exist shall constitute a separate offense.

SECTION 27. WHEN EFFECTIVE

Be it further ordained that this ordinance shall take effect 17 days from and after its passage, the welfare of the city requiring it.

APPENDIX D

ORDINANCE NO. 175

AN ORDINANCE TO CREATE A PARK BOARD FOR THE CITY OF KNOXVILLE

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF KNOXVILLE:

SECTION 1: That there is hereby created a Park Board of five members who shall have the same qualifications as City Councilmen, except that two of the members may be non-residents of the city but residents of Knox County, and one of whom shall be a woman member. Said Board shall be appointed by the City Manager, subject to the approval of the Council. The first Board appointed shall serve respectively one, two, three, four and five years. Thereafter, each member shall be appointed for a term of five years. The Director of Public Welfare shall be an ex-officio member of said Board.

SECTION 2: BE IT FURTHER ORDAINED, That said Board shall organize by electing one of its members President, one Vice-President and one Secretary. The Board shall have authority to elect a Secretary who is not a member of the Board. The officers shall hold office for one year and until their successors are elected and qualified. The Board shall hold regular meetings at least once each month and shall establish rules and regulations for its government and for the performance of its duties. Special meetings may be called from time to time by the President. Three members of the Board shall constitute a quorum for the transaction of business.

SECTION 3: BE IT FURTHER ORDAINED, That the Park Board shall, subject to the authority of the City Council and the Director of Public Welfare and as provided by the City Charter, control the management and maintenance of all public parks, parkways, lakes, municipal squares, improved or unimproved, and the grounds surrounding all municipal buildings (except school buildings) now owned or controlled or which may hereafter be acquired by the City of Knoxville, either within or without the corporate limits of the City. It shall have the management and control of the beautifying and parking of any ground, street or boulevard or part thereof which the City Council may designate to receive such improvement. Said Board shall in addition exercise supervision and control over the planting and care of all trees, plants and shrubs of any kind in the public parks and other grounds under its jurisdiction. It shall study and recommend to the Council the manner and method of procedure to be adopted in the acquirement of parks and recreational facilities for the City of Knoxville, the general plan for which has heretofore been submitted by the City Planning Commission.

SERTION 4: BE IT FURTHER ORDAINED, That the members of the Park Board shall be subject to removal from office by the City Council for any cause deemed by the Council sufficient for their removal in the interest of the public service; but only after a public hearing before the City Council on charges publicly made, if demanded by such member within ten days. Any vacancy in the membership of said Board shall be filled by the City Council for the unexpired term of the member whose place has by removal or otherwise become vacant.

SECTION 5: BE IT FURTHER ORDAINED, That it shall be the duty of all City Departments to render assistance to the Park Board in the way of information, advice and cooperation.

SECTION 6: BE IT FURTHER ORDAINED, That this ordinance shall take effect seventeen days from and after its passage, the welfare of the City requiring it.

Presiding Officer of the Council.

Recorder.

APPENDIX E

CITY PLANNING ENABLING ACT

AN ACT ENTITLED: "AN ACT TO AMEND AN ACT ENTITLED: 'AN ACT TO INCORPORATE THE CITY OF KNOXVILLE IN KNOX COUNTY, TENNESSEE, AND TO DEFINE THE RIGHTS, POWERS AND LIABILITIES OF THE SAME; TO FIX THE BOUNDARIES OF SAID MUNICIPALITY AND TO REPEAL ALL ACTS OR PARTS OF ACTS IN CONFLICT WITH THIS ACT,' BEING CHAPTER 412 OF THE PRIVATE ACTS OF 1923 OF THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE, AS AMENDED, SO AS TO AUTHORIZE AND EMPOWER THE CITY OF KNOXVILLE TO ADOPT, AMEND AND ENFORCE A CITY PLAN; TO REGULATE THE PLANNING OF THE USES OF ALL LAND WITHIN SAID CITY AND THE ENFORCEMENT THEREOF; TO PROVIDE FOR THE CREATION, ORGANIZATION, DUTIES AND POWERS OF A PLANNING COMMISSION; TO REGULATE AND CONTROL THE LAYING OUT OF LAND SUBDIVISION, STREETS, AND LANDS DEVOTED OR TO BE DEVOTED TO PUBLIC USE; TO PROVIDE PENALTIES FOR VIOLATIONS OF THIS ACT AND ORDINANCES AND REGULATIONS ADOPTED PURSUANT THERETO.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE, as follows:

SECTION 1. *Definitions.* That for the purpose of this act certain terms are defined as provided in this section. Wherever appropriate, the singular includes the plural, and the plural includes the singular. "Mayor" means the chief executive of the municipality, whether the official designation of his office be mayor, city manager, or otherwise. "Council" means the chief legislative body of the municipality. "Subdivision" means the division of a lot, tract or parcel of land into two or more lots for the purpose, whether immediate or future, of sale or of building development. It includes resubdivision, and, when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided.

SECTION 2. *Grant of Power.* BE IT FURTHER ENACTED, That the Council is hereby authorized and empowered to make, adopt, amend, extend, add to and carry out a municipal plan as provided in this act, and, in order to avail itself of the powers herein conferred, to create by ordinance a planning commission with the powers and duties herein set forth.

SECTION 3. *Personnel of the Commission.* BE IT FURTHER ENACTED, That the planning commission shall consist of not less than seven and not more than eleven members, and not more than four administrative officials in charge of public work affecting municipal planning. All members of the commission shall serve as such without compensation. The terms of ex-officio members shall correspond to their respective official tenures. Proper provision shall be made in the ordinance creating such commission for the terms of office of the appointed members, for the removal of any member for inefficiency, neglect of duty or malfeasance in office, and for the filling of vacancies.

SECTION 4. *Organization and Rules.* BE IT FURTHER ENACTED, That the commission shall elect the chairman from amongst the appointed members and create and fill such other offices as it may determine. The term of chairman shall be one year, with eligibility for reelection. The commission shall hold at least one regular meeting in each month. It shall adopt rules for transaction of business and shall keep a record of its resolutions, transactions, findings, and determinations, which record shall be a public record.

SECTION 5. *Staff and Finances.* BE IT FURTHER ENACTED, That the commission may appoint such employees as it may deem necessary for its work. The commission may also contract with city planners, engineers, architects, and other consultants for such services as it may require. The expenditures of the commission, exclusive of gifts, shall be within the amounts appropriated for the purpose by council, which shall provide the funds, equipment, and accommodations necessary for the commission's work.

SECTION 6. *General Powers and Duties.* BE IT FURTHER ENACTED, That it shall be the duty of the commission to make a master plan for the physical development of the municipality and of any land outside the boundaries which, in the commission's judgment, bears relation to the planning of such municipality. Such plan, with the accompanying maps, plats, charts, and descriptive matter, shall show the commission's recommendations for the development of said territory, including, among other things, the general location, character, and extent of the streets, viaducts, subways, bridges, waterways, water fronts, boulevards, parkways, playgrounds, squares, parks, aviation fields, and other public ways, grounds and open spaces; the general location of public buildings and other public property; and the general location and extent of public utilities and terminals, whether publicly or privately owned or operated, for water, light, sanitation, transportation, communication, power, and other purposes; and the removal, relocation, widening, narrowing, vacating, abandonment, change of use, or extension of any of the foregoing ways, grounds, open spaces, buildings, property utilities, or terminals, as well as a zoning plan for the control of the height, area, bulk, location and use of buildings and premises. The commission may from time to time prepare and publish a part of the plan covering one or more of the aforesaid subject matters. The commission may from time to time propose and recommend amendments extensions, and additions to the plan.

SECTION 7. *Purposes in View.* BE IT FURTHER ENACTED, That in the preparation of such plans, the commission shall make careful and comprehensive studies of present conditions and future growth of the municipality and with due regard to its relation to neighboring territory. The plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the municipality and its environs which will, in accordance with the present and future needs, best promote health, safety, morals, order, convenience, prosperity, and general welfare, as well as efficiency and economy in the process of development; including among other things, adequate provision for traffic and for safety from fire and other dangers, adequate provision for light and air, the promotion of the distribution of population and of good civic life, design and arrangement, wise and efficient expenditures of public funds, and the adequate development of public utilities and other public requirements.

SECTION 8. *Procedure of Commission.* BE IT FURTHER ENACTED, That during preparation of the master plan or any substantial or organic part of it or any substantial amendment thereof, and before it shall recommend adoption of the same, the commission shall hold at least one public hearing thereon, notice of the time of which shall be given by one publication in a newspaper of general circulation in the municipality. Thereafter, the plan or part or amendment thereof shall be adopted by the commission as its final report, by resolution carried by the affirmative votes of not less than two-thirds of all the members. The resolution shall refer expressly to the maps and descriptive and other matter intended by the commission to form the whole or part of its final report, and the action taken shall be recorded on the map and plan and descriptive matter by identifying signature of the secretary of the commission. An attested copy of the final report shall be certified to council, and shall be taken by council as the commission's recommendations concerning the plan or part or amendment thereof. Council shall take no action on any such plan or part or amendment thereof, or hold any public hearings thereon, until it has received the final report of the commission relative thereto.

SECTION 9. *Legal Status of Official Plan.* BE IT FURTHER ENACTED, That the council of such municipality, in adopting the plan or part or amendment thereof herein provided for, shall provide for the manner in which the same shall be enforced, and from time to time amended, extended or added to. Whenever the council shall have adopted by ordinance the master plan of the municipality or of any major section or district thereof, and the same shall have gone into effect, no street, square, park, or other public way, ground, or open space, or public building or structure, or public utility, whether publicly or privately owned, shall be constructed or authorized in the municipality until the location, character, and extent thereof shall have been submitted to and approved by the commission; provided that in case of disapproval the commission shall communicate its reasons to council, which shall have the power to overrule such disapproval by a recorded vote of not less than two-thirds of its entire membership. The failure of the commission to act within 60 days from and after the date of official submission to the commission shall be deemed approval.

SECTION 10. *Miscellaneous Powers and Duties.* BE IT FURTHER ENACTED, That the commission shall have power to promote public interest in and understanding of the municipal plan, and to that

end may publish and distribute copies of the plan or of any report and may employ such other means of publicity and education as it may determine. The commission shall, from time to time, recommend to the appropriate public officials programs for specific improvements and for the financing thereof. It shall be part of its duties to consult and advise with public officials and agencies, public utility companies, civic, educational, professional and other organizations, and citizens with relation to the carrying out of the plan. The commission shall have the right to accept and use gifts for the exercise of its functions. All public officials shall, upon request, furnish the commission, within a reasonable time, such available information as it may require for its work. The commission, its members, officers, and employees, in the performance of their function, may enter upon any land and make examinations and surveys and place and maintain necessary monuments and marks thereon. In general, the commission shall have such powers as may be necessary to enable it to fulfill its functions and carry out the purposes of this act.

SECTION 11. *Zoning.* BE IT FURTHER ENACTED, That the commission shall have all powers heretofore granted by law to the zoning commission of the municipality and, from and after the creating of a planning commission in such municipality, all powers and records of the zoning commission shall be transferred to the planning commission; *provided, however,* that in the event that the existing zoning commission shall be nearing the completion of its zoning plan, council may by resolution postpone the said transfer of the zoning commission's powers until the completion of such zoning plan; provided, that such postponement shall not exceed a period of six months.

SECTION 12. *Platting Jurisdiction.* BE IT FURTHER ENACTED, That the planning commission of any municipality shall have jurisdiction of the subdivision of land located in the municipality.

SECTION 13. *Scope of Control of Subdivision.* BE IT FURTHER ENACTED, That whenever any municipality shall have adopted a major street plan and shall have created a planning commission pursuant to the terms hereof. then no plat of a subdivision of land within such municipality shall be filed or recorded until it shall have been approved by such planning commission and such approval entered in writing on the plat by the chairman or secretary of the commission.

SECTION 14. *Platting Regulations.* BE IT FURTHER ENACTED, That to carry out and give effect to the major street plan and master plan adopted by the municipality, and before exercising the powers referred to in section 13, the planning commission shall adopt general regulations governing the subdivision of land within its jurisdiction. Such regulations may provide for the proper width and arrangement of streets in conformity with topographic conditions and in compliance with the master plan, and may provide for adequate rights of way and open spaces for traffic, utilities. access of fire-fighting apparatus, recreation, light and air, and for the avoidance of congestion of traffic and of population. including requirements as to the minimum width and area of building lots. Such regulations may include provisions as to the extent to which streets and other public ways shall be graded and improved, and to which water and sewer and other utility mains, piping or other facilities shall be installed as a condition precedent to the approval of the plat. The regulations or practice of the commission may provide for a tentative approval of the plat previous to such installation; but any such tentative approval shall be revocable and shall not be entered on the plat. In lieu of the completion of such improvements and utilities prior to the final approval of the plat, the commission may accept a bond with surety to secure to the municipality the actual construction and installation of such improvements or utilities at a time and according to specifications fixed by or in accordance with the regulations of the commission. The municipality is hereby granted the power to enforce such bond by all appropriate legal and equitable remedies.

All such regulations shall be published as provided by law for the publication of ordinances; and before adoption, a public hearing shall be held thereon. A copy thereof shall be certified by the commission to the register of deeds.

SECTION 15. *Procedure. Legal Effect of Approval of Plat.* BE IT FURTHER ENACTED, That the planning commission shall approve or disapprove a plat within 30 days after the submission thereof to it, otherwise such plat shall be deemed to have been approved, and a certificate to that effect shall be issued by the commission on demand: *Provided, however,* that the applicant for the commission's approval may waive this requirement and consent to an extension of such period. The ground of

disapproval of any plat shall be stated upon the records of the commission. Any plat submitted to the commission shall contain the name and address of a person to whom notice of a hearing shall be sent; and no plat shall be acted on by the commission without affording a hearing thereon. Notice shall be sent to the said address by registered mail of the time and place of such hearing not less than five days before the date fixed therefor. Approval of a plat shall not be deemed to constitute or effect an acceptance by the public of any street or open space shown upon the plat. The planning commission may, from time to time, recommend to council amendments of the zoning ordinance or map or additions thereto conform to the commission's recommendations for the zoning regulation of the territory comprised within approved subdivisions. The commission shall have the power to agree with the applicant upon use, height or area requirements or restrictions governing buildings and premises within the subdivision, provided such requirements or restrictons do not violate the then effective zoning ordinance of the municipality. Such requirements or restrictions shall be stated upon the plat prior to the approval and recording thereof and shall have the same force of law and be enforceable in the same manner and with the same penalties and subject to the same power of amendment or repeal as though set out as a part of the zoning ordinance.

SECTION 16. *Penalties for Transferring Lots in Unapproved Subdivisions.* BE IT FURTHER ENACTED, That whoever, being the owner or agent of the owner of any land located within a subdivision, transfers or sells or agrees to sell or negotiate to sell any land by reference to or exhibition of or by other use of a plat of a subdivision, before such plat has been approved by the planning commission and recorded or filed in the office of the appropriate county register, shall forfeit and pay a penalty of $100 for each lot or parcel so transferred or sold, or agreed or negotiated to be sold and the description of such lot or parcel by metes and bounds in the instrument of transfer or other document used in the process of selling or transferring shall not exempt the transaction from such penalties or from the remedies herein provided. The municipal corporation many enjoin such transfer or sale or agreement by action for injuncton brought in any court of equity jurisdiction or may recover the said penalty by a civil action in any court of competent jurisdiction.

SECTION 17. *County Register's Duties.* BE IT FURTHER ENACTED, That a county register who files or records a plat of a subdivsion without the approval of the planning commission as required by law, shall be deemed guilty of a misdemeanor and shall be fined not less than $25 nor more than $500.

SECTION 18. *Improvements in Unapproved Streets.* BE IT FURTHER ENACTED, That the municipality shall not accept, lay out, open, improve, grade, pave, curb, or light any street, or lay or permit water mains or sewers or connections to be laid in any street, within any portion of the territory for which a major street plan shall have been adopted, unless such street shall have been accepted or opened as, or shall otherwise have received the legal status of, a public street prior to the adoption of such plan, or unless such street corresponds with a street shown on the official master plan or with a street on a subdivsion plat approved by the planning commission or with a street on a street plat or official street map made by and officially adopted by the commission. Council may, however, accept any street not shown on or not corresponding with a street on the official master plan or on an approved subdivision plat or an official street plat or the official map, provided the ordinance or other measure accepting such street be first submitted to the municipal planning commission for its approval and, if approved by the commission, be enacted or passed by not less than a majority of the entire membership of council, or if disapproved by the commission, be enacted or passed by not less than two-thirds of the entire membership of council. A street approved by the planning commission upon submission by council, or accepted by a two-thirds vote after disapproval by the planning commission, shall thereupon have the status of an approved street and part of the official street map as fully as though it had been originally approved or platted by the planning commission.

SECTION 19. *Erection of Buildings.* BE IT FURTHER ENACTED, That from and after the time when a planning commission shall have control over subdivisions as provided in section 13 of this act, no building or part thereof shall be erected an any lot, nor shall a building permit be issued therefor unless the street giving access to the lot upon which such building is proposed to be placed shall have been accepted or opened as, or shall otherwise have received the legal status of, a public street prior to that time, or unless such street corresponds with a street shown on the official master plan or with a street accepted by council, after submission to the planning commission, by the favorable vote required

in section 18 of this act. Any building erected in violation of this section shall be deemed an unlawful structure and the building inspector or other appropriate officials may cause it to be vacated and have it removed.

SECTION 20. *Reservation of Locations of Mapped Streets for Future Public Acquisiton.* BE IT FURTHER ENACTED, That the planning commission is empowered, after the adoption of a major street plan of the territory within its platting jurisdiction, to make or cause to be made, from time to time, surveys for the location of the lines of a street or streets in any portion of such territory and to make a plat of the area or district thus surveyed, showing the land which it recommends to be reserved for future acquisition for public streets. The commission, before making its final recommendations as to such plat, shall hold a public hearing thereon, notice of the time and place of which, with a general description of the district or area covered by the plat, shall be published once not less than ten days previously to the time fixed therefor. After such hearing, the commission may transmit such plat to the council, together with the commission's estimates of the time or times within which the lands, shown on the plat as street locations, should be acqured by the municipality. Thereupon, by resolution, council may approve and adopt or may reject such plat, or may modify it with the approval of the planning commission, or, in the event of the planning commission's disapproval, council may, by a favorable vote of not less than two-thirds of its entire membership, modify such plat and adopt the modified plat. An attested copy of the plat so adopted shall be transmitted to and filed with the recorder of deeds of the county within which the land is located. Council may then by ordinance authorize and direct the institution of condemnation proceedings for the reservation for future taking or acquisition for public use of the land affected, fixing the time for which such street locations shall be deemed reserved. Such approval and adoption of a plat, and such ordinance, however, shall not be deemed the opening or establishment of any street, nor the taking of any land for street purposes nor for public use, nor as a public improvement, but solely a reservation of the street locations established thereby for the period specified, for future taking or acquisition for public use. The commission may, at any time, negotiate for or secure from the owner or owners of any such lands, releases of claims for damages or compensation for such reservations or agreements indemnifying the municipality from such claims by others, which releases or agreements shall be binding upon the owner or owners executing the same and their successors in title. At any time before the award of compensation, as hereinafter provided for, and after a hearing before the commission, similar to that required in the case of the orginal plat, council may order changed any plat previously adopted, cause the new plat to be filed, and direct, by proper ordinance, the amendment of the condemnation proceedings to conform thereto. At any time council may by proper ordinance abandon any reservation and shall so certify to the recorder of deeds.

SECTION 21. *Compensation for such Reservations.* BE IT FURTHER ENACTED, That upon the passage and taking effect of the ordinance directing condemnation, the municipality may proceed to the assessment of damages to the owners of the lands affected thereby in such manner as is provided by law for the taking or damaging of property for public use. Such damages or compensation for the reservation taken, may be paid by the municipality out of any general or special fund which may be provided for that purpose under authority of law, and if such damages or a part thereof shall not be paid by special assessments against benefited property, the amount of same may be included at the time of the final proceeding for opening and establishing the street so reserved as a part of the cost of such opening and establishing, and collected and paid in any manner then provided by law.

SECTION 22. *No Compensation for Buildings in Reserved Street Locations.* BE IT FURTHER ENACTED, That the reservation of a street location, as provided in section 21 of this act, shall not be deemed to prohibit or impair in any respect the use of the reserved land by the owner or occupant thereof for any lawful purpose including the erection of buildings thereon; but no compensation, other than the compensation awarded for such reservation, shall at any time be paid by the municipality or public to or recovered from the municipality or public by any person for the taking of or injury to any building, structure, or other improvement built or erected upon any such reserved location, within the period fixed therefor by ordinance and after service of summons on or notice by publication to the owner thereof.

SECTION 23. *Legislative Intent Expressed.* BE IT FURTHER ENACTED, That if any section, subsection, sentence, clause of phrase of this act is for any reason held to be unconstitutional, such

decision shall not affect the validity of the remaining portions of this act. The general assembly hereby declares that it would have passed this act and each section, sub-section, sentence, clause and phrase thereof, irrespective of the fact that any one or more other sections, sub-sections, sentences, clauses and phrases be declared unconstitutional.

SECTION 24. BE IT FURTHER ENACTED, That the passage of this act shall not in any wise limit, abrogate, or abridge any powers heretofore granted by acts of the General Assembly with reference to the subject matter of this act. The powers herein granted shall be in addition to all powers with reference to the subject matter of this act, and all ordinances and regulations heretofore duly and regularly passed under powers heretofore granted shall be and remain in full force and effect until abrogated, amended or repealed by the legislative body of the City of Knoxville.

SECTION 25. BE IT FURTHER ENACTED, That this act take effect from and after its passage, the public welfare requiring it.

APPENDIX F

ZONING ENABLING ACT

AN ACT ENTITLED: "AN ACT TO AMMEND AN ACT ENTITLED 'AN ACT TO INCORPORATE THE CITY OF KNOXVILLE IN KNOX COUNTY, TENNESSEE, AND TO DEFINE THE RIGHTS, POWERS AND LIABILITIES OF THE SAME: TO FIX THE BOUNDARIES OF SAID MUNICIPALITY AND TO REPEAL ALL ACTS OR PARTS OF ACTS IN CONFLICT WITH THIS ACT,' BEING CHAPTER 412 OF THE PRIVATE ACTS OF 1923 OF THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE AMENDED" SO AS TO EMPOWER SAID CITY TO FURTHER PROVIDE FOR ZONING: TO PROVIDE FOR THE ESTABLISHMENT OF DISTRICTS OR ZONES WITHIN THE CORPORATE LIMITS AND TO EMPOWER SAID CITY BY ORDINANCE TO REGULATE WITHIN SUCH DISTRICTS OR ZONES THE USE OR USES OF LAND AND BUILDINGS, THE HEIGHT, AREA, THE SIZE AND LOCATION OF BUILDINGS, THE REQUIRED OPEN SPACES FOR LIGHT AND VENTILATION OF SUCH BUILDINGS, AND THE DENSITY OF POPULATION: TO PROVIDE FOR A BOARD OF ADJUSTMENT AND FOR THE CARRYING OUT OF SUCH ORDINANCES, AND TO PROVIDE A PENALTY FOR THE VIOLATION THEREOF.

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE, That for the purpose of promoting health, safety, morals, or the general welfare of the community, the Legislative Body of the City of Knoxville is hereby empowered to regulate and restrict the height, number of stories, and size of buildings and other structures, the percentage of lot that may be occupied, the size of yards, courts and other open spaces, the density of population, and the location and use of buildings, structures, and land for trade, industry, residence, or other purposes, and may also establish set back building lines.

SECTION 2. BE IT FURTHER ENACTED, That for any or all of said purposes, the Legislative Body may divide the municipalty into districts of such number, shape, and area as may be deemed best suited to carry out the purposes of this Act; and within such districts it may regulate and restrict the erection, construction, reconstruction, alteration, repair, or use of buildings, structures, or land. All such regulations shall be uniform for each class or kind of buildings throughout each district, but the regulations in one district may differ from those in other districts.

SECTION 3. BE IT FURTHER ENACTED, That such regulations shall be made in accordance with a comprehensive plan and designed to lessen congestion in the streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements. Such regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality.

SECTION 4. BE IT FURTHER ENACTED, That the Legislative Body shall provide for the manner in which such regulations and restrictions and the boundaries of such districts shall be determined, established, and enforced, and from time to time amended, supplemented, or changed. However, no such regulation, restriction, or boundary shall become effective until after a public hearing in relation thereto, at which parties in interest and citizens shall have an opportunity to be heard. At least ten (10) days' notice of the time and place of such hearing shall be published in a paper of general circulation, in such municipality.

SECTION 5. BE IT FURTHER ENACTED, That such regulations, restrictions, and boundaries may from time to time be amended, supplemented, changed, modified or repealed. In case, however, of a protest against such change signed by the owner of twenty per cent or more of the area of either the lots included in such proposed change, or within two hundred (200) feet of the boundaries thereof, such amendment shall not become effective except by the favorable vote of three-fourths of all the members of the Legislative Body of the municipality. The provisions of the previous section relative to public hearings and official notice shall apply equally to all changes or amendments.

SECTION 6. BE IT FURTHER ENACTED, That in order to avail itself of the powers conferred by this Act, the Legislative Body shall appoint a commission, to be known as the Zoning, or Planning, Commission, to recommend the boundaries of the various original districts and appropriate regulations to be enforced therein. Such commission shall make a preliminary report and hold public hearings thereon before submitting its final report, and such Legislative Body shall not hold its public hearings or take action until it has received the final report of such Commission.

SECTION 7. BE IT FURTHER ENACTED, That the Legslative Body may provide for the appointment of a Board of Adjustment, and in the regulations and restrictions adopted pursuant to the authority of this Act may provide that the said Board of Adjustment may, in appropriate cases and subject to appropriate conditions and safeguard, make special exceptions to the terms of the ordinance in harmony with its general purpose and intent and in accordance with general or specific rules therein contained.

The Board shall adopt rules in accordance with the provisions of any ordinance adopted pursuant to this Act. Meetings of the Board shall be held at the call of the Chairman and at such other times as the Board may determine. Such Chairman, or in his absence the Acting Chairman, may administer oaths and compel the attendance of witnesses. The Board shall keep minutes of its proceedings, showing the vote of each member upon each question, or, if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions, all of which shall be immediately filed in the office of the Board and shall be a public record.

Appeals to the Board of Adiustment may be taken by any person aggrieved or by any officer, department, board or bureau of the municipality affected by any decision of the administrative officer. Such appeal shall be taken within a reasonable time, as provided by the rules of the Board, by filing with the officer from whom the appeal is taken and with the Board of Adjustment a notice of appeal specifying the grounds thereof. The officer from whom the appeal is taken shall forthwith transmit to the Board all the papers constituting the record upon which the action appealed from was taken.

An appeal stays all proceedings in furtherance of the action appealed from, unless the officer from whom the appeal is taken certifies to the Board of Adjustment after the notice of appeal shall have been filed with him that by reason of facts stated in the certificate a stay would, in his opinion, cause imminent peril to life or property. In such case proceedings shall not be stayed otherwise than by a restraining order which may be granted by the Board of Adjustment or by a Court of Record on application or notice to the officer from whom the appeal is taken and on due cause shown.

The Board of Adjustment shall fix a reasonable time for the hearing of the appeal, give public notice thereof, as well as due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing any party may appear in person or by agent or by attorney.

The Board of Adjustment shall have the following powers:

1. To hear and decide appeals where it is alleged there is error in any order, requirement, decision, or determination made by an administrative official in the enforcement of this Act or of any ordinance adopted pursuant thereto.

2. To hear and decide special exceptions to the terms of the ordinance upon which such Board is required to pass under such ordinance.

3. To authorize upon appeal in specific cases such variance from the terms of the ordinance as will not be contrary to the public interest, where, owing to special conditions, a literal enforcement of the provisions of the ordinance will result in unnecessary hardship, and so that the spirit of the ordinance shall be observed and substantial justice done.

In exercising the above mentioned powers, such board may, in conformity with the provisions of this Act, reverse or affirm, wholly or partly, or may modify the order, requirement, decision, or determination as ought to be made, and to that end shall have the powers of the officer from whom the appeal is taken.

The concurring vote of four members of the Board shall be necessary to reverse any order, requirement, decision, or determination of any such administrative official, or to decide in favor of the applicant in any matter upon which it is required to pass under any such ordinance, or to effect any variation in such ordinance.

Any person or persons, jointly or severally, aggrieved by any decision of the Board of Adjustment, or any taxpayer, or any officer, department, board, or bureau of the municipality, may present to a Court of Record a petition, duly verified, setting forth that such decision is illegal, in whole or in part, specifying the grounds of illegality. Such petition shall be presented to the Court within thirty days after the filing of the decision in the office of the Board.

Upon the presentation of such petition the Court may allow a writ of certiorari directed to the Board of Adjustment to review such decision of the Board of Adjustment and shall prescribe therein the time within which a return thereto must be made, which shall not be less than 10 days and may be extended by the court. The allowance of the writ shall not stay proceedings upon the decision appealed from, but the court may, on application, on notice to the Board, and on due cause shown, grant a restraining order.

The Board of Adjustment shall not be required to return the original papers acted upon by it, but it shall be sufficient to return certified or sworn copies thereof or of such portions thereof as may be called for by such writ. The return shall concisely set forth such other facts as may be pertinent and material to show the grounds of the decision appealed from and shall be verified.

If, upon the hearing, it shall appear to the Court that testimony is necessary for the proper disposition of the matter, it may hear evidence which shall constitute a part of the proceedings upon which the determination of the Court shall be made. The Court may reverse or affirm, wholly or partly, or may modify the decision brought up for review.

Costs shall be taxed in such manner as to the Court may seem proper.

All issues in any proceeding under this section shall have preference over all other civil actions and proceedings.

SECTION 8. BE IT FURTHER ENACTED, That the Legislative Body may provide by ordinance for the enforcement of this Act and of any ordinance or regulation made thereunder. A violation of this Act or of such ordinance or regulation is hereby declared to be a misdemeanor, and such Legislative Body may provide for the punishment thereof by fine.

In case any building or structure is erected, constructed, reconstructed, altered, repaired, converted, or maintained, or any building, structure, or land is used in violation of this Act or of any ordinance or other regulation made under authority conferred hereby, the proper local authorities of the municipality, in addition to other remedies, may institute any appropriate action or proceedings to prevent such unlawful erection, construction, reconstruction, alteration, repair, conversion, maintenance, or use, to restrain, correct, or abate such violation, to prevent the occupancy of said building, structure, or land, or to prevent any illegal act, conduct, business, or use in or about such premises.

SECTION 9. BE IT FURTHER ENACTED, That the passage of this Act shall not in any wise limit, abrogate, or abridge any powers heretofore granted to the City of Knoxville with reference to the subject matter of this Act; that the powers herein granted shall be in addition to all powers with reference to the subject matter of this Act, and all ordinances and zoning regulations heretofore duly and regularly passed under powers heretofore granted shall be and remain in full force and effect until abrogated, amended or repealed by the Legislative Body of said municipality.

SECTION 10. BE IT FURTHER ENACTED, That this Act take effect from and after its passage, the public welfare requiring it.