THE NORTH TULSA COUNTY COMPREHENSIVE PLAN 1980-2000

FOR TULSA COUNTY AND THE CITY OF TULSA
INTRODUCTION

COMPREHENSIVE PLAN

The North Tulsa County Comprehensive Plan, 1980-2000, is a proposed amendment to the Comprehensive Plan for the Tulsa Metropolitan Area. The purpose of the Comprehensive Plan is to coordinate the County's physical development in accordance with present and future goals and objectives. As a comprehensive guide to the future development of North Tulsa County, it will provide a framework within which individuals and local governments can make development decisions.

CONTENT OF THE COMPREHENSIVE PLAN

The North Tulsa County Comprehensive Plan consists of two parts: the Plan Text and the Plan map. The Plan Text contains goals, objectives, and principles for guiding and coordinating the development and use of land, and establishing the nature and extent of public interest therein, and policies for providing public facilities and services. The Plan Text provides the policy basis for the Plan Map, and provides a basis for planning and development decisions on matters not covered by the Plan Map. The Plan Map shows in general and graphic terms the planned intensity of uses of land, the location and nature of public facilities, the boundaries of land use areas, and the locations of proposed public facilities. This brochure presents a summary of adopted goals. The more detailed objectives and policies are found in the Plan document.

CONFORMANCE TO THE COMPREHENSIVE PLAN

The North Tulsa County Comprehensive Plan is the official Plan for Tulsa County and the City of Tulsa. Decisions concerning the development of the physical environment are to be made in accordance with the Comprehensive Plan. Such decisions are made in the provision of public improvements, services and facilities and in the establishment, use, and enforcement of the Zoning Ordinance, Subdivision Regulations, Building Code and other codes and ordinances relating to the physical environment.

GENERAL LAND USE GOALS, OBJECTIVES AND POLICIES

GENERAL

The North Tulsa County Comprehensive Plan outlines desirable development patterns based on the use and intensity of use of land. Land use designations are by general category such as residential and commercial while intensity assignments are made based on the level of activity within each category.

INTENSITIES

The different levels of intensities are designed to relate land use to the level of public services and transportation facilities available. Intensity is related to the amount of activity. Thus, a high intensity designation would require a more complete range of public services than medium and low-intensity uses. A Development Sensitive Area is a supplemental designation that may be superimposed over a low or medium density designation.

Intensity Goals

1. That a variety of land use designations be provided according to compatibility and availability of public services.
2. That land use designations relate to intensities to provide optimum development flexibility within a basic regulatory framework.

Intensity Policies

1. Areas designated rural-residential intensity may be transitional in nature and may be developed to higher intensity uses based upon the availability of services and in accordance with other Plan goals, objectives, and policies.
2. Low intensity use areas will be protected from the infringement of incompatible higher intensity uses.
3. Medium intensity uses will be utilized as buffers between low intensity residential uses and higher intensity uses.
4. The intensities depicted on the North Tulsa County Comprehensive Plan Map have the following values:

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Nonresidential</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Intensity</td>
<td>71%</td>
<td>87 maximum</td>
</tr>
<tr>
<td>Medium Intensity</td>
<td>50%</td>
<td>76 maximum</td>
</tr>
<tr>
<td>Low Intensity</td>
<td>-</td>
<td>10 maximum</td>
</tr>
<tr>
<td>Rural Residential Intensity</td>
<td>-</td>
<td>1.2 maximum</td>
</tr>
<tr>
<td>Development Sensitive Area</td>
<td>-</td>
<td>*</td>
</tr>
</tbody>
</table>

* A Development Sensitive Area is a supplemental designation that is superimposed over a low or medium density area.

+ The expressions of nonresidential intensities are in terms of floor area ratio (FAR).
++The expressions of residential intensities are in terms of the maximum number of dwelling units per gross acre.

5. Development Sensitive Areas

Such areas are elements or portions of the natural and/or man-made environment which should be studied in detail in order to assure that the public safety and benefit is maintained as development occurs. Development Sensitive Areas within the North Tulsa County area are those areas characterized by flooding, excessive slopes, unique environmental qualities and areas involving special consideration of public safety.

6. Corridors

A corridor is defined as a specific area(s) located along major transportation systems which provides areas for development of major employment and region serving functions in conjunction with a medium to high intensity residential base.

7. Activity Nodes

Activity nodes are defined as special locations within the North Tulsa County Planning Area centered around the intersection of designated arterial streets. Depending upon the classification of the arterial involved, differing amounts and types of uses are permitted. Not all arterial intersections are so designated due to physical constraints, the nature of existing development and existing or planned availability of public services.

8. Neighborhoods

Neighborhoods are those land areas that are outside of corridors, activity nodes and any special district. They are bounded by arterial streets, corridors, expressways, major physical features or major jurisdictional boundaries.

9. Special Districts

Areas designated Special Districts are so noted due to their unique characteristics and complex development and/or redevelopment problems. Such areas should have a detailed study and plan prepared prior to or in conjunction with their development and/or redevelopment.
AREA GOALS, OBJECTIVES AND POLICIES

Agricultural Area Goals

1. To conserve such areas from premature, haphazard development until the provision of services and utilities is feasible.
2. To retain land suitable for agricultural use in areas where urban scale development is not anticipated during the planning period.

Residential Area Goals

To provide all the citizenry of North Tulsa County with housing of good quality; to permit a variety of dwelling types and densities to meet the varying needs of families; to assure a suitable living environment by providing appropriate facilities such as churches, schools, open spaces; to insure that public utilities such as streets and water and sewer facilities meet current standards; and to discourage inharmonious commercial and industrial uses.

Commercial Area Goals

1. To encourage the concentration of commercial development at designated activity nodes conveniently situated throughout the Planning Area in relation to the needs of area residents.
2. To promote the development of commercial activity along transportation facilities in a manner compatible with the movement of traffic and adjacent land uses.
3. To discourage nonconforming and strip commercial development from being established or from expanding.
4. To encourage the development and growth of an economically healthy range of commercial and office uses to serve the needs of existing and future residents.

Industrial Area Goals

1. To preserve and promote the development of efficient industrial areas and districts that have accessibility to a balanced transportation network consisting of highways, air, rail, transit and water transportation modes to provide efficient and economic movement of people and goods.
2. To discourage scattering of unplanned industrial uses in areas planned for other uses by making known the industrial development areas.
3. To provide a variety of sites for diversified industrial uses.
4. To facilitate efficient utilization of the area's labor force, raw materials and transportation media by encouraging those types of industry which will further stabilize and diversify the economic base, such as:
   (1) Such prospective long-term growth industries as scientific instruments, research and miscellaneous manufacturing industries, i.e., sporting goods.
   (2) Growth and diversification of products within such durable goods industries as: (a) primary metals, (b) metal fabrication, (c) machinery; and (d) transportation equipment.
5. Encourage sound industrial development by developing industrial districts so that they provide a full range of public services and by prohibiting from such districts non-industrial uses except those which are directly supportive.

Park and Recreation Goals

1. To provide full range of parks, playgrounds, playfields and community level facilities in advance of need, to provide for the active and passive needs of all age groups and to locate such facilities in a manner conveniently accessible to all users.
2. To preserve significant natural features, enhance the visual character of the city, buffer the adverse external effects of certain land uses and serve conservation purposes, all through a coordinated park development program.
3. To encourage establishment of a special open space district in the Bird, Hominy and Delaware drainage basins to preserve and utilize flood prone lands and unique physical features of the area as a coordinated extension of a Mohawk Park/North Tulsa County open space system.

Public and Quasi-Public Area Goal

To provide sufficient land located in suitable intensity areas to meet varying public and quasi-public needs.

Development Sensitive Area Goals

1. To retain areas so designated to the maximum extent warranted, essentially undeveloped.
2. To control development in locations posing problems for construction, and protect and retain all natural sites and open areas desirable for conservation.

Education Goal

To provide areas necessary for public education facilities in advance of need with provision for facilities of adequate scope and variety to serve all age groups in the community. Such facilities to be located where they are conveniently accessible to those whom they are designated to serve.

Health and Social Services Goals

1. To secure the highest possible level of personal health for all residents of the Planning Area and to provide every citizen the information necessary to maintain personal health through the voluntary utilization of public health programs.
2. General goals of social concern are to encourage the development of a sense of common purpose in matters of general community interest among residents by providing (1) opportunity for full participation in city affairs; (2) adequate public facilities and services for all; (3) equal opportunities for housing, education, employment and justice; and (4) information about county, state and federal social programs when requested.

Public Safety Goal

To make the North Tulsa County Area as safe as possible by providing professional police and fire departments, meaningful safety education for area residents, improved traffic safety, adequate Civil Defense systems, efficient emergency response, medical assistance and a reasonable code enforcement program.

Flood-Storm Drainage Goal

Tulsa County or municipal governments will implement appropriate flood management policies and techniques and will require storm drainage facilities to insure that the public is protected from flooding, erosion, siltation and ponding water.

Solid Waste Goal

The provision to area residents to a safe and efficient solid waste disposal program.
General Public Utilities Goals

1. Efficient public facilities adequate for existing and future development in North Tulsa County should be provided and maintained.

2. Development of areas immediately adjacent to existing public service should be encouraged as a means of providing such services in an economic manner.

Water and Sewer Goals

1. A high quality of water and sewer service will be provided for all North Tulsa County residents.

2. Water and sewer systems will be provided when feasible in advance of need in order to encourage development in accord with the Comprehensive Plan and to minimize costs associated with unplanned improvements.

3. To encourage the rational distribution of area water sources through formation of a regional water authority.

Trafficways Goals

1. Trafficways should be planned, designed and constructed to provide an efficient movement system within the Planning Area.

2. Area development should occur in a manner which allows the most efficient utilization of existing and planned circulation systems.

Pedestrianways-Bikeways Goals

1. To provide sidewalks, walkways, and bikeways in residential areas and from living areas to working areas as appropriate alternative means of transportation.

2. To establish a system of bicycle/pedestrian trails within Special District 3 (Bird Creek Floodplain) which will provide a continuous recreation trail from Skiatook and Sperry to the Port of Catoosa.

Transit Goal

To seek a means of providing local mass transit service either through a coordinated program with the MTTA or with private carriers.

Air Goal

To provide convenient and safe access to and from the metropolitan area for those persons utilizing Tulsa International Airport.

Rail Goal

To insure that new and existing rail facilities be designed, developed, constructed and maintained to adequately serve the needs of the Planning Area.

Note: Additional existing conditions maps relating to physical features, soils limitations, severity of slopes, existing land use and additional plan maps for streets and highways, land use intensities, public facilities and utilities may be obtained from the Tulsa Metropolitan Area Planning Commission.
THE

NORTH TULSA COUNTY COMPREHENSIVE PLAN
1980-2000

THE CHEROKEE CORRIDOR

Prepared for

The Tulsa County Commission

and the

City of Tulsa

by the

Community Planning Division

of the

Tulsa Metropolitan Area Planning Commission

July, 1980
# ACKNOWLEDGEMENTS

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Terry Young, District 2  
Mel Rice, District 3

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*Serves in the absence of Commissioner Harris
PREFACE

The purpose of this document is to present the recommended North Tulsa County Comprehensive Plan 1980-2000 and a summary of the information on which the Comprehensive Plan is based. The Comprehensive Plan is to serve as the official update and amendment to the Tulsa Metropolitan Area Comprehensive Plan. The North Tulsa County Planning Area studied and described in the document includes three incorporated or "Gap" areas within -

1. 186th to 126th Streets North, Harvard to Yale.
2. 126th to 96th Streets North, Harvard to Memorial; 96th to 76th Streets North, Harvard to Yale; 116th to 76th Streets North, Osage County line to Harvard.
3. 66th to 56th Streets North, Highway 75 to Rogers County line, and that area north of Bird Creek between 56th and 46th Streets North. Those areas were not covered by previous Comprehensive Plans because they did not lie within the corporate limits of any community or within the annexation fencelines of any community except Tulsa.

The Comprehensive Plan document is broken down into four major sections which are described below.

The first section of the plan document consists of recommended goals, objectives, policies, and standards for the North Tulsa County Planning Area. These proposed policies are presented in written and graphic form and are intended to guide physical development of the Planning Area.

The next section of the document describes the following specific elements of the Comprehensive Plan: Land Use, Public Facilities, Public Utilities and Transportation.

The information, data, and planning process on which the Comprehensive Plan
goals, objectives, policies, and standards and the specific plan elements are based are set forth in section three of the plan document.

The last portion of the plan document describes various measures by which to implement the North Tulsa County Comprehensive Plan, 1980-2000.

The North Tulsa County Comprehensive Plan study area is presented on the Location Map, which depicts the Planning Area in relation to the remainder of Tulsa County.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>1</td>
</tr>
<tr>
<td>Preface</td>
<td>ii</td>
</tr>
<tr>
<td>The North Tulsa County Comprehensive Plan 1980-2000</td>
<td>1</td>
</tr>
<tr>
<td>General</td>
<td>1</td>
</tr>
<tr>
<td>General Goals</td>
<td>3</td>
</tr>
<tr>
<td>Plan Elements</td>
<td>4</td>
</tr>
<tr>
<td>Land Use</td>
<td>4</td>
</tr>
<tr>
<td>General</td>
<td>4</td>
</tr>
<tr>
<td>Intensities</td>
<td>4</td>
</tr>
<tr>
<td>Agricultural Areas</td>
<td>13</td>
</tr>
<tr>
<td>Residential Areas</td>
<td>13</td>
</tr>
<tr>
<td>Commercial Areas</td>
<td>15</td>
</tr>
<tr>
<td>Industrial Areas</td>
<td>16</td>
</tr>
<tr>
<td>Recreation-Open Space Areas</td>
<td>18</td>
</tr>
<tr>
<td>Public and Quasi-Public Areas</td>
<td>19</td>
</tr>
<tr>
<td>Development Sensitive Areas</td>
<td>20</td>
</tr>
<tr>
<td>Public Facilities</td>
<td>21</td>
</tr>
<tr>
<td>General</td>
<td>21</td>
</tr>
<tr>
<td>Recreation-Open Space</td>
<td>21</td>
</tr>
<tr>
<td>Education</td>
<td>24</td>
</tr>
<tr>
<td>Library</td>
<td>24</td>
</tr>
<tr>
<td>Social Services-Health</td>
<td>25</td>
</tr>
<tr>
<td>Public Safety</td>
<td>25</td>
</tr>
<tr>
<td>Flood-Storm Drainage</td>
<td>26</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>27</td>
</tr>
<tr>
<td>Public Utilities</td>
<td>29</td>
</tr>
<tr>
<td>Water and Sewer</td>
<td>29</td>
</tr>
<tr>
<td>Water</td>
<td>29</td>
</tr>
<tr>
<td>Sewer</td>
<td>30</td>
</tr>
<tr>
<td>Transportation</td>
<td>31</td>
</tr>
<tr>
<td>General</td>
<td>31</td>
</tr>
<tr>
<td>Trafficways</td>
<td>31</td>
</tr>
<tr>
<td>Pedestrianways-Bikeways</td>
<td>32</td>
</tr>
<tr>
<td>Transit</td>
<td>32</td>
</tr>
<tr>
<td>Air</td>
<td>33</td>
</tr>
<tr>
<td>Rail</td>
<td>33</td>
</tr>
<tr>
<td>Description of the Elements</td>
<td>36</td>
</tr>
<tr>
<td>Introduction</td>
<td>36</td>
</tr>
<tr>
<td>Land Use</td>
<td>37</td>
</tr>
<tr>
<td>Land Intensity</td>
<td>37</td>
</tr>
<tr>
<td>Land Areas</td>
<td>41</td>
</tr>
<tr>
<td>Public Facilities</td>
<td>45</td>
</tr>
<tr>
<td>Public Utilities</td>
<td>51</td>
</tr>
<tr>
<td>Transportation</td>
<td>55</td>
</tr>
<tr>
<td>Basis for the Plan</td>
<td>59</td>
</tr>
<tr>
<td>Physical Features</td>
<td>59</td>
</tr>
<tr>
<td>Environmental Considerations</td>
<td>60</td>
</tr>
<tr>
<td>Natural Physical Features</td>
<td>66</td>
</tr>
<tr>
<td>Man-Made Physical Features</td>
<td>83</td>
</tr>
<tr>
<td>Demography</td>
<td>89</td>
</tr>
<tr>
<td>Housing</td>
<td>105</td>
</tr>
<tr>
<td>Community Facilities and Utilities</td>
<td>116</td>
</tr>
<tr>
<td>Development Activity</td>
<td>147</td>
</tr>
</tbody>
</table>
Plan Implementation .................................................. 155
General ................................................................. 155
Recommended Capital Improvements ....................... 155
Zoning Regulations .................................................. 156
Subdivision Regulations ........................................... 158
Building and Housing Codes ................................... 158
Additional Detailed Planning ..................................... 159
Neighborhood Improvements Programs ...................... 159
Citizen Involvement ................................................ 159
Plan Updates .......................................................... 160
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard for Recreation Areas</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>North Tulsa County Planning Area Drainage Basins</td>
<td>67</td>
</tr>
<tr>
<td>3</td>
<td>North Tulsa County Planning Area Major Soil Classifications</td>
<td>73</td>
</tr>
<tr>
<td>4</td>
<td>Population Trends and Projections</td>
<td>90</td>
</tr>
<tr>
<td>5</td>
<td>Family Income</td>
<td>98</td>
</tr>
<tr>
<td>6</td>
<td>Education Attainment</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Employment by Industry</td>
<td>102</td>
</tr>
<tr>
<td>8</td>
<td>Occupational Structure Trends</td>
<td>103</td>
</tr>
<tr>
<td>9</td>
<td>North Tulsa County Housing Structure Conditions</td>
<td>107</td>
</tr>
<tr>
<td>10</td>
<td>North Tulsa County Planning Area Housing Units</td>
<td>108</td>
</tr>
<tr>
<td>11</td>
<td>Housing Units Needs Estimates and Projections</td>
<td>112</td>
</tr>
<tr>
<td>12</td>
<td>North Tulsa County School System Facilities 1980</td>
<td>120</td>
</tr>
<tr>
<td>13</td>
<td>North Tulsa County Public Park and Recreation Areas</td>
<td>129</td>
</tr>
<tr>
<td>14</td>
<td>Current Recreation Standards</td>
<td>131</td>
</tr>
<tr>
<td>15</td>
<td>North Tulsa City-County Libraries</td>
<td>132</td>
</tr>
<tr>
<td>16</td>
<td>North Tulsa County Planning Area Rezoning Activities</td>
<td>148</td>
</tr>
<tr>
<td>17</td>
<td>North Tulsa County Planning Area Subdivisions</td>
<td>149</td>
</tr>
<tr>
<td>18</td>
<td>1977 North Tulsa County Planning Area Land Use</td>
<td>152</td>
</tr>
</tbody>
</table>
# LIST OF MAPS

<table>
<thead>
<tr>
<th>Map</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Location Map – Planning Area North Tulsa County Comprehensive Plan</td>
<td>iv</td>
</tr>
<tr>
<td>2. Land Use Plan 1980-2000</td>
<td>34, 35</td>
</tr>
<tr>
<td>3. Intensity Development Concept</td>
<td>38, 39</td>
</tr>
<tr>
<td>4. Utilities Distribution System</td>
<td>52, 53</td>
</tr>
<tr>
<td>5. Natural Features</td>
<td>68, 69</td>
</tr>
<tr>
<td>6. Soils Limitations</td>
<td>79, 80</td>
</tr>
<tr>
<td>7. Man-Made Features</td>
<td>84, 85</td>
</tr>
<tr>
<td>8. Housing Conditions</td>
<td>109, 110</td>
</tr>
<tr>
<td>9. Existing Generalized Land Use</td>
<td>153, 154</td>
</tr>
<tr>
<td>FIGURE</td>
<td>TITLE</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>Access Standards</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Tulsa County Population Pyramid</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Unincorporated North Tulsa County Population Pyramid</td>
</tr>
</tbody>
</table>
THE NORTH TULSA COUNTY
COMPREHENSIVE PLAN
1980-2000
THE CHEROKEE CORRIDOR
THE NORTH TULSA COUNTY COMPREHENSIVE PLAN
1980-2000
THE CHEROKEE CORRIDOR

GENERAL

The North Tulsa County Comprehensive Plan, 1980-2000 is a proposed amendment to the Tulsa Metropolitan Area Comprehensive Plan. The North Tulsa County Comprehensive Plan is to serve as the general policy document for future physical and socio-economic development of this County based on present and future needs. The County is built by an essential partnership of public agencies and private enterprise. The policies set forth herein in written and graphic form are to guide the physical development decisions of that partnership of public and private interests. Coordination of development activities and these policies will result in better communities and neighborhoods constructed at lower costs.

AUTHORITY AND JURISDICTION

The authority for the Comprehensive Plan is expressed in Title 19 of the Oklahoma Statutes. Subsections 863.7 and 863.8 describe this authority and state that the Tulsa Metropolitan Area Planning Commission shall make, adopt, and may publish an official master plan for the City of Tulsa, the five mile perimeter area, and the unincorporated area of Tulsa County. The Comprehensive Plan is the official master plan provided for by state law.

CONFORMANCE TO THE COMPREHENSIVE PLAN

The Comprehensive Plan is the official master plan for the unincorporated area of North Tulsa County. Decisions concerning the development of the physical environment of the County are to be made in accordance with the Comprehensive Plan. Such decisions are made in the provision of public improvements, services and facilities and in the establishment, use and enforcement of the Zoning Ordinance, Subdivision Regulations, Building Code and other codes and ordinances relating to the physical environment.

Public Facilities and Utilities: Relationship to the Comprehensive Plan

Long-range general policies for guiding improvements that are to serve the whole community are set forth in the Comprehensive Plan. Improvement plans and proposals of a type embraced within the Comprehensive Plan should first be submitted to the Planning Commission for review, written comment and recommendation prior to submission, authorization, or construction.

Zoning: Relationship to the Comprehensive Plan

The primary purpose of the Zoning Regulations is the implementation of the Comprehensive Plan. In adopting and amending zoning regulations and in zoning and rezoning of land, the actions taken are to be in accordance with the Comprehensive Plan.

A zoning ordinance is in accordance with the Comprehensive Plan if the type and intensity of land use authorized by the ordinance is compatible with the goals, objectives, principles, policies and general land use categories specified in the Plan. Provisions of the ordinance must not be in contradiction to the intent of the Plan and must not preclude the realization of the Plan.
GENERAL
Conformance to the Plan

This does not mean that zoning districts must duplicate land use categories, but they should be compatible with the objectives, policies and principles that describe the intent of the categories. Three degrees of relationship may exist between zoning districts and Plan land use categories which are: (1) the zoning district and Plan category are in accordance; (2) the zoning district and Plan category are not in accordance; and (3) the zoning district and Plan category may be found to be in accordance under certain circumstances. In order to clarify these relationships between the Plan land use categories and zoning districts, several examples are discussed below. Although these examples are not all inclusive, they do represent instances where the underlying policies and standards of the Plan are brought to bear regarding land use decisions.

(1) An existing zoning district or a rezoning request which if implemented, would directly contribute to achieving the objective established for the area by the Comprehensive Plan would clearly be in accordance with the Plan. That is, if the Plan category for an area is Low Intensity Residential, a proposal to rezone the area to an RS-3 (Single-Family Residential) district would be in accordance with the Comprehensive Plan. Approval of the proposal would not require an amendment to the Plan.

(2) An existing zoning district or a rezoning request which, if implemented, would prevent the achievement of the objectives shown for the area by the Comprehensive Plan. That is, if the Plan category for an area is Low Intensity, a proposal to rezone the area to an IH (Heavy Industrial) district would not be in accordance with the Comprehensive Plan. Approval of the proposal would require an amendment to the Plan.

(3) If an existing zoning district or a rezoning request is neither the land use shown for the area by the Comprehensive Plan nor a use which prevents achievement of the planned use, then it must be determined whether the proposed land use, if implemented, would be compatible with the surrounding area in the manner contemplated by the Comprehensive Plan. That is, if the Plan category for an area is Low Intensity, a proposal to rezone a portion thereof to a multifamily use would be in accordance with the Plan if the multifamily use contemplated was of a density and type that would be compatible with surrounding uses. An RD (Residential Duplex) district used as a transition between the Low Intensity area and adjacent higher intensity areas would be an example of multifamily district that could be held in accordance with the Low Intensity Plan category. However, the same RD zoning district contemplated for a large area in the center of a Low Density residential neighborhood would not be in accordance with the Low Intensity Plan category. Therefore, if the proposal were approved, an amendment to the Plan may or may not be necessary.

Thus, the official zoning map can properly vary from the Comprehensive Plan in that: the official zoning map recognizes short-range conditions, whereas the Comprehensive Plan recognizes long-range conditions; and the zoning map is more detailed and precise than the Comprehensive Plan.
Furthermore, at the time of adoption or amendment to the Comprehensive Plan, certain uses are not in accord with the Plan, but may be of such size, nature or location that their existence should be recognized by zoning that is also not in accord with the Comprehensive Plan. Such zoning should not be more extensive than is necessary to encompass such uses, should not be expanded, and should be changed to be in accordance with the Plan as soon as feasible. Changing conditions will make it necessary for the Comprehensive Plan to be amended from time to time. It is the policy of the Tulsa Metropolitan Area Planning Commission, the Tulsa County Commission and the Tulsa City Commission that, whenever a zoning or rezoning application is submitted that is not in accordance with the Plan, a request for an amendment to the Comprehensive Plan will be submitted simultaneously with the zoning or rezoning application together with sufficient data and information necessary to support the application for the Comprehensive Plan amendment. Upon approval of an application to amend the Plan, the TMAPC shall consider the application for zoning or rezoning. A zoning or rezoning application will be considered by the Planning Commission regardless of the decision on the Plan amendment.

The TMAPC will then forward its recommendation on the application for amendment to the Comprehensive Plan and its recommendation on the application for amendment to the Zoning Ordinance to the Tulsa County Commission or the Tulsa City Commission.

The Planning Commission and the City and County Commissions recognize that there will be times when it may be desirable to take action not in accordance with the Comprehensive Plan. Every effort will be made to bring the desired action and Comprehensive Plan into conformance.

GENERAL GOALS

1. The land within North Tulsa County is intended to be put to the use for which it is best suited based upon the evaluation of all considerations.

2. It is intended that the best possible quality of life be attained for North Tulsa County residents. That is, the best possible combination of living, economic, and environmental conditions is to be achieved for North Tulsa County residents.

3. It is intended that a coordinated and compatible arrangement of living, working, and play areas be achieved in North Tulsa County.

4. It is intended that North Tulsa County be served with the best possible public services and facilities, public utilities and transportation system.

5. It is intended that the aesthetic and natural environment of North Tulsa County be protected and enhanced.

6. It is intended that the nature and character of existing developed areas be stable, protected and enhanced.

7. It is intended that a variety of economic opportunities for employment and investment be available to North Tulsa County residents.
8. It is intended that a variety of living styles be available for North Tulsa County residents, but that the predominant living style of North Tulsa County should remain single family residential.

9. It is intended that goals of the North Tulsa County Comprehensive Plan be implemented and that the Tulsa Metropolitan Area Planning Commission be involved in further detailed planning as necessary in order to achieve the goals, objectives, and policies of the Plan. That is, the Tulsa Metropolitan Area Planning Commission should be involved as necessary in the development of mid range and short range plans and codes and regulations designed to achieve the purpose of the Plan.

10. It is intended that the North Tulsa County Comprehensive Plan serve as a long range guide for physical development in North Tulsa County and that the Plan be updated, refined, and amended as deemed necessary according to unforeseen factors, conditions, and circumstances.

11. It is intended that Tulsa County and the City of Tulsa coordinate the implementation of the Comprehensive Plan and other planning efforts with the efforts of other governmental jurisdictions.

PLAN ELEMENTS

The goals, objectives, policies, and standards for specific elements of the North Tulsa County Comprehensive Plan are set below. The four basic elements of the Plan are Land Use, Public Facilities, Public Utilities, and Transportation.

LAND USE

GENERAL

The North Tulsa County Comprehensive Plan designates desired development patterns for North Tulsa County according to two land relationships: use and intensity of use. Land use designations are by broad categories of use and the various mixes of those uses. Intensity designations are applied to all use categories and are by density or concentration of activity. Intensity designations are discussed below followed by a discussion of specific land use categories.

INTENSITIES

The different levels of intensities are designed to relate the functions placed on the land to the level of public facilities, services and utilities available to the land. Intensity is related to the amount of activity connected with functions. Thus, a higher intensity use would require a higher level of public services than medium and low intensity uses would require.

Intensity Goals:

1. It is intended that a variety of land uses be located in North Tulsa County according to compatibility and public service systems capacity.
LAND USE
Intensities

2. It is intended to allow compatible land uses to be located with each other and to establish and maintain a continuity of similar land uses.

Intensity Objectives:

1. High intensity uses requiring direct access and visibility will be located along major transportation systems.

2. Medium intensity uses that require less direct access and lower visibility will be located at intersections of arterial street systems.

3. Low intensity uses will be located away from intense land use pressures and undesirable land use impacts around high capacity transportation systems.

4. Rural residential intensity uses will be preserved in portions of the Planning Area where fewer public services are available and physical conditions restrict urban development.

Intensity Policies:

1. The North Tulsa County Land Use Plan 1980-2000 depicts desired land use intensities and development patterns to the year 2000. Intensities depicted for undeveloped lands are intended to develop as shown. Land use depicted for undeveloped lands are recommendations which may vary in accordance with the intensities depicted for those lands.

2. The Intensity Development Concept map depicts the North Tulsa County Planning Area at full or one hundred percent (100%) development situation and sets forth intensity relationships and development patterns, should areas develop prior to that which is anticipated to the year 2000.

3. Areas designated rural residential intensity may be transitional and may be redeveloped to low intensity uses upon the availability of public services.

4. Low intensity residential uses will be preserved within the Planning Area.

5. Medium and high intensity uses will not be allowed in existing low intensity residential areas.

6. Medium intensity residential uses will act as buffers between low intensity residential uses and higher intensity uses.

7. The intensities depicted on the Land Use Plan and Intensity Area 1980-2000 Map have the following values:

<table>
<thead>
<tr>
<th></th>
<th>Nonresidential**</th>
<th>Residential***</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Intensity</td>
<td>75%</td>
<td>87 maximum</td>
</tr>
<tr>
<td>Medium Intensity</td>
<td>50%</td>
<td>36 maximum</td>
</tr>
<tr>
<td>Low Intensity</td>
<td>-</td>
<td>10 maximum</td>
</tr>
<tr>
<td>Rural Residential Intensity</td>
<td>-</td>
<td>1.5 maximum</td>
</tr>
<tr>
<td>Development Sensitive Area</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

*A Development Sensitive Area is a supplemental designation in that it is superimposed over either high, medium, low, or rural residential intensity areas.
**The expressions of nonresidential intensities are in terms of floor area ratios (FAR). This is defined as: "A mathematical expression determined by dividing the floor area of a building by the area of the lot on which it is located."

Only the principal use area of the structure is used in calculating the gross floor area, excluding any enclosed parking areas.

***The expressions of residential intensities are in terms of maximum number of dwelling units per gross acre. Gross acre includes all land available for development without exclusions for public or private nonresidential uses.

8. The various intensities in the above paragraphs are defined as:

a. **High Intensity** areas are those areas of the greatest and most intense activity. These areas require the highest accessibility possible, require a high level of services and should be separated from less intense areas by medium density areas and/or buffering areas or physical features. The zoning classifications that may be in specific areas are dependent on many factors, including adjacent uses and specific site considerations. High intensity zoning classifications include RM-3, RM-2, RMH, OH, CC, CH, IR, IL, IM, IH and CO.

b. **Medium Intensity** areas are those areas of moderate activity and physical impact. These areas require a high level of accessibility and services. These areas are generally found at the intersection of arterial streets. Medium intensity uses are used as transitional uses between high and low intensity areas. Zoning classifications that may be included in these areas include RD, RM-0, RM-1, OL, P, OM and CS.

c. **Low Intensity** areas are low activity living areas for residential and related activities and uses. Good accessibility and services are necessary. Zoning classifications included in this intensity category are the RS and AG districts.

d. **Rural Residential Intensity** areas are non-urban areas or large lot residential, rural or agricultural developments. These areas are on the edge of urban development. Development in these areas often is transitional and may proceed in the interim before facilities and services are available for the support of even low intensity development. (e.g. - large lot mobile home park). Zoning in these areas includes the AG category and the RE category of several Tulsa County communities.

e. **Development Sensitive Areas** are elements or areas of the natural or man-made environment which should be studied in detail in order to insure that public safety and benefit is maintained as development occurs. Development Sensitive Areas within the North Tulsa County area are those areas characterized by: (1) frequent flooding (as defined by the U.S. Department of Housing and Urban Development, Federal Insurance Administration until a Comprehensive Tulsa County Drainage Plan delineates these areas); (2) slopes in excess of 20 percent with erodable soils as determined from U.S. Geological Society topographic maps and U.S. Department of Agriculture, Soil Conservation Service data; (3) unique environmental qualities such as wildlife habitat, forested areas or areas with special aesthetic qualities; and (4) areas where development involves special consideration of public safety such as airport approach zones and sewage treatment plants. The use of a Planned Unit Development zoning classification is recommended for development in these areas. Agricultural uses are appropriate in these areas.
9. **Corridors** are defined as specific areas located along expressways and are to contain major employment and region serving functions in concert with a relatively high residential base. The basic characteristics of this concept are as follows:

   a. Uses that are more intense in nature should have high exposure and convenient access to high speed metropolitan transportation facilities.

   b. This multifunctional grouping of land uses should be interrelated by internal vehicular and pedestrian traffic systems, and the entire corridor should be ultimately connected to a metropolitan wide transit system.

   c. Corridors should have appropriate access to primary and secondary arterial streets principally from corridor collector streets. All tracts within corridors should have access to the corridor collector streets.

   d. Corridors should have a maximum depth of 3000 feet from the adjacent expressway.

   e. Within corridors, the higher intensity development should be designed by utilization of setbacks, buffering uses, and other separations to be compatible with low intensity development.

   f. See traffic operation and safety standards and Figure 1.

10. **Activity Nodes** are defined as specific areas within the North Tulsa County Planning Area around the intersections of designated arterial streets. Depending upon the type of arterial involved, differing amounts and types of uses are permitted. Not all arterial intersections are designated activity nodes. One or all of the following considerations exist at these intersections to make such a designation inappropriate: limiting soil capacities, constraining physical features, existing development or existing or planned availability of public services. Activity nodes will be characterized by the following specifications.

   a. Development around various types of arterial street intersections should be consistent with the type and capacity of related roadways, with the capacity of soils and other physical features to support types of development, and with the existing or planned availability of public facilities and utilities.

   b. Community serving shopping and service activities should be located at the intersection of primary arterial streets with other arterial streets.

   c. Convenience service activities for neighborhoods should be located at the intersections of secondary arterial streets.
d. Development of activity nodes should be designed to be compatible with surrounding neighborhoods. A transition or buffer area should be provided between medium intensity uses at activity nodes and surrounding neighborhoods.

e. There are three basic types of activity nodes for the North Tulsa County Planning Area. The specific design standards for each are described below:

1. **Type One Activity Nodes:** These activity nodes are defined as the land located at the intersection of two secondary arterial streets or as land at the intersection of an arterial bounding a corridor with an arterial bounding a corridor and intersecting a freeway. The total land area allocated to this activity node is twenty (20) acres, five (5) acres distributed to each intersection corner. Each five acre tract is to be of a square configuration 467 feet by 467 feet measured from the centerline of arterial streets' rights-of-way. Medium intensity zoning classifications that may be included in these centers are RM-0, RM-1, RM-2, P, OM and CS. Convenience shopping facilities should be located in these nodes.

2. **Type Two Activity Nodes:** These activity nodes are defined as the land located at the intersection of primary arterial streets with secondary arterial streets. The total land allocated to this activity node is forty (40) acres, ten (10) acres distributed to each intersection corner. Each ten (10) acre tract is to be of a square configuration, 660 feet by 660 feet, measured from the centerline of the arterial streets' rights-of-way. Medium intensity zoning classifications that may be included in these nodes are RM-2, RM-0, RM-1, P, OM, CS and IR. Neighborhood shopping facilities and convenience stores should be allowed at these centers.

3. **Type Three Activity Nodes:** These activity nodes are defined as the land located at the intersection of two primary arterial streets. The total land area allocated to this activity node is sixty (60) acres, fifteen (15) acres distributed to each intersection corner. Each fifteen (15) acre tract is to be of a square configuration, 808.5 feet by 808.5 feet, measured from the centerline of the arterial streets' rights-of-way. Medium intensity zoning classifications that may be included in these nodes are RM-0, RM-1, RM-2, P, OM, CS and IR.

4. In all types of activity nodes, AG, RS, OL and RD zoning classifications may be included.

5. In all types of activity nodes, access to the nodes will be limited to only right turn access within 600 feet of the arterial intersections.
(6) In all types of activity nodes, two (2) acres of less than medium intensity zoning classifications may be substituted for each one (1) acre of medium intensity zoning classification allocated to a corner. Less than medium intensity zoning classifications include RD, OL and RM-0.

(a) Example One:

A type one activity node corner could be developed as 5 acres of CS, or as 10 acres of OL, or as 3 acres of CS and 4 acres of OL.

(b) Example Two:

A type two activity node corner could be developed as 5 acres of CS and 5 acres RM-1, or as 5 acres of CS and 10 acres RD, or as 20 acres RD.

11. Neighborhoods are those land areas that are outside of corridors, activity nodes and special districts. These areas are bounded by arterial streets, corridors, freeways, major physical features or major jurisdictional boundaries. Neighborhoods are characterized by the following specifications:

a. The AG and RS zoning classifications may be included within the neighborhood. In some instances, RD and RM-0 may be allowed in the neighborhood as a transitional intensity separating low intensity residential areas from adjacent high or medium intensity areas or where specific site constraints or unusual conditions warrant an RD or RM-0 zoning. The proposed RE district would also be included in the neighborhood.

b. All uses within the neighborhoods will back or side on any adjacent arterial street.

c. Interior minor street patterns should be designed and developed through the use of cul-de-sacs, curved layout and light duty surfacing so as to encourage quiet, safe and low volume localized traffic movement. Access to residential property should, whenever possible, be from minor streets.

d. The neighborhood focal point should be the elementary school centrally located and sited so as to extend or relate to any open space and recreation system. Depending on population densities, the elementary school may be designed to serve one or more neighborhoods. Walking distances from within the neighborhood in which the school is located should be no greater than one half mile.

e. Open space provisions should relate to significant natural features and form a part of an overall open space system and pedestrian connections to the rest of the neighborhood and to adjacent activity nodes.

f. Recreation facilities should relate to the education facilities and open space system serving the neighborhood.
g. Public and quasi-public facilities should be located on the neighborhood periphery, preferably at the intersections of arterial streets and collectors.

12. **Traffic Operations and Safety Standards** are developed to insure that turning movements to and from a site proposed for rezoning or development do not impair and endanger the flow of traffic on freeways, arterials and collectors serving the site, and, where applicable, particularly in the interchange ramp and arterial intersection areas.

To accommodate proper turning movements to maintain traffic flow and safety the following access standards are recommended:

a. No access is allowed within 600 feet from the end of a freeway interchange ramp, 300 feet from the center point of a primary intersection, and 200 feet from the center point of a secondary intersection.

b. A right turn collector lane can be built into the proposed site between 600 feet and 1,000 feet from the end of the interchange ramp on a primary or secondary arterial (special alteration of existing freeway or interchange designs including collector lanes, frontage roads, and right turn crossover ramps will require specific analysis and Oklahoma Department of Transportation approval).

c. Right turn driveway cuts must be located no closer than 1,000 feet from the end of an interchange ramp and are permitted beyond 300 feet from the primary arterial intersection midpoint and similarly 200 feet on secondary arterials.

d. Along arterial roadways, the first point of full access, left and right turn driveway cuts, is permitted 2,500 feet from the end of an interchange ramp and 600 feet from both primary and secondary intersection midpoints.

e. The minimum spacing between driveway cuts is 1,000 feet on any arterial which coincides as a freeway roadway and 500 feet minimum spacing on all other roadways—primaries, secondaries, and collector roads.

The following Access Points Standards table and Figure 1 summarize these recommended standards and illustrate their effects on property access.
FIGURE 1
ACCESS STANDARDS

- NO ACCESS
- RIGHT LANE ONLY
- RIGHT TURN DRIVEWAY CUT
- LEFT TURN DRIVEWAY CUT
- INTERCHANGE NODES
- INTENSITY CORRIDORS
- CORRIDOR COLLECTOR STREET
ACCESS POINT STANDARDS

<table>
<thead>
<tr>
<th>Type of Roadway</th>
<th>Type of Access</th>
<th>No Access Allowed</th>
<th>Right-Only Turn Lane</th>
<th>Right-Turn Drive Way Cut</th>
<th>Full Access-Right and Left Turn Driveway Cut</th>
<th>Minimum Spacing Between Driveway Cuts In</th>
<th>Full Access Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway</td>
<td>No</td>
<td>600</td>
<td>600 to 1,000</td>
<td>Beyond 1,000</td>
<td>2,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>No</td>
<td>300</td>
<td>Not required</td>
<td>300</td>
<td>600</td>
<td>500 to 1,000</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>No</td>
<td>200</td>
<td>Not required</td>
<td>200</td>
<td>600</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Property with no access to a public roadway other than that inside these dimensions must be permitted access. However, a right turn lane or other safe access should be requested.

2. 500 feet between driveways is the minimum required on all roadways except for feeder arterials where 1,000 feet minimum spacing is required.

13. Special Districts are portions of Planning Areas such as but not limited to the central business districts, industrial districts, and airports. These areas are designated special districts due to unique characteristics, development patterns, or influences on adjacent areas. Additional detailed planning is recommended for each of these areas.

   a. The Cherokee Special Industrial District is designated as Special District 1 on the Comprehensive Plan map. A plan for the Cherokee District has been adopted as a part of the metropolitan Comprehensive Plan. Continued study and updating of plans for development in this area is encouraged and should be coordinated between the Cities of Tulsa and Owasso and other affected parties.

   b. Special District 2 located to the west of the Cherokee District is a proposed extension of the industrial district. Light industrial and commercial uses which will complement the industrial district will be encouraged to locate within this area.

   c. Special District 3 is a special open space/floodplain conservation district located in the Bird, Hominy and Delaware floodplains. Because of the unique physical and environmental characteristics of the area, this land will be encouraged to develop with agricultural or recreational land uses. The area should be made a part of a coordinated open space/public parkland system which will link Mohawk Park and the remainder of the Bird Creek floodplain with public recreational systems. Additional detailed planning and engineering will be necessary to develop this area.
LAND USE
Agricultural Areas

in uses compatible with land use characteristics.

AGRICULTURAL AREAS

Agricultural Area Goals:

1. It is intended that those areas for which the most appropriate use is
agricultural production be so maintained and preserved.

2. It is intended to protect agricultural areas from premature, unplanned
urbanization until a full range of public facilities, services and utilities are available.

Agricultural Area Objectives:

1. Agri-business will be encouraged as an industry in the area.

2. Development of the lower reaches of Bird, Delaware and Hominy Creeks drainage
basins contiguous to urban services will be encouraged. Upper reaches of
these basins are to be maintained as rural in nature.

Agricultural Area Policies:

1. Public facilities and utilities necessary to support agricultural activities
should be provided through assistance offered by the U.S. Department of
Agriculture.

2. The preservation of agricultural activities will be taken into consideration
prior to the extension or provision of urban services in these areas.

3. The utilization of sound agricultural and soil management practices will be
encouraged, as will assistance provided by the U.S. Department of
Agriculture, Soil Conservation Service.

RESIDENTIAL AREAS

This category of land use consists of areas in which people live and maintain
their homes. Uses within this area are comprised of single family homes, du-
plexes, townhouses, apartment units, and mobile homes.

Residential Area Goals:

1. It is intended that existing and future residential neighborhoods be provided
which are safe, comfortable, quiet, and stable for all citizens.

2. It is intended that a variety of dwelling unit types and densities be provided
in the residential areas to meet the needs of all citizens.

3. It is intended that the opportunity for unlimited choice for citizens as to
location in the various areas of North Tulsa County be promoted.

4. It is intended that adequate housing be provided all citizens.
Residential Area Objectives:

1. Existing and future residential areas will be conserved by eliminating and preventing the spread of blight.

2. The character of residential areas will be preserved by preventing the intrusion of incompatible nonresidential uses.

3. Public facilities and utilities in existing residential areas will be upgraded and maintained at a high level.

4. Existing regulations and codes will be enforced in order to preserve, enhance, and stabilize existing and future residential areas and to maintain the quality of housing.

Residential Area Policies:

1. Local, state, and federal grants will be utilized whenever feasible and appropriate to rehabilitate and conserve existing residential areas and to maintain the existing housing stock.

2. Residential areas should be designed and developed in such a manner that single family residential areas are buffered from office, commercial, and industrial uses by multi-family residential areas and/or open space and recreation areas.

3. Residential development within areas subject to periodic flooding will be discouraged and regulated.

4. New residential development will be designed, developed, and constructed in a manner that will preserve the natural environment and enhance the environmental quality of residential areas. Careful regard will be given to preserving forested areas, drainage ways, and scenic vistas and to utilizing the contours of the land in site development.

5. Abandoned and deteriorating housing structures should be rehabilitated whenever feasible and appropriate or should be cleared.

6. Residential mobile home parks will be screened from abutting single family residential uses.

7. The concept of a neighborhood unit will be utilized in the design and development of residential areas.

8. The use and operation of a housing code program will be studied and equitable regulations prepared.

9. No public or public supported project shall be undertaken which produces housing that is restricted from sale to anyone on the basis of race, color, sex, or national origin.

10. No residential development shall be built at an urban scale (that is, greater than the rural residential density of 1.5 units per acre) until urban
scale public utilities are available and said development can be added to public water and sewer systems.

11. A Housing Assistance Plan for the unincorporated North Tulsa County area will be studied and prepared according to County needs.

12. A Residential Estate (RE) zoning district should be added to the permitted zoning districts for the unincorporated areas of North Tulsa County. The RE district is designed to permit the development and conservation of single family detached dwellings in a suitable environment for family life on large parcels of land at a low rate of urban population density. The maximum permitted density in an RE district would be 1.5 dwelling units per acre.

COMMERCIAL AREAS

This category of land use includes the retail and service commercial establishments as well as offices located within the Planning Area.

Commercial Area Goals:

1. It is intended that commercial activities be concentrated in planned shopping centers conveniently situated throughout the Planning Area in relation to the needs and services of the people in the area.

2. It is intended that nonconforming and strip commercial development be discouraged from expanding or being established.

3. It is intended that an economically healthy range of commercial and office uses be designed and developed to serve the needs of existing and future North Tulsa County area residents.

Commercial Area Objectives:

1. Commercial and office land uses will be concentrated and clustered at major street intersections.

2. Commercial and office land use sites will be of appropriate size and developed in accordance with existing zoning and subdivision regulations in order to avoid parking, crowding, blighting and other problems which can hamper the vitality of commercial enterprises.

3. Scattered nonconforming commercial locations throughout the Planning Area will be reduced through normal attrition during the planning period to the year 2000.

Commercial Area Policies:

1. Commercial and office area uses will be located so as to provide the best access to the population they are intended to serve.

2. Existing zoning and subdivision regulations will be used to implement the North Tulsa County Comprehensive Plan.
LAND USE
Commercial Areas

3. The Tulsa County and City of Tulsa zoning regulations should be amended such that land which is zoned or rezoned to commercial use would be required to have substantial commercial development take place within a specified time limit. If such development does not take place, the commercial or office zoning will lapse to the zoning district to which it was previously zoned.

4. Commercial and office property abutting residential areas will be required to provide measures designed to reduce detractive impacts and nuisances to the residential areas. Screening fences, landscaping, setbacks, and lighting modifications will be required. Improvements should be sought in existing situations whenever permits are sought for expansion or alterations.

5. Existing sign controls as contained in the zoning regulations will be enforced, and if necessary, strengthened to maintain standards for such advertising.

6. Spot zoning will be prohibited and strip zoning will be prohibited except that especially planned, designed, and developed on major roads.

7. Low intensity office uses will be utilized to act as buffers between single family residential and nonresidential uses when multi-family residential uses are inappropriate.

8. Legal nonconforming commercial and office uses will be left as such with the understanding that they may be improved but may not expand unless in accord with the Tulsa County or City of Tulsa zoning regulations. Upon termination of operation of such uses, it is intended that they revert to low density uses.

9. Illegal commercial/industrial land uses, such as junk car lots will be firmly discouraged through vigorous enforcement of local, county and state regulations dealing with zoning, subdivision regulations and health codes.

10. The establishment of a new commercial zoning district should be explored which essentially allows only Use Unit 13 and 16 types of activities. Such a district would replace CS as the allowable commercial zoning in Type One Activity nodes. If such a district were approved, an amendment to the North Tulsa County Comprehensive Plan Intensities Policies for Type One Activity nodes would be necessary; and the Tulsa County and City of Tulsa Zoning Regulation would require amendment.

INDUSTRIAL AREAS

Industrial Area Goals:

1. It is intended that development of efficient industrial areas and districts that have accessibility to a balanced transportation network consisting of highways, air, rail, bus and water transportation modes providing efficient and economic movement of people and goods be preserved and promoted.

2. It is intended that the scattering of unplanned industrial uses in areas planned for other uses be discouraged by making known the industrial development areas.
3. It is intended that a variety of sites for diversified environmentally sound industrial uses be available in the North Tulsa County area and that sites be conveniently accessible to living areas and the work force.

**Industrial Area Objectives:**

1. Those sites exhibiting desirable characteristics for industrial development should be preserved and protected from encroachment by noncompatible uses.

2. Any industry having an adverse impact on the environment locating in the Planning Area shall take those actions necessary to bring that industry into conformance with local, state, and federal environmental standards.

3. Privately planned, designed, and developed industrial parks that cluster industrial sites will be encouraged in the Planning Area.

4. The planned Cherokee Special (Industrial) District within the Tulsa fence-line and adjacent to the Planning Area is encouraged to develop.

5. A planned expansion area (Special District 2) for the Cherokee Special District west of Highway 75 is encouraged to develop. Light or medium intensity industrial uses which will complement the Cherokee Special District and will not adversely impact adjacent residential neighborhoods are encouraged to locate there.

6. Any physical facilities for support of the Cherokee Special District which will impact the North Tulsa County Planning Area shall be planned, designed and developed in coordination with Tulsa County, the City of Tulsa and the City of Owasso planning efforts and shall be in harmony with the environment.

**Industrial Area Policies:**

1. Industrial sites and facilities shall be designed, developed, and constructed so as to minimize open space between adjacent uses and to provide visual screening, particularly through the use of natural features and foliage whenever feasible and appropriate.

2. Industrial traffic should utilize the major street system and be restricted from collector and minor streets, except those specifically designed for industrial traffic.

3. Industrial districts adjacent to neighborhoods should be separated from low intensity uses by medium intensity nonresidential uses whenever feasible and appropriate.

4. Any rail facilities to support and/or serve the expanded Cherokee Special (Industrial) District will be planned, designed, developed, and constructed to maximize open space between adjacent uses, and to provide visual screening through the use of natural features and foliage whenever feasible and appropriate.

5. State and federal grant monies will be secured when necessary, feasible and appropriate to deal with impacts of economic and industrial development in the North Tulsa County Planning Area.
6. Tulsa County and the City of Tulsa will determine, in coordination with adjacent governmental jurisdictions, whether portions of unincorporated land should be annexed by or included within fencelines of adjacent cities in order to more efficiently provide water and sewage service to Special Industrial Districts, especially the Cherokee Special (Industrial) District.

7. Detailed planning and engineering studies will be necessary for the development of the Special Industrial Districts. Industrial PUD's are recommended for those areas.

8. The City of Tulsa should encourage industries locating in the Cherokee Industrial District to discharge adequately pretreated wastewater into the sanitary sewer system rather than discharging directly into Bird Creek in order to more efficiently maintain water quality standards and requirements.

9. Discharge of industrial wastewater into the sanitary sewer system should comply with existing policies concerning industrial cost recovery and pretreatment.

RECREATION-OPEN SPACE AREAS

Recreation-Open Space Area Goals:

1. It is intended that lands for parks, playgrounds, playfields, community parks and regional parks be provided that meet the active and passive recreational needs of all age groups and be located for convenient access by varying age groups and needs.

2. It is intended that open space areas be provided that preserve significant natural features, enhance the visual character of North Tulsa County, buffer adverse effects of certain land uses and serve conservation purposes.

Recreation-Open Space Area Objectives:

1. Existing parks will be maintained and evaluated to assure service in relationship to need.

2. New recreation areas and facilities should be provided for the service of new neighborhoods in the Planning Area.

3. Opportunities for a variety and of organized and unorganized recreation activities for all ages will be maintained and improved according to need.

Recreation-Open Space Area Policies:

1. Existing parks within and adjacent to the Planning Area will be fully developed to their respective standards during the early portion of the planning period.

2. A system of parks, recreation and open space will be developed as depicted on the North Tulsa County Comprehensive Plan map.

3. The Special Open Space District in the Bird, Hominy and Delaware drainage
basins will have detailed plans completed for preservation and utilization of the flood prone lands and unique physical features of the area as a coordinated extension of a Mohawk Park/North Tulsa County open space system.

4. A system of bike trails should be established within Special District 3 which will provide a continuous recreation trail from Skiatook and Sperry to the Port of Catoosa, through Red Bud Valley.

5. Park land will be provided for neighborhoods during the development process through implementation of the subdivision regulations. A minimum size will be established for park land to be dedicated.

6. Neighborhood recreation areas will be centrally located in neighborhoods and in close proximity to any proposed elementary school sites.

7. The development of recreation and open space facilities will be coordinated with the development of a flood storm drainage management program.

8. Local, state and federal assistance and grant monies will be secured, where feasible and appropriate, to assist in the development of recreation lands.

PUBLIC AND QUASI-PUBLIC AREAS

Public and Quasi-Public Area Goals:

It is intended that sufficient lands be provided and located in compatible intensity areas to meet the varying public and quasi-public area needs.

Public and Quasi-Public Area Objectives:

1. Public and quasi-public uses shall be located so as not to adversely impact surrounding land uses.

2. Public lands should be acquired in accord with policies outlined in this Plan and sufficiently in advance of development as is feasible and appropriate.

3. Major quasi-public areas should be centrally located to insure convenient accessibility and high visibility.

4. Major public land areas will be centrally located and clustered to insure convenient accessibility, to provide high visibility and to assist in the economical expenditure of public funds.

Public and Quasi-Public Area Policies:

1. Major non-municipal public facilities will be encouraged to locate within the Corridor or Special District between 76th and 106th Streets North.

2. Neighborhood and multi-neighborhood serving public lands will be located in type one or type two activity nodes.

3. Quasi-public lands should be located in type one or type two activity nodes. In some instances, such lands should locate at intersections of arterials and collectors.
DEVELOPMENT SENSITIVE AREAS

Development Sensitive Area Goals:

It is intended that the natural environment be respected and that public safety be maintained as development occurs within the Planning Area.

Development Sensitive Area Objectives:

The preservation of the natural environment where it enhances the quality of life and improves health and safety of the district residents will be encouraged.

Development Sensitive Area Policies:

1. Conservation of development sensitive areas shall be encouraged where feasible through (1) private donation; (2) limited public acquisition; (3) utilization of the PUD zoning districts; (4) floodplain zoning; (5) compliance with federal, state and local safety requirements; and (6) incorporation into the recreation-open space element of the Plan.

2. Environmental review system of major projects which solicits comments from all segments of the County should be instituted.

3. Intensity within development sensitive areas will generally be one half of the base intensity, unless the developer utilizes the PUD supplemental zoning district provisions. Upon review of a site plan, as a part of the PUD procedures, it may be determined that the full allocation of intensity is appropriate.
PUBLIC FACILITIES

GENERAL

This element of the Plan includes goals, objectives, and policies for recreation­al, educational, public safety, cultural, health, and public facilities. These facilities are owned by the citizens and include those things required by citi­zens to have a better place to live. The general locations of needed public facilities to the year 2000 are depicted on the North Tulsa County Land Use Plan 1980–2000.

Public Facilities General Goals:

It is intended that efficient, adequate public facilities and services be main­tained and provided for existing and future residents.

Public Facilities General Objectives:

1. Existing public facilities will be maintained and improved to meet the needs of area citizens.

2. Resources for future public facilities will be secured in advance when feasi­ble and appropriate.

Public Facilities General Policies:

1. Coordination between Tulsa County departments and other public agencies and governmental jurisdictions regarding planning and development will be main­tained and improved.

2. Planning and budgeting for public facilities will be an ongoing process and should be accomplished through the development of short range (five year) capital improvements programs for Tulsa County and adjacent municipalities.

RECREATION–OPEN SPACE

Recreation–Open Space Goals:

It is intended that a quality system of park, recreation, and open space faci­lities be available to area citizens.

Recreation–Open Space Objectives:

1. Existing parks will be maintained and upgraded.

2. New parks will be developed and coordinated with the development of open space systems and of flood–storm drainage management.

Recreation–Open Space Policies:

1. Parks will be located, where feasible, adjacent to school sites.

2. The major drainage ways of Bird, Hominy and Delaware creeks and their tribu­taries will be utilized as the connecting portions of an overall open space
program. Flora and, more specifically, forested area adjacent to these drainage ways will be preserved and incorporated into the design of new development and neighborhoods whenever feasible and appropriate.

3. The Bird Creek floodplain should be preserved and maintained as public or private open space in its natural state.

4. Bike paths will be provided in open space systems in newly developing areas and will be integrated into the overall system of bike trails established throughout Special District 3.

5. Area parks adjacent to the Planning Area will be fully developed within the early portion of the Plan period.

6. Additional neighborhood parks will be acquired and developed within developing neighborhoods.

7. Local, state and federal assistance will be secured whenever feasible and appropriate to develop the park, recreation and open space system.

8. The following standards for recreation areas shall apply except as otherwise determined appropriate:
<table>
<thead>
<tr>
<th>FACILITY TYPE</th>
<th>DESCRIPTION</th>
<th>IDEAL MINIMUM SIZE</th>
<th>STANDARD (AC/1,000 POP.)</th>
<th>SERVICE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plaza or Court Mini-Park</td>
<td>Small landscaped area designed for possible recreation in high-density or built-up areas. May incorporate privately-owned areas.</td>
<td>Variable</td>
<td>Variable</td>
<td>Variable</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>Walk-to parks, providing informal leisure opportunities and recreation in heavily populated residential areas.</td>
<td>10 acres</td>
<td>2</td>
<td>1 sq. mile</td>
</tr>
<tr>
<td>Community Park</td>
<td>Parks that provide ballfields and other programmed and unprogrammed recreation facilities for local residents.</td>
<td>25 acres</td>
<td>1.5</td>
<td>4 sq. miles</td>
</tr>
<tr>
<td>Area Park</td>
<td>Parks that provide cluster recreation facilities for a large selection of the urban region.</td>
<td>300 acres</td>
<td>6.5</td>
<td>10 sq. miles</td>
</tr>
<tr>
<td>Regional Park</td>
<td>Large natural scenic settings provided outside the urban areas. Not usually provided at the municipal or county level.</td>
<td>Variable</td>
<td>--</td>
<td>5000 sq. miles</td>
</tr>
<tr>
<td>Special Facilities</td>
<td>Facilities provided to meet a specialized demand, located where appropriate and where an opportunity exists. Examples are: Museums, Zoo, Expo Square, Rose Garden, etc.</td>
<td>As Required</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Development Sensitive Conservation Areas</td>
<td>Parkland that preserves areas prone to flood, ecologically sensitive, or having unique aesthetic value. Appropriate recreation facilities provided where feasible.</td>
<td>As Required</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total Park Acreage</td>
<td>The total of all open space including the above categories.</td>
<td>--</td>
<td>10/1000</td>
<td>--</td>
</tr>
</tbody>
</table>

EDUCATION

Education Goals:

It is intended that a balanced program and physical plan be provided to meet the educational needs of the community.

Education Objectives:

1. Tulsa County will coordinate with the various school districts in the Planning Area for the sighting of education facilities.

2. Elementary schools will be centrally located within neighborhoods.

3. Educational facilities will be sighted so as to protect them from encroachment by incompatible uses.

Education Policies:

1. General sites for educational facilities are set forth on the North Tulsa County Comprehensive Plan map.

2. Existing education facilities adjacent to the Planning Area should be preserved, maintained and, as necessary, improved to meet the needs of an increasing population in the Planning Area.

3. New education sites will be acquired during the development process of new residential areas.

LIBRARY

Libraries Goals:

It is intended that the services of the Tulsa City-County Library system be continued and that library services be maintained at the maximum efficiency level.

Libraries Objectives:

1. Additional branch libraries will be provided and located close to patrons, with convenient access from arterial streets.

2. An adequate site will be provided for library facility structures, parking and open space.

Library Policies:

Tulsa County supports enlarged and improved library facilities and services located conveniently to all citizens in the Planning Area in accordance with the draft of the long range plan for Tulsa City-County Libraries.
SOCIAL SERVICES—HEALTH

Social Services—Health Goals:

1. It is intended that the highest possible level of personal health for all Tulsa County residents be secured and to provide every citizen the information and means necessary to maintain good health and to participate in a continuing program of health. The environment itself should be conducive to good health.

2. The general goal of social concern is a developed sense of common purpose in matters of general community interest among the citizenry by encouraging (1) opportunity for full participation in municipal and County affairs; (2) adequate and equal public facilities and services; (3) equal opportunities for housing, education, employment, and justices; and (4) adequate welfare and social services.

Social Services—Health Objectives:

1. Adequate facilities to house the health and social programs needed for the Planning Area will be provided and maintained.

2. The services of the Tulsa City-County Health Department should be utilized to the maximum.

Social Services—Health Policies:

1. The three area health centers should be maintained and improved to provide the public health needs of the unincorporated county area.

2. The need for local day care facility standards should be explored.

PUBLIC SAFETY

Public Safety Goals:

1. It is intended that the North Tulsa County Planning Area be made as safe as possible by providing: effective, highly motivated police, emergency response and fire prevention—fighting personnel and facilities; a responsive court and prison system; meaningful safety educators for the citizens; improved traffic safety; and an adequate civil defense system.

Public Safety Objectives:

1. The police objectives are to provide efficient and sound sheriff protection to Tulsa County residents, and to maintain and strengthen the coordination between the Tulsa County Sheriff's office and municipal police forces, and to maintain those services at an adequate service level.

2. The fire protection objectives are to provide efficient and sound fire protection to Tulsa County residents and to maintain and strengthen the coordination of the surrounding municipal full time and volunteer fire protection programs, and to maintain those services at adequate service levels.
3. Emergency response objectives are to provide efficient and sound emergency response medical service to Tulsa County residents, and to maintain those services at an adequate service level, and to further coordination of such activities among the three adjacent municipal systems.

4. An efficient enforcement program will be provided to insure the sound construction of Tulsa County structures for the public's health and safety.

5. Consideration should be given to establishing a county or municipal extension emergency services station within Special District 2. Services for police (sheriff), fire, ambulance and civil defense could be headquartered there and serve the North Tulsa County area.

Public Safety Policies:

1. Police facility and equipment needs will be improved in the early portion of the plan period.

2. New fire facilities should be located to maximize fire-fighting coverage in the North Tulsa County Planning Area. New fire houses should be located generally in the north central and east central portions of the Planning Area. Detailed location studies based on response times, areas served and so forth should be conducted prior to specific site selection.

3. A separate emergency response facility should be developed within Special District 2 along Highway 75.

4. A storage compound for Civil Defense rolling stock and equipment should be developed within the Planning Area.

5. Adequate facilities and personnel will be provided to implement efficient code enforcement through the Tulsa City-County Health Department.

FLOOD-STORM DRAINAGE

Flood-Storm Drainage Goals:

It is intended that proper flood control and storm drainage facilities and measures be provided to safeguard the citizenry from flooding, erosion siltation, and standing water.

Flood-Storm Drainage Objectives:

1. Existing areas within North Tulsa County that experience flooding and storm drainage problems will have adequate facilities constructed to alleviate flooding problems.

2. An overall plan for flood control and storm drainage will be developed for the Planning Area and will be incorporated into the overall open space system.
Flood-Storm Drainage Policies:

1. The TMAPC and Tulsa County will continue participation in the Tulsa Urban Study and will consult with and contract with, as necessary, the U.S. Army Corps of Engineers to develop a Comprehensive Drainage Plan in the early portion of the Plan period for the Planning Area.

2. Tulsa County and the City of Tulsa shall continue to regulate and control development within areas subject to flooding and shall utilize existing regulating measures in flood prone areas until findings of the Comprehensive Drainage Plan and actions of the Tulsa County Commission or Tulsa City Commission institute a new floodplain management program.

3. New residential development should not be permitted in areas subject to periodic flooding.

4. Public utilities will not be provided in advance of new development in areas subject to flooding unless it is determined to be in the best interest of the public's health, safety and general welfare.

5. Flood and storm drainage projects should be undertaken to remedy existing flooding problems in North Tulsa County. Particular consideration should be given to those areas in the Bird, Hominy and Deleware drainage basins southwest of Harvard and 116th Street North and southeast of 66th Street North and Highway 75.

6. When any land is being developed, or construction undertaken, or public improvement installed upstream of a previously developed area, it shall be required that measures be taken to avoid any increase in velocity and/or volume per time period in the discharge from the developing land.

7. As an alternative to the above, if on-site detention or other methods are not practical, the developer or user of the land shall be required to demonstrate that the receiving stream can accommodate the flows from the entire watershed if it develops to the intensity shown in adopted public plans.

8. Local, state and federal assistance should be secured whenever feasible and appropriate in the planning, design, and construction of community flood control and storm drainage facilities.

SOLID WASTE

Solid Waste Goals:

It is intended that citizens be provided with a safe, efficient solid waste disposal service.

Solid Waste Objectives:

Any solid waste disposal program available to County residents will be as economical, efficient, and environmentally sound as is feasible and appropriate.
Solid Waste Policies:

1. Tulsa County shall explore the feasibility of contracting for solid waste pick-up and disposal for County residents during the Plan period.

2. Tulsa County should determine the location of potential solid waste land-fill sites in the Planning Area for future public or private systems.

3. Solid waste disposal operations in the Planning Area shall meet all local, state and federal health, safety, and environmental protection requirements.
PUBLIC UTILITIES

WATER AND SEWER

This element of the Plan includes the goals, objectives, and policies for the water and sewer utilities of North Tulsa County. The general location of water and sewer improvements for Planning Area to the year 2000 are depicted on the Public Utilities Distribution System map.

Water and Sewer Goals:

1. It is intended that a high quality of water and sewer service adequate to meet the existing and future needs of area residents be provided in a sound, reliable, efficient, and economical manner.

2. It is intended that new and replacement water and sewer facilities be programmed in advance based on existing and future needs.

WATER

Water Objectives:

1. Sound, reliable supplies of water will be provided in North Tulsa County.

2. The existing water systems will be maintained and upgraded in the Planning Area.

3. New water systems will be designed and constructed to meet future needs.

Water Policies:

1. Adequate and reliable sources of water shall be provided to all citizens within the Planning Area by inclusion within the service area of a nearby municipal system or a rural water district.

2. Adequate municipal water service will be provided by the City of Tulsa in all urban areas.

3. The TMAPC will continue participation in the Tulsa Urban Study and will consult with and, if necessary and appropriate, contract with the U.S. Army Corps of Engineers to determine alternative sources of water supply for the Planning Area.

4. Water supply security should be assured by the City of Tulsa connecting with other systems and developing alternative supply sources for the unincorporated areas of the County. Owasso should connect with the proposed water main that is to serve the Cherokee Special District. Water sources other than the City of Tulsa should be assured whenever feasible.

5. New and replacement water services will be designed and constructed to provide adequate fire protection.

6. Modifications will be made as necessary to water system design requirements set forth in the TMAPC Subdivision Regulations to provide sound development
standards and to assure that all new development in the Planning Area will be provided adequate water service.

7. Water system improvements will be provided in advance of development, whenever possible to encourage growth and to minimize inconvenience and cost to system installation.

8. Existing areas with inadequate water facilities will be identified and included in future capital improvement programs. These areas are generally indicated on the Public Utilities Distribution System map.

9. Local, state and federal assistance will be secured, whenever feasible and appropriate, to plan, design and construct new and replacement water system improvements.

10. Coordination with the Tulsa Metropolitan Area "208"program will continue.

SEWER

Sewer Objectives:

Sewer systems will be installed in all portions of the Planning Area as needed for the provision of municipal or rural sewage collection and disposal for all urban areas. As new neighborhoods in the Planning Area develop to urban scale their sewer systems will be connected to the appropriate municipal system such as Sperry, Owasso, or the City of Tulsa. Lift stations will be designed and located in the most appropriate locations to transport sewage to the appropriate treatment facility, and to minimize private septic systems where public sewer service is available or where soil conditions or population density per acre is unsuitable.

Sewer Policies:

1. All urban scale development in the Planning Area will be provided adequate sewer service.

2. Tulsa County and the City of Tulsa will continue to coordinate their sewage system planning efforts with similar efforts of adjacent governmental jurisdictions.

3. Existing areas with inadequate sewer facilities will be identified and included in future capital improvement programs for improvement.

4. Local, state and federal assistance will be secured, whenever feasible and appropriate, to plan, design, and construct new and replacement sewer system improvements.

5. The sewage collection system will be designed and constructed whenever possible as a gravity flow system to assure economy of construction, operation and maintenance.

6. Modifications will be made as necessary to sewer system design requirements set forth in the TMAPC Subdivision Regulations to provide sound development standards and to assure that all new development in the Planning Area will be provided adequate sewer service.
TRANSPORTATION

This element of the Plan includes trafficways, pedestrianways, bikeways, mass transit, air, and rail. The Land Use Plan 1980–2000 map depicts the necessary trafficways and rail facilities that will be necessary for full or one hundred percent development of the North Tulsa County Planning Area.

GENERAL

General Goals:

It is intended that an integrated, efficient transportation system be provided to rapidly, safely, and economically move people and goods throughout all parts of the Planning Area.

General Objectives:

A full range of transportation opportunities should be provided for the citizenry.

TRAFFICWAYS

Trafficways Goals:

It is intended that a safe and efficient street and highway system be provided to serve the Planning Area.

Trafficways Objectives:

1. The proper level of accessibility and service will be provided to each land use and activity.
2. Existing deficient streets within the Planning Area will be identified and included in future capital improvement programs for improvement.
3. Through and industrial traffic will be prevented in residential areas.
4. The network of major trafficways will be designed and constructed according to the standards and locations of the Tulsa County Major Street and Highway Plan and any amendments thereto.

Trafficways Policies:

1. The Major Street and Highway Plan shall be amended to reflect the changes reflected in the North Tulsa County Transportation Plan.
2. The TMAPC Subdivision Regulations should be amended, updated and refined as necessary to upgrade and clarify street improvement standards.
3. Through traffic in residential areas will be prevented by facilitating traffic flow around and slowed within those residential areas.
4. Carrying capacities of trafficways should be preserved and maintained by preventing incompatible land uses from developing along trafficways. Strip commercial development shall be avoided.
5. One lane and other narrow or dangerous bridges will be repaired or replaced along arterial streets in order to enhance traffic flow and provide area residents with safe, efficient access to their properties.

6. The improvement of Highway 75, the Cherokee Expressway, to four traffic lanes north to 146th Street North will be secured at the earliest possible time before the year 2000 in order to accommodate increased traffic with the most efficiency and safety.

7. The designation of State Highway 20 west of Garnett Road should be changed from 146th Street North to 116th Street North west to Highway 75, and its designation changed to a primary arterial, in order to ensure development of this trafficway to the standard capable of bearing anticipated increased traffic along this route.

8. Local, state and federal assistance will be secured whenever feasible and appropriate to construct new and replacement facilities and to maintain and improve trafficways as needed.

PEDESTRIANWAYS-BIKEWAYS

Pedestrianways-Bikeways Goals:

It is intended that sidewalks, walkways and bikeways be provided in residential areas and from living areas to working areas as appropriate alternative means of transportation.

Pedestrianways-Bikeways Objectives:

1. Walking and bicycling routes should be provided in newly developing areas and subdivisions and in developed areas as feasible and appropriate.

2. Pedestrianways and walkways will be designed to permit movement to schools, neighborhoods and shopping areas.

Pedestrianways-Bikeways Policies:

A system of bicycle/pedestrian trails should be established within Special District 3 which will provide a continuous recreation trail from Skiatook and Sperry to the Port of Catoosa, through Red Bud Valley.

TRANSIT

Transit Goals:

It is intended that an economical and efficient alternative means of transportation which will supplement the automobile be provided in the planning area as is feasible.

Transit Objectives:

The MTTA and private carriers will be encouraged to provide service between Tulsa and Owasso, Sperry, Collinsville and Skiatook areas as is needed, feasi-
TRANSPORTATION
Rail

ble and appropriate. MTTA service to the Cherokee Special District should be
investigated and provided for within the first portion of the planning period.

AIR

Air Goals:
1. The local, private airport in the Planning Area is intended to continue as
a viable means of access to other areas for participating residents.
2. It is intended that good access to the Tulsa International Airport be main­
tained for the Planning Area and that all TIA plans and proposals that might
impact the Planning Area be brought to the attention of area residents and
coordinated with metropolitan planning.

Air Objectives:
The hazards and nuisances associated with the operation of TIA will be minimized.

Air Policies:
1. Land use compatible with airports will be encouraged around air facilities.
2. Private investment in the local private airport and its facilities is en­
couraged.

RAIL

Rail Goals:
It is intended that new and existing rail facilities in the Planning Area be de­
signed, developed, constructed and maintained to adequately serve the existing
and expanding needs of the area.

Rail Objectives:
1. Existing and new rail facilities will be developed in harmony with surround­
ing land uses and the environment.
2. Rail and trafficway intersections shall be improved and made safer through
signalization and other means as necessary.

Rail Policies:
1. Rail facilities shall be provided to the Cherokee Special District and other
industrial areas in an efficient, environmentally sound manner.
2. Further extensions of rail spurs through the Cherokee Special District into
the expanded Special District 2 shall be provided as these areas develop to
industrial intensity.
3. Rail and trafficway intersections should be grade separated whenever feasi­
ble.
4. Residential and rail street crossings will be minimized.
LAND USE PLAN 1980-2000
NORTH TULSA COUNTY COMPREHENSIVE PLAN

EXISTING

PROPOSED

HIGH RESIDENTIAL
MEDIUM COMMERCIAL-OFFICE
LOW INDUSTRIAL
RURAL RESIDENTIAL RECREATION-OPEN SPACE
DEVELOPMENT SENSITIVE PUBLIC & QUASI-PUBLIC
SPECIAL DISTRICT FIRE STATION
AGRICULTURE OTHER

EXPRESSWAY
PRIMARY ARTERIAL
SECONDARY ARTERIAL
COLLECTOR
RAILWAY

PLANNING AREA BOUNDARY

NORTH TULSA COUNTY
PREPARED FOR TULSA COUNTY AND THE CITY OF TULSA BY THE TULSA METROPOLITAN AREA PLANNING COMMISSION
LAND USE PLAN 1980-2000
NORTH TULSA COUNTY COMPREHENSIVE PLAN

INTENSITIES
- HIGH
- MEDIUM
- LOW
- RURAL RESIDENTIAL
- DEVELOPMENT SENSITIVE
- SPECIAL DISTRICTS
- CORRIDOR

LAND USES
- RESIDENTIAL
- COMMERCIAL-OFFICE
- INDUSTRIAL
- RECREATION-OPEN SPACE
- AGRICULTURE

PUBLIC FACILITIES
- PARK
- ELEMENTARY SCHOOL
- SECONDARY SCHOOL
- FIRE STATION
- OTHER

TRAFFICWAYS
- EXPRESSWAY
- PRIMARY ARTERIAL
- SECONDARY ARTERIAL
- COLLECTOR

PLANNING AREA BOUNDARY

PREPARED FOR TULSA COUNTY AND THE CITY OF TULSA BY THE TULSA METROPOLITAN AREA PLANNING COMMISSION

SCALE IN MILES

JULY 1980
DESCRIPTION OF THE ELEMENTS
DESCRIPTION OF THE ELEMENTS

INTRODUCTION

The North Tulsa County Planning Area constitutes a region of exceptional opportunities and characteristics. Physically, the area has developed as a rural residential area situated adjacent to several smaller communities and the larger metropolitan area of Tulsa. Based on the new developments that have been constructed, a rural residential character is the desire expressed by the residents of this part of the county. To the south and west are the Town of Sperry, the Bird Creek, Delaware Creek and Hominy Creek watercourses and their floodplains; to the east are the Cherokee Special (Industrial) District and the City of Owasso; to the south are the City of Tulsa and the community of Turley; and to the north is the rural development between Skiatook and Collinsville. These physical and political features, together with existing and planned development patterns, present North Tulsa County the opportunity to further develop as a viable extension of the urban metropolitan area.

Other factors contribute to the bright outlook for North Tulsa County's future. This area can continue to serve as a "bedroom community" living area for major employment centers in northern Tulsa. The existing rural residential pattern is expected to continue due to further development of the Port of Catoosa east of Owasso and the anticipated growth of the Cherokee Special District. The area's accessibility is enhanced even more by Highway 75 which bisects the district. The Planning Area will strengthen as a market area for industrial and commercial development as the population grows. Residential growth in nearby areas has been strong recently; as the national and local economies return to pre-recession characteristics, this area is anticipated to absorb a good share of additional growth. The existing and future labor force living in this area should serve as a positive factor to encourage increased local industrial development.
LAND USE

This element of the Plan describes the purposes sought in the Comprehensive Plan Goals, Objectives, Policies, and Standards. Land Use is represented in terms of desired land use intensities and development patterns for the Planning Area from the present to the year 2000.

LAND INTENSITY

This portion of the Land Use Element represents the application to the Planning Area of the intensity goals, objectives, policies, and standards of the North Tulsa County Comprehensive Plan. The Intensity Development Concept map depicts the desired and proposed intensities of development for the Planning Area at a full urbanization scale, according to the Development Guidelines of the Tulsa Metropolitan Area Comprehensive Plan. The Land Use Plan 1980-2000 also depicts area intensities and relates them to the proposed land use patterns discussed later in this element. Utilization of the intensity concept enables the Plan to be useful in the application of zoning and subdivision regulations. The Land Use Plan 1980-2000 is intended to be a guideline for development in the foreseeable future, through the year 2000. The Intensity Development Concept illustrates desired ultimate intensities of development for a fully urbanized North Tulsa County.

There are two areas of high intensity located on the Intensity Development Concept map. The first is the area located within the Cherokee Industrial District between 86th and 56th Streets North, between Highway 75 and Memorial Drive. This area was originally proposed for industrial development in the Cherokee Special District Plan (1977) and still appears to be especially suited to that use due to its accessibility, relatively undeveloped nature and appropriate physical characteristics. Private development of this industrial park is encouraged. The second high intensity area is that area located north of 56th Street North around Mingo Road. This area has existing industrial uses which include the northside Sewage Treatment Plant.
Additional public facilities and industrial uses would be appropriate here due to few non-residential uses nearby and access to rail and expressways. One limiting factor for both high intensity areas will be the adjacent Bird Creek floodplain.

Medium intensity development is proposed primarily at the locations of activity nodes at arterial intersections. Type I and Type II Activity Nodes are located at the intersections of primary and secondary arterial streets according to the recommendations of the Major Street and Highway Plan. The configuration of these nodes will vary somewhat on the basis of physical features, existing development and proposed transportation facilities.

Proposed low intensity development for the study area is concentrated within the neighborhoods bounded by arterial streets. The majority of proposed urban expansion is the eastern half of the mid portion of the study area. The probable extension of water and sewer services, the existing and planned trafficway network, the proximity of other urban services, and the suitability of physical characteristics make these areas the optimum places of urban growth for the Planning Area. These are areas in which public and private expenditure can be optimized. Existing low intensity development is to be maintained and expanded where feasible and appropriate throughout the area. Extension of water and sewer service to these areas are prerequisite for urban intensity residential growth.

The next intensity classification depicted on the Intensity Development Concept map is the development sensitive area designation. These areas are so designated due to the existence of several physical constraints, and are to be carefully regulated and properly engineered prior to any development. The large expanse of land within the Bird, Delaware, and Hominy Creek floodplains should limit development in these areas to low intensity and rural residential land uses.

The final classification of intensities is that of special districts. These
areas which should also be studied and planned for in detail prior to development or redevelopment. In these districts a mixture of land intensities may be appropriate. These three districts are those designated in the policies portion of the Plan. The proposed land use for Special Districts 1 and 3 are depicted on the Land Use Plan 1980-2000 map. Special District 2 is intended as an extension of the special industrial district and is designed to accommodate low and medium intensity land uses that will support higher intensity industrial activities within the Cherokee Industrial District. The feasibility of development of Special District 3 must be carefully studied due to the extreme physical constraints of the area.

As noted in the Plan policies, certain conditions or factors could emerge to spur development in portions of the Planning Area that were not anticipated to develop during the Plan period. The land use policies set forth in the Plan policies will apply in those areas in such instances. The Intensity Development Concept map presents the development guidelines to be followed throughout the Planning Area.

LAND AREAS

This portion of the Land Use Element deals with the various uses of land areas proposed for the North Tulsa County Planning Area. The Land Use Plan 1980-2000 combines the intensity policies of the Comprehensive Plan with the desired development pattern for the Planning Area in the immediate future. The land area categories and relationships are discussed below.

Agricultural

These land areas are located in the northern and eastern portions of the Planning Area and are to be used as agriculture, agri-business, and large lot residential areas in most instances. Agricultural use lands can appropriately be incorporated into the recreation-open space lands and development sensitive areas due to their minimal impact on the land when proper soil management practices are used.
Residential

One of the observations identified in the planning study was the importance of the single-family residential life style. The Land Use Plan map shows that the vast majority of the residential land is to be low density, single-family in nature. Multi-family residential development is proposed to be located along major transportation corridors, within the Special Districts and at the intersection of arterials (Activity Nodes Type I and II). Use of multi-family residential development is proposed as a buffer between single family uses and higher intensity uses within Special Districts, along the expressway and in the Activity Nodes.

The Land Use Plan proposes the filling in of areas between developed and developing subdivisions nearer the Cherokee District and the Owasso/Tulsa Planning Areas. The lands adjacent to existing residential areas in the Planning Area are intended to develop as well, so that neighborhoods will develop as per the Plan policies to foster the most efficient and logical provision of public facilities, services and utilities.

Existing residential subdivisions in the outer portions of the Planning Area are proposed to develop fully. New development in these areas is expected to be of a large lot size. These areas may also expand as low intensity residential areas of an urban nature should utilities become available. However, provision of urban services and utilities to these areas is not anticipated in the near future.

The only areas in which less than standard housing exists is in the floodplain area along Bird Creek. Housing aid and relocation programs in these areas would help stabilize the area and reduce the potential loss of life or property from flooding. Such programs are strongly encouraged.

The rural residential intensity areas shown on the map are those remaining areas which have few severe physical constraints for development. Those lands
are intended to remain as agricultural areas or large lot residential development. Those lands farthest from existing development are unlikely to have services available by the year 2000. However, those rural residential areas adjacent to the urban area may be transitional in nature and could develop in a low intensity nature depending upon the availability of urban facilities and utilities.

Commercial

All of the existing commercial-office sites in the Planning Area, except one, are nonconforming uses, mostly salvage yards. There is one business located between 86th and 96th Streets North on Peoria. It is not located in accordance with the Development Guidelines or Plan policies, and in the Plan, it is proposed to be phased out through natural attrition.

Beyond commercial development which would be compatible within the corridor areas and Special District 2 (Light Industrial - Commercial - Office), medium intensity commercial activity has been proposed at the intersections of several arterials. Four Type II activity nodes are located at the intersections of a primary and secondary arterial - 86th Street North and Harvard, 116th Street North and Yale, 146th Street North and Harvard and 146th Street North and Highway 75. It is proposed that these commercial-office areas function within a maximum of ten acres medium intensity land uses per corner and serve existing and proposed residential areas nearby. However, urban development is not anticipated at these locations in the near future due to the lack of public utilities throughout the area.

There are eight proposed activity nodes within the Cherokee District, one located at each arterial intersection within the residential area of the District. These commercial and residential districts should be developed only when all public utilities can be extended to serve them.

Other commercial sites are proposed for the Planning Area according to Plan policies and the Development Guidelines within those areas expected to develop to
urban density during the planning period. Type I Activity Nodes are proposed at four locations and at the opposite corners of three corresponding node intersections within the Cherokee District.

As noted in the Intensity Development Concept map, additional activity nodes may be appropriate as the outlying portions of the Planning Area are provided urban services and facilities. The corridor along Highway 75 ultimately may extend through the district.

Industrial

Industrial land use is proposed for three locations. First, the existing Cherokee Special Industrial District is to remain according to the adopted Cherokee Industrial Plan. Second, an expansion area for the Cherokee District is located within the Special District 2, adjacent to the Cherokee District. This area should be buffered from low intensity residential areas by medium intensity uses to the north and west. A third industrial area is proposed at the intersection of 56th Street North and Mingo Road. This will include existing industrial sites and will be buffered from less intense uses by the Tulsa sewage treatment facility and by the Bird Creek floodplain. These special districts and industrial sites will require additional detailed study, planning and engineering to enable proper and sound development. Further industrial development of these sites should not be allowed until full public (or private) utilities and services are provided.

The development of a strong industrial base for North Tulsa County is requisite for the continued economic vitality of the community. Growth of a local industrial base would also ease the property tax burden of homeowners and provide local working areas close to local living areas.

Recreation-Open Space and Development Sensitive

These lands are depicted on the Land Use Plan 1980-2000. These lands incorporate development sensitive areas into the recreation-open space system depicted on the Plan maps. These areas can also be used in the development of pedestrian
way and bikeway connections throughout individual neighborhoods and the larger community. The recreation-open space system depicted on the Land Use Plan incorporates neighborhood parks. Development and maintenance of this system should be coordinated with the development and maintenance of the flood-storm drainage-bikeways system for the Bird, Hominy and Delaware Creek watersheds.

**Public and Quasi-Public**

The major land areas designated for public and quasi-public use are essentially those which already exist in the county area. They consist of the PSO substation, the Sperry sewage treatment facility, the Tulsa north side sewage treatment facility on 56th Street North, the three local cemeteries and the private airport in the northeast. Existing quasi-public (e.g., church) sites are to be maintained, and future sites are to be located at Activity Nodes or at arterials and collectors according to the Plan policies. Education sites depicted will be sited according to the neighborhood policies of the Plan. Only those facilities are shown which are anticipated to be necessary by the year 2000. One additional public site depicted is a proposed county sheriff/fire protection/emergency response substation within Special District 2.

**PUBLIC FACILITIES**

The public facilities for the North Tulsa County Planning Area are depicted generally on the Land Use Plan 1980-2000 and are to be sited on the public lands indicated on the map. Proposed public facilities in the five adjoining communities are indicated on the Land Use Plan maps in their respective Comprehensive Plans.

**RECREATION-OPEN SPACE**

Based on year 2000 development patterns, park facilities should be developed within the Planning Area with proper equipment and facilities provided and maintained to meet area needs. Nearby municipal and county parks such as Taylor should be further developed to standard.
The largest open space/park and recreation area is located within Special District 3, an open space/floodplain district. This area covers a large portion of the western and southern parts of the Planning Area. Currently, only sporadic development exists. This area should be encouraged to develop with a series of public recreation facilities such as playgrounds, ballfields, hiking and equestrian trails, fishing and canoeing, and horticulture/wildlife habitats. A coordinated system of bike trails linking Sperry and Skiatook with Mohawk park and the Port of Catoosa should be established within this Special District. Portions of this district should be encouraged to be left as open space. Additional detailed planning is warranted for this district, and special care should be taken in the event any urban scale development is proposed in this area.

Additional neighborhood parks are depicted in areas proposed to develop to urban residential scale. These parks would be provided through the development process. Neighborhood parks should be included in the Plan for the Cherokee District. As with other park and playground facilities, these new parks would be interconnected through the recreation-open space system depicted on the Land Use Plan map. All park and recreation facilities should be provided according to Plan policies and the guidelines of the Tulsa Metropolitan Park and Open Space Plan.

EDUCATION

Education facilities are to be sited according to Plan policies. Elementary schools should be located centrally within neighborhoods away from arterial streets. Schools within the various school districts located in surrounding municipalities should be expanded in order to meet the educational needs of students within the Planning Area as well as students within the respective municipalities. Additional elementary schools should be considered by Sperry within the neighborhood located between 96th and 106th Streets North and Highway 75 and Harvard, and by Owasso within the residential area of the Cherokee Industrial
District. More centrally located elementary schools will allow children to attend school closer to their neighborhoods and could decrease certain costs such as bussing. However, due to lower densities and fewer children per family, schools may be located to serve several neighborhoods. Thus, a campus concept may gain added support for rural residential areas. Other school facilities or alternative sites may be needed prior to what has been anticipated in this study. If this should be the case, the Plan policies siting criteria should apply, particularly in regard to elementary schools.

LIBRARY

Continued patronage of the Tulsa City-County Libraries in communities adjacent to the Planning Area is expected to increase as the area grows. As the growth continues, existing libraries' capacities to serve area residents will be further strained or exceeded. The Plan proposes that if an additional library is needed to serve county residents adequately, the facility should be constructed in or adjacent to a public school complex. Until such time as the population of the unincorporated county area warrants an additional library, every effort should be made to increase book collections, professional staff and library space for the four community libraries bordering the Planning Area.

SOCIAL SERVICES-HEALTH

Health centers in Owasso, Skiatook and Collinsville should be able to serve the future needs of their respective communities and environs for some time. As the areas grow it may be necessary to have public health personnel on staff more frequently as demand for their services increases. The Planning Area lies within an area designated by the Oklahoma Health Systems Agency as medically underserved due to lack of hospitals and resident doctors and nurses in North Tulsa County. Additional types of medical and counseling services should be considered as additional services for one or more of the public health centers.
Additional office space and parking facilities may also be necessary in the future. Land acquisition for future services should be considered well in advance of need.

An additional health center to be located in Sperry should be considered in the latter portion of the planning period. This center should serve patrons west of Highway 75 and persons living in the Turley area and the Osage County area around Sperry. (Osage County has no Health Department.)

PUBLIC SAFETY

The facilities for fire protection located within the five surrounding municipalities and the community of Turley are suitably located for the shape of the present developed areas of North Tulsa County. However, every department, municipal or volunteer, cites immediate and future needs for equipment, space and manpower. The City of Owasso is currently exploring the possibility of a new fire station to serve their growing city and suburbs.

The possibility of creating fire assessment districts to include all municipal and unincorporated areas within fire protection service areas should be considered for the entire North Tulsa County area. Assessment districts would provide a reliable source of income for operation and expansion of services, spread the cost of providing services among all who receive their benefits, and reduce the costs for any individual member. Municipal and volunteer departments could participate in such ongoing programs and still retain their mutual aid agreements. Refer to INCOG's Fire Protection Study - Tulsa and Creek Counties, Phase I and II for detailed information regarding fire protection districts.

The three emergency response departments located in Owasso, Skiatook and Collinsville can adequately serve the existing population. However, all departments cite needs for increased manpower, equipment and/or office and equipment space. The respective communities must consider expanding these departments in
the future as demands for their services increase. As development and traffic increase along Highway 75 in the future, an additional emergency response facility along the highway will be needed, preferably within Special District 2 near 96th Street North. This could be a county or municipal system, possibly constructed in conjunction with a police and/or fire facility.

All of the unincorporated Planning Area is under the jurisdiction of the Tulsa County Sheriff's office. As development increases throughout the Planning Area the public will demand additional personnel on 24 hour patrol. Increased patrols now under consideration will improve police presence. However, additional personnel and units will be needed to staff the patrols.

A county sheriff's district office for North Tulsa County is desirable should incorporation of this area not occur. A district office located along Highway 75 within Special District 2 near 96th Street North would allow sheriff's office personnel to serve the majority of North Tulsa County citizens more quickly and efficiently. This office could be combined with a fire or emergency response facility in a single county-oriented emergency services complex and could help reduce costs of construction and operation.

FLOOD-STORM DRAINAGE

As noted in the Basis for the Plan, the North Tulsa County Planning Area lies primarily within the Bird Creek drainage basin. The major portion of the Planning Area lies within the 100-year floodplain of the Bird, Delaware and Hominy Creek basins. Because the study area is predominantly rural, there are no improved storm water drainage facilities constructed to handle runoff or backwater flooding problems, and citizens living within the floodplain area have experienced periodic flooding problems. The north and east portions of the Planning Area are well outside the floodplain and have experienced no substantial flooding problems. Further development in these areas, however, will increase
the frequency and severity of runoff problems from surrounding urban development.

All of the proposals discussed to this point are measures that will address existing problems. These proposals, however, are not final solutions to future drainage problems. Development upstream in the Bird, Hominy and Delaware Creek watersheds will increase runoff downstream, and any existing facilities constructed to deal with existing development will consequently be overloaded. Areas which have never experienced high-water problems could possibly incur drainage problems with full upstream development with existing problems magnified. It is for these reasons that a master drainage plan should be prepared for North Tulsa County, which would include all of the municipalities and fencelines north of 56th Street North. Such a plan would help ensure that future drainage improvements would be constructed in a coordinated manner and would be of sufficient capacity to meet current and future drainage needs. It is proposed that Tulsa County and the five municipalities engage the Tulsa Division of the U.S. Army Corps of Engineers to prepare at the earliest convenient data a Comprehensive Plan for Drainage for North Tulsa County. The preparation of such a plan should fit in well with the portion of the Corps' Tulsa Urban Study which deals with flood problems. A drainage plan is a prerequisite for proper development of the Bird Creek watershed. Potential problems can be avoided through the staged development of area drainage improvements. Any drainage plan that is recommended should be based on ultimate development of the area watersheds in order to ensure acquisition of necessary drainage rights-of-way and to provide a margin of safety if lesser development occurs.

In addition to a District wide master drainage study, two areas should be viewed in further detail. Within the Cherokee Special Industrial District drainage improvements should be considered in an overall plan. The provision of adequate storm drainage improvements for full urbanization conditions should be
provided concurrently with the development of this area. Assuming incorporation, the City of Tulsa will have the major responsibility of ensuring adequate drainage protection within the district. However, intergovernmental coordination must be maintained.

Areas within Special District 3 should be studied carefully when there are proposals for development. Special care should be taken to reduce the possibility of further aggravating flooding situations within the floodplain.

PUBLIC UTILITIES

This plan element discusses proposals for two types of public utilities - water and sewer systems.

WATER

The Utilities Distribution System map depicts the service areas of municipal and rural water districts which serve portions of the Planning Area. Information on locations of existing water mains within these districts was limited or unavailable.

Due to the lack of information identifying existing water mains and location of future development, it is difficult to propose a comprehensive system of water mains, distribution lines and water storage towers to serve existing and future development. A looped system of water mains, usually located along arterial streets, can provide sufficient water supply and water pressure with the most efficiency. Lesser sized mains would crisscross and loop internally within such an arterial system. A special study is needed to determine the size and location of water mains and potential water storage towers within the Planning Area. Location of these lines should be coordinated with the sanitary sewer service district which can most easily provide service for this area.

If development occurs in the unserved portions of the Planning Area, these areas should be included in the boundaries of a municipal or rural water district.
UTILITIES DISTRIBUTION SYSTEM
NORTH TULSA COUNTY COMPREHENSIVE PLAN

- WATER MAIN
- SEWER MAIN
- WATER DISTRICT BOUNDARY
- MUNICIPAL METER
- PLANNING AREA BOUNDARY

PREPARED FOR
TULSA COUNTY
AND THE
CITY OF TULSA
BY THE
TULSA METROPOLITAN AREA PLANNING COMMISSION
Urban scale development cannot proceed in an area without a dependable and adequate source of treated water.

The southeast portion of the Planning Area will soon be served by a 24 inch water main that the City of Tulsa is constructing to serve the Cherokee Industrial District. Tie-ins to this main for future development outside the district should be investigated.

Appropriate governmental jurisdictions should work closely with the U.S. Army Corps of Engineers during the Tulsa Urban Study Supply Study to determine viable options and alternatives for future sources of water to serve the Planning Area. Water treatment demands for increasing population in this area should be considered in any water treatment or distribution study.

SEWER

The existing sewage collection systems in the Planning Area are shown on the Utilities Distribution System map. As with water systems it is of little value to propose a comprehensive sewer system without knowing what types or densities of development will occur in an area. The principal areas which may require sewer service within the planning period are located within the lower Bird Creek watershed in the mid portion of the Planning Area. Proposed trunk lines would be gravity flow mains which can tie-in to City of Tulsa or City of Owasso systems, or to a new system built to serve the needs of the developing area.

Trunk lines in the northern, western and southernmost portions of the Planning Area will probably not be needed during the next twenty years since development potential in those areas is limited by physical constraints and market demand. However, future system developments should be gravity flow and constructed within the various watersheds so as to reduce or eliminate the need for pressurized lines and lift stations. In the case of land within the Ranch and Caney Creek basins, some pressurized lines and lift stations to transport effluent into the Bird Creek basin might be more cost effective than extending lines from the Owasso (Ranch
Growth of any significance in the Planning Area will require that improvements be made to nearby treatment facilities. Near future development is likely to continue in the eastern Bird Creek basin and would likely be linked to the City of Tulsa treatment system via mains now under construction to the Cherokee Industrial District. Industrial wastes from the Cherokee District may require onsite pretreatment, and discharge of this industrial effluent into the Tulsa system is encouraged. Extension of sewer service in these areas will also require the provision of urban water service. Careful consideration should be given as to how and when these services should be extended to this area of the county. Large lot development is occurring and is likely to continue.

Sewer service to all drainage basins should be coordinated and tied in with the overall policy for the extension of urban services. Systems development must be based on long range plans for area development in order to facilitate and economize the expenditure of public and private funds. Trunk lines should be built at a capacity based on service to a fully developed watershed.

**TRANSPORTATION**

The Transportation Plan includes trafficways, railways, pedestrianways and bikeways, mass transit and air. The principal element of this Plan is that dealing with trafficways and railways.

**TRAFFICWAYS AND RAILWAYS**

The proposal for the Planning Area trafficways and railways are depicted on the North Tulsa County Land Use Plan map. The roadway proposals set forth on the Plan map are essentially the same as those set forth in the adopted Tulsa City-County Major Street and Highway Plan. The design standards and specifications set forth in the Major Street Plan are reaffirmed in this Plan. There are a few proposed revisions in alignment, however.

The arterials proposed for the trafficways element are based on utilization
of the county road grid system. Most of the county arterials are not presently constructed at the recommended street standards set forth in the Tulsa County Major Street and Highway Plan since the need for additional capacity has not been reached in those areas. Right-of-way should be set aside (e.g., through the platting process) for future expansion when traffic volumes warrant such expansion. County roads should not be developed to the Plan standards until area growth warrants such expansion.

Some arterial streets have not been shown on the Land Use Plan 1980-2000 as completed primary or secondary arterials. Street standard proposals as shown on the Major Street and Highway Plan are depicted in the Intensity Development Concept map illustrating full urbanization. Several of these arterials have not yet been extended through the floodplain and future development within the planning period is not projected to warrant their improvement.

Improvement of the Cherokee Expressway to four traffic lanes north to 146th Street North (Highway 20) is recommended. As development continues, these two highways will handle increased high velocity traffic. An amendment to the designation of State Highway 20 is recommended between Garnett Road and Highway 75, changing the alignment from 146th Street North to 116th Street North. This area is experiencing increased traffic from Owasso, and the realignment of Highway 169 eastward necessitates moving traffic away from Garnett to a north-south roadway that can handle traffic volumes.

Other changes made in the Major Street and Highway Plan are the modifications made to suggest collector street patterns. The proposed collector streets are intended to more accurately reflect existing street systems, proposed development patterns, and considerations of physical constraints. Also the redesignation of 76th Street North east of Highway 75 as a primary arterial may be appropriate at some future date.

Of particular note in the Land Use Plan are the existing and proposed express-
way interchanges along Highway 75 at 56th, 66th, 76th, 86th, 96th, 106th, 116th, 126th, 136th, 146th and 186th Streets North and at Highway 169 and 56th Street North. It is proposed that special consideration be made in the development of land in these areas and that access be carefully controlled to the arterials interchanging with the expressway. The specific policies regarding these matters are set forth in the policies section of the Plan.

Two modifications of arterial alignments have been made along 106th and 86th Streets North in order to link those arterials with proposed interchanges along the Osage Expressway in Osage County. The Sperry Comprehensive Plan will further detail these alignments.

The Atchinson, Topeka and Santa Fe rail line running north and south through the Planning Area is proposed to continue service as a major line for rail traffic. This line and the recent spur to the Port of Catoosa should be maintained and improved to facilitate the safe, efficient and economical movement of people and freight into, through, and out of the Planning Area. Another rail spur is proposed to be built off the main line in order to provide service to industry and business locating in the Cherokee Special District.

A study should be made of the feasibility of continuing the proposed spur in the Cherokee District north of 76th Street North and west of Highway 75 into the Special District 2 once industrial development of that area becomes a possibility.

The Missouri-Pacific rail line extending south to north through the western portion of the study area and through Sperry is proposed to continue as an active freight carrier for northeastern Oklahoma. Consideration should be given to the possibilities of providing limited passenger service on this and the A.T. & S.F. line to link the smaller communities with larger metropolitan areas.

PEDESTRIANWAYS AND BIKEWAYS

The development of a unified pedestrianway and bikeway system is to be encouraged and coordinated with the Recreation-Open Space System depicted on the
Land Use Plan map. It is recommended that such a pedestrian-bike connection system be utilized by developers in the planning of future developments. Adoption of ordinances governing design and construction of sidewalks in new developments is recommended.

TRANSIT

No mass transit service is presently available in the study area. However, the establishment of mass transit service should be explored for express or peak period routes. Such a service, if provided, should be operated as much as possible as a self supporting program. Service to Owasso, Sperry and the Cherokee Industrial District activity centers is the probable nature and extent of such bus service. Park-and-Ride bus stops along Highway 75 should also be explored.

It is recommended that the specialized transportation needs of the elderly and handicapped continue to be met as is feasible and appropriate.

AIR

Air service within the Planning Area is restricted to the private facility located southeast of 126th Street North and Memorial. Continued utilization and proper maintenance of this facility is encouraged in order to preserve the availability of this specialized service in the study area. Encroachment of incompatible land uses into the landing and approach zones of this airport are discouraged. Access to Tulsa International Airport should be maintained and expanded as traffic to that area increases. Flight zones of the TIA should be carefully protected from future encroachment.
BASIS FOR THE PLAN

THE CHEROKEE CORRIDOR
BASIS FOR THE PLAN

This section of the North Tulsa County Comprehensive Plan document describes the process by which the planning study was conducted and sets forth the basic studies made of the Planning Area's natural and man-made features and constraints, demographic and economic factors, housing, development activities, and public services and facilities.

Based on the data assimilated and studied, projections were made about the area's present and future physical development needs.

The following studies set forth findings regarding different aspects of the Planning Area. The North Tulsa County Comprehensive Plan goals, objectives, policies, and standards are based on the findings of these studies and the review, comments, and policy directions made by the TMAPC, Tulsa County Commission and the Tulsa City Commission.

As the area data were assimilated and analyzed, they were organized along with policy recommendations into a Comprehensive Plan Draft report. The Plan recommendations were presented and reviewed by the Tulsa Metropolitan Area Planning Commission, the Sperry Board of Trustees and the Owasso Planning Commission and City Council. Modifications and revisions were then made to the plan proposals. The North Tulsa County Comprehensive Plan 1980-2000 was considered by the TMAPC in public hearing and their recommendations regarding the plan were forwarded to the Tulsa County Commission and the Tulsa City Commission for consideration and adoption.

PHYSICAL FEATURES

The Physical Features of an area determine to a large extent the nature and type of development that will occur. Various documents have provided general discussions of the Physical Features which can affect development in North Tulsa County. The purpose of this study is to combine the scope and depth of those
analyses to focus on the areas composing the Planning Area.

ENVIRONMENTAL CONSIDERATIONS

General Surroundings

The Planning Area is composed of three general areas of largely unincorporated lands in North Tulsa County. The northern portion is one mile wide extending along U.S. Highway 75 (the Cherokee Expressway) from the Washington county line south six miles, between the Collinsville and Skiatook Planning Areas. The middle portion comprises approximately twenty-five square miles of unincorporated land (half of which is within the City of Tulsa fenceline) between Sperry and the Owasso Planning Area. The southern portion is a seven mile long strip of land between 66th St. North and 56th St. North which is within the City of Tulsa fenceline and a one and one-half square mile area south of 56th St. North which is within the corporate limits of the City of Tulsa.

The Planning Area has a wide variation of terrain ranging from generally flat, open agricultural and bottomlands of the Bird Creek floodplain in the south to level and gently rolling ridgelands in much of the mid portion to a treeless rolling prairie with some sharp relief in the northern portion. Current development in the Planning Area is scattered, mostly large lot residential development. The Planning Area is generally surrounded by the open agricultural lands and large lot development at the fringes of Owasso, Collinsville and Tulsa. The Planning Area surrounds, but does not include, the Corporate Limits/Planning Area of the Town of Sperry. The southeast portion of the middle area borders and includes a portion of the Cherokee Special District - a large tract of prime undeveloped industrial land found primarily within the Tulsa fenceline.

Air Quality

The Planning Area air quality data indicates that the primary air pollution is suspended particulates (dust), which is due mainly to area quarrying and agricultural activities. Levels of pollution recorded have been quite low.
Some ozone pollution might be blown into the area from Tulsa due to the southerly and southwesterly wind patterns. Levels would be minimal, however.

The other principal air pollutants that would be found in the Planning Area are those attributable to automobile usage particularly along the Mingo Valley Expressway (U.S. 169). Primary pollutants would be carbon monoxide. However, due to the lighter than air characteristics of this gas, polluting impacts of the carbon monoxide are limited to 100 meters on either side of the expressway. 1

In summary, the present air quality in the Planning Area is generally good. Continued urbanization in the area as well as in adjacent areas, particularly industrial development in the Cherokee Special District, will increase the amount of pollutants in the future. Sensitive, practical development and construction measures and techniques can be implemented to forestall potential problems and to insure continued good air quality for North Tulsa County.

**Water Quality**

After a detailed examination of water quality data collected in the INCOG 208 Study area during the period of March 1976 to April 1977, the general conclusion has been reached that the water quality in the area's streams ranges from good to poor. This should be of no great surprise since the natural flow in most of the tributaries in the area can be very low, and critical water quality problems may usually be found during low flow conditions. Furthermore, tributary systems containing urbanized or urbanizing watersheds are subject to the receipt of large quantities of particulate, organic and other pollutional loads from both point and non-point sources. By combining the effects of these large pollutional loads with low flow conditions in the receiving streams, critical water quality problems can easily occur. 2

The Planning Area is drained by four major watersheds or drainage basins. The predominant watershed is Bird Creek which drains approximately 21.5 square miles or 69% of the 31 square mile Planning Area. In this area, Bird Creek
contains portions of five minor watersheds; Charley Creek, Panther Creek, South Charley Creek, Ranch Creek and Elm Creek.

The Caney Creek watershed drains approximately 2.5 square miles along the east half of the North Subarea. A portion of the Horsepen Creek watershed is contained in the Caney Basin. Hominy Creek also drains approximately 2.5 square miles in the northwest portion of the middle Subarea just north and east of the Town of Sperry. Delaware Creek drains almost five square miles of the southwest portion of the middle Subarea, including much of Sperry.

Each of these streams were monitored at specific points within the watershed and were analyzed against several water quality criteria. Outlined below are summary statements concerning observed water quality for each drainage basin:

1. Bird Creek

The water quality in Bird Creek is generally characterized as good in the upper reaches of the stream but deteriorates rapidly through the lower reaches. Hardness exceeds the criteria throughout Bird Creek. Critical water quality problems are observed with station OB05 (three river miles below the convergence of Flat Rock Creek with Bird Creek), after the discharges from the Tulsa Flat Rock and Coal Creek Treatment Plants. Consistently, water quality criteria for dissolved oxygen, fecal coliform bacteria, ammonia, total Kjeldahl nitrogen, orthophosphate are exceeded. Criteria for pH, total phosphorus, iron, calcium, and lead are exceeded occasionally. Total phosphorus criteria are exceeded consistently after the addition of Tulsa Northside Treatment Plant. The water quality in Bird Creek does not recover to any acceptable level until after its confluence with the Verdigris River. Due to the heavy pollutional load discharged into the lower reaches of Bird Creek, the water quality observed in the portion of the creek is quite poor.
2. **Caney River**

Total ammonia and hardness criteria were exceeded consistently at all stations on the Caney River. Total Kjeldahl nitrogen, total phosphorus, cadmium and lead criteria were occasionally exceeded at all stations. Fecal coliform bacteria and pH criteria were occasionally exceeded in the upper reaches, especially below Bartlesville.

3. **Hominy Creek**

The water quality in Hominy Creek is considered fair with consistent violations of ammonia, iron, and hardness throughout the Creek. Occasionally the criteria for total Kjeldahl nitrogen, orthophosphate, total phosphorus and conductivity have been exceeded through the stream. Near the confluence with Bird Creek and after the discharge from the Sperry Treatment Plant consistent violations of fecal coliform bacteria criteria have occurred, and occasional violations of dissolved oxygen, chlorides and pH criteria have been observed.

4. **Delaware Creek**

The water quality in Delaware Creek is also fair with water quality criteria being exceeded only occasionally for dissolved oxygen, ammonia, total Kjeldahl nitrogen, orthophosphate, total phosphorus, chlorides, iron, cadmium, and lead. Hardness and conductivity criteria were exceeded consistently in Delaware Creek.

The drinking water distributed through the Planning Area is of generally good quality. The Tulsa City-County Health Dept. samples the drinking water supplies of all communities each month to insure that all water quality standards are met. The majority of the Planning Area is served by Washington County Rural Water District No. 3. This water is supplied from the Collinsville Reservoir which receives water from Oologah Reservoir. SAR Water Corporation (Skiatook-Avant-Ramona) also buys its water from Wash. Co. No. 3. The Sperry, Turley and Owasso systems buy their water from the City of Tulsa.4
Noise

The overall Planning Area is relatively free from noise problems. However, in the South Subarea there have been occasional complaints about blasting conducted in conjunction with rock quarrying activities adjacent to the Planning Area. More recent noise abatement activities of these mining operations have reduced such complaints.

In addition, the South Subarea lies in the path of some flights from the Tulsa International Airport which lies two miles south of the Planning Area's southernmost boundary. Intermittent noise from these flights have caused some complaints to be expressed.

Odor

There are usually no obnoxious odor problems in the Planning Area other than occasional odor incidental to agricultural activities.

Climate

The Planning Area lies on a latitude of 36° thus escaping extremes of long hot summers and cold winters. However, pronounced rapid changes in temperature and precipitation do occur with frequent thunderstorms and occasional tornadoes in the spring and summer. The average temperature is 60°F, with extremes of 100°F in the summer and below 0°F in the winter. Winds prevail from the south except in the winter when they are northerly.

Vegetation, Fish, Wildlife

A comprehensive survey of the specific vegetation, fish and wildlife found in this region of the state has been made and includes the Planning Area. The results of the survey are summarized below. Detailed information regarding this matter is found in the report, "Environmental Inventory Existing Conditions" published July, 1977, by INCOG.\(^5\)
Flora of the Area - Natural vegetation falls into three major vegetation types: bluestem prairie, postoak-blackjack forest, and floodplain forest. Disturbance of these areas by farming, grazing, burning and land development has permitted the invasion of several species of plants which are not common to the natural plant communities. No endangered species are known within the Planning Area.

Fishes - There are 72 species of fish found in the larger regional study area. None are endemic to the area and none are endangered, although several species have become rare in the last twenty years mainly because of man's activities along the river. In a survey of Bird Creek thirty-nine species of fish were collected.

Birds - There are about 300 species of birds that inhabit the study area at some time or another. About 50 species are permanent residents while the remaining species are transitory or migratory. Endangered species whose range includes the study area are the southern bald eagle and possibly the peregrine falcon.

Mammals - At least 56 species of mammals inhabit the regional study area, with at least 31 species considered to be widespread throughout the region. Some species are rare in their occurrence within the study region but are commonly found elsewhere.

Environmentally Sensitive Areas

There are areas in the Bird Creek basin in the Planning Area, which have been left in their natural or near-natural state. Unaltered bottomland forests are at a premium in the basin. This forest type provides the greatest diversity of habitats for plants and animals and special consideration should be given to preserve some of these tracts. There is some bottomland forest in the Mohawk Park area, bordering the Planning Area, that is relatively undisturbed. These unaltered bottomland forest areas are sensitive to environmental conditions and
any significant impacts on the environment could drastically affect them.

**Environmental Considerations Significance to Planning**

As an area that combines the advantages of a rural life style, accessibility to metropolitan areas, and abundant natural resources, the Planning Area can expect to experience continued growth. New growth can be guided and placed in harmony with the environment in order to preserve these advantages. Environmental problems associated with and experienced by older urbanized cities can be avoided or mitigated through area planning and management efforts.

**Natural Physical Features**

This section described naturally occurring Physical Features that greatly affect and shape urban development. Area drainage basins, soils, and slopes are described and their significance to development is discussed.

**Drainage Basins**

There are four major and five minor watersheds that drain the Planning Area. The predominant watershed is Bird Creek which drains approximately 70% of the entire Planning Area. Five minor watersheds collect water that flows into Bird Creek. Three other watersheds, Caney, Hominy and Delaware, drain the remainder of the Planning Area in the northeast and the western areas, respectively.

Details of the area's drainage are shown in Table 2 and on the Natural Features Map.

The Natural Features Map also depicts the 100 year frequency flood area for the Planning Area. The area depicted is essentially the same flood area depicted by the most recent Flood Insurance Administration maps for Tulsa County. The southwest and western portions of the Planning Area are subject to backwater. Much of the southern and western portions of the Planning Area are subject to periodic flooding from the Bird, Delaware and Hominy Creeks.
<table>
<thead>
<tr>
<th>Basin Name</th>
<th>Approx. Sq. Mile Area Drained</th>
<th>Percentage of Area Drained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird Creek</td>
<td>22.00</td>
<td>70.97</td>
</tr>
<tr>
<td>Bird North</td>
<td>7.05</td>
<td>22.74</td>
</tr>
<tr>
<td>Panther Creek</td>
<td>1.75</td>
<td>5.65</td>
</tr>
<tr>
<td>Charley Creek</td>
<td>5.45</td>
<td>17.58</td>
</tr>
<tr>
<td>Bird South/South Charley Creek</td>
<td>6.50</td>
<td>20.97</td>
</tr>
<tr>
<td>Ranch Creek</td>
<td>1.25</td>
<td>4.03</td>
</tr>
<tr>
<td>Caney Creek</td>
<td>1.75</td>
<td>5.65</td>
</tr>
<tr>
<td>Horsepen Creek</td>
<td>1.25</td>
<td>4.03</td>
</tr>
<tr>
<td>Hominy Creek</td>
<td>2.50</td>
<td>8.06</td>
</tr>
<tr>
<td>Delaware Creek</td>
<td>4.75</td>
<td>15.32</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>31.00</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

**SOURCE:** Compiled from USGS Contour Maps, Community Planning Division, TMAPC, 1980.
UNATURAL FEATURES
NORTH TULSA COUNTY COMPREHENSIVE PLAN

SLOPES
- 0% - 5%  
- 6% - 10%  
- 11% - 20%  
- 21% AND OVER  
- FLOOD PRONE AREA  
- MAJOR WATERSHEDS  
- PLANNING AREA BOUNDARY  
- MINOR WATERSHEDS

PREPARED FOR
TULSA COUNTY AND THE
CITY OF TULSA
BY THE
TULSA METROPOLITAN AREA PLANNING COMMISSION
Continued development in both of the major drainage basins will increase surface run-off and impact the existing high water problems during heavy rains. Care should be taken whenever development is contemplated in the floodplain area.

Drainage Basins Significance to Planning

1. Drainage basins are helpful in determining the best locations for storm and sanitary sewer systems for efficient gravity flow.

2. Drainage basins are helpful in determining the best placement of sanitary sewer lift stations which will be needed to service an area outside of the sanitary sewer systems gravity flow service area.

3. Great care should be taken to conserve the land along streams in the path of watershed run-off in order to dispose of storm water.

4. Great care should be taken to insure that development in floodplain area does not significantly contribute to area flooding problems.

5. Currently the areas outside the corporate limits of Tulsa, Sperry and Owasso are not served by municipal sewer systems. Existing development is serviced by individual septic fields or private lagoons.

6. Future growth in the Planning Area can be serviced by individual septic or lagoon systems on large lot residential developments or tied into the Owasso, Sperry, or (in the southern portion) the Tulsa systems.

Soils

Knowledge of the suitability of soils for different types of development is a valuable planning tool. This study section presents the general limitations for non-agricultural uses of land in the Planning Area.
There is a wide range of soil types in the Planning Area. These soils are grouped on a basis of soil characteristics, percolation, drainage conditions, topography, and corrosivity to uncoated steel and concrete that influence their adaptation to non-agricultural uses. These soil groups are set forth in Table 3. A detailed breakdown of soils characteristics is available in the U.S.D.A. Soil Conservation Service Soil Survey of Tulsa County. The detailed soil groups are combined according to their suitability to non-agricultural uses and depicted generally on the Soil Limitation Map.  

The first two groupings of soils listed in Table 3 are considered good to excellent regarding their suitability for non-farm development with community services. Any limitations to development are slight and are generally easy to overcome.

The third soil grouping in Table 3 indicates soils that present moderate limitations to urban uses. The limitations of these soils need to be recognized, but can be overcome or corrected.

The soils described in groups four and five of Table 3 have severe limitations to development. These limitations are extreme and must be recognized and dealt with properly if the land is to be developed. In some instances, usage for urban development is quite unsound.

Soils Significance to Planning

The significance of local soils to planning can best be reviewed by studying the area drainage basins. Review of Table 3 and the Soils Limitation Map are useful in this analysis.

1. Overall, the majority of the Planning Area contains soils which have moderate to severe limitations to non-agricultural development. These soils are found in or surrounding floodplain areas in the major drainage basins.
In the North Subarea land around the steeper slopes has severe and moderate limitations, also.

2. A major portion (over 50%) of the Planning Area is composed of soils considered to have moderate limitations. These soils run through the Planning Area but are concentrated in the generally higher land of the east central portion of the area.

3. A large portion (at least one third) of soils have severe limitations to non-farm development. Though scattered throughout the area as are the other soil types, these soils are found predominantly in stream channels and floodplains of the Hominy, Delaware, Caney and especially Bird Creek basins. Intensive development in this area is unadvisable and any development should be subject to sound development guidelines. There is land to the southeast of the Planning Area that lies within the Cherokee Special District which could be used for light industrial, as well as other urban development.

4. The Bird Creek basin is generally well suited for very low density residential development, agricultural activities, recreational and park development and open space and conservation. This area could serve as an excellent green-belt between the Tulsa urban area and the four communities to the north. As the Cherokee Special District attracts industry, this area would also provide an open space buffer between major use areas.

5. The Caney River basin area has different topography but similar soil characteristics to the Bird Creek area and is suited to low density development within the Planning Area.

6. In summary, the soils characteristics in the Planning Area indicate that greater urbanization should be undertaken with care and foresight in the Planning Area, particularly in the Bird Creek basin.
### TABLE 3
**NORTH TULSA COUNTY PLANNING AREA**
**MAJOR SOIL CLASSIFICATIONS**

<table>
<thead>
<tr>
<th>Soil Name and Rating</th>
<th>Description of Soils</th>
<th>Septic Tank Filter Fields</th>
<th>Sewage Sites For Lagoons</th>
<th>Roads &amp; Streets</th>
<th>Rec. Uses</th>
<th>Major Concerns of Soil In Urban Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXCELLENT</strong></td>
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<tr>
<td>Okay Loam 1 to 3%</td>
<td>Gently sloping, well drained, moderately permeable soils on uplands - Depth to bedrock - 60&quot; +.</td>
<td>Slight</td>
<td>Mod.</td>
<td>Slight</td>
<td>Slight</td>
<td>Slight</td>
</tr>
<tr>
<td>Lula Silt Loam 1 to 3% Slopes</td>
<td>Very gently sloping, well drained, moderately permeable soil on uplands - Depth to bedrock 40 to 60&quot;.</td>
<td>Moderate</td>
<td>Mod.</td>
<td>Mod.</td>
<td>Mod.</td>
<td>Slight</td>
</tr>
<tr>
<td>Newtonia Silt Loam 1 to 3% Slopes</td>
<td>Very gently sloping, well drained, moderately permeable soil on uplands. Depth to bedrock 60&quot;.</td>
<td>Moderate</td>
<td>Mod. to Severe</td>
<td>Mod.</td>
<td>Mod.</td>
<td>Slight</td>
</tr>
<tr>
<td>Okay Loam 2 to 5% Slopes</td>
<td>Very gently sloping, well drained, moderately permeable on uplands on broad side slopes. Depth to bedrock 60&quot; +.</td>
<td>Slight</td>
<td>Slight</td>
<td>Slight</td>
<td>Slight</td>
<td>Slight</td>
</tr>
<tr>
<td>Bates Loam 1 to 3% Slopes</td>
<td>Very gently sloping, well drained, moderately permeable soil on uplands on smooth ridge crests - Depth to bedrock 60&quot; +.</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Mod.</td>
<td>Slight</td>
</tr>
</tbody>
</table>

Source: [Soil Survey Tulsa County, Oklahoma, U.S.D.A. Soil Conservation Service](#).
<table>
<thead>
<tr>
<th>Soil Name and Rating</th>
<th>Description of Soils</th>
<th>Septic Tank Filter Field</th>
<th>Sewage Lagoons</th>
<th>Sites For Low Buildings</th>
<th>Roads &amp; Streets</th>
<th>Rec. Uses</th>
<th>Major Concerns of Soil In Urban Areas</th>
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</thead>
<tbody>
<tr>
<td><strong>GOOD</strong></td>
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</tr>
<tr>
<td>Bates-Coweta Complex 3 to 5% Slopes</td>
<td>Well drained, moderately permeable Bates soil and well to excessively drained, moderately permeable Coweta soil on gentle slopes. Depth to bedrock 20 to 40&quot;. Bates-Coweta 10 to 20&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Mod.</td>
<td>Slight</td>
<td>Depth to bedrock—soil texture moderate shrink-swell potential.</td>
</tr>
<tr>
<td><strong>FAIR</strong></td>
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</tr>
<tr>
<td>Apperson Silty Clay Loam 1 to 3% Slopes</td>
<td>Very gently sloping, moderately well drained, slowly permeable soil on uplands on smooth ridge crests. Depth to bedrock 52&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Slow permeability—clayey texture depth to bedrock—high shrink-swell potential wetness.</td>
</tr>
<tr>
<td>Dennis Silt Loam 1 to 3% Slopes</td>
<td>Very gently sloping, moderately well drained, slowly permeable soil on uplands, on smooth ridge crest and side slopes. Depth to bedrock 60&quot;+.</td>
<td>Severe</td>
<td>Mod.</td>
<td>Severe</td>
<td>Severe</td>
<td>Slight</td>
<td>Slow permeability to Mod. high shrink-swell—wetness &amp; acidity.</td>
</tr>
<tr>
<td>Dennis Silt Loam 1 to 3% Slopes</td>
<td>Gently sloping, moderately well drained, slowly permeable soil on uplands on smooth ridge crests and side slopes. Depth to bedrock 60&quot;+.</td>
<td>Severe</td>
<td>Mod.</td>
<td>Severe</td>
<td>Severe</td>
<td>Slight</td>
<td>Slow permeability to Mod. high shrink-swell—potential texture and acidity.</td>
</tr>
<tr>
<td>Dennis Silt Loam 2 to 5% eroded Slopes</td>
<td>Very gently sloping—through gently sloping, moderately well drained, slowly permeable soil on uplands. Depth to bedrock—60&quot;+.</td>
<td>Severe</td>
<td>Mod.</td>
<td>Severe</td>
<td>Severe</td>
<td>Slight</td>
<td>Slow permeability to Sev. high shrink-swell—potential, soil texture and acidity.</td>
</tr>
<tr>
<td>Catoosa Silt Loam 1 to 3%</td>
<td>Very gently sloping, well drained, moderately permeable soil on uplands on smooth ridge crest. Depth to bedrock 20 to 40&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod. to Sev.</td>
<td>Severe</td>
<td>Slight</td>
<td>Depth to bedrock. to Sev.</td>
</tr>
<tr>
<td>Soil Name and Rating</td>
<td>Description of Soils</td>
<td>Septic Tank Filter Fields</td>
<td>Sewage Lagoons</td>
<td>Sites For Low Buildings</td>
<td>Roads &amp; Streets</td>
<td>Rec. Uses</td>
<td>Major Concerns of Soil In Urban Areas</td>
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<tr>
<td><strong>FAIR</strong></td>
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</tr>
<tr>
<td>Eram Silty Clay Loam 3 to 5% Slopes</td>
<td>Gently sloping, moderately well drained, slowly permeable soil on uplands on ridge crest &amp; side slopes. Depth to shale 20 to 40&quot;.</td>
<td>Mod. to Severe</td>
<td>Mod. to Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Slow permeability-wetness depth to shale-high shrink swell potential.</td>
</tr>
<tr>
<td>Okemah-Parsons Carytown Complex 0 to 1% Slopes</td>
<td>Moderately well drained, slowly permeable Okemah somewhat poorly drained very slowly permeable Parsons soil &amp; poorly drained, very slow permeable Carytown soil. Nearly level soils on uplands. Depth to bedrock 64 to 74&quot;.</td>
<td>Severe</td>
<td>Slight</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Very slow permeability &amp; acidity soil-high shrink swell potential-wetness.</td>
</tr>
<tr>
<td>Dennis-Carytown Complex 1 to 3% Slopes</td>
<td>Moderately well drained, slowly permeable Dennis soil and poorly drained, very slowly permeable Carytown soil on very gentle slopes-depth to bedrock 60 to 64&quot;.</td>
<td>Severe</td>
<td>Slight</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod. to Severe</td>
<td>Wetness-slow permeability slope clayey, acid soil high shrink-swell potential.</td>
</tr>
<tr>
<td>Okemah Silt Loam 0 to 1% Slopes</td>
<td>Nearly level, moderately well drained, slowly permeable soil on broad smooth uplands. Depth to bedrock - 60&quot; +.</td>
<td>Severe</td>
<td>Slight</td>
<td>Severe</td>
<td>Severe</td>
<td>Slight to Mod.</td>
<td>Slow permeability, wetness high shrink swell potential texture &amp; acidity of soil.</td>
</tr>
<tr>
<td><strong>POOR</strong></td>
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</tr>
<tr>
<td>Mason Silt Loam</td>
<td>Nearly level, moderate to well drained, moderately to slow permeability on floodplains, flooded rarely for brief periods. Depth to bedrock 60&quot; +.</td>
<td>Severe</td>
<td>Severe</td>
<td>Moderate</td>
<td>Mod.</td>
<td>Slight</td>
<td>Flooding to Mod.</td>
</tr>
<tr>
<td>Soil Name</td>
<td>Description</td>
<td>Septic Tank</td>
<td>Sewage Lagoons</td>
<td>Sites For Low Buildings</td>
<td>Roads &amp; Streets</td>
<td>Rec. Uses</td>
<td>Major Concerns of Soil In Urban Areas</td>
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</tr>
<tr>
<td>Catoosa Rock Outcrop Complex 1 to 8% Slopes</td>
<td>Well drained, moderately permeable Catoosa soil and rock outcrop in an intricate pattern on gently sloping through sloping ridge crests and side slopes on uplands. Depth to bedrock 20 to 40&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod. to Mod.</td>
<td>Depth to bedrock outcrop of rocks-slope-moderate shrink-swell potential.</td>
</tr>
<tr>
<td>Coweta Bates Complex 2 to 6% Slopes</td>
<td>Well to excessively drained moderately permeable Coweta soil &amp; well drained, moderately permeable Bates soil on gentle slopes to sloping soils. Depth to bedrock 10 to 40&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Moderate</td>
<td>Mod.</td>
<td>Slight</td>
<td>Depth to bedrock-soil texture moderate-shrink swell potential.</td>
</tr>
<tr>
<td>Niotaze-Darnell Complex 3 to 15% Slopes</td>
<td>Poorly drained, slowly permeable Niotaze soil &amp; well drained to excessively drained moderately permeable, Darnell soil on sloping ridge crests on uplands. Depth to shale 20 to 40&quot;. Depth to sandstone 10 to 20&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Severe</td>
<td>Depth to bedrock-slopes permeability rockiness-wetness.</td>
</tr>
<tr>
<td>Osage Silty Clay</td>
<td>Nearly level, poorly drained very permeable soil on broad smooth floodplains with few narrow shallow sloughs. Floods for brief periods. Depth to bedrock - 60&quot; +.</td>
<td>Severe</td>
<td>Flooding</td>
<td>Flooding</td>
<td>Severe</td>
<td>Severe</td>
<td>Occasional flooding clayey profile high shrink-swell potential and wetness.</td>
</tr>
<tr>
<td>Wynona Silty Clay Loam</td>
<td>Nearly level, poorly drained soil with slow permeability on smooth floodplains entrenched with few shallow, narrow sloughs. Depth to bedrock 60&quot; +.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod. to Mod.</td>
<td>Flooding-wetness low strength.</td>
</tr>
<tr>
<td>Soil Name and Rating</td>
<td>Description</td>
<td>Septic Tank Filter Fields</td>
<td>Sewage Lagoons</td>
<td>Sites For Low Buildings</td>
<td>Roads &amp; Streets</td>
<td>Rec.</td>
<td>Major Concerns of Soil In Urban Areas</td>
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<tr>
<td><strong>VERY POOR</strong></td>
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<tr>
<td>Radley Silt Loam</td>
<td>Deep, nearly level, moderately well drained, moderately permeable soil on floodplains that flood for brief periods. Depth to bedrock 60&quot; +.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>to Flooding.</td>
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<tr>
<td>Cleora Fine Sandy Loam</td>
<td>Nearly level, well drained moderately rapidly permeable soil on floodplains and floods occasionally for brief periods. Depth to bedrock 60&quot; +.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Slight</td>
<td>Flooding. to Sev.</td>
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<tr>
<td>Niotaze-Darnell Complex 15 to 25% Slopes</td>
<td>Poorly drained, slowly permeable Niotaze soil and well drained to excessively drained, moderately rapidly permeable Darnell soil on ridge crests and side slopes on uplands. Depth to shale 20 to 40&quot; - Depth to sandstone 10 to 20&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Severe</td>
<td>Depth to bedrock-permeability-slopes-rockiness and wetness.</td>
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</tr>
<tr>
<td>Eram-Coweta Complexes 5 to 15% Slopes</td>
<td>Moderately well drained, slowly permeable Eram soil and well drained to excessively drained, moderately permeable Coweta soil located on ridge crests and side slopes of uplands. Depth to shale and sandstone 20 to 40&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Moderate</td>
<td>Mod.</td>
<td>Slight</td>
<td>Depth to sandstone to Mod. and shale-high shrink-clay-rockiness-strong slopes.</td>
</tr>
<tr>
<td>Soil Name</td>
<td>Description</td>
<td>Septic Tank</td>
<td>Sewage Lagoons</td>
<td>Sites For Low Buildings</td>
<td>Roads &amp; Streets</td>
<td>Rec. Uses</td>
<td>Major Concerns of Soil In Urban Areas</td>
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<tr>
<td><strong>VERY POOR</strong></td>
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</tr>
<tr>
<td>Shidler-Rock</td>
<td>Well drained, moderately permeable Shidler soil &amp; rock outcrop on ridge crests and side slopes that are very gentle. Depth to hard limestone - 4 to 20&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod. to Severe</td>
<td>Depth to bedrock, rock outcrops-slope-moderate shrink-swell potential.</td>
</tr>
<tr>
<td>Shidler-Rock</td>
<td>Outcrop Complex</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Niotaze-Darnell</td>
<td>Poorly drained, slowly permeable Niotaze soil and well drained to excessively drained, moderately-rapidly permeable Darnell soil-steep slopes on ridge crest and side slopes. Depth to shale is 20 to 40&quot; depth to sandstone - 10 to 20&quot;.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod.</td>
<td>Severe</td>
<td>Depth to bedrock-steep slopes-rockiness-wetness permeability.</td>
</tr>
<tr>
<td>Niotaze-Darnell</td>
<td>Complex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dennis-Radley</td>
<td>Moderately well drained, slowly permeable Dennis soil and moderately well drained moderately permeable Radley soils in drainage ways 180 to 600' wide. Depth to bedrock 60&quot;+.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Flooding, slope-wetness high shrink swell potential slow permeability-acidity.</td>
</tr>
<tr>
<td>Dennis-Radley</td>
<td>Complex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radley Soils</td>
<td>Nearly level, moderately well drained and permeable, Radley soils and Cleora and Wynona soils on floodplains 100 to 400' wide trenche with mending stream channels. Floods briefly-depth to bedrock 60&quot;+.</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Severe</td>
<td>Mod. to Severe</td>
<td>Frequent flooding. Severe</td>
</tr>
<tr>
<td>Radley Soils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Slopes

Just as knowledge of area drainage basins and soils are important to planning, so too is knowledge of slope limitations. The topography of the Planning Area generally consists of flat bottomlands and gentle rolling hills that rise from the Bird Creek floodplain in the southern and mid portions of the study area. Little truly rugged topography is found in the Planning Area, as can be seen from reviewing the Natural Features map. The greatest relief is found in the extreme southwest portion of the middle study area, where there are slopes in excess of 20%. To the west of Highway 75 in extreme northern Tulsa County a ridge with slopes ranging from 10 to 20% runs roughly parallel to the Highway. Much of the other relief indicated on the Natural Features map is found in the drainage basins, usually adjacent to stream channels.

Due to the steady rise of land north from the Bird Creek basin at 66th Street North, some fine vistas of the Tulsa Metropolitan Area can be found in several areas along U.S. Highway 75 and residential areas to the west. A noticeable change in the type of vegetation and topography occurs north of 126th Street North. Here, the landscape changes from the lush vegetation of bottomland and gently rolling farm land to a stark treeless hilly prairie.

The vast majority of land in the study area has slopes of 0 to 10% with the majority of these lands having slopes of 5% or less. The Natural Features map reveals that slopes of greater than 10% are scarce in the Planning Area and are concentrated in three general areas.

Slopes Significance to Planning

The Planning Area was mapped to indicate slopes of 0 to 5%, 6 to 10%, 11 to 20% and greater than 20%. On the whole, slopes of 0 to 10% are suitable for the majority of land activities, except for bottomlands and floodplains. These lands are indicated on the map as areas of slight limitations. Drainage problems are encountered in large areas of little relief. However, only in the lowlands
do such large areas exist.

Slopes of 11 to 20% have moderate limitations for industrial land uses. However, such lands are good for more intense types of residential development when properly designed. Such slopes are shown as moderate limitation slopes.

Finally, slopes greater than 20% are considered to be severe in their limitations to development. Development of these lands takes extremely careful engineering and construction techniques and is quite expensive. Severely limiting slopes can, however, be developed for residential uses, but care should be taken to preserve the beauty offered by these areas.

Subsoil Conditions

Another important physical factor in the study area is the soils depth to bedrock, or the location of bedrock at or near the land surface. The majority of the study area shows an average of at least 60 inches of soil from land surface to bedrock. Areas of shallow bedrock conform generally to those areas of 10% or greater slopes. Areas of shallow shale and sandstone bedrock (0 - 20 inches soil) in the northern subarea conform to the steep topography of that area.

Other areas of shallow bedrock are located in the southwestern portion of the study area north of 76th Street North where the steep topography is composed of sandstones, shales and limestones. An area between 96th and 116th Streets North east of Sheridan contains areas of 0 - 20 inches depth to bedrock, again corresponding to the steeper slopes in the area. Southeast of 66th Street North and Garnett are areas of 0 - 20 and 20 - 60 inches depth to limestone bedrock. The other area of shallow bedrock occurs northwest of 76th Street North and Yale along the creek bottom and areas of 6 - 10% slope. 8

Subsoil Conditions Significance to Planning

1. It is extremely expensive to build in an area of shallow bedrock. Removal of rock by blasting is necessary in order to lay utility lines or to
construct proper building foundations.

2. In areas not receiving community sewer services, large lots are necessary for required individual sewer treatment facilities. Development in shallow bedrock areas require even larger lots so that septic tanks and fields are large enough to compensate for the limited absorption capabilities of the soils.

MAN-MADE PHYSICAL FEATURES

The third broad category of the Physical Features study embraces those major man-made features that will influence development. Specific attention is directed toward transportation systems, energy transmission and mining activities, and man-made water bodies. These man-made features are depicted on the Man-Made Features Map and are discussed below.

Traffic and Railways

The single most dominant man-made feature impacting area development is the Cherokee Expressway (U.S. Highway 75) which currently runs from south to north out of Tulsa through the Planning Area. The expressway effectively divides development surrounding Owasso and Collinsville from that nearer Sperry. It provides excellent access linking Tulsa, the Cherokee Industrial District and all communities to the north. The Mingo Valley Expressway (U.S. Highway 169) crosses the south Subarea along Garnett Road. This route also provides excellent access between Tulsa, the industrial and employment centers in the northeast part of the city and Owasso.

In addition to the expressway, 86th Street North is designated on the existing Major Street and Highway Plan as an east-west primary arterial through the Planning Area. In the future, this street will serve as a primary feeder among U.S. Highways 75 and 169, the Cherokee Special District, and the Owasso urban area. Six miles to the north is 146 Street North which is designated as another east-west primary arterial. Plans call for 146 Street North to function as the
MAN-MADE FEATURES
NORTH TULSA COUNTY
COMPREHENSIVE PLAN

EXPRESSWAY
PRIMARY ARTERIAL
SECONDARY ARTERIAL
RAILWAY
HIGH VOLTAGE TRANSMISSION LINE
primary east-west arterial between Skiatook and Collinsville.

The Atchison, Topeka, and Santa Fe Railroad maintains a line running north and south along either side of the Mingo Valley Expressway in the south Subarea. A spur off this railway between the Planning Area and the City of Owasso connects it to the Port of Catoosa providing good rail to barge accessibility.

In addition, a proposed spur off the A.T. & S.F. line will provide access to the Cherokee Special District which lies southeast of the mid portion of the Planning Area.

A Missouri-Pacific Railroad line (also known as Midland Valley Railroad) runs from Tulsa northwest through the Town of Sperry. This route has no active passenger service but maintains freight service through the area.

Of secondary consideration to the above transportation ways, are the secondary arterials indicated on the Man-Made Features map. This system of arterials maintains the current roadway grid pattern of the majority of Tulsa County. Most of these arterials are county section line roads which will require further improvements with additional area development.

Trafficways and Railways Significance to Planning

1. The area's existing and planned system of trafficways provide the means of access between working and living areas.

2. The type of trafficways and railways available in an area help determine the type and intensity of land uses that can develop.

3. Movement systems are principal shapers to city form. Trafficways and railways can be used as tools to guide and stage the development and growth of an area when properly considered, planned, and developed. Premature or haphazard development can induce an over extension and fragmentation of community services.

4. Trafficways and railways can be planned to serve as effective buffers between major land use types.
Energy Transmission and Mining Activities

There are several major lengths of high voltage overhead transmission lines in the Planning Area.

Public Service Company of Oklahoma has seven lines that run in all directions from its Tulsa North Substation northwest of 86th Street North and Peoria. Two parallel 138KV lines run due east into Owasso at 86th Street North. Two 138KV and 69KV lines run south just west of Peoria. Two 138KV lines run west from the substation into Osage County. Another 138KV line runs east and north for three miles then parallels Highway 75 north for three miles inside the Planning Area.

The Grand River Dam Authority (GRDA) has a 69KV line that runs east from Osage County just south of Sperry then northeast for approximately five miles exiting the study area south of 126th Street North and Memorial. The Verdigris Valley Electric Cooperative utilizes this GRDA line as does the Kansas-Arkansas-Missouri-Oklahoma Electric Cooperative (KAMO). Verdigris Valley buys electricity from PSO and GRDA for distribution to its customers.

These lines provide good energy sources for area residential, commercial and industrial development. Future development may require the construction of another area substation.

Mining activities in search of energy sources are very common in the Planning Area. Many hundred oil and gas wells have been active at one time or another in the Planning Area. These wells were used to mine the oil and gas fields of north Tulsa County. These site specific facilities can best be determined by consulting an area geologist, well records, and field checking actual areas of interest. The location area of pipelines are best determined by similar consultations.

In the south Subarea many natural gas wells have been drilled along the Bird creek basin. The mid portion of the Planning Area west of Yale Avenue is literally covered with drilled oil wells, as many as 140 to a square mile. Most of the holes
are outside the corporate limits of Sperry and are concentrated along the Bird/Hominy creek flood area.

Energy Transmission and Mining Activities Significance to Planning

1. Existing high voltage overhead transmission lines and their rights-of-way are significant in the aesthetic impact they have on area, and in their potential dual purpose use as rights-of-way for bikeways and pedestrianways.
2. Accessibility to energy sources such as transmission lines is valuable in locating large scale industrial developments.
3. Development over oil and gas fields presents few problems, except that oil and gas wells must have proper access and oil wells must be properly capped.
4. Development over existing oil and gas pipelines and their rights-of-way is greatly restricted and often undevelopable.
5. Construction of major trafficway and railway improvements under transmission lines and over pipelines is often difficult and more expensive than conventional improvements.
6. Reuse or redevelopment of surface mines or gravel pits is quite difficult and aesthetically unappealing for residential uses.

Water Bodies

There are no large man-made water bodies in the Planning Area. There are, however, many small natural and man-made farm ponds that dot the mid and southern portions of the Planning Area.

Water Bodies Significance to Planning

1. Man-made lakes can offer scenic beauty, and the opportunities to develop and preserve them should be utilized.
2. Flooding problems associated with the overflow of area conservation and stock ponds and of the area creeks should be carefully considered for any development of land adjacent to flood prone lands.
DEMOGRAPHY

The gathering and study of data about an area's people and economy is essential before a clear picture can be developed about the area's history, present situation and probable future. This section deals with the Planning Area's people and economy and presents analysis of: (1) current population and population projections to the year 2000; (2) 1960 and 1970 population age and sex; (3) 1960 and 1970 income and educational attainment and (4) 1960 and 1970 occupations and employment.

The North Tulsa County Planning Area is unique in that the area has never been considered a planning or statistical entity. Therefore, assumptions have been made concerning the Planning Area's current population estimates and population projections. There is no historical data available to assist in projecting population numbers or characteristics. It has been assumed that growth in the Planning Area has and will continue to mirror growth in North Tulsa County, primarily in the overall trends in the four northern communities. It is intended that the demographic and economic data presented here will provide a better understanding of the North Tulsa County area.

DEMOGRAPHY

Population

Currently there are approximately 1900 persons living within the Planning Area. (Existing population in the Cherokee Industrial District was not included in this study). A comparison of population trends for the Planning Area, North Tulsa County and Tulsa County are presented in Table 4. Staff forecasts for population growth to the year 2000 indicate that all areas will increase in population, but not necessarily at an increasing rate. The Planning Area's share of North Tulsa County's population for 1980 was held constant for projection purposes. The North Tulsa County Sectors 4 and 12 contain the communities of
TABLE 4  
POPULATION TRENDS AND PROJECTIONS  
North Tulsa County Planning Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tulsa County</td>
<td>458,800</td>
<td>487,400</td>
<td>515,900</td>
<td>544,400</td>
<td>572,800</td>
</tr>
<tr>
<td>Sectors 4 &amp; 12</td>
<td>24,053</td>
<td>25,483</td>
<td>26,919</td>
<td>28,413</td>
<td>29,911</td>
</tr>
<tr>
<td>Planning Area</td>
<td>1,986¹</td>
<td>2,009</td>
<td>2,122</td>
<td>2,239</td>
<td>2,358</td>
</tr>
</tbody>
</table>

| % Sectors 4 & 12 of County | 5.242 | 5.228 | 5.217 | 5.219 | 5.221 |
| % PA of Sectors 4 & 12     | 7.882 | 7.883 | 7.883 | 7.880 | 7.883 |
| % PA of County             | .413  | .412  | .411  | .411  | .411  |

% Population Change:
- County: 6.233, 5.847, 5.524, 5.216
- Sectors 4 & 12: 5.945, 5.847, 5.549, 5.272
- Planning Area: 5.959, 5.624, 5.513, 5.314

¹Estimated from field studies, Community Planning Division, TMAPC, 1980, at 3.15 persons per household.

Sperry, Skiatook, Owasso and Collinsville as well as the Tulsa International Airport area. Overall projected increases in population for North Tulsa County and the Planning Area total 24% to the year 2000. By the year 1995 the rate of growth for the Planning Area and North Tulsa County is projected to equal or exceed the growth rate of Tulsa County as a whole. This will be spurred by the anticipated growth in and around Owasso.

Staff forecasts for population and housing growth were based on sets of assumptions set at three levels:

1. **General Assumptions**
   - Real energy costs will continue to increase, forcing a concentration of growth near employment centers and movement of places of employment towards appropriate residential areas. This does not imply a population or employment centroid movement back to the CBD. Because of the multitude of widely dispersed employment centers in Tulsa County -- the CBD, Tulsa International Airport, the west bank area, the Port of Catoosa, the Broken Arrow Expressway Industrial corridor, the Mid-Tulsa Employment Center (31st Street to 51st Street South between Yale and Sheridan) -- it is unlikely that a movement towards the CBD will be experienced, even though it will experience a fair share of residential and employment growth.
   - Real housing costs will continue to increase, forcing continued shifts from single-family to multifamily dwelling units, decreasing lot sizes for single-family dwelling units and decreasing area per unit for multifamily units.
   - Market characteristics such as land price and availability will dominate the location of heavy industry. Air and water quality considerations will not play a major role in the location of industry in the metropolitan area because of conflicting siting considerations. Mitigation of air quality
problems necessitates northern sites because of prevailing southern winds, whereas the Bird Creek water quality problem demands a southern siting scheme for drainage into the Arkansas River.

- Proposed major highway improvements not currently under construction will not significantly influence land development within the next twenty years.
- Water and sewer infrastructure will expand to allow for continued growth.

2. Areawide Specific Assumptions

- Study-Area population and employment growth will follow the trend set during the past twenty years.
- Occupancy rates will remain at their present high level over the next twenty years.
- Study-Area growth in single family dwelling units will follow trends set over the past twenty years.
- Study-Area multifamily dwelling unit growth will follow trends established in the past twenty years.
- Study-Area mobile home dwelling unit growth will follow the stabilized trend set during the 1974 to 1978 period.
- The Tulsa shares of area-wide population, employment and housing will not substantially deviate from trends established over the last twenty years.
- The per capita rate of water consumption will follow an increase in trend as shown in the Capacity Analysis.
- Per capita residential electricity consumption will decline over the next twenty years to levels observed in the early 1970's.
- Commercial and industrial electricity consumption will continue to increase reflecting trends set during the past twenty years.
- Property values will continue to increase reflecting current trends.
3. Sector Specific Assumptions

Sector 4

Because of current and anticipated non-trend increases in employment activity in various industrial areas (the Port of Catoosa, the Tulsa International Airport and the Cherokee Project), employment in this sector will increase more rapidly than trend over the next twenty years.

Sector 12

Sector 12 changes will differ only slightly from trend.

This analysis is concerned, to a large extent, with projecting growth within portions of the City of Tulsa and may not take into account some factors that may be important to growth in the Planning Area. The Cherokee Special (Industrial) District is adjacent to the Planning Area on the southeast. Industrial development of 1,200 to 1,400 acres of this area is already planned with an anticipated employment of 12,000 to 14,000 persons.

Local residents will obviously make up a sizeable portion of this employment, yet a greater number of employees in the Cherokee Special District will be new to the Tulsa Metropolitan Area and will be bringing new households into the area. The Planning Area as well as the City of Owasso's proximity to the District will make both areas very convenient living areas for future District employees.

Besides the Cherokee Special District, further development for the Port of Catoosa and its industrial park area should spark area growth. Continued development of industrial areas near Tulsa International Airport will do the same. Due to the problems associated with determining when, where, and what specific industries and businesses are attracted to specific locations, as well as problems in determining settlement choices and commuting patterns for future employees of new industries, no attempt was made to base population growth
projections directly on planned or forecasted economic expansion. The Planning Area has basic transportation facilities to support increased growth within and adjacent to it. One key to further development in this area will be the extension of water and sewer services which will support urban level residential and commercial-industrial densities.

Age and Sex

The age and sex composition of Tulsa County and the North Tulsa County area are depicted in Figures 2 and 3. The North Tulsa County area includes data from census tracts 55, 56, 58, 59 and 91 (91.01, 91.02, 91.03 for 1970). Data for the corporate limits of Skiatook and Owasso have been isolated and removed from these totals. Data for Sperry and the unincorporated area outside the Planning Area cannot be isolated. The assumption is made that the Planning Area reflects the same general population characteristics as the North Tulsa County area.

Figure 2 indicates that from 1960 to 1970 residents in Tulsa County 55 years old and older increased from 15.8% to 17.2% of the population. Residents between 35 and 54 years of age decreased from 25.2% to 24% of the population. The 15-34 age group increased from 27.2% to 30.2% of the population whereas the 0-14 age group decreased from 31.8% to 28.6% of the population.

In the 0-14 age group there tends to be a greater number of young males than females between 1960 and 1970. In the intermediate years, the numbers generally balance out. In the 45 and over age group, females outnumber males, particularly in the 65+ age group in both 1960 and 1970.

Figure 3 indicates that in the unincorporated North Tulsa County area, the population 55 years of age and older decreased from 14.5% to 10.5% of the population from 1960 to 1970. In the same period, residents between 35-54 also decreased from 23.9% to 21.1% of the population. Those residents between 15
Figure 2
TULSA COUNTY
POPULATION PYRAMID

<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>65+</td>
<td>13,682</td>
<td>11,325</td>
</tr>
<tr>
<td>55-64</td>
<td>15,728</td>
<td>13,286</td>
</tr>
<tr>
<td>45-54</td>
<td>22,684</td>
<td>18,343</td>
</tr>
<tr>
<td>35-44</td>
<td>24,020</td>
<td>22,684</td>
</tr>
<tr>
<td>25-34</td>
<td>26,892</td>
<td>23,346</td>
</tr>
<tr>
<td>15-24</td>
<td>30,946</td>
<td>27,024</td>
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<td>5-14</td>
<td>41,141</td>
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</tr>
<tr>
<td>0-4</td>
<td>17,541</td>
<td>20,258</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>% of Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>65+</td>
<td>13,682</td>
<td>21,427</td>
<td>8.7</td>
</tr>
<tr>
<td>55-64</td>
<td>15,728</td>
<td>18,415</td>
<td>8.5</td>
</tr>
<tr>
<td>45-54</td>
<td>22,684</td>
<td>23,969</td>
<td>11.6</td>
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<td>35-44</td>
<td>24,020</td>
<td>25,761</td>
<td>12.4</td>
</tr>
<tr>
<td>25-34</td>
<td>26,892</td>
<td>28,038</td>
<td>13.7</td>
</tr>
<tr>
<td>15-24</td>
<td>30,946</td>
<td>35,355</td>
<td>16.5</td>
</tr>
<tr>
<td>5-14</td>
<td>41,141</td>
<td>39,446</td>
<td>20.1</td>
</tr>
<tr>
<td>0-4</td>
<td>17,541</td>
<td>16,618</td>
<td>8.5</td>
</tr>
</tbody>
</table>

1970 | 192,634 | 209,029 | 100.0
1960 | 166,920 | 179,118 | 100.0

Total population 1970 - 399,982
Median Age 1970 - 28.3
Total population 1960 - 346,038
Median Age 1960 - 28.9

Figure 3

UNINCORPORATED NORTH TULSA COUNTY
POPULATION PYRAMID

<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>1960</th>
</tr>
</thead>
<tbody>
<tr>
<td>65+</td>
<td>246</td>
<td>298</td>
</tr>
<tr>
<td>55-64</td>
<td>386</td>
<td>313</td>
</tr>
<tr>
<td>45-54</td>
<td>568</td>
<td>445</td>
</tr>
<tr>
<td>35-44</td>
<td>700</td>
<td>569</td>
</tr>
<tr>
<td>25-34</td>
<td>921</td>
<td>529</td>
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<tr>
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<td>942</td>
<td>588</td>
</tr>
<tr>
<td>5-14</td>
<td>1488</td>
<td>1076</td>
</tr>
<tr>
<td>0-4</td>
<td>627</td>
<td>525</td>
</tr>
</tbody>
</table>

**Total population 1970 - 11,850**  **Median Age 1970 - NA**

**Total population 1960 - 8,447**  **Median Age 1960 - NA**

**Sources:** Tables P-1 - P-4, Census of Population and Housing PHC (1)-219, U.S. Census, 1970; Tables P-1 - P-3, Census of Population and Housing PHC (1)-162, U.S. Census, 1960; Figure 5, a Comprehensive Plan for Owasso, Oklahoma, 1978; Figure 2, a Comprehensive Plan for Skiatook, Oklahoma, 1980.
and 34 years of age increased from 26.6% to 32.5% of the population. The 0-14 age group increased from 25.0% to 35.9% of the total population.

Regarding the sex of the North Tulsa County area population, in 1960 there were fewer females than males in the 0-14 age group. However, the numbers were nearly equal in 1970. In the 15-44 age group females outnumbered males by a small margin in 1970. In the 45 and older age group, the number of males and females was relatively the same in 1960, yet in 1970 males clearly outnumbered the females.

Comparing the North Tulsa County area with Tulsa County, the percentage of older age groups (45 and older) is greater for Tulsa County than for North Tulsa County and the percentage of younger age groups (44 and younger) is greater for North Tulsa County in 1960 and 1970.

**Income and Education**

An indication of the annual family income levels for the North Tulsa County area and Tulsa County is given in Table 5. Tulsa County experienced a shift upward of family incomes from 1960 to 1970. In 1960, 83.08% of County families had incomes less than $10,000 and only 5.85% had incomes of $15,000 or more. The median income for Tulsa County was $5,995 in 1960. In 1970, 52.73% of County families had incomes less than $10,000 and the families with incomes of $15,000 or more had risen to 19.67%. From 1960 to 1970 the median income for Tulsa County families increased 61% to $9,652.

In 1960, 97.97% of North Tulsa County area families had incomes less than $10,000 and 2.03% only had incomes over $15,000. 1970 revealed an upward shift in North Tulsa County income levels as well. Families with incomes less than $10,000 had dropped to 67.28% and families with incomes of $15,000 and more had risen to 8.84% of the total.

The non-farm poverty level income for a family of four in 1970 was $3,743.
## TABLE 5
FAMILY INCOME
Tulsa County and Unincorporated North Tulsa County

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>$ 0 - 2,999</td>
<td>15,857</td>
<td>17.22</td>
<td>9,659</td>
<td>8.98</td>
<td>570</td>
</tr>
<tr>
<td>$ 3,000 - 4,999</td>
<td>18,741</td>
<td>20.36</td>
<td>9,891</td>
<td>9.19</td>
<td>653</td>
</tr>
<tr>
<td>$ 5,000 - 6,999</td>
<td>22,517</td>
<td>24.46</td>
<td>12,456</td>
<td>11.58</td>
<td>299</td>
</tr>
<tr>
<td>$ 7,000 - 9,999</td>
<td>19,370</td>
<td>21.04</td>
<td>24,725</td>
<td>22.98</td>
<td>260</td>
</tr>
<tr>
<td>$10,000 - 14,999</td>
<td>10,189</td>
<td>11.07</td>
<td>29,695</td>
<td>27.60</td>
<td>21</td>
</tr>
<tr>
<td>$15,000 - 24,999</td>
<td>3,497</td>
<td>3.80</td>
<td>16,301</td>
<td>15.15</td>
<td>8</td>
</tr>
<tr>
<td>$25,000 &amp; over</td>
<td>1,889</td>
<td>2.05</td>
<td>4,863</td>
<td>4.52</td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>92,060</td>
<td>100.00</td>
<td>107,590</td>
<td>100.00</td>
<td>1,819</td>
</tr>
</tbody>
</table>

Median Income: $5,995 for Tulsa County and $9,652 for Unincorporated North Tulsa County.

**Sources:**
- Table P-4, Census of Population and Housing PHC (1)-219, U.S. Census, 1970;
- Table P-1, Census of Population and Housing PHC (1)-162, U.S. Census, 1960;
In 1970, 9.00% of Tulsa County families (9,670) had incomes less than the poverty level income. In North Tulsa County 9% of the families had income less than the poverty level income. The dominant income grouping in North Tulsa County for 1970 was in the $7,000 to $14,999 bracket in which 56.40% of area families had those incomes as compared to 50.58% for Tulsa County. Eight families had incomes greater than $25,000 in 1960. This increased to 41% in 1970.

There is often a close correlation between the number of school years completed by persons 25 years old or over and earning capacities and income levels for families. A comparison of education attainment characteristics is found in Table 6. From 1960 to 1970, the number of persons 25 years or older completing at least an eighth grade education in Tulsa County increased from 84.8% to 89.4%. Those completing a high school education increased from 51.7% to 61.5%. Persons with a four year college education increased from 10.8% to 12.90%.

Review of 1960 North Tulsa County data reveals that 73.5% of the population attained at least an eighth grade education, 25.8% attained a high school education, and only 2.1% the equivalent of four years in college. In 1970, 84.6% attained at least an eighth grade education, 43.8% attained a high school education, and 3.7% completed four years of college. Although this area has not reached the Tulsa County average for educational attainment, there has been a dramatic increase in the years of education completed between 1960 and 1970 for the North Tulsa County area.

ECONOMY

In the past the economy of the Planning Area was dependent on its function as an agricultural base for the immediate region. Presently the Planning Area is dependent more on the economy of the Tulsa region, and it is strongly influ-
<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Tulsa County 1960</th>
<th>Tulsa County 1970</th>
<th>Unincorporated North Tulsa County 1960</th>
<th>Unincorporated North Tulsa County 1970</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>191,722</td>
<td>100.0</td>
<td>220,545</td>
<td>100.0</td>
</tr>
<tr>
<td>No School Years Completed</td>
<td>1,637</td>
<td>0.9</td>
<td>1,857</td>
<td>0.8</td>
</tr>
<tr>
<td>Elementary 1 - 4</td>
<td>7,787</td>
<td>4.1</td>
<td>5,559</td>
<td>2.5</td>
</tr>
<tr>
<td>5 - 7</td>
<td>19,661</td>
<td>10.3</td>
<td>16,125</td>
<td>7.3</td>
</tr>
<tr>
<td>8</td>
<td>26,175</td>
<td>13.7</td>
<td>21,428</td>
<td>9.7</td>
</tr>
<tr>
<td>High School 1 - 3</td>
<td>37,087</td>
<td>19.3</td>
<td>40,165</td>
<td>18.2</td>
</tr>
<tr>
<td>4</td>
<td>54,601</td>
<td>28.4</td>
<td>76,680</td>
<td>34.8</td>
</tr>
<tr>
<td>College 1 - 3</td>
<td>24,051</td>
<td>12.5</td>
<td>30,355</td>
<td>13.8</td>
</tr>
<tr>
<td>4 or more</td>
<td>20,723</td>
<td>10.8</td>
<td>28,376</td>
<td>12.9</td>
</tr>
<tr>
<td>Median School Years</td>
<td>12.1</td>
<td>12.3</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
enced by the Port of Catoosa, McDonnell Douglas Aircraft, American Airlines, Rockwell International, and other major employment centers outside the Planning Area. Currently in the Planning Area, there are few business firms or employers. Commercial development centers that influence the Planning Area include the Central Business Districts of Owasso, Skiatook, Collinsville and Sperry, the commercial node at 116th Street North and Garnett Road and the emerging Cherokee Industrial District. Other major employers include the local public school systems. Clearly all of the area's labor force is not agriculturally based and is not employed locally. It is anticipated that this pattern will not change.

Tables 7 and 8 indicate the employment by industry and occupation, respectively, of Tulsa County and the North Tulsa County area. From 1960 to 1970, the greatest percentage change in employment for the County occurred in wholesale and retail trade - up 1.79 percentage points; transportation - down .96 percentage points; manufacturing - down .54 percentage points; and business and repair services - up .42 percentage points.¹⁵

The distribution of employment for North Tulsa County is generally similar to that of Tulsa County. The Planning Area did not contain any professional workers in 1960 or 1970.¹⁶ Manufacturing and wholesale and retail trade constitute 43.67% of employment in 1970. From 1960 to 1970, the greatest percentage change in employment for the North Tulsa County area occurred in manufacturing - up 4.93 percentage points; transportation - up 2.69 percentage points; and communications, utilities and sanitary service - down 2.41 percentage points.

Table 8 reveals difference again the North Tulsa County area occupational structure and that of the County's. In 1970, clerical and kindred workers; professional, technical, and kindred workers; craftsmen, foremen and kindred workers; service workers, except household, and operatives and kindred workers were 76.04% of the occupations for Tulsa County. 74.14% of North Tulsa County's major
TABLE 7
EMPLOYMENT BY INDUSTRY
Tulsa County and Unincorporated North Tulsa County

<table>
<thead>
<tr>
<th>Industry</th>
<th>Tulsa County</th>
<th></th>
<th>Unincorporated North Tulsa County</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Construction</td>
<td>8,310</td>
<td>6.29</td>
<td>9,788</td>
<td>6.05</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>27,418</td>
<td>20.75</td>
<td>32,649</td>
<td>20.21</td>
</tr>
<tr>
<td>Transportation</td>
<td>9,110</td>
<td>6.90</td>
<td>9,613</td>
<td>5.94</td>
</tr>
<tr>
<td>Communications, Utilities &amp; Sanitary Service</td>
<td>4,277</td>
<td>3.24</td>
<td>5,021</td>
<td>3.11</td>
</tr>
<tr>
<td>Wholesale &amp; Retail Trade</td>
<td>28,514</td>
<td>21.58</td>
<td>37,741</td>
<td>23.37</td>
</tr>
<tr>
<td>Business &amp; Repair Services</td>
<td>4,025</td>
<td>3.05</td>
<td>5,559</td>
<td>3.47</td>
</tr>
<tr>
<td>Professional &amp; Related Services</td>
<td>6,573</td>
<td>4.97</td>
<td>7,733</td>
<td>4.78</td>
</tr>
<tr>
<td>Public Administration</td>
<td>4,054</td>
<td>3.07</td>
<td>5,299</td>
<td>3.28</td>
</tr>
<tr>
<td>Other Industries (Ind. not reported)</td>
<td>39,840</td>
<td>30.15</td>
<td>48,118</td>
<td>29.79</td>
</tr>
<tr>
<td>TOTAL</td>
<td>132,121</td>
<td>100.00</td>
<td>161,511</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Sources: Table P-3, Census of Population and Housing PHC (1)-219, U.S. Census, 1970; Table P-3, Census of Population and Housing PHC (1)-162, U.S. Census, 1960
### TABLE 8
**OCCUPATIONAL STRUCTURE TRENDS**
Tulsa County and Unincorporated North Tulsa County

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>Tulsa County 1960</th>
<th>Tulsa County 1970</th>
<th>Unincorporated North Tulsa County 1960</th>
<th>Unincorporated North Tulsa County 1970</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Managers &amp; Administrators except Farm</td>
<td>13,718</td>
<td>10.38</td>
<td>15,947</td>
<td>9.87</td>
</tr>
<tr>
<td>Sales Workers</td>
<td>11,845</td>
<td>8.97</td>
<td>14,056</td>
<td>8.70</td>
</tr>
<tr>
<td>Clerical &amp; Kindred Workers</td>
<td>23,459</td>
<td>17.75</td>
<td>33,092</td>
<td>20.49</td>
</tr>
<tr>
<td>Craftsmen, Foremen &amp; Kindred Workers</td>
<td>19,782</td>
<td>14.97</td>
<td>23,143</td>
<td>14.33</td>
</tr>
<tr>
<td>Operative &amp; Kindred Workers</td>
<td>16,989</td>
<td>12.86</td>
<td>21,669</td>
<td>13.42</td>
</tr>
<tr>
<td>Laborers, except Farm</td>
<td>4,923</td>
<td>3.73</td>
<td>5,252</td>
<td>3.25</td>
</tr>
<tr>
<td>Service Workers, except Household</td>
<td>11,446</td>
<td>8.66</td>
<td>18,436</td>
<td>11.42</td>
</tr>
<tr>
<td>Private Household Workers</td>
<td>3,554</td>
<td>2.69</td>
<td>2,645</td>
<td>1.64</td>
</tr>
<tr>
<td>Farm Workers or Occupation not reported</td>
<td>8,344</td>
<td>6.32</td>
<td>798</td>
<td>.49</td>
</tr>
<tr>
<td>TOTAL</td>
<td>127,121</td>
<td>100.00</td>
<td>161,511</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Sources: Table P-3, Census of Population and Housing PHC - (1)-219, U.S. Census, 1970;
Table P-3, Census of Population and Housing PHC - (1)-162, U.S. Census, 1960.
occupational groups were craftsmen, foremen, and kindred workers; operatives and kindred workers; clerical and kindred workers and service workers, except household in the same year.

Demographic and Economic Factors Significance to Planning

1. The Planning Area is expected to experience development pressures due to forecasted growth in and around the Planning Area.

2. With few economic centers directly in the Planning Area, major employment opportunities for area residents will be located in adjacent jurisdictions. Commercial and office employment opportunities will also be located in adjacent areas, however, growth of these activities is anticipated within the Planning Area.

3. Continued growth coupled with more intense development activities will increase the suburban flavor of the Planning Area and reduce the rural flavor of the overall area. Such growth will add to development pressures for various land uses. Land activity relationships will be very important and consideration should be given to the preservation of sound development patterns.

4. Land should be provided or set aside for the development of a local industrial base.
A primary source of statistical data regarding housing in Tulsa County is the 1970 U.S. Census. Development within the Planning Area since 1970 has necessitated an update at the local level for planning purposes. In order to better determine housing conditions, land use and population, field surveys of the Planning Area were conducted during the summer of 1979 and winter of 1980. Information about housing conditions gathered from that survey was utilized as some of the basic data upon which this study is based. Results of that survey are depicted in the Table 9 and the Housing Condition Map.

HOUSING CONDITIONS

The survey made of housing consisted of driving every roadway within the Planning Area and rating every housing structure as to the exterior structural conditions. A further check of housing structures was made by reviewing 1979 aerial photos of the area. The four broad categories of exterior housing conditions used to judge each home were as follows:

- **Standard** - Any housing structure that was determined to be in need of no major structural repair or maintenance; or minor maintenance to less than 5% of the exterior of the structure appeared to be needed to bring it up to a well maintained condition.

- **Standard Needs Repair** - Any housing structure that was determined to be in need of no major structural repair, however, maintenance work appeared to be needed to 6% to 25% of the exterior of the structure in order to bring it up to a structurally sound, well maintained condition.

- **Substandard** - Any housing structure that was determined to be in need of at least one major structural repair and repairable; or any housing structure which appeared to need significant maintenance to the exterior of the structure (greater than 25%) in order to bring it up to a structurally sound, well maintained
condition.

**Dilapidated** - Any housing structure that was determined to be in such state of structure deterioration, that structural repair and maintenance appeared to be economically unsound.

The conditions of the 602 housing structures in the Planning Area are shown in Table 9 broken down by subarea. For the total area 43.3% or 261 of the housing structures were of standard condition, 52.2% or 314 were standard needing repair, 3.8% or 23 were need of major repair or maintenance, and only .7% or 4 units were dilapidated and in an unlivable condition.

Within the three subareas the condition of housing differed somewhat from the total and the subareas differed among themselves. Subarea North contained only 9 structures, 78% of which were substandard needing repair. Subarea South which supplied 28% of the Planning Area housing stock had the greatest percentage of standard units, 65%; and another 32% were standard needing repair. The middle subarea contained the bulk of the area's housing stock, 70%. The housing conditions here followed the overall breakdown although there were about 7% more units standard needing repair than the total.

A determination of housing supply and condition for specific areas within the Planning Area is shown on the Housing Conditions map. This map shows the supply of housing, structural conditions, and estimated 1980 population by square mile.
TABLE 9
NORTH TULSA COUNTY
HOUSING STRUCTURE CONDITIONS
January, 1980

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>STANDARD</th>
<th>REPAIR</th>
<th>SUBSTANDARD</th>
<th>DILAPIDATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLANNING AREA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRUCTURES:</td>
<td>NO.</td>
<td>602</td>
<td>261</td>
<td>314</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>100.00</td>
<td>43.3</td>
<td>52.2</td>
<td>3.8</td>
</tr>
<tr>
<td>SUBAREA NORTH</td>
<td>NO.</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>STRUCTURES:</td>
<td>%</td>
<td>100.00</td>
<td>22.2</td>
<td>77.8</td>
<td></td>
</tr>
<tr>
<td>SUBAREA MIDDLE</td>
<td>NO.</td>
<td>424</td>
<td>149</td>
<td>253</td>
<td>18</td>
</tr>
<tr>
<td>STRUCTURES:</td>
<td>%</td>
<td>100.00</td>
<td>35.1</td>
<td>59.7</td>
<td>4.2</td>
</tr>
<tr>
<td>SUBAREA SOUTH</td>
<td>NO.</td>
<td>169</td>
<td>110</td>
<td>54</td>
<td>5</td>
</tr>
<tr>
<td>STRUCTURES:</td>
<td>%</td>
<td>100.00</td>
<td>65.1</td>
<td>31.9</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**TABLE 10**  
**NORTH TULSA COUNTY PLANNING AREA**  
**HOUSING UNITS**  
January, 1980

<table>
<thead>
<tr>
<th></th>
<th>OCCUPIED</th>
<th>VACANT</th>
<th>SINGLE FAMILY</th>
<th>MOBILE HOMES</th>
<th>TOTAL UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL UNITS</strong></td>
<td>461</td>
<td>18</td>
<td>5</td>
<td>123</td>
<td>602</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>76.6</td>
<td>3.0</td>
<td></td>
<td>20.4</td>
<td>100%</td>
</tr>
<tr>
<td><strong>SUBAREA NORTH</strong></td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td><strong>NO.</strong></td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>55.6</td>
<td>-</td>
<td>-</td>
<td>44.4</td>
<td>100%</td>
</tr>
<tr>
<td><strong>SUBAREA MIDDLE</strong></td>
<td>316</td>
<td>15</td>
<td>5</td>
<td>93</td>
<td>424</td>
</tr>
<tr>
<td><strong>NO.</strong></td>
<td>316</td>
<td>15</td>
<td>5</td>
<td>93</td>
<td>424</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>74.5</td>
<td>3.6</td>
<td></td>
<td>21.9</td>
<td>100%</td>
</tr>
<tr>
<td><strong>SUBAREA SOUTH</strong></td>
<td>140</td>
<td>3</td>
<td>-</td>
<td>26</td>
<td>169</td>
</tr>
<tr>
<td><strong>NO.</strong></td>
<td>140</td>
<td>3</td>
<td>-</td>
<td>26</td>
<td>169</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>82.8</td>
<td>1.8</td>
<td></td>
<td>15.4</td>
<td>100%</td>
</tr>
</tbody>
</table>

1 Units under construction not counted in Housing Unit total.

SOURCE: July, 1979 and February, 1980, Field Surveys, Community Planning Division, TMAPC.
Within the Planning Area, all of the 602 housing structures were single family units, of which 123 or 20.4% were mobile homes. There was also one mobile home park which contained several additional mobile home units. Only 18 units were found to be vacant, leaving a vacancy rate of 2.99%. A few of these vacant units were delapidated, resulting in still fewer available units. Five single family homes were under construction at the time of the field study.

Table 11 presents a comparison of projected housing needs for the Planning Area, Tulsa County and North Tulsa County (sectors 4 and 12). These estimates and projections to the year 2000 were developed by TMAPC in The Tulsa Area Growth Allocation Model and the Development of Alternative Urban Growth Scenarios for Fiscal Impact Analysis. 1980 Planning Area statistics were provided through field studies. Due to the fact that the Planning Area has never been considered a statistical entity, there is no historical data available upon which to make housing or population projections. Instead, the 1980 Planning Area share of North Tulsa County (sectors 4 and 12) housing units was held constant for projections. Sectors 4 and 12 contain the four northern county communities as well as the Tulsa International Airport area; however, it was assumed that the Planning Area would mirror general growth characteristics of North Tulsa County. Assumptions used to generate TMAPC housing unit estimates and projections are noted in the Demographics section. 17

Housing units in the Planning Area are projected to increase from 602 units in 1980 to 903 by the year 2000, an overall increase of 50%. Housing units in Tulsa County are projected to increase 31.5%, from an estimated 171,900 units to 226,000.

Except for single family units, North Tulsa County and the Planning Area show greater increases in numbers of housing units than does Tulsa County, indi-
## TABLE 11
### HOUSING UNITS NEEDS ESTIMATES AND PROJECTIONS
#### NORTH TULSA COUNTY PLANNING AREA

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOUSING UNITS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tulsa County</td>
<td>171,900</td>
<td>185,400</td>
<td>199,000</td>
<td>212,500</td>
<td>226,000</td>
</tr>
<tr>
<td>Sectors 4 &amp; 12</td>
<td>9,019</td>
<td>10,177</td>
<td>11,278</td>
<td>12,403</td>
<td>13,530</td>
</tr>
<tr>
<td>Planning Area</td>
<td>602</td>
<td>679</td>
<td>573</td>
<td>828</td>
<td>903</td>
</tr>
<tr>
<td>% PA of County</td>
<td>.350</td>
<td>.366</td>
<td>.378</td>
<td>.389</td>
<td>.399</td>
</tr>
<tr>
<td>% PA of Sectors 4 &amp; 12</td>
<td>6.674</td>
<td>6.674</td>
<td>6.674</td>
<td>6.674</td>
<td>6.674</td>
</tr>
<tr>
<td>% Sectors 4 &amp; 12 of County</td>
<td>5.246</td>
<td>5.489</td>
<td>5.667</td>
<td>5.836</td>
<td>5.986</td>
</tr>
<tr>
<td>% Housing Unit Increase: County</td>
<td>7.853</td>
<td>7.335</td>
<td>6.783</td>
<td>6.352</td>
<td></td>
</tr>
<tr>
<td>PA</td>
<td>12.790</td>
<td>10.898</td>
<td>9.960</td>
<td>9.057</td>
<td></td>
</tr>
</tbody>
</table>

### SINGLE FAMILY UNITS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tulsa County</td>
<td>125,100</td>
<td>130,700</td>
<td>136,300</td>
<td>142,000</td>
<td>147,700</td>
</tr>
<tr>
<td>Sectors 4 &amp; 12</td>
<td>6,364</td>
<td>6,540</td>
<td>6,664</td>
<td>6,784</td>
<td>6,895</td>
</tr>
<tr>
<td>Planning Area</td>
<td>479</td>
<td>492</td>
<td>502</td>
<td>511</td>
<td>519</td>
</tr>
<tr>
<td>% PA of County</td>
<td>.382</td>
<td>.376</td>
<td>.368</td>
<td>.359</td>
<td>.351</td>
</tr>
<tr>
<td>% PA of Sectors 4 &amp; 12</td>
<td>7.526</td>
<td>7.526</td>
<td>7.526</td>
<td>7.526</td>
<td>7.526</td>
</tr>
<tr>
<td>% Sectors 4 &amp; 12</td>
<td>5.087</td>
<td>5.003</td>
<td>4.889</td>
<td>4.777</td>
<td>4.668</td>
</tr>
<tr>
<td>% S/F Unit Increase: County</td>
<td>4.476</td>
<td>4.284</td>
<td>4.101</td>
<td>4.014</td>
<td></td>
</tr>
<tr>
<td>Sectors 4 &amp; 12</td>
<td>2.765</td>
<td>1.896</td>
<td>1.800</td>
<td>1.636</td>
<td></td>
</tr>
<tr>
<td>PA</td>
<td>2.713</td>
<td>2.032</td>
<td>1.792</td>
<td>1.565</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>MULTI-FAMILY UNITS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tulsa County</td>
<td>42,100</td>
<td>49,400</td>
<td>56,600</td>
<td>63,800</td>
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<tr>
<td>% PA of County</td>
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<td>.108</td>
<td>.118</td>
<td>.118</td>
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<tr>
<td>% PA of Sectors 4 &amp; 12</td>
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<td>2.000</td>
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<tr>
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<td>4.789</td>
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<td>5.922</td>
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<td>County</td>
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<td>12.720</td>
<td>11.285</td>
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<td><strong>MOBILE HOME UNITS</strong></td>
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<tr>
<td>Tulsa County</td>
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<td>13.207</td>
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<tr>
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<td>TOTAL OCCUPIED HOUSING UNITS</td>
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<tr>
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<tr>
<td>% Sectors 4 &amp; 12</td>
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<td>% of TH/UI Increase:</td>
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<td>County</td>
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<td>10.889</td>
<td>10.096</td>
<td>9.045</td>
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</tbody>
</table>

eating this area will continue to experience a greater growth rate in the future. In the case of multi-family units, the Planning Area currently has none. It is anticipated that none are likely to be built prior to 1985 due to market characteristics and lack of utilities. A constant 2% of sectors 4 and 12 multi-family units was employed after 1990 to estimate potential multi-family housing units.

**Housing Significance to Planning**

Based on the field observations and the study findings, it is assumed that single family housing units will continue to dominate the housing supply. As the number of existing mobile homes indicates, this type of housing unit will continue to be a strong element of the housing market for this area. The increased cost of housing construction may spur the location of mobile homes as a larger percentage of new housing construction.

A continued growth in residential development in the three subareas will increase the demands on existing commercial and service centers in the communities of Sperry, Owasso, Collinsville and, to some extent, Tulsa. Additional construction may also spur development of service centers in the county to serve new residential areas. As a result, the relationship of various land use activities will become increasingly important.

Anticipation of such changes provides the communities with an opportunity to plan and prepare for the additional community facilities (e.g., streets, parks, schools, sewer lines, water lines) that will be needed to serve such growth.
COMMUNITY FACILITIES AND UTILITIES

COMMUNITY FACILITIES

This portion of the North Tulsa County Comprehensive Plan presents a summary of the community facilities available in and adjacent to the Planning Area. Because the majority of the Planning Area is unincorporated, it is not included within the service area of most community-scale services and utilities. Where appropriate, references have been made to services of surrounding communities where county residents are most likely to be served.

The services discussed below include those operated by the communities of Sperry, Owasso, Skiatook, Collinsville and Tulsa; various public school systems; Tulsa County; City-County ventures and others. Since there is virtually no development in the northernmost six square miles, the influences of the communities of Skiatook and Collinsville were considered minimal and the only services that affected the Planning Area were included in this inventory.

Education

The Planning Area lies within the boundaries of five dependent and independent school districts. There are no school facilities located within the Planning Area. The Sperry and Owasso districts serve the majority of the study area, but other districts serve the fringes. Some districts report crowded facilities, while others show a declining or stabilized enrollment. Each district is discussed below. 18

1. Sperry - School District No. 8 serves Sperry and approximately seventeen square miles of the Planning Area. The district has one twenty acre campus in Sperry with separate elementary, junior high and senior high schools. The elementary houses grades kindergarten through six, the junior high grades seven through nine, and the senior high grades ten through twelve. Additional buildings on the campus include a vocational/agricultural building, cafeteria, gym, music room and shop. Table 12 gives a summary of all school facilities
and enrollment serving the Planning Area, including Sperry.

For the period 1968 through 1976, Sperry's school population grew approximately 10% per year. For the past four years the enrollment has remained stable. Although there is currently enough classroom space, there is a need for an auditorium to serve all the students.

2. Collinsville - The Collinsville Public School District No. 6 serves eight square miles in the northeasternmost part of the study area. There are four schools in the system - Wilson Elementary serves grades kindergarten through three; Washington Elementary serves grades four and five; Collinsville Middle School serves grades six through eight; and Collinsville High School serves grades nine through twelve. The district encompasses fifty-four square miles of land in Tulsa and Rogers counties.

Collinsville has experienced a slow but steady growth rate. For the last two years they have averaged an increase of about twenty students per year. Present facilities are overcrowded. A recent bond election to replace twelve classrooms, one special education classroom and one remedial reading room at Washington Elementary and to add four classrooms and upgrade other facilities at the high school failed. One increased pressure on the system has been to provide special education classrooms, thus further crowding existing classes.

3. Owasso - The Independent School District No. 11 includes approximately three square miles of the southeastern portion of the study area. The entire district encompasses area in both Tulsa and Rogers counties. There are six campuses serving this district - three elementary which serve grades kindergarten through five, one junior high serving grades seven through nine, and one high school housing grades ten through twelve. Grade six is theoretically a part of the elementary system, but due to problems of crowding, grade six students attend classes in separate buildings on the junior high campus.
Mills Elementary is a brand new elementary school built in the Elm Creek Addition in 1978. A more detailed summary of existing facilities and conditions can be found in *A Study: Owasso School District* prepared for the district in 1976 to analyze capital improvement and facility needs of the district and in *The Owasso Comprehensive Plan 1978-2000.*

The district has met classroom needs recently by building new prefabricated classes each year on various campuses. A new gymnasium at the high school will be built soon with $1.5 million in bond funds. The system has experienced a 7% annual growth rate in the past few years. Prior to that time they experienced an 8 or 9% growth rate. There was an increase of approximately 200 students this past year. If the Rogers County Housing Authority is successful in offering low interest home loans, it is anticipated that the Owasso school population would increase significantly. School officials predict a 7-10% future annual growth rate.

4. Mingo - Approximately 1½ square miles of the Planning Area are included within the Mingo Dependent School District No. 16. This district has one campus with a classroom building and gym that serves grades kindergarten through eight. Students then enter the Tulsa Public School system for junior high at Lewis and Clark Junior High and East Central for high school. The school district began with the original building in 1903 and now utilizes the 1930 building as its oldest structure.

Two hundred twenty students are now enrolled at the Mingo School. For the past four or five years there has been a steady increase of 10-12 students per year. Currently, there are adequate facilities to house the students, and no additional needs were expressed.

5. Tulsa - Approximately three square miles of the southwestern portion of the Planning Area are included in the Tulsa Public School District No. 1.
Students in this area attend Cherokee Elementary for grades kindergarten through six, Monroe Junior High for grades seven through nine and McClain High School for grades ten through twelve.

As a whole, the Tulsa school system has been experiencing a decline in enrollment from year to year. The five year forecast indicates that the system will decrease by 6780 students in 1984-85; from 49,277 (1980-81) to 42,497 (1984-85), a 14% decrease. The forecasted enrollments for these three schools indicates decreases for Cherokee and Monroe and stabilized enrollment for McClain. Recent school closings and subsequent boundary changes may affect the populations of these schools in the future.
### TABLE 12
NORTH TULSA COUNTY SCHOOL SYSTEM FACILITIES
1980

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Acreage</th>
<th>Facilities-Year Constructed*</th>
<th>Grades Housed</th>
<th>No. of Students</th>
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<tr>
<td><strong>SPERRY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>4th &amp; Main</td>
<td>20.00</td>
<td>1958</td>
<td>K-6</td>
<td>450-500</td>
</tr>
<tr>
<td>Junior High</td>
<td></td>
<td></td>
<td>1920's</td>
<td>7-9</td>
<td>240</td>
</tr>
<tr>
<td>Senior High</td>
<td></td>
<td></td>
<td>1970</td>
<td>10-12</td>
<td>240</td>
</tr>
<tr>
<td><strong>COLLINSVILLE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilson Elementary</td>
<td>17th &amp; Walnut</td>
<td>3.73</td>
<td>1960</td>
<td>K-3</td>
<td>895</td>
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<tr>
<td>Washington Elementary</td>
<td>1214 W. Exchange</td>
<td>2.07</td>
<td>1908</td>
<td>4-5</td>
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<tr>
<td>Middle School</td>
<td>15th &amp; Spring</td>
<td>2.07</td>
<td>pre 1950</td>
<td>6-8</td>
<td>474</td>
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<tr>
<td>High School</td>
<td>Hwy. 20 &amp; 25th Street</td>
<td>35.00</td>
<td>1968</td>
<td>9-12</td>
<td>615</td>
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<tr>
<td><strong>OWASSO</strong></td>
<td></td>
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<tr>
<td>Mills Elementary</td>
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<td>10.00</td>
<td>1978</td>
<td>K-4</td>
<td>302</td>
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<td>Ator Elementary</td>
<td>1500 North Ash</td>
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<td>Main Bldg. 1969</td>
<td>K-4</td>
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<tr>
<td>Barnes Elementary</td>
<td>202 E. Broadway</td>
<td>6.00</td>
<td>Gymnasium 1974</td>
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<tr>
<td></td>
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<td>East Bldg. 1945</td>
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<td></td>
<td></td>
<td></td>
<td>Main Bldg. 1956</td>
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<tr>
<td>Owasso Sixth Grade</td>
<td>N. Main &amp; E. 86th St.</td>
<td></td>
<td>1930</td>
<td>K-5</td>
<td>802</td>
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<tr>
<td>Owasso Jr. High</td>
<td>N. Main and E. 86th St.</td>
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<td>N. (12th St.) part of Jr. High School site</td>
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<td>Owasso High School</td>
<td>E. 86th St. North (12th St.) &amp; N. 129th St. E.</td>
<td>14.00</td>
<td>1930</td>
<td>K-5</td>
<td>845</td>
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<tr>
<td><strong>MINGO</strong></td>
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<td></td>
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<td>Mingo School</td>
<td>46th St. N. &amp; Mingo</td>
<td>8.00</td>
<td>1930</td>
<td>K-8</td>
<td>220</td>
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<td><strong>TULSA</strong></td>
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<tr>
<td>Cherokee Elementary</td>
<td>6001 N. Peoria</td>
<td>7.82</td>
<td>1920</td>
<td>K-6</td>
<td>509</td>
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<tr>
<td>Monroe Junior High</td>
<td>2010 E. 48th St. N.</td>
<td>14.13</td>
<td>1958</td>
<td>7-9</td>
<td>676</td>
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<tr>
<td>McClain High School</td>
<td>4929 N. Peoria</td>
<td>39.13</td>
<td>1959</td>
<td>10-12</td>
<td>1122</td>
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</tbody>
</table>

* These campuses have newer additions and temporary buildings also.

Source: 1 A Study: Owasso School District, Davies, Poe and Associates, Tulsa, Okla., June, 1976,
3 Interviews with Superintendents of each District, 1980.
Health Facilities

The Planning Area lies within the jurisdiction of the Tulsa City-County Health Department. The health department's main office is located at 4616 E. 15th in the City of Tulsa. Several branch health centers are also operated in many of the outlying Tulsa County communities to serve the public including Owasso, Skiatook, Collinsville and Sand Springs.

There are no health centers within the Planning Area or in the Town of Sperry. General services are available to Tulsa County citizens at the main health department office in Tulsa. These include venereal disease clinics, tuberculosis testing and treatment services, dental education and health education.

The Owasso Health Center, located immediately adjacent to the City Hall complex, offers several services in their 1890 square feet of office and clinical space. Skiatook and Collinsville also provide similar services.

There are three service divisions operating at the health center which employ four staff persons on a full-time or shared-time basis: (1) Medical Services Division - one registered nurse; (2) Environmental Protection Division - one sanitarian; and (3) Consumer Protection Division - one sanitarian; plus one clerk who serves the three divisions. Two physicians are available one day per month for pediatric care and family health services.

Specific services available at the Owasso Health Center include child health conferences, family planning clinics, environmental services, immunization clinics, home nursing visits and cancer screening clinics.20

Public Safety Facilities

The Planning Area has no public safety/emergency facilities or service agencies located within the area to specifically serve county citizens. The four northern Tulsa County communities extend their service areas for fire,
police and emergency response services to cover the Planning Area. Many of these services also operate with intergovernmental agreements for mutual aid in cases where local units are unable to handle the emergency.

Fire Protection Facilities:

The Planning Area is served by a total of six fire departments - Collinsville Rural Fire Department; Owasso, Skiatook, Sperry and Tulsa municipal fire departments; and the Turley Fire Department. All of these departments operate with mutual aid agreements so that no report of a fire within the county will go unanswered. Many of the personnel in these departments are volunteers. Each department's services are discussed below individually. 21

1. **Owasso** - The City of Owasso Fire Department serves unincorporated areas within the boundaries of 56th to 86th Street North west to Yale and 86th to 116th Streets North west to Sheridan. The department is housed at City Hall and includes nine full-time firemen with six fire-fighting vehicles at their disposal. In addition, their efforts are coordinated with a sixteen man volunteer program. There are currently 2478 square feet of apparatus area and 144 square feet of office space.

Current physical facility needs consist of additional space - probably at a new joint police/fire facility to be built away from City Hall. A class A pumper will also be needed by 1985 to replace an existing pumper. Additional manpower may also be needed in the future.

2. **Collinsville** - The City of Collinsville maintains a municipal department which operates four miles outside its corporate limits. It can assist the Collinsville Rural Fire Department upon request. The municipal department operates with three full-time officers and 8-10 volunteers.

The Collinsville rural fire department operates within the northeastern two square miles of the Planning Area. Its service area extends from 116th to
186th Streets North and 161st East Avenue west to Yale. This is a volunteer department operating with 16 to 19 firefighters and two drivers who are paid by the fire run. The department offers $25 annual memberships for persons within its service area. Individual runs to non-members are billed at $250 per run. A pumper truck and a grass rig with a small pump are the equipment available to this department. A federal grant from the forestry department has enabled them to buy several pieces of small equipment in the past year.

A general need for additional and more updated equipment exists for this department.

3. City of Tulsa - Only a small portion of the Planning Area south of 56th Street North lies within the City of Tulsa. Only one structure was observed in land use surveys of this area. The nearest Tulsa fire station is located at 1104 E. 54th Street North, southeast of Peoria and 56th Street North. The City of Tulsa also contracts with the Cherokee Industrial District which lies between the mid and southern portions of the Planning Area for fire protection service on a per hour, per call basis.

4. Turley - The Turley volunteer fire department serves that unincorporated community and a service area of 56th to 86th Streets North between the Osage County line and Yale. There are twenty-one volunteers listed on their roster, and an eleven man force is the usual department strength. They have four trucks to fight fires, a 1500 gallon tanker, one 500 gallon grass rig and two 500 gallon pumpers.

5. Sperry - The Sperry Rural Fire District, by ordinance, covers a service area between 76th and 126th Streets North and Sheridan west to seven miles west of Sperry. This volunteer department maintains a roster of fifteen men to fight fires. The Town of Sperry keeps one truck to serve areas within the corporate limits. The fire department also has two grass rigs and a 1500 gallon tanker to use in county areas. A minipumper
(capacity under 500 gallons) was provided to the department by the Tulsa County Commission to assist serving unincorporated areas of their district. The district receives no operating funds from Sperry. Annual membership fees of $20 are charged for persons subscribing to the service. A fee of $100 per truck per hour is charged for non-members.

Needs expressed by the department included a communication system of radios and pagers for the firefighters, a common communication channel for fire protection units in the five communities of North Tulsa County and an additional truck, especially if development near Sperry increases as a result of the completion of the Osage Expressway and Skiatook Reservoir. The formation of a fire assessment district to create a millage levy for a dependable source of maintenance and expansion funds was also expressed as a future recommendation.

6. Skiatook – The Skiatook Fire Department primarily serves the Skiatook corporate limits but will serve the remainder of the Planning Area on request. They also have mutual aid agreements with Sperry, Collinsville and Owasso among other communities. The town charges $125 per fire run outside its city limits, plus $10 per hour. Personnel for the department include a fire chief, two assistants and two captains. The remaining sixteen persons are volunteers trained by instructors at the Oklahoma State University mini-course. Two of the firemen are qualified scuba divers and two are certified EMT's.

Skiatook operates a 1000 gallon per minute pumper exclusively for corporate service, a 750 gallon per minute pumper, a 400 gallon tanker and a quarter ton jeep with a 250 gallon per minute pumper. The jeep is used as the main rural fire truck. In addition, the city has a complete extrication rescue unit.
Needs indicated by the department include new hoses, new 750 gallon per minute pump truck, a new building at different location for more efficiency of ingress and egress to and from city, more space, a part-time mechanic to maintain equipment, and an updated distribution system to insure better water pressure.

Emergency Response Facilities:

Three emergency response systems serve the Planning Area north of 56 Street North. They have outlined service area boundaries (some of which overlap), but they also operate with signed intergovernmental agreements for reciprocal assistance. The communities of Skiatook, Collinsville, and Owasso operate these systems. Skiatook and Owasso also serve the Highway 75 route and serve as backup to each other on major traffic accidents. The small portion of the study area within the City of Tulsa is served by EMSA. There is no reciprocal agreement between EMSA and the three communities. Each system is discussed below.

1. **Owasso** - The present emergency response staff consists of four full-time and two part-time staff. Municipal firemen operate as backup drivers. One office in city hall houses all five employees. One Type II high-top ambulance van is operated by the program. This vehicle is equipped to meet most common emergency first aid needs including cardiac care.

   Space is the most critical need for all Owasso services. In addition to another ambulance, the emergency department needs include increased office and bunk space and storage space for ambulances.

2. **Collinsville** - The Collinsville emergency system operates within the boundaries of 96th and 186th Streets North and 176th East Avenue and Highway 75. There are two full-time staff members and an additional eight part-time EMTs. Two fully equipped ambulances are available to serve this area. Equipment includes heart monitors, oxygen equipment and OB equipment.
3. **Skiatook** - The service area of the Skiatook municipal ambulance service is from 56th Street North into Washington County and Highway 75 west through Tulsa County. The ambulance staff includes four full time and 10-12 volunteer EMTs. All EMTs are trained and certified. Several are training for paramedic qualifications. In addition, there are two certified scuba divers. Available equipment includes three vehicles, two with advanced life support equipment and cardiac care equipment and one rescue unit.

Needs indicated by the department include another full time EMT, a scoop stretcher for lifting patients, and a possible rate increase for ambulance runs.

Police Facilities:

The Planning Area is under the jurisdiction of the Tulsa County Sheriff's office. Municipal police from the four northern county communities will answer calls outside their city limits on request from citizens or to assist the sheriff's department.

The sheriff's office provides twenty-four hour patrol service throughout the county. In each district there are approximately six or seven persons on duty. The program is operated on a basis of selective enforcement - additional officers are assigned to areas experiencing greater problems. In addition, there are officers who live in each of the four communities and can respond more quickly to calls and be on hand to back up municipal forces. Persons are booked into Tulsa County jails and prosecuted through state court. The Tulsa County Commission is currently studying means of improving police service to the County. The sheriff's office has recently requested seven additional daytime patrols.

The portion of the Planning Area within the City of Tulsa is served by the Tulsa Police Department.
Code Enforcement:

Each community operates building inspection, fire inspection and animal warden programs according to their individual municipal ordinances. Within the county, the Tulsa City-County Health Department Sanitarians enforce state and county regulations regarding sanitary sewer placement and maintenance, trash, weeds and other health hazards. The Planning Area has two sanitarians assigned to work within it and the remainder of North Tulsa County.24

Park and Recreation Space Facilities

There are no public park facilities located within the Planning Area. There is one undeveloped three acre tract of parkland located in the south subarea northeast of 56th St. North and Harvard Avenue. Table 13 lists the nine parks which border the Planning Area and provide the nearest public recreation facilities.

Taylor park lies on the outskirts of Sperry, west of the Planning Area. It is a county park that provides 15 acres of newly constructed picnic and shelter facilities. In Owasso there are four public parks - Rayola, Elm Creek, McCarty and Ator. These parks are all located east of the Cherokee Expressway.

At this time only McCarty park and Rayola park are formally developed. McCarty park is a 20 acre park located west of Owasso proper. Eight acres of the park are leased and utilized by the Owasso Roundup Club and 12 acres are leased to Tulsa County for its operation. The ten acre Rayola park is the most centrally located city park. The Owasso Recreation Center, three tennis courts (two lighted courts) and a swimming and wading pool are located at Rayola park. The recreation center provides facilities for basketball, volleyball, elementary school age wrestling, and a multi-purpose room. Ator park in the Ator IV subdivision is a 3.5 acre tract that has yet to be developed. It has the potential to function as a good neighborhood park. To the east of the Mingo Valley Express-
way the Elm Creek park is being developed in phases as the Elm Creek subdivision is being developed. The first phase, approximately eleven acres in size, is presently in the initial stages of financing, design and development.
<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Acres</th>
<th>Agency</th>
<th>Year</th>
<th>Type</th>
<th>Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. 56th Street Tract</td>
<td>56th St. N. &amp; Louisville</td>
<td>3.03</td>
<td>Tulsa</td>
<td>1966</td>
<td>N</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>Taylor</td>
<td>96th St. N. &amp; Peoria</td>
<td>15.00</td>
<td>County</td>
<td>1975</td>
<td>N</td>
<td>Shelter, picnic tables</td>
</tr>
<tr>
<td>Rayola</td>
<td>4th St. &amp; Mingo Valley Expressway</td>
<td>10.00</td>
<td>Owasso</td>
<td></td>
<td></td>
<td>Play area &amp; equipment, (2 lighted)tennis, baseball field, pool &amp; recreation center</td>
</tr>
<tr>
<td>Elm Creek</td>
<td>78th &amp; 123rd E. Ave.</td>
<td>20.00</td>
<td>Owasso</td>
<td></td>
<td>N</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>McCarty</td>
<td>½ mi. W. &amp; ½ mi. S. of A.T. &amp; S.F. railway</td>
<td>20.00</td>
<td>County</td>
<td>1970</td>
<td>C</td>
<td>ballfields (10 acres leased to Owasso Roundup Club)</td>
</tr>
<tr>
<td>Ator</td>
<td>W. 20 &amp; N. Main</td>
<td>3.5</td>
<td>Owasso</td>
<td></td>
<td>N</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>Scottsdale</td>
<td>60th N. &amp; Lewis</td>
<td>25.00</td>
<td>County</td>
<td>1970</td>
<td>N</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>Rodden</td>
<td>E. 61st N. &amp; Columbia</td>
<td>7.00</td>
<td>Tulsa</td>
<td>1957</td>
<td>N</td>
<td>Soccer Fields</td>
</tr>
<tr>
<td>O'Brien</td>
<td>6149 N. Lewis</td>
<td>89.00</td>
<td>County</td>
<td>1965</td>
<td>C</td>
<td>Recreation Center &amp; gymn, pool, miniature golf, picnic, shelter &amp; grills, 7 lighted ballfields, 4 lighted tennis</td>
</tr>
<tr>
<td>Mohawk</td>
<td>E. 36th St. No. &amp; Yale</td>
<td>2,820</td>
<td>Tulsa</td>
<td>1923</td>
<td>A</td>
<td>2 baseball, 2 shelter houses, 134 picnic, archery, bridal trail, firing range, 36 hole hole golf, polo field, Tulsa zoo, Yahola lake, sail boat club</td>
</tr>
</tbody>
</table>

1From proposed Metropolitan Park Plan policies.
N - Neighborhood
C - Community
A - Area

Source: Community Planning and Plan Development Divisions, TMAPC.
The City of Owasso is now in the process of building picnic tables and planting landscaping on Ator park. A $100,000 BOR grant is also pending to begin improvements in Elm Creek park. An HCRS matching grant for $150,000 is under application by the county to construct improvements to McCarty park. These improvements will include two lighted baseball/softball fields, improvements to the soccer fields, a concession/restroom building and added parking.²⁵

Three parks are located just southwest of the Planning Area at 66th Street North and Lewis. One of them is undeveloped - Scottsdale, a twenty-five acre county park. Rodden park is a seven acre Tulsa City park. Tulsa County currently maintains soccer fields there. O'Brien park is an eighty-nine acre Tulsa County community park which provides recreation services for much of the north Tulsa metropolitan area. It includes a recreation center, pool, picnic facilities, miniature golf, baseball fields and tennis courts.²⁶

South of the Planning Area is Mohawk park, a part of the City of Tulsa park system. This park contains 2,820 acres and includes two 18 hole golf course, picnic areas, hiking and bridal field trails, pole field, zoo, firing and archery range. This is a region serving facility.

The Tulsa Park and Recreation Plan, Phase I presents a set of design standards for use in planning outdoor recreation needs. Table 14 indicates those standards. Considering the estimated population of 1900 persons in the Planning Area, the standards would indicate a need for nineteen acres of public parkland. A small neighborhood park (3.8 acres) is indicated, as are access to community and area scale parks. Even though the Planning Area contains one neighborhood park whose size would meet the standard, it is undeveloped and is in a poor location to serve many of the current residents' recreation needs.²⁷

Mohawk park, which borders the Planning Area on the south is a large area park which can adequately serve the north portion of Tulsa county. Tulsa County's
### TABLE 14
**CURRENT RECREATION STANDARDS**

<table>
<thead>
<tr>
<th>FACILITY TYPE</th>
<th>DESCRIPTION</th>
<th>IDEAL MINIMUM SIZE (AC/1,000 POP.)</th>
<th>STANDARD SERVICE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plaza or Court Mini-Park</td>
<td>Small landscaped area designed for possible recreation in high-density or built-up areas. May incorporate privately-owned areas.</td>
<td>Variable</td>
<td>Variable Variable Variable</td>
</tr>
<tr>
<td>Neighborhood</td>
<td>Walk-to parks, providing informal leisure opportunities and recreation in heavily populated residential areas.</td>
<td>10 acres</td>
<td>2 1 sq. mile</td>
</tr>
<tr>
<td>Community Park</td>
<td>Parks that provide ballfields and other programmed and unprogrammed recreation facilities for local residents.</td>
<td>25 acres</td>
<td>1.5 4 sq. miles</td>
</tr>
<tr>
<td>Area Park</td>
<td>Parks that provide cluster recreation facilities for a large section of the urban region.</td>
<td>300 acres</td>
<td>6.5 10 sq. miles</td>
</tr>
<tr>
<td>Regional Park</td>
<td>Large natural scenic settings provided outside the urban areas. Not usually provided at the municipal or county level.</td>
<td>Variable</td>
<td>-- 5000 sq. miles</td>
</tr>
<tr>
<td>Special Facilities</td>
<td>Facilities provided to meet a specialized demand, located where appropriate and where an opportunity exists. Examples are: Museums, Zoo, Expo Square, Rose Garden, etc.</td>
<td>As Required</td>
<td>-- --</td>
</tr>
<tr>
<td>Development Sensitive Conservation Areas</td>
<td>Parkland that preserves areas prone to flood, ecologically sensitive, or having unique aesthetic value. Appropriate recreation facilities provided where feasible.</td>
<td>As Required</td>
<td>-- --</td>
</tr>
<tr>
<td>Total Park Acreage</td>
<td>The total of all open space including the above categories.</td>
<td>As Required</td>
<td>-- 10/1000</td>
</tr>
</tbody>
</table>

**Source:** The Tulsa Park and Recreation Plan, Phase I, TMAPC, 1979.
O'Brien park, while also located to the south of the Planning Area, serves the area with community-scale recreation facilities.

Until the Planning Area's population increases in size and density, the need for additional public parkland will be minimal. Large-lot development patterns in the Planning Area currently provide good amounts of open space. However, formally developed parks are a potential need for these areas.

Library Facilities

There are no public libraries located within the Planning Area. There are, however, branch libraries in each of the communities of Sperry, Owasso, Skiatook and Collinsville. All public libraries are a part of the Tulsa City-County Library System. The table below indicates the scope and utilization of these facilities.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Number of Volumes</th>
<th>1978-79 Circulation</th>
<th>Sq. Ft. Space</th>
<th>Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owasso</td>
<td>11,306</td>
<td>26,536</td>
<td>2400</td>
<td>Leased</td>
</tr>
<tr>
<td>Sperry</td>
<td>5,965</td>
<td>16,426</td>
<td>2700</td>
<td>Owned (1979)</td>
</tr>
<tr>
<td>Collinsville</td>
<td>11,871</td>
<td>32,771</td>
<td>4320</td>
<td>Owned</td>
</tr>
<tr>
<td>Skiatook</td>
<td>11,321</td>
<td>29,744</td>
<td>4000</td>
<td>Leased</td>
</tr>
</tbody>
</table>

Source: Tulsa City County Library, 1980.

Based on standards set forth by the American Library Association, Subcommittee on Standards for Small Libraries, there should be a 10,000 book collection for both the towns of Sperry and Skiatook and at least 2000 square feet of library space to accommodate them. Collinsville should have a book collection of about 11,500 books and 2800 square feet of space. Owasso should have a minimum of 17,000 books and 4,000 square feet of space. These standards are based on population sizes for small cities and towns. Both Skiatook and Sperry exceed floor space standards, but
Sperry has about 60% of the volumes recommended. Collinsville exceeds the minimum number of volumes recommended but does not meet the space standard. Owasso's library does not meet either the space or volumes standards set for their population size.\textsuperscript{29}

Tulsa County librarians are currently participating in a statewide study to determine appropriate local standards for library facilities in small communities.

In addition to the materials available at the North Tulsa County Community libraries, additional materials including books and films are available upon request from the main or branch libraries of the Tulsa City-County Library System. Should specific materials be unavailable through the Tulsa system, they can be requested from the state system. Therefore, the deficiencies which appear to exist upon initial inspection of the North Tulsa County area libraries, are really not so great due to the availability of materials through the County library system. However, additional space is needed in Owasso. Current studies of the Owasso area library system by the Tulsa City-County are therefore to be encouraged based on this preliminary analysis and in light of the existing Owasso Comprehensive Plan analysis.

Solid Waste

Because the Planning Area is outside of the corporate limits of any community (with the exception of a small portion of the Bird Creek floodplain in the City of Tulsa) it is also outside the service area of a solid waste pickup program. There are no landfill sites within the Planning Area. Residential trash is either burned by the residents (allowable in unincorporated portions of the County) or privately transported to available landfills. In some cases service from private trash haulers is available. Some problems with dumping garbage and trash along county section line road have been reported by the Tulsa City-County Health Dept.
Drainage Facilities

As noted in the physical features study, the Planning Area lies primarily in the Bird Creek drainage basin. Three other basins, Caney, Delaware and Hominy, drain the remainder of the study area.

Again because the study area is of a rural rather than corporate makeup, there are no channelized or underground storm drainage facilities to accommodate storm water runoff. Drainage is primarily handled by bar ditches and swells along public and private streets serving the large lot residential and sporadic commercial/industrial development. The remaining undeveloped or agricultural areas are handled by natural drainage. The Generalized Existing Land Use Map indicates the numerous small farm ponds built to handle storm water drainage and to retain needed water for agricultural purposes. The Natural Features Map depicts those areas presently within the limits of the Flood Insurance Administration (FIA) 100-year floodplain. Some of the flood prone areas are depicted because of backwater problems associated with Bird Creek drainage. With pressures for development increasing throughout the Planning Area, a sound program for dealing with development in these areas and with drainage in general should be developed. The long range drainage planning needs for North Tulsa County should give full consideration to the services offered other area communities by the U.S. Army Corps of Engineers through the Tulsa Urban Study program.

Mass Transit

The Planning Area is not served by public bus service from the Metropolitan Tulsa Transit Authority. The two northernmost stations are located at 66th St. North and Peoria (#2 North Peoria route) and 65th St. and Elwood (Suburban Acres route).

The area is served by the KG and MK and O bus lines. Daily passenger bus service links Skiatook, Sperry and Tulsa.
Transportation Facilities

Rail:

An Atchinson, Topeka and Sante Fe Railroad line bisects the southernmost portion of the Planning Area on either side of the Mingo Valley Expressway on a general north-south alignment. A recent spur line has been constructed just north of 66th St. North which connects the main line with the Port of Catoosa. An additional spur line off the A.T. & S.F. is planned to connect the main line with the Cherokee Special (Industrial) District which lies between the mid and southern portions of the study area.

Another rail system, the Missouri-Pacific Railroad has a freight line extending through the western portion of the study area, through Sperry. It enters the study area northwest of 76th St. North and Peoria and runs northwesterly into Osage County near what would be 116th St. North and the Osage County line. There is presently no passenger rail service in the state of Oklahoma.

Airports:

A small private airport is located southwest of 126th St. North and Memorial Blvd. in the northeast part of the study area. It serves the subdivision of private acreages which abut the runway on either side.

Tulsa International Airport is located two miles south of the southern border of the Planning Area just off the Mingo Valley Expressway. Over eighty commercial flights are scheduled daily at Tulsa International with seven major airlines serving the area. Expansion of the Tulsa International Airport is under construction.

Trafficways:

The Planning Area is crisscrossed by a well developed grid system of county roads, state and federal highways totaling about eighty-six miles. In addition there are several miles of minor and collector streets.

Most streets in the study area are of asphalt or chip and seal surface with
bar ditches. There are a few gravel roads (mostly within subdivisions) with bar ditches. No improved streets with curb and gutter were observed within the study area. Arterial streets and highways rated in good condition comprised approximately forty-six miles or 53%. Forty-one percent of the streets rated fair, indicating that some repairs were needed. Only 5% were rated in poor condition. Most of the poorer quality streets in the study area were minor streets found in residential subdivisions.

There are also several narrow and one-lane bridges crossing the numerous creeks in the study area. Many of these bridges need repair or are simply inadequate to handle residential and agricultural vehicles. A new bridge east of Sperry was observed during field research being reconstructed to current county standards.

As an overall system serving a small rural population, the majority of the streets were found adequate to handle existing traffic. At some points within the Bird Creek floodplain arterials have never been extended across the stream channel to form a continuous street. Generally roadways within Tulsa County have been constructed according to the standards set forth by the Tulsa County Major Street and Highway Plan. U.S. Highway 75 and 169 have been improved through the Planning Area making the study area even more accessible to the greater metropolitan area. Increased development activities along these transportation corridors is likely to continue.
Religious Facilities

Churches and church related activities are of a quasi-public function. The Planning Area contains no churches, but is served by several different churches in Sperry, nineteen churches in Owasso and many in the City of Tulsa. These churches have facilities serving congregations from less than a hundred to several hundred. Most of the religious facilities in the area are concentrated in the Central Business Districts of Sperry and Owasso. The unincorporated community of Turley, south of the Planning Area, also has several churches which are available to serve the study area.

Community Facilities Significance to Planning

Although many of the standard urban-level community facilities are not found in the Planning Area, most, if not all, can be found within a few miles of the area in one of the five communities that border it. Currently, the Planning Area is a rural part of the county. However, with increased access to the area, available land and lower land prices, there will continue to be new development and added pressures to provide services and utilities. Those needs will have to be addressed.

1. Education - The various school districts are concerned with growth and development of large areas of unincorporated land outside their corporate boundaries. Population growth within these communities and in the county has been increasing in the past few years. As pressures to develop increase, pressures on the school districts to provide expanded services will also increase. Some systems currently have space to expand. Others are now overcrowded; and additional population growth will intensify the needs for additional tax generators such as new industrial or commercial development, bond monies or grants to fund more classrooms and equipment.
Past and present planning and development activities in the communities have been modeled around the Neighborhood Unit Concept. One of the basic principles of this concept is that each square mile of residential development constitutes a neighborhood, and at the core of each neighborhood should be located an elementary school within easy walking distance of most students. Existing development patterns in the Planning Area have required some modification of this concept with a significant amount of bussing taking place. Continued large-lot development within the Planning Area will necessitate continued modification of this concept. Planning and facility development activities within the Planning Area and the School Districts should continue to be closely coordinated.

2. **Health** - The provision of public health services to area residents is an excellent means of complementing the normal medical care program the average family needs. In regard to specific services, it is a viable alternative to the rising cost of everyday medical expenses. The public health facilities for the Planning Area should be adequate for some time. There may be increased need in the future to locate another health center in Sperry to complete service to all North Tulsa County communities.

3. **Public Safety** - As population growth increases in the unincorporated portions of the Planning Area there will be increased pressures on bordering communities to provide additional police, fire and emergency/rescue service. Cooperative agreements among county and municipal agencies to provide coordinated services to the area should be encouraged. Individual contacts with these agencies for fire and emergency services will be increasingly important for citizens living in these unincorporated areas.

4. **Park and Recreation** - Basic planning considerations for recreational open space and parks are that sites should be acquired in those areas that are
developing with a minimum population to utilize them. Park site acquisition activities of the various communities and the county should continue to be coordinated with subdivision and platting programs. Many of the park and recreation programs for the Planning Area will be related to the accessibility of existing facilities to new development. Continued coordination with Tulsa County in regard to park improvements should be encouraged.

5. Libraries - The libraries in the four northern communities provide adequate recreational and research facilities for the residents of the Planning Area. Combined with the resources of the entire Tulsa City-County Library system, these libraries will be able to provide flexible services to meet library patrons' needs. There will be increased need to expand the book collections at the Owasso and Sperry libraries to accommodate future population growth.

6. Solid Waste - Continued reliance on private waste disposal by the individual property owner will not be a major problem as long as development remains low density and rural-residential in character. Increased service by contacted solid waste pick-up companies should be explored to serve this area in the future by the county or individual communities bordering the Planning Area.

7. Drainage Facilities - Currently stormwater drainage can be handled, in most instances, on an individual basis. Development locating in the Bird Creek/Hominy Creek floodplains will continue to experience periodic flooding. Potential urban flooding problems can be avoided if drainage facilities and drainageways designed to serve a total watershed are provided prior to that watershed's full development. The use of proper construction practices and development patterns in areas subject to flooding that might urbanize can reduce negative runoffs impacts.
8. **Mass Transit** - Transit needs for the Planning Area are related to desires for access to downtown Tulsa and the specific transportation needs of older citizens.

9. **Transportation** - The construction of transportation facilities of any type will foster and impair development patterns of different types. Particular consideration must be placed in the Plan upon land use patterns which will benefit all of the community. Future growth in the Planning Area will cause greater use of existing major roadways and need for major roadway improvements. Acquisition of needed right-of-way prior to the emergencies of critical needs for roadway improvements should continue to be encouraged through use of development regulations. The County should require the strict adherence to adopted design standards and specifications in the construction of arterials and of new minor and collector streets by developers.

10. **Religious** - Sites of adequate size and location for religious purposes might be in greater demand as local congregations growth mirrors the growth of the surrounding communities.

**PUBLIC UTILITIES**

The services grouped in the utilities category for this study include services that normally provide revenue for a city or service district - water service and sewage service. Several water districts operate within the Planning Area which provide water to area residents. Few services for disposal of sewage are provided to county residents.

**Water Facilities**

Water service in the Planning Area is provided by four different water service systems; Washington County Rural Water District No. 3, Skiatook-Avant-Ramona Rural Water District, City of Tulsa municipal system and Rogers County Rural Water District No. 3. The Sperry municipal utility authority, SUSA, supplies
water and sewer services to persons within Sperry corporate limits. The Utilities Distribution System map outlines the service areas of these water districts. Some existing water mains are shown on the map. Additional information regarding location of existing mains, especially within the Washington County RWD No. 3, was limited or unavailable. At the time of this study, there exists the unsettled question of conflicts in water service for certain areas served by Washington County No. 3 and other water or utility districts.

The Washington County Rural Water District No. 3 presently serves eighteen square miles in the eastern portion of the Planning Area. In many instances main line sizes are less than 6" in size. Water storage facilities for Washington County Rural Water District No. 3 are located at the southeast corner of 96th Street North and North Memorial, and one third mile south of 116th Street North (State Highway 20) and 145th East Avenue.

The District currently buys raw water from Collinsville, treats it and then sells it to their customers. In addition, the District also sells water to the SAR District. The Tulsa Corps of Engineers Urban Study Water Supply Stage II Study determines that the current system of acquiring water from Collinsville is not adequate to meet the District's future needs. New water rights to Oologah Lake will ease source problems for the near future (1985). The existing treatment system will not meet average daily demands after 1980 if service to SAR continues. It will not meet peak demands today.

The Skiatook, Avant, Ramona Rural Water District (SAR) serves four and one half square miles of the northernmost portion of the Planning Area. There is little or no development in this area; very few arterial streets have even been built. The District purchases treated water from Washington County RWD No. 3. The Corps of Engineer's study reports that because the District is dependent upon two other entities for water (Washington County RWD No. 3 and, through them,
Collinsville) the District is tied to their future deficiencies. Both of these communities are facing needed improvements or source shortages in their water systems. Collinsville's current water rights from Oologah Lake will not meet their needs plus those of SAR and Washington County No. 3. Washington County No. 3 will also need expanded treatment to meet their future needs.

Rogers County Rural Water District No. 3 presently serves only one square mile in the southeasternmost portion of the Planning Area, southeast of 66th Street North and 129th East Avenue. None of the water storage facilities for this district are found or proposed in the Planning Area. As with the Washington County district, this district has many water mains of 2" and less in diameter. Newer subdivisions are having mains constructed of the 4" size. The District uses Oologah Lake and the Verdigris River as its sources with an emergency standby agreement with the Tulsa system.

The City of Tulsa municipal system serves small portions of the Planning Area south of 66th Street North around the Northside sewage treatment plant. Tulsa is also responsible for supplying water to the Cherokee Industrial District. A 24" main now under construction will connect the District to Tulsa and will provide a tie in to the Owasso municipal system thereby improving the loop system for all parties.

The Tulsa system uses Spavinaw, Eucha and Oologah Lakes as its primary sources with standby water from Hudson Lake. The Tulsa system directly serves five communities and two rural water districts in addition to providing for their own needs. These include Catoosa, Jenks, Owasso, Skiatook, Sperry, Osage Water Improvement District No. 1 and Turley Water Improvement District No. 3. In addition, Tulsa currently has emergency connections with Broken Arrow, Sand Springs, Sapulpa, Bixby, Rogers County Rural Water District No. 3, and Wagoner County Rural Water District No. 4 and Skiatook, Avant, Ramona (SAR) Rural Water District.
For detailed information regarding the Tulsa and metropolitan systems and their future needs refer to the Tulsa Corps of Engineers' Urban Study Water Supply Stage II Study. Tulsa County and the City of Tulsa are active in the ongoing Urban Study. It is anticipated that they will continue participation in the study and will work closely with the Corps in the development of alternatives for providing municipal and industrial water supplies for the Planning Area. In the Tulsa Urban Study, the long range needs of the study area are being determined, sources of raw water and required treatment levels are being identified and various withdrawal-transportation-treatment packages are being evaluated. The long range metropolitan water supply plans and programming should give full consideration to the services offered the county and area communities by the Corps.

Portions of the Planning Area are unserved by any municipal or rural water district. The area west of the Bird Creek channel outside the SUSA district is unserved. This area is within the Bird/Hominy/Delaware Creek floodplains and contains only sparse agricultural and residential development. Area south of 66th Street North and west of 129th East Avenue is also unserved. This area would logically be within Tulsa's service area. One exception is water service to the Northside sewage treatment plant and the 12" feeder main to Owasso. Most of this unserved area is within the Bird Creek floodplain and contains primarily agricultural and rural residential uses. No urban scale developments exist in these unserved areas. Private water needs are met through the use of individual wells. In some cases, a few residents north of Sperry have had to haul water from Sperry for all residential uses.

The ingredients exist for rapid development of the Planning Area in the next several years. The demand for public services will grow as will the cost of providing those services. The formulation and coordination of utility service, annexation and development policies is not only possible, but essential to the
preservation of the kind of life that Planning Area residents currently enjoy. Whenever the planning efforts of Tulsa County parallel the similar efforts of other area communities, the coordination and pooling of planning resources should be explored and utilized to the best interests of all communities involved.

**Sewerage Facilities**

Sewerage service within the Planning Area is provided either by onsite treatment by septic tanks, by individual lot or subdivision collection and lagoon treatment, or by collection and treatment through the City of Tulsa sewerage system.

The Utilities Distribution System map depicts the few existing sewer mains and collectors located within the Planning Area. Most of the unincorporated portion of the study area is not served by a municipal or independent sewer collection and treatment system. The City of Tulsa's Northside sewage treatment plant is located near 56th Street North and Highway 169. Part of the southern portion of the Planning Area can be served by this facility. The City of Tulsa has also committed to provide the Cherokee Industrial District with sewer service.

The majority of the Planning Area treats sewerage by the use of septic systems or lagoons located on individual acreages or large lot developments. Some collective lagoons are operated for isolated developments, but individual solutions for the treatment and disposal of sewage are predominant. The Tulsa City-County Health Department monitors these systems in construction and operation.

**Community Utilities Significance to Planning**

The extension of community (public) utilities has occurred simultaneously with development in the Planning Area and in surrounding communities. In most instances, community utility services have not been offered to new development unless such development was annexed into that city.
Water Facilities - The provision of roads, water and sewerage facilities are the three fundamental services most essential for urban development that a government provides. The Planning Area is already serviced by an overall sound system of primary and secondary arterials. Thus, the development of minor streets is a secondary problem to the provision of water and sewerage service. As noted, water is provided by four separate systems in the Planning Area. Areas of development, particularly urban areas, should be served by a scund looped system of water mains of adequate line sizes (not less than 8") in order to provide adequate water pressure for good fire protection. The existing water districts provide reliable sources of good quality water for present development. However, as water needs increase, additional potential sources of water should be explored if this area wishes to maintain its growth potential. Another possibility which should be explored would be development of area-wide or sub-regional water system in the north Tulsa County area. Such a partnership between area communities and rural water districts could reduce future individual system costs and provide service to areas presently unserved. Extensions of the 24" main Tulsa proposes for the Cherokee Special Industrial District to serve adjacent county area should be investigated.

Sewerage Facilities - Practically all of the Planning Area is presently unserved by municipal or independent sewerage systems. Sewage systems and treatment facilities designed to serve existing and future development should be designed and located as gravity flow systems. The use of gravity flow collectors reduces the great expense of pressurized mains and lift stations. Service areas of gravity flow systems in rare instances correspond to jurisdictional boundaries of government. The identification of future service areas prior to growth is extremely important in the formulation of sound development and annexation policies and in order to avoid potential jurisdiction conflicts. Certain unincorporated portions of the Planning Area are experiencing strong growth pressures. Large lot develop-
ment with on site treatment of sewage is possible in most areas. In order for development to continue in these areas, larger lots may be required for septic fields. However, more urban scale development should be designed to tie into an urban sewerage service system. Alternative actions would be to develop an independent sewage treatment system or to tie into an existing community treatment system.
DEVELOPMENT ACTIVITY

The development activities discussed below include zoning activity, subdivision development and land use. The study presented is intended to show the intermittent growth and development the Planning Area have experienced in recent years.

DEVELOPMENT ACTIVITY

The Planning Area is a relatively new growth area in Tulsa County, experiencing intermittent overflow development from Tulsa, Owasso, and Sperry. Most development has been concentrated in the middle subarea. Much of the development in the Planning Area has been individual single family residences or mobile homes built on agricultural land.

Zoning Requests

Table 16 gives indication of zoning and rezoning requests within the Planning Area from 1970 to 1979. In that time fifteen zoning and rezoning requests have been processed by the TMAPC and acted upon the the Tulsa City Commission. These fifteen requests have involved a total of 532.88 acres for the unincorporated portion of the Planning Area and that part of the incorporated City of Tulsa. The dominant land use patterns requested have been for industrial development.

Subdivisions

Subdivision activity is indicated in Table 17. As can be seen from reference to the table, a total of 379 acres have been platted in the ten years since 1970. Of the five plats recorded, three were residential and two were industrial. Industrial acreage accounted for 71% of platted acres.

LAND USE

The Existing Generalized Land Use 1980 map shows the current pattern and concentration of development in the Planning Area. Throughout the area the majority of development is single family residential (detached dwellings or mobile homes). A few commercial areas, mostly auto salvage yards, exist. A cemetery, two sewage
<table>
<thead>
<tr>
<th>SECTION</th>
<th>TMAPC ZONING CASE NO.</th>
<th>DATE OF REQUEST</th>
<th>EXISTING ZONING</th>
<th>REQUESTED ZONING</th>
<th>ACRES</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2113</td>
<td>3909</td>
<td>3/16/71</td>
<td>AG</td>
<td>RMH</td>
<td>47.53</td>
<td>Approved</td>
</tr>
<tr>
<td>1913</td>
<td>4038</td>
<td>10/13/71</td>
<td>AG</td>
<td>IL &amp; CG</td>
<td>15.00</td>
<td>Approved</td>
</tr>
<tr>
<td>2013</td>
<td>4113</td>
<td>2/7/72</td>
<td>AG</td>
<td>IL</td>
<td>12.00</td>
<td>Denied</td>
</tr>
<tr>
<td>1613</td>
<td>4404</td>
<td>4/25/73</td>
<td>AG</td>
<td>CS</td>
<td>12.65</td>
<td>Denied</td>
</tr>
<tr>
<td>1312</td>
<td>4491</td>
<td>6/27/73</td>
<td>AG</td>
<td>CG</td>
<td>2.30</td>
<td>Approved</td>
</tr>
<tr>
<td>3013</td>
<td>4682</td>
<td>4/25/74</td>
<td>-</td>
<td>AG</td>
<td>18.00</td>
<td>Approved</td>
</tr>
<tr>
<td>413</td>
<td>4762</td>
<td>1/21/75</td>
<td>AG</td>
<td>CG &amp; IL</td>
<td>14.10 (IL)</td>
<td>Approved</td>
</tr>
<tr>
<td>403</td>
<td>4792</td>
<td>5/15/75</td>
<td>AG</td>
<td>IM</td>
<td>20.00</td>
<td>Denied</td>
</tr>
<tr>
<td>1613</td>
<td>5014</td>
<td>6/14/77</td>
<td>AG</td>
<td>RS-1</td>
<td>70.00</td>
<td>Approved</td>
</tr>
<tr>
<td>1713</td>
<td>5015</td>
<td>6/14/77</td>
<td>AG</td>
<td>RMH</td>
<td>1.00</td>
<td>Denied</td>
</tr>
<tr>
<td>1713</td>
<td>5059</td>
<td>9/16/77</td>
<td>AG</td>
<td>RS-1</td>
<td>40.00</td>
<td>Approved</td>
</tr>
<tr>
<td>504</td>
<td>5107</td>
<td>2/16/78</td>
<td>AG</td>
<td>IL</td>
<td>2.30</td>
<td>Approved</td>
</tr>
<tr>
<td>3323</td>
<td>5185</td>
<td>8/29/78</td>
<td>AG</td>
<td>IL</td>
<td>5.00</td>
<td>Approved</td>
</tr>
<tr>
<td>404</td>
<td>5214</td>
<td>10/30/78</td>
<td>AG</td>
<td>IL</td>
<td>3.00</td>
<td>Approved</td>
</tr>
<tr>
<td>303</td>
<td>5323</td>
<td>8/24/79</td>
<td>AG</td>
<td>IL</td>
<td>270.00</td>
<td>Approved</td>
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</table>

TABLE 17
NORTH TULSA COUNTY PLANNING AREA SUBDIVISIONS
1970 - 1980

<table>
<thead>
<tr>
<th>Subdivision</th>
<th>Date Released</th>
<th>STR</th>
<th>Acres</th>
<th>Intended Use</th>
<th>Lots</th>
<th>Acres/Res. Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet Corners Mobile Haven</td>
<td>12/5/72</td>
<td>2312</td>
<td>21.32</td>
<td>Mobile Home Park</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cummings Acres</td>
<td>10/23/72</td>
<td>1613</td>
<td>80.03</td>
<td>Residential</td>
<td>17</td>
<td>4.71</td>
</tr>
<tr>
<td>County Corner Estates</td>
<td>7/25/79</td>
<td>2813</td>
<td>7.40</td>
<td>Residential</td>
<td>5</td>
<td>1.48</td>
</tr>
<tr>
<td>Village Industrial Park</td>
<td>10/3/79</td>
<td>504</td>
<td>2.3</td>
<td>Industrial</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cherokee XY Industrial District II</td>
<td>11/14/79</td>
<td>303</td>
<td>268.2</td>
<td>Industrial</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

treatment facilities, and three industrial sites complete land development in the Planning Area. Sperry's sewage treatment lagoon is located southeast of 106th Street North and Cincinnati. The north side sewage treatment plant for the City of Tulsa occupies a large area northeast of 56th Street North and Mingo Road.

The rural and large lot residential nature of the Planning Area can be seen even more clearly by referring to Table 18, 1977 North Tulsa County Planning Area Land Use. Acreage data compiled by specific type of land use indicates the percentage of land devoted to different activities in the North Tulsa area and Tulsa County. The North Tulsa County Planning Area breakdowns include areas immediately adjacent to the corporate limits of Sperry that were not included in the Planning Area. The majority of the acres indicated for duplexes, commercial, and community facilities are found within those square miles and, therefore, present a somewhat more intense land use picture than really exists. The remainder of the community facilities acreage is located in the Mohawk park area south of 56th Street North. Mobile home acreage is reflected in the multi-family category, because of the similar characteristic higher density found with most mobile home developments. The industrial acreage appears to be relatively large but is due to the method of circulation. The entire tract of land which contains an oil pump, oil storage tank or public utility installation is counted as industrial due to the type of impact these facilities can have on surrounding land uses.

Taking these factors into consideration, the development of the Planning Area is much less intense than that of Tulsa County as a whole or of the Town of Sperry. The percentage of land devoted to specific land uses is similar to the pattern of development in all unincorporated areas of Tulsa County. Only in residential development is there a significant difference, the Planning Area having roughly 45% the residential development of the remainder of the unincorporated areas. This may be due to the increased demand for rural residences in the past few years
in the southeast part of the county near Tulsa, Broken Arrow, Bixby and Jenks. The Planning Area obviously contains the highest percentage of vacant land, roughly twice that of nearby Tulsa.

In the four years since this data was compiled, field surveys indicate that the greatest increase in land development has been residential - single family homes or mobile homes. The number of units under construction observed during surveys indicates that there is continuing demand for single family residential housing.

Development Activity and Land Use Significance to Planning

1. All existing data points to increasing development of Planning Area lands.

2. Existing and planned land use patterns will help guide decisions with regard to private and public decisions on location of residential, commercial and office, industrial and public and quasi-public land uses and the preservation and prior development of development sensitive areas.

3. The proper interrelationship of various land uses is critical to the continued enhancement of the Planning Area's vitality.

4. Land use relationships are of two natures: (1) the specific use of the land in an area and the various mixes of those uses; and (2) the intensity of that land area's use, that is the density and concentration of activity in that land area.
<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NORTH TULSA COUNTY PLANNING AREA</th>
<th>SPERRY</th>
<th>CITY OF TULSA</th>
<th>UNINCORPORATED TULSA COUNTY</th>
<th>TULSA COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACRES</td>
<td>%</td>
<td>ACRES</td>
<td>%</td>
<td>ACRES</td>
</tr>
<tr>
<td>Residential</td>
<td>449.12</td>
<td>1.78</td>
<td>81.65</td>
<td>19.51</td>
<td>27962.11</td>
</tr>
<tr>
<td>Single Family</td>
<td>406.08</td>
<td>1.61</td>
<td>80.34</td>
<td>19.20</td>
<td>25169.57</td>
</tr>
<tr>
<td>Duplex</td>
<td>8.62</td>
<td>0.03</td>
<td>.83</td>
<td>0.20</td>
<td>574.73</td>
</tr>
<tr>
<td>Multi-Family(^1)</td>
<td>34.42</td>
<td>0.14</td>
<td>.48</td>
<td>0.11</td>
<td>2089.18</td>
</tr>
<tr>
<td>Group Quarters</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>68.43</td>
</tr>
<tr>
<td>Residential U/C</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>60.20</td>
</tr>
<tr>
<td>Commercial/Office</td>
<td>125.87</td>
<td>0.50</td>
<td>7.90</td>
<td>1.89</td>
<td>4584.19</td>
</tr>
<tr>
<td>Community Facilities</td>
<td>557.05</td>
<td>2.20</td>
<td>24.54</td>
<td>5.86</td>
<td>8409.74</td>
</tr>
<tr>
<td>(Religious, Education, Cultural, Recreation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulation/Communication</td>
<td>1197.9</td>
<td>4.74</td>
<td>59.82</td>
<td>14.29</td>
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<tr>
<td>(ROW, Transportation, Communication)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial(^2)</td>
<td>622.72</td>
<td>2.46</td>
<td>3.47</td>
<td>0.83</td>
<td>6087.43</td>
</tr>
<tr>
<td>Vacant</td>
<td>22333.11</td>
<td>88.32</td>
<td>241.14</td>
<td>57.62</td>
<td>47767.53</td>
</tr>
<tr>
<td>Total</td>
<td>25285.77</td>
<td>100.00</td>
<td>418.52</td>
<td>100.00</td>
<td>113095.68</td>
</tr>
</tbody>
</table>

\(^1\)Mobile homes included in multi-family.

\(^2\)Includes oil storage tanks and oil pump land, public utility installations.

SOURCE: Land File Summary, January 1977, TMAPC.
PLAN IMPLEMENTATION
PLAN IMPLEMENTATION

GENERAL

This fourth major section of the North Tulsa County Comprehensive Plan document outlines general proposals for implementing the Plan. Some of these proposals are presented as specific policies in the North Tulsa County Comprehensive Plan 1980-2000. These implementation proposals are discussed further in this section. Potential capital improvements for North Tulsa County are described here. Recommended capital improvements for the City of Tulsa are described and prioritized in the City of Tulsa Long Range Capital Improvements Plan 1981-1985.

RECOMMENDED CAPITAL IMPROVEMENTS

Generally, a capital improvements program is strongly recommended as a specific project which should be undertaken by a governmental jurisdiction at the earliest possible date following the completion of a Comprehensive Plan study. Development of a broad initial listing of short-range, mid-range and long-range physical improvement needs will enable public decision makers to utilize this list as a framework from which more detailed capital improvements programming efforts can be made. The list of capital improvements is programmed to provide for continuous, contiguous and orderly growth. A short-range (5 to 7 years) capital improvements program study is strongly recommended as a priority project which should be undertaken by Tulsa County at the earliest possible date.

The capital improvements which would be recommended for North Tulsa County include those pertaining to public facilities, public utilities, and trafficways. The nature and expense of constructing these major physical improvements is such that they should be phased over a period of time. Therefore, three phases of development for potential improvements are proposed to cover the period to the year 2000. The three phases of development for potential improvements are: Phase I - 1980-1985, Phase II - 1986-1993, and Phase III - 1994-2000. As with any planning effort,
current conditions, emerging factors, and changing needs must be monitored constantly to allow modification and revision to programmed improvements according to community needs and priorities. In addition, implementation of the schedule of improvements is dependent on the availability of public and private funds.

**ZONING REGULATIONS**

As of the date of this study, zoning within the North Tulsa County Planning Area is governed by the following considerations. The existing Tulsa Zoning Regulations apply to incorporated land within the City of Tulsa. The unincorporated land within the Tulsa corporate fenceline inside Tulsa County and all unincorporated land within a five-mile perimeter of the Tulsa corporate limits falls under the jurisdiction of the City of Tulsa. The City of Tulsa Zoning Code applies in these areas.

Recent state legislation has altered zoning jurisdictions. When it becomes effective in the fall of 1980, the City of Tulsa will have zoning jurisdiction only within its corporate limits. The Tulsa County Commission will then assume the responsibility for zoning regulation and enforcement within unincorporated areas of the county. Tulsa County is expected to adopt a Zoning Code in the near future. However, until such legislative changes are made the Tulsa Zoning Code is in effect in the Planning Area.

A zoning code can serve to influence desirable future land development patterns within the area. Great care must be encouraged in order to assure that future land development is in accordance with the goals, objectives, policies and standards of the North Tulsa County Comprehensive Plan 1980-2000.

Any parcel of property considered for development must meet land use criteria before zoning changes can be approved. Land use and development are guided by the Plan, but are regulated by zoning. It is therefore the intent of this Plan that all future zoning changes within the Planning Area reflect the proposed guidelines.
established in the Plan, and that zoning be consistent with the goals and objectives of the Plan.

The following amendments to the City of Tulsa Zoning Regulations (and possible Tulsa County Zoning Regulations) or recommended procedures should be established to facilitate the accomplishment of the purposes of the North Tulsa County Comprehensive Plan:

1. Amendment of the North Tulsa County Comprehensive Plan may be made when it is determined that conditions, factors and plans have developed that necessitate a change in the policies of the Plan.

2. An amendment to the Tulsa City or County Zoning Regulations is recommended that land which is zoned or rezoned to a commercial or office district will revert back to its original zoning if substantial commercial/office development has not taken place on that land within a specific time limit.

3. Existing sign controls within the zoning regulations will be enforced and, if necessary, strengthened.

4. A new commercial zoning district should be established for Use Unit 13 and 16 types of activities for Type One Activity Centers.

5. Screening requirements between mobile home developments and adjacent uses should be required through the zoning regulations.

6. Use of annexation policies which would allow annexing lands to adjacent communities prior to development is a recommendation. All such annexed lands would utilize that community's utilities. Such annexation policies would be directed towards controlling development.
SUBDIVISION REGULATIONS

Currently, the City of Tulsa exercises subdivision and platting control in the Planning Area. It is anticipated that the same governmental bodies that will exercise zoning control in the future will exercise subdivision and platting control in the same areas. As with zoning regulations, subdivision regulations can be used to foster sound development in the Planning Area. The different bodies who will be involved in subdivision control are encouraged to keep each other abreast of development activities within their respective jurisdictions.

Recommended changes to the appropriate Subdivision Regulations which are set forth in the Plan policies include the following:

1. The provision of park land through the subdivision regulations will be enforced, and, if necessary, the regulations will be strengthened.
2. Amendments to the subdivision regulations are recommended which would update and detail specifications for drainage, water and sewer system improvements to serve as minimum design standards for development in rural residential as well as urban scale neighborhoods.

BUILDING AND HOUSING CODES

Building and construction (electrical, mechanical and plumbing) codes are important tools of a governmental jurisdiction which are used to insure a minimum standard of development. These codes serve to protect the health and safety of area residents. Presently, the City of Tulsa and Tulsa County have adopted and are enforcing building and construction codes through code enforcement programs with City, County and Tulsa City-County Health Department personnel. The City of Tulsa also enforces a housing code program.

A study of the use and implementation of housing codes in unincorporated areas is recommended for the Tulsa County. A housing code would be used to insure the quality of the environment of existing housing stock. If deemed appropriate, an equitable housing code should then be developed for unincorporated
portions of North Tulsa County.

Adherence to building, construction and housing codes would help assure the preservation of the quality of design and construction of buildings within the Planning Area.

ADDITIONAL DETAILED PLANNING

As set forth in the North Tulsa County Comprehensive Plan policies, there are certain unique areas within the Planning Area which should be studied in particular and for which detailed functional plans should be prepared. Such areas identified in the Plan policies include the Cherokee Special District and Special Districts 2 and 3.

In addition to these specific areas identified in the Land Use Plan 1980-2000, the corridor areas depicted on the Intensity Development Concept map should be studied, planned and developed in detail. Specific functional plans will be required for these undeveloped areas once growth begins in these areas along the Cherokee Expressway.

NEIGHBORHOOD IMPROVEMENT PROGRAMS

Concentrated programs are recommended for the improvement, upgrading or re-development of specific residential areas which are marked by a significant deterioration of structures and/or deficient public facilities and utilities. Such a detailed program should be developed prior to or in conjunction with any application for federal assistance to deal with the neighborhood problems. Areas which may qualify for such federal assistance are located in the Bird/Hominy/Delaware Creek floodplain.

CITIZEN INVOLVEMENT

The North Tulsa County Comprehensive Plan was prepared primarily through staff research and recommendation. In order to further meet the expressed needs
and desires of area residents in the future, citizen participation in the planning process should be encouraged individually or through citizen committees to assist in preparing future mid-range and short-range plans.

The main thrust of citizen involvement in planning will continue to be through the Tulsa Metropolitan Area Planning Commission, Tulsa County Commission and Tulsa City Commission involvement. It is recommended that special technical committees be formed as special needs arise and studies are conducted for the Planning Area.

**PLAN UPDATES**

The North Tulsa County Comprehensive Plan 1980-2000 is a guide prepared at a point in time based on existing conditions, available information and current needs and problems. With the passage of time, all these factors may change and thus it becomes necessary to review and change the Plan based on changing conditions. It will not be necessary to revise the Plan on a day-to-day basis; however, a major update of the Plan is recommended every ten years. Significant plan maintenance and revisions should be made on a more regular basis, such as every three to five years. Specific elements of the Plan will likely be studied and developed in detail on an annual basis and should be properly coordinated with and adopted as amendments to the Plan.

Should significant changes occur in the Planning Area that are not reflected in the North Tulsa County Comprehensive Plan, then the value of the Plan as a long range guide to physical development will be lost. This would mean that the Plan would be increasingly disregarded in the making of development decisions, opportunistic changes could be made in the Plan in order to accommodate proposed development that might conflict with the Plan, and the efficient, economic expenditure of public and private monies would be much less likely to occur.

The North Tulsa County Comprehensive Plan 1980-2000 should be utilized
constantly and be updated as necessary to preserve its value as a policy and development guide for North Tulsa County.
ENDNOTES

1. Tulsa City-County Health Department, November, 1977; Transportation Division, INCOG, March, 1980.


3. Ibid.

4. Tulsa City-County Health Department, March, 1980.


13. Ibid.


15. Ibid.

16. Ibid.


20. Interviews with Terry Silva and Don Weddle, Sanitarians, Tulsa City-County Health Department, March, 1980.
21. Interviews with Chiefs or Assistant Chiefs of Owasso, Collinsville, Tulsa, Turley, Sperry and Skiatook municipal and rural fire departments, March, 1980.


24. Terry Silva and Don Weddle, Sanitarians, Tulsa City-County Health Department, March, 1980.

25. Interview with Bill Williams, Public Works Director, City of Owasso, March, 1980.

26. Interview with Mark McFarland, Tulsa County Park Department, March, 1980.


Aerial Photographs, North Tulsa County Area, TMAPC, Tulsa, Oklahoma, January, 1979.

Cherokee Special District, Team One, Inc., Tulsa, Oklahoma, February, 1977.


Creek County Conservation District, et al., Oklahoma Soils Information for Creek, Osage and Tulsa Counties, HUD, 1976.


Mark McFarland, Tulsa County Park Department, private interview, March, 1980.


Terry Silva and Don Weddle, Sanitarians, Tulsa City-County Health Department, private interviews, March, 1980.


Frank Thurman, Undersherrif, Tulsa County Sheriff's Office, private interview, March, 1980.

TMAPC, Development District Goals and Objectives, September, 1974.


Tulsa City-County Health Department, Tulsa, Oklahoma.


Bill Williams, Public Works Director, City of Owasso, Oklahoma, private interview, March, 1980.