POLK COUNTY COMPREHENSIVE PLAN

JUNE 1974

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The report provides a general plan for guiding land use and development in Polk County. Contained in the document are descriptions of the natural environment and the social and economic structure of the County. Recommendations are made for policies whereby the goals and objectives identified by the citizens of the County can be achieved. Community facilities, with emphasis on school and library needs, are also considered in light of projected population growth. Finally, transportation and parks and open space are addressed relative to current and projected needs on both a local and regional basis.

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COMPREHENSIVE PLAN

June, 1974

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INTRODUCTION

In 1957, the Polk County Planning Commission was formed. Since then, the Commission has played an active part in guiding the development and conservation of the county's resources. In 1964, a Preliminary Comprehensive Plan was prepared for the county and many of the recommendations of that plan have reached fruition. To cite several examples; a county building code has been adopted, zoning was adopted for the peripheral areas of the major communities, parks and roads have been acquired and built.

Factors contributing to his phenomenon include expanded educational facilities, increased in-migration, increased employment, relative attractiveness of the area for retirees, increased availability of water in certain areas of the county. The development of rural domestic water systems has created the potential of development of lands which were formally water deficient. While such systems answer one problem, they create the potential for land use conflicts in rural areas.

The growth in Polk County is only a small part of the development occurring in the state, and the problems faced here are a microcosm of the state as a whole. Recognizing that the state as a whole was experiencing these conflicts, the legislature in 1967 passed Senate Bill 10, which set forth the following objectives for planning in the State.

Comprehensive Physical Planning Objectives

Comprehensive physical planning should provide guidance for physical development within the state responsible to economic development, human resource development, natural resource development and regional and metropolitan area development. It should assist in attainment of the optimum living environment for the state's citizenry and assure sound housing, employment opportunities, educational fulfillment and sound health facilities. State plans should relate to intermediate and long range growth objectives. The plans should set a pattern upon which state agencies and local government may base their programs and local area plans. Goals for comprehensive physical planning are:

(1) To preserve the quality of the air and water resources of the state.

(2) To conserve open space and protect natural and scenic resources.

(3) To provide for the recreational needs of citizens of the state and visitors.

(4) To conserve prime farm lands for the production of crops and provide for an orderly and efficient transition from rural to urban land use.

(5) To protect life and property in areas subject to floods, landslides and other natural disasters.

(6) To provide and encourage a safe, convenient and economic transportation system, including all modes of transportation: air, water, rail, highway and mass transit, and recognizing differences in the social costs in the various modes of transportation.

(7) To develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

(8) To diversify and improve the economy of the state.

(9) To ensure that the development of properties within the state is commensurate with the character and the physical limita-

tions of the land.[1]

These objectives set the framework upon which the county is empowered to plan. Basically, they state broad policy indicating the need for intelligent and wise utilization of our natural, human and economic resources. They are general in nature and must be further defined within the county's general plan. Senate Bill 10 required all jurisdictions within the state to prepare and adopt land use plans and zoning by December 31, 1971 or be making reasonable progress in a planning program. As of July 1973, zoning has been adopted for the entire county.

In 1967, the County Board of Commissioners, at the request of the Planning Commission, appointed the first of nine local area advisory committees to aid the Commission and Board in a countywide planning program. In July of 1968, the other eight committees were appointed. These committees have held many meetings discussing planning concepts in general and proposals for interim zoning.

In the fall of 1972, an ad hoc advisory committee was appointed by the Board of Commissioners to review a preliminary draft of the County Comprehensive Plan. That committee presented its plan to the County Planning Commission and County Board in May of 1973.

During the latter part of 1973 and early 1974, the County Planning Commission reviewed and revised the ad hoc plan in preparation for public hearings to be held during the fall of 1974.

It has been the untiring work of the many committee members, planning commissioners and Board of Commissioners that has guided the formulation of this study. The plan embodies the principles of the community as well as they can be identified and should be recognized as a statement of county policy regarding the future growth, development and conservation of the human, natural and economic resources.

SCOPE

Following are the various elements that, taken together constitute the general plan. The plan is long range in that it is targeted on 1990 forecasts for population and economic activities. The plan is neither a no growth plan, nor does it encourage unlimited growth; rather the intention is to provide directed growth. The intention is to retain and enhance the present rural and residential atmosphere while providing a choice for the future residents.

The plan will serve as a guide to private landowners in making individual plans to develop their property. It provides information on roads, parks, public facilities that will give justification to the investment required and will indicate where risk will be involved if their plans conflict with the County Plan.

It is intended to be a statement of public (county) policy for guidance of the growth, development and conservation of the community's resources. It is intended that the broad statements of policies contained herein be general in nature and that more specific policies, programs, and implementation measures will be developed from them, as time and the planning process continue.

The fact that planning is a continuing process cannot be over emphasized. Technological innovations in transportation, communication and other scientific fields must be recognized at the time they are developed, their effect on the plan measured and revisions in the plan made accordingly. This plan was prepared utilizing the information available, with the full realization that periodic revisions, at least every five

1/ Oregon Revised Statutes 215.515

years, will be necessary in order to reflect the constant process of change.

PLANNING PROCESS

This document is the culmination of a process that has been carried on in the county for the last 14 years. It is a benchmark for future decisions and an integral part of the continuing planning that will be conducted in the future. In the process of the formulation of the plan, several logical steps are followed:

1) Research - collection of social, economic, physical and legal data.

2) Analysis - the review of this information, identification of problems, conflicts of goals, identification of possible solutions to problems.

3) Alternatives - evaluate the possible solutions and determine the best course of action.

4) Implementation - carrying out the plan.

5) Review - a recurring evaluation of policies, recommendations and changes in technology, economics, etc.

These steps allow for the continued change and modifications needed in a plan to meet the changing needs of society over time.

Throughout the process outlined above, active involvement of the Planning Commission, Advisory Committees, Board of Commissioners and general citizens has been solicited and obtained. The active participation of the people of the community is particularly important in determining the goals for and the direction the community wishes to take and the measure used to accomplish these ends.

GOALS

The main purpose and overriding goal of this plan is the development of a plan that will fulfill the needs of each member of the community with respect to their health, safety, amenity, convenience and general welfare insofar as practical to do so. It is the goal of this plan to promote sound development and orderly growth, to conserve natural resources and the economic base and to ensure the maximum livability, choice of environment and housing opportunities for every resident of the county.

The development of goals upon which a plan is based generally proceeds from the very general to the more specific. As these goals become more specific, there develops conflicts between goals and conflicts between interest groups within society on the priority of the various goals. Below are the goals for the Polk County General Plan. More specific goals are contained within the various elements of this plan; land use, transportation, community facilities, schools and parks and implementation. It is within the specific plan elements that justification of goals take place. This is the level where the alternatives are outlined and where the basic choice decisions to be made by the governing body, planning commission and the citizens at large are focused. It is the level upon which the community can attempt to make rational (optimal) decisions concerning the general conservation and enhancement of the human, physical and economic resources. The framework of the plan, then, is the goals and policies that are promulgated to implement it.

The general goals are:

Assure preservation and enhancement of basic choices and individual freedoms.

Assure the highest practical degree of public health, safety and general welfare.

Maximize the conservation and utilization of the natural resources.

Promote the diversification of the employment base.

Assure the protection of significant natural, scenic and historic features.

Assure each individual and family the opportunity to secure standard, safe and sanitary housing.

Provide an economical and efficient transportation system.

Provide an orderly, efficient and coordinated system of public facilities.

To promote orderly urban development and a directed rural settlement pattern.

Promote a pattern of land use that enhances the present environment.

Promote the cleaning up and improvement of our air, water and land resources.

Typically, such general statements are agreeable to most of the populace. However, as the general statements are expanded into more precise goal statements and policies, disagreement is likely to occur. That is why an important aspect of a plan is the clarification of such issues and the statement of policy that the community gives through the plan on such issues. These general statements are developed more fully in the Land Use, Transportation and Community Facilities elements that follow.

BACKGROUND INFORMATION

In many areas, settlement is the result of physical limitations that exist in nature such as extremes in geology, climate, and drainage. It may also be due, in part, to the shortage of a particular resource such as water or tillable land. These limitations often act to direct settlement away from sensitive areas.

Such is the case in Polk County. Over one-third of the total land area is geologically unsuitable for either urban or agricultural use. Of the remaining two-thirds of the land, there exists seasonal water shortages over large areas that also contain soils of marginal value. These and other factors serve to adversely affect the consideration of these lands for either agricultural or rural residential use.

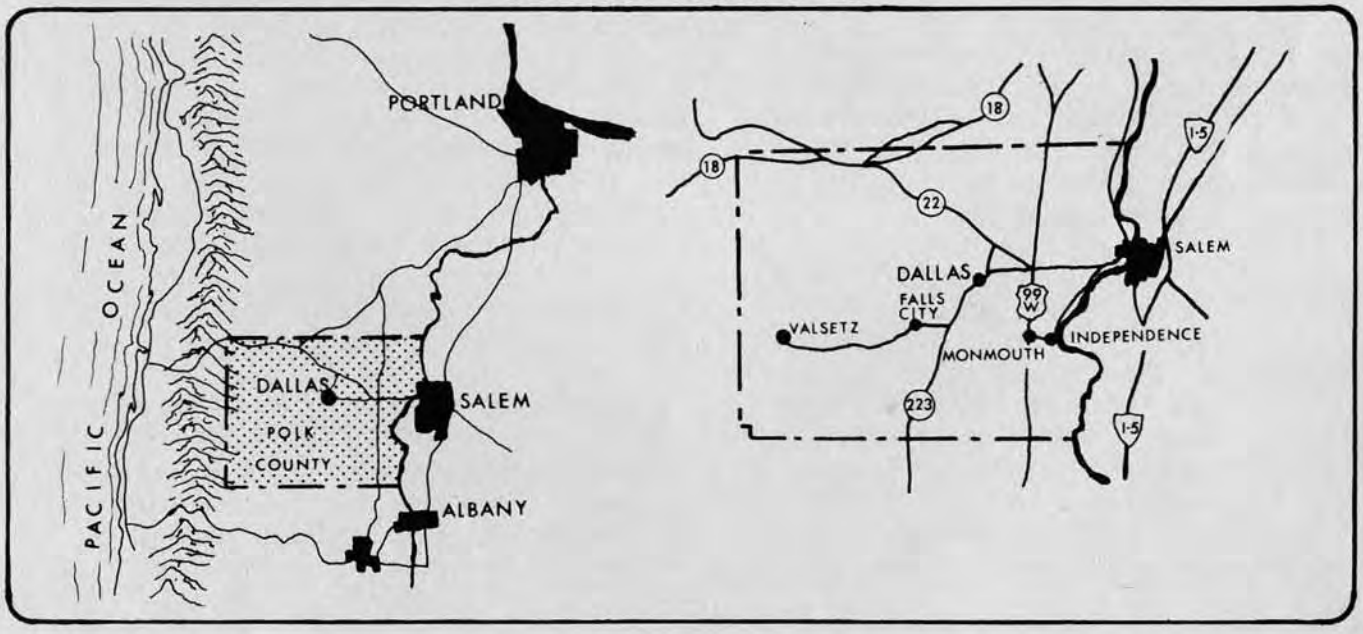
The following discussion addresses the history of the county and the physical, economic and cultural sectors in consideration of the land use characteristics. It is intended that this discussion will introduce the citizens of Polk County to the nature and scope of the physical problems that bear directly on the land use policies that the county establishes.

HISTORY

Polk County was officially created from Yamhill District[2] on December 23, 1845 producing a county area which stretched from the present Yamhill County line on the north to the California border and from the Willamette River westward to the Pacific Ocean. Benton County was created from Polk County in 1847 and, in later years, Lane, Umpqua and Lincoln Counties were created from Benton County. In 1925 a small part of Polk County was transferred to Lincoln County. The present area of Polk County is 472,960 acres.

FIGURE I

LOCATION OF POLK COUNTY



1/ Taken from the Preliminary Comprehensive Plan for Polk County, prepared by the Mid Willamette Valley Planning Council, October 1964.

2/ One of the four "districts" of the Oregon Territory. "District" was replaced by the term "county" in 1845.

Hudson's Bay Company hunters and trappers had penetrated the Willamette Valley as far south as Polk County before 1830. Initial settlement of the Willamette Valley started with the establishment of Etienne Lucier's farm at the extreme northwest corner of French Prairie in 1829. French Prairie was colonized thereafter, during the 1830's and 1840's, by retired servants of the Hudson's Bay Company.

White people from the eastern United States began settlement of Polk County during the early 1840's, one settlement being made near the present site of Dallas. Jason Lee was actually the vanguard of this settlement, having established his mission at Wheatland on the east bank of the Willamette in 1834.

The county seat was located at Cynthian (later Dallas) in 1850. A new courthouse was completed in Dallas in 1860. This building was destroyed by fire in 1898, and the present courthouse structure was completed two years later in 1900.

Independence was named after Independence, Missouri by E. A. Thorpe, a former resident of the Missouri city who platted the town in 1850. The founding of Independence was preceded by settlement near the site as early as 1845.

The city of Monmouth was founded in 1853 by settlers who had moved here from Monmouth, Illinois. This group of settlers had arrived in the Willamette Valley in August 1852 and spent their first winter at a point about 3½ miles north-north - east of Rickreall. The present Oregon College of Education is descended historically from Monmouth University, founded by the early settlers in 1858.

Various small industries sprang up in Polk County during the period of pioneer settlement. Among them were grist and woolen mills. In the late 1840's, a grist mill was established at Ellendale and in 1852 one was established at Falls City, but later moved to Rickreall. In 1865, a woolen mill was established at Ellendale at the site of the old grist mill, but was later destroyed by fire. A woolen mill began operation in Dallas in 1896. What was reputedly the first pottery works in the northwest was established at Buena Vista in 1865. Early products were housewares, but among later products was sewer pipe, a considerable amount of which was shipped to Portland. The plant closed in 1886 when the owner moved his operations to Portland.

After the establishment of the Grand Ronde Indian Reservation in 1856, the remnants of the Willamette Valley Indian tribes, as well as Indians from other parts of Oregon, were settled there. More than 1,000 Indians were on the reservation at one time during the 1860's. In 1908 there was a division of the reservation lands to the various Indian residents there at that time, but Federal supervisory control over the last remnant of reservation land, some 500 acres, was not terminated until 1957. The Grand Ronde agency had been terminated in 1925.

During its pioneer period, river navigation was Polk County's principal means of transport for goods produced in the county and for incoming supplies. River navigation was displaced after 1890 by railroads as the most important means of transporting goods to and from the county although river boats were still operating as late as 1894.

It was during the period of steam navigation that the port of Lincoln attained prominence as a wheat exporting port on the Willamette. For a time, Lincoln was second only to Portland among Willamette River ports in the tonnage of wheat it handled.

Grains, cattle and sheep were among the more important of rural industries during the period after pioneer settlement in Polk County. A big change in the agricultural scene came in the 1890's

with the introduction of two new crops, hops and Italian prunes. Prunes rapidly declined in importance after World War I when European prune orchards began to increasingly supply the European market. At one time there were nearly 4,000 acres of hops in the county, but this crop rapidly declined in importance after World War II, leaving only about 400 acres of hop cultivation in the county at the present time.

GEOLOGY

From the alluvial bottomlands of the Willamette River to the "cold" mountainous uplands of the Coast Range Mountains, the topographic differences existing in Polk County are readily apparent. The General Soils Map, No. 2 , shows the five major physiographic landforms in the County and indicates the range of elevations where they occur.

Approximately 89% of Polk County is geographically located in the Coast Range sub-basin of the Willamette River Basin in northwestern Oregon. The remainder of the county, including the town of Valsetz, is located in the Mid-Coast Basin, the distinction being that its tributaries drain directly to the Pacific Ocean, Map No. 5.

The structural framework of the Willamette Basin is generally that of a broad synclinal trough (valley) which was formed through a downward folding of the subsurface layered rock formations some 30-60 million years ago. In contrast, the formation of the Coast Range Mountains began about 30 million years ago with an intermittant upward movement of folding and faulting (anticlinal process) that lasted to the beginning of the Quaternary period, about one million years ago.

The alluvial deposits that underlie the valley floor areas were derived from the surrounding mountains through natural erosional and depositional processes. These sedimentary deposits consist of layers of clay, silt, sand and gravel stratified in a heterogeneous (mixed) arrangement.

The surface material over much of this area is a sandy to clayish silt (Willamette Silt) that settled from water ponded in a great but shortlived lake created with the melting of the last great continental glaciers. This fine-grained deposit is permeable and transmits water quite readily to underlying gravel beds or to streams draining the area.

Above the valley floor, older weathered gravel deposits occur on the scattered terrace remnants that flank the low foothills. In the higher elevations of the County, sedimentary and volcanic formations of siltstones and various types of sandstones, which are underlain by lava flows and intruded by igneous rock of volcanic origin exist over expansive areas. These deposits, to a large extent, are relatively impermeable with characteristic rapid runoff, thereby allowing little or no precipitation to infiltrate to water-bearing strata. The impermeability of these formations has resulted in the creation of deep, narrow canyons where streams have cut channels through the less resistant masses of rock.

Gravel

The Willamette River bar and channel gravels offer the most readily and economically available supply of gravel in Polk County. Within the beds and banks of the river and over limited areas of its flood plain, the aggregate supply is replenished annually during the winter, high-water months. Much of the gravel deposited in this area is brought to the Willamette by the Santiam River, which originates in the foothills and mountains to the east. Some, however, is carried down the Willamette from its headwaters above Eugene.

There are also large deposits of terrace gravels in the interior areas of the County, adjacent to the flood plains of

the Willamette River and Rickreall and Salt Creeks. Those gravel reserves, overlain by Willamette silts and sands of varying depths, were deposited heterogeneously during recent geologic times as the water level in the Willamette Basin rose and fell with the advancing and retreating actions of the last continental glaciers.

Basalt Rock

Significant deposits of basalt rock exist in Polk County in the foothills and mountains west of Dallas and cap the Eola Hills west and north of Salem. Those formations are identified on the Generalized Geology Map No. 1 as the Siletz River Volcanics and the Columbia River Basalts.

With urban and environmental pressures rendering many sand and gravel quarry sites unusable, these large deposits of basalt rock are becoming increasingly attractive for use as roadway base material, replacing the river gravels that have been used in the past. Quarrying of the rock brings with it another set of problems, however. They include the noise, vibration, and pollution problems associated with blasting and crushing of the rock and the overburdening of old, often substandard, county roads by the heavy-haul trucks and equipment.

Limestone

Until very recently, limestone for agriculturel and cement was mined from a relatively small area about 3 miles southwest of Dallas. It is a low grade material with considerably more potential for the manufacture of cement than for agricultural use. As the extent of the limestone deposits is very limited, it has not proven profitable to maintain full operations at the quarries. Therefore, limestone quarrying activities have lapsed. The demand for limestone in the Valley is projected to grow, however, and although many of the deposits are at present not economically valuable, they may be exploited in the future. These areas should be protected from conflicting land uses to ensure their ability to reopen if demand warrants it.

Siltstone

An attempt has been made at mining the volcanic siltstone in the Bethel area which, when crushed, may prove usable as domestic cat litter, as a sweeping compound, or even as a filtering agent for jet and rocket fuels. The feasibility of mining the siltstone will depend to a large extent on an analysis of the market which has not, as yet, been determined.

Manganese

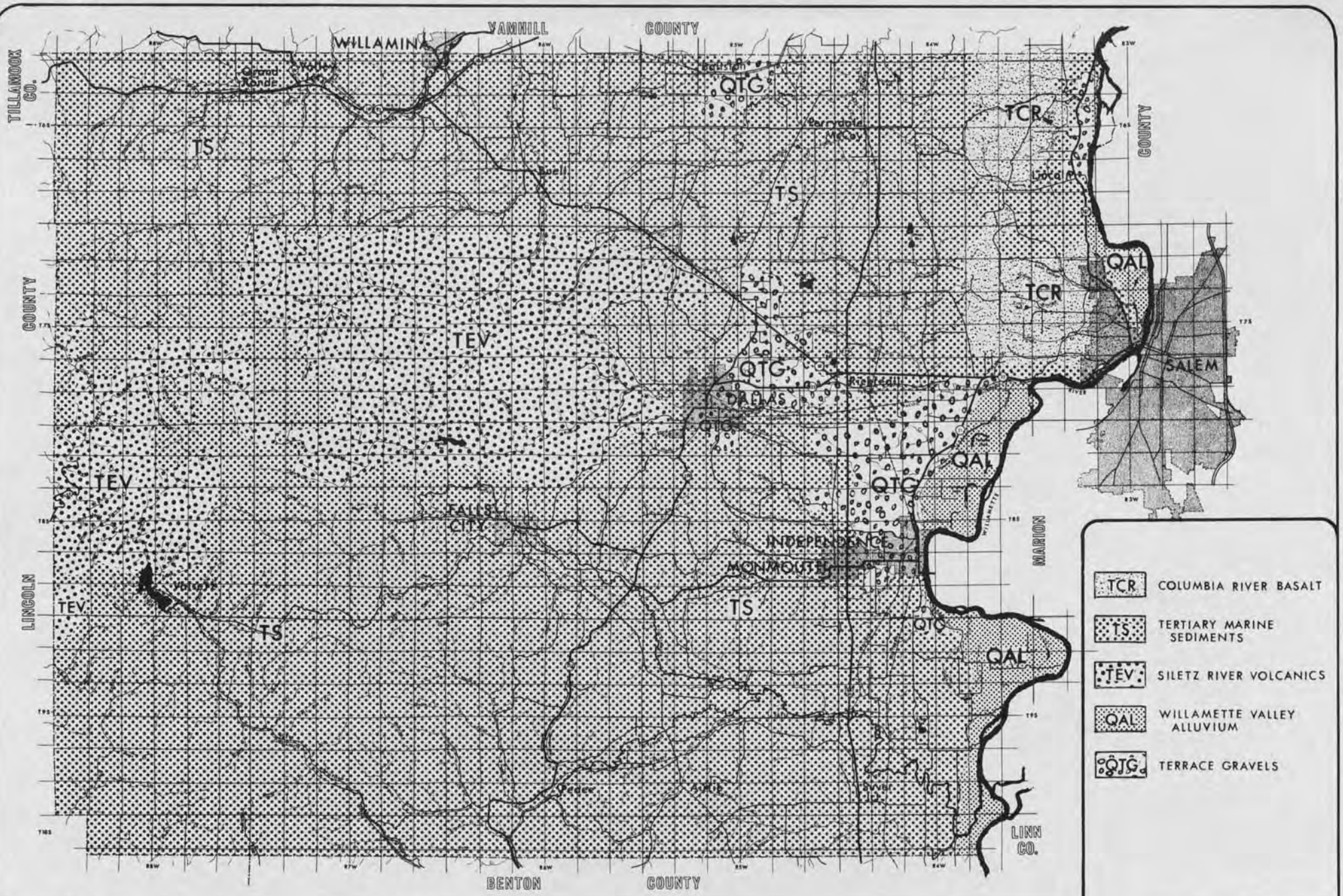
Of minor significance at this time is the occurrence of manganese exposed for a short distance along the banks and bed of Rickreall Creek two miles west of Dallas. The exposed deposit is too small to be of economic value, although better deposits may exist within the volcanic mass.

Oil and Gas

The possibility of oil and gas reserves also exists in Polk County in the thick marine sedimentary rocks. Well drilling records dating from the turn of the century indicate the presence of the resource, although no producing wells of any economic significance have been brought in. Many of the occurrences tested, however, would be of sufficient quality for commercial use if the amounts available were great enough.

Summary

With the possible exception of the rock and aggregate supplies, the known mineral resources of the County are not available in any economically significant quantity to warrant continued exploration and exploitation of them for the immediate future. However, as the need for these natural resources increases throughout world markets, pressures may be brought to mine them



MAP NO. 1

GENERALIZED SUBSURFACE GEOLOGIC FORMATIONS

MAP NO. 1

in Polk County. As their availability and economic importance to an area are directly related, it is necessary for the County to establish the policies now that will assure their continued availability in the future in a non-urban environment.

SOILS

In order to understand the differences and variations of the more than 60 individual soil types in Polk County and to be able to relate them to the whole range of land use problems and their solutions, a brief discussion of factors affecting soil formation is warranted.

Among the factors to be considered are the type of geologic parent material, the kind and shape of the landform, and the length of time over which the formation occurred. These factors are, of course, interdependent on each other as well as on the climatological factor which is discussed briefly in the Water Resources Section.

Soils geologic parent materials are a product of the weathering of rock fragments that have been altered to varying degrees. Those materials, which underlie the soils, are identified and described by their geologic origin and mineral composition. The soils of Polk County have been formed from a wide range of parent materials, including; 1) Recent Alluvium, 2) Terrace Sediments, 3) Terrace Gravels, 4) Sandstone and Siltstone Formations, 5) Basalt flows of the Siletz River Volcanics and 6) Intrusive Rocks.[1]

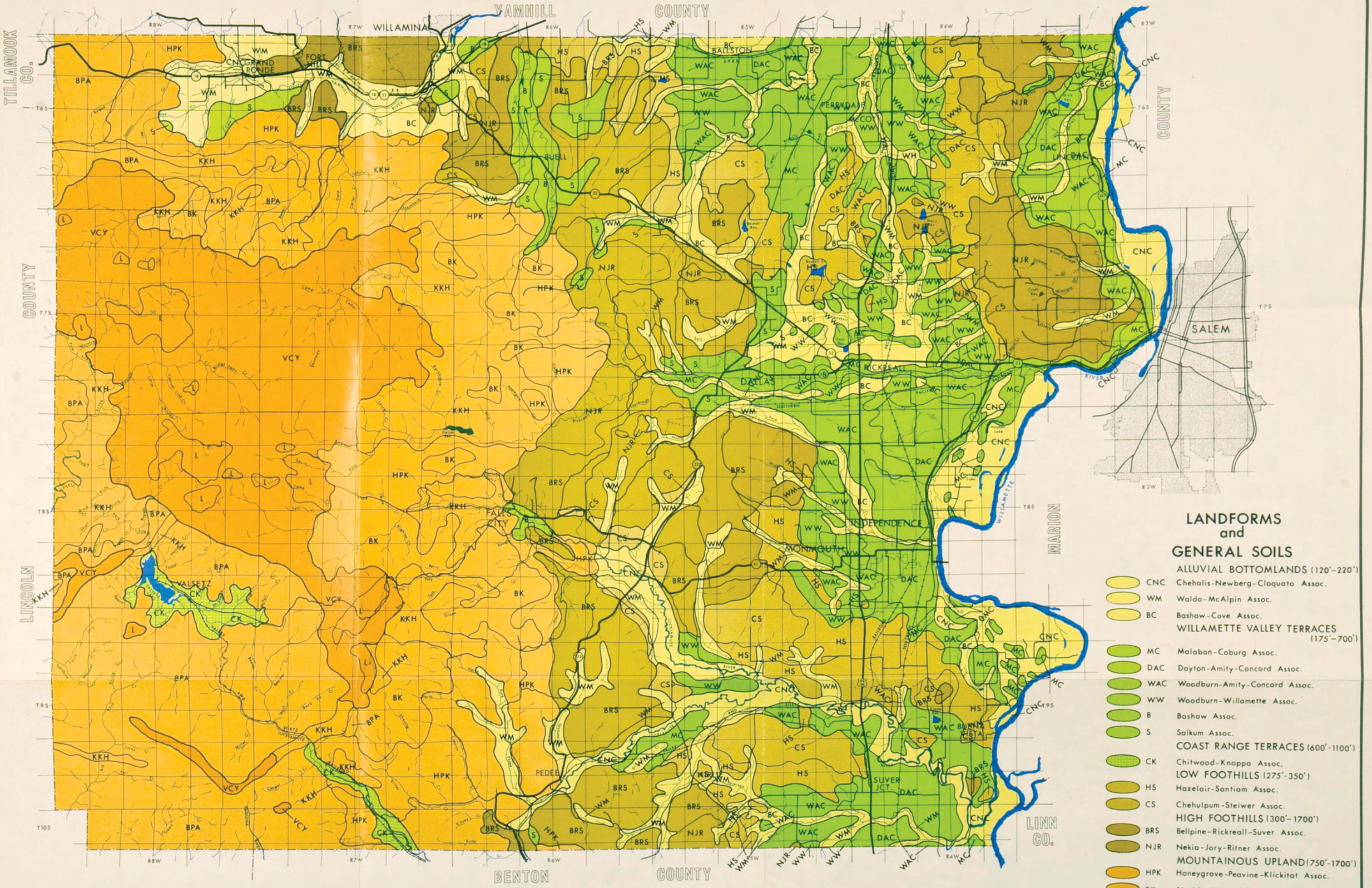
1) Recent Alluvium is the principal parent material found along river and stream bottoms. These sediments were derived from materials of mixed minerology. Some of these materials are from local alluvium that have been transported only short distances; others along major streams and rivers have been transported considerable distances by the flows. The alluvium has a wide range of texture from gravel to clay. Some of the soils developed in these materials include Chehalis, Newberg, Camas, Cove and Bashaw.

2) Terrace Sediments located on the main valley floor consist of thick deposits of stratified sediments that range in texture from silt to clay. These materials have been water deposited over the last half million years. The initial textural and mineralogical differences in these materials ultimately resulted in soils such as the Amity, Dayton, Willamette and Woodburn. Malabon and Coburg soils have developed in the more recent sediments of younger terraces.

3) Terrace Gravels composed of well to partially weathered gravels of Volcanic rocks occur as terrace remnants along the lower slopes of the foothills. Some of these materials have been covered with more recent deposits of silts of varying depths. The Salkum and Briedwell soils have been formed in these materials.

4) The Sandstone and Siltstone formation consists of a thick sequence of bedded sandstone and sandy siltstone and is present throughout the County from the Valley foothills to the Coast Range. These soft sedimentary rocks

1/ Adapted from "Geology of the Dallas and Valsetz Quadrangles, Oregon, State of Oregon Department of Geology and Mineral Industries, Bulletin 35 (Revised) 1964. Interpretations by SCS Soil Scientists, Dallas Office, 1974.



LANDFORMS and GENERAL SOILS

ALLUVIAL BOTTOMLANDS (120'–220')

- CNC Chehalis-Newberg-Cloquato Assoc.
- WM Waldo-McAlpin Assoc.
- BC Bashaw-Cove Assoc.

WILLAMETTE VALLEY TERRACES (175'–700')

- MC Malabon-Coburg Assoc.
- DAC Dayton-Amity-Concord Assoc.
- WAC Woodburn-Amity-Concord Assoc.
- WW Woodburn-Willamette Assoc.
- B Bashaw Assoc.
- S Salkum Assoc.

COAST RANGE TERRACES (600'-1100')

- CK Chitwood-Knappa Assoc.

LOW FOOTHILLS (275'-350')

- HS Hazelair-Santiam Assoc.
- CS Chehulpum-Steiwer Assoc.

HIGH FOOTHILLS (300'–1700')

- BRS Bellpine-Rickreall-Suver Assoc.
- NJR Nekia-Jory-Ritner Assoc.

MOUNTAINOUS UPLAND (750'-1700')

- HPK Honeygrove-Peavine-Klickitat Assoc.
- BK Blachly-Kilowan Assoc.
- BPA Bohannon-Preacher-Astoria Assoc.
- KKH Klickitat-Kilchis-Hembre Assoc.

"COLD" MOUNTAINOUS UPLAND (ABOVE 1700')

- VCY Valsetz-Cruiser-Yellowstone Assoc.
- L Luckiamute Assoc.

MAP NO. 2

The preparation of this map was financially aided through a federal grant from the Department of Housing and Urban Development under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended. Oregon P-154

weather rapidly and the effect of the parent material is reflected in the soils characteristics. The Bohannon, Preacher, Bellpine, Rickreall and Luckiamute are some of the soils developed in these materials.

5) The Basalt flows are some of the oldest rock exposed in the County. Although the predominant rock type is Basalt, a fine grained siltstone is also a member of this formation. The partially weathered basalt is brownish to yellowish gray and ranges from hard unweathered rock to almost completely weathered soft material. These materials also occur across the County from the low foothills to the steep mountainous areas of the Coast Range. The Blachly, Jory, Nekia, and Klickitat are some of the soils formed in Basalt materials.

6) Many dikes (molten, igneous rock injected into a fissure and cooled and hardened there) of intrusive rocks occur in the southern and western parts of the County. The sedimentary rocks adjacent to the larger intrusive masses have been scored and hardened by the extreme heat of the volcanic activity. The Marty, Valsetz and Cruiser soils were developed from the weathering of those materials.

Variations in topography generally occurs across shorter distances than variations of the parent material, and further, areas of similar parent material are less extensive than those of climate and vegetation. As a consequence, it should be realized that in soil mapping, the boundaries of many of these soils extend out some distance away from the underlying parent material because of the movement of rock and soil materials down slope. Nevertheless, it is felt that the relationship, in general, is quite close between the underlying geology and corresponding surface soils. With that understanding, it should be possible to use the Generalized Geology Map No. 1 with the new County General Soils Map No. 2 , in order to get a feeling for the actual distribution and origin of the various soil types.

The SCS (Soil Conservation Service) has recently completed a revised general soils map depicting the twenty soil associations existing in Polk County. A soil association is a grouping of soils that are geographically associated in a repeating pattern over a landscape. It generally consists of one or more major soils and usually one or more contrasting minor soils and is named for the major soils.

Mapping by associations is very useful for getting a general perspective of soil types in an area, for comparing the general suitability of an area for various types of land use, or for locating large tracts of ground with similar physical properties. Such a map, however, is too general for planning the management of a farm or field because of the multiplicity of individual characteristics that each soil exhibits. Soil maps and associated technical data are available at the SCS office and at the County Planning Department to aid in any detailed planning needs.

A brief description of each of the various soil associations and their generalized drainage and subsurface conditions is presented in Table A-1. Following that table are two tables comparing the suitability of the soils for rural residential development, Table A-2, and agricultural productivity, Table A-3. These tables, when used in concert with the General Soil Map should be particularly useful for the general planning and managing of land and water areas in Polk County.

Table A-3 gives the yields of a few principal crops grown in the area under a high level of management. The yields are based on experiences, field trails,

and research findings up to the present time (1973) that will give the highest returns. Those responsible for the yield data include soil scientists of the SCS, local farmers, State and Federal advisory people in the Extension Service, and the Agricultural Experiment Station. If little or no information was available, yield estimates were made by comparison with similar soils.

The ratings indicated in Table A-2 for rural residential development are general ratings taken from the soil interpretation forms (OR-SOILS-1). When rating the soils for a septic tank drain field, the soils permeability, the depth to ground water table, depth to bedrock or impervious strata and degree of surface slope and possible flooding are all considered. When rating for dwellings (foundations particularly), the stability, bearing strength, shear strength, shrink-swell potential, as well as the ground water table, possible flooding, texture, surface slope and depth to bedrock are all considered.

Restrictive Factors of Soil for Urban Use

Soil permeability, or the rate of water movement through the soil, is a critical restrictive factor in many of the soils found in Polk County. Soil permeability is often rated as slow, moderate, rapid, etc., and sometimes measured by the amount of water to pass through the soil in a given period of time. If the permeability is too slow, the soil will not handle the discharge from a septic tank, forcing water to the surface. If it is too fast, it will not filter suspended particles and the undigested effluent may pass into the water table and contaminate the ground water supply. The general range of permeability for a soil to be acceptable for filter field use exhibits a percolation rate of a minimum of one inch per sixty minutes to a maximum of one inch per ten minutes.[1]

The suitability of the soil for use as a septic tank filter field has and will continue to be a primary restrictive factor in the County.[2] The septic tank and filter field system of disposal of household or other effluent has been widely used in suburban and rural portions of the County. This system functions in two parts; the tank receives the waste from the house, removes the organic solids, and discharges liquids through a tile system to the soil. The septic tank allows the organic solids to be digested by anerobic (without oxygen) micro organisms, while the drainfield acts to filter the liquids and allow aerobic (with oxygen) action to oxidize the fine organic particles carried by the effluent. In the absence of oxygen, a condition that could exist when the drain tiles are below the water table, a black matter, ferrous sulfide, may form around the drain tiles and clog them.

Table No. 1 gives the number of soils by their permeability. This suggests that permeability is an extensive problem within the County with only a small percentage of the 60(+) individual soils identified by Soil Conservation Service as having a percolation rate within the accepted range for proper operation of a filter field.

It is readily apparent that soil characteristics play an extremely important part of this system. The slope of the land, types of underlying material and depths of same, distance from lakes or streams, depth of the water table, and

1/ Manual of Septic Tank Practice, Publication #256, U. S. Department of Health, Education and Welfare, Public Health Service; and

2/ Soils Suitable for Septic Tank Filter Fields, (Agriculture Information Bulletin #243) USDA - Soil Conservation Service

TABLE 1

Permeability of Soils

Permeability Group	Percolation Rate Inches/Hour	Percolation Rate Min/Inch	No. of Soils	% of Total
Very slow	less than .06"	over 1000 min.	10	14.9
Slow	.06 - .2	1000 - 300	7	10.4
Moderately Slow	.2 - .63	300 - 95	20	29.8
Moderate	.63 - 2	95 - 30	13	19.4
Moderately Rapid	2 - 6.3	30 - 9.5	5	7.4
Rapid	6.3 - 20	9.5 - 3	-	-
Very Rapid	Over 20	less than 3	2	2.9

Source: SCS Soil Interpretations Forms (OR-SOILS-1)

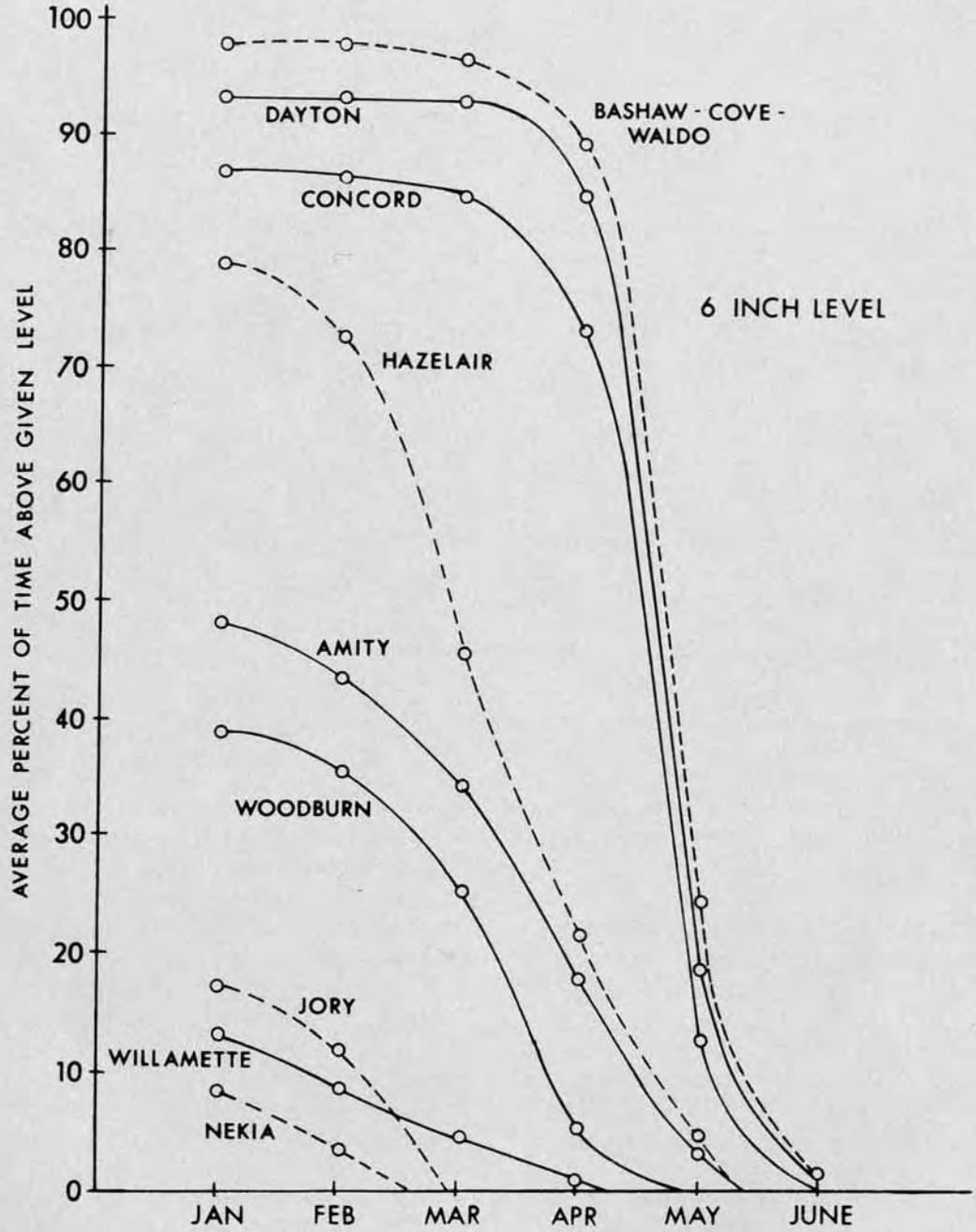
the permeability of the soil, are all restricting factors.

Another significant restrictive condition encountered in the county is a high ground water table (temporary, seasonal or permanent). If the ground water table reaches the level of the drainage tile or above, it will force the effluent to the surface, creating a health hazard. The effluent also must stay far enough above the substratum system to prevent the ground water from being contaminated. The state regulations indicate that "the bottom of the disposal field trench shall not be closer than 24" to the ground water table during any season of the year."[1] This means that the water table should not be closer to the ground surface than four feet during the year. This same depth relationship should also hold to any impervious layer or underlying formation in order that there will be sufficient soil to filter and purify and absorb the septic tank effluent. Figures 2 and 3 on the following pages show the season fluctuation of the ground water table in eleven selected soil types.

Not only is the depth of soil critical, but the slope of the soil has a great bearing on the suitability of an area for septic systems. Areas with slopes of 10% or less with otherwise acceptable soil conditions, will not present serious problems. On steeper slopes, there is a problem of preventing the lateral flow of the effluent from breaking out to the surface and causing a health hazard. This problem is compounded when an impervious layer, if

1/ Regulations Governing the Subsurface Disposal of Sewage, 1970, Oregon State Board of Health, Page 8, 41-0300

FIGURE 2

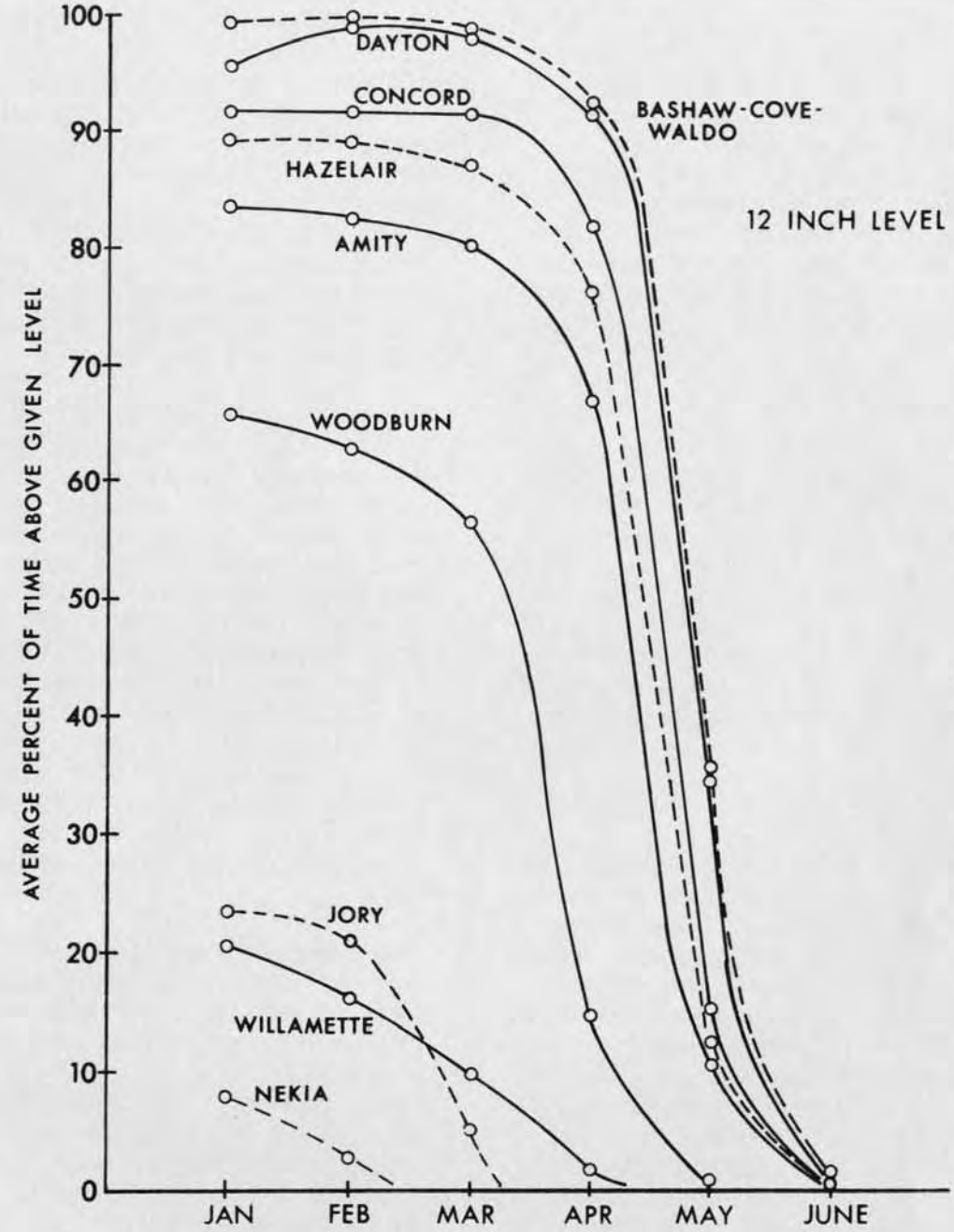


The average percent of time the water table may be expected to be above a depth of 6 inches plotted as a function of time.

Those soils indicated by a dashed line are based on field observations made in Polk County.

Characterization of Water Tables in Oregon Soils with Reference to Trafficability, Boersma, L., G. H. Simonson and D. G. Watts, Contract Report M-70-1, Dept. of Soils, Oregon State University, Corvallis, Oregon 97331, May 1970.

FIGURE 3



The average percent of time the water table may be expected to be above a depth of 12 inches plotted as a function of time.

Those soils indicated by a dashed line are based on field observations made in Polk County.

Characterization of Water Tables in Oregon Soils with Reference to Trafficability, Boersma, L., G. H. Simonson and D. G. Watts, Contract Report M-70-1, Dept. of Soils, Oregon State University, Corvallis, Oregon 97331, May 1970.

exposed, channels the raw sewage to the surface.

Adequate distances must be maintained between the septic system and any potential water supply source to allow adequate treatment of the effluent. Such systems should be located at least 100 feet from such sources. Even with this precaution, the filtering effect of the soil cannot be depended upon to remove all the contaminants from the effluent.

WATER RESOURCES

Polk County receives an abundant supply of water each year in the form of precipitation (see Map No. 3). However, because of the seasonal characteristic of the precipitation, poor soil types and underlying geology, and lack of storage facilities, much of the County suffers from a deficiency of surface and ground water during the summer and fall "dry" months.

Precipitation

Precipitation in Polk County ranges from 40" along the Willamette River to over 200" along the crestline of the Coast Range Mountains with the greatest amount (about 45%) falling during the winter months. During the spring and fall months, about 50% (25% each season) of the precipitation falls and during the summer months, when demand is at its peak, the balance (about 5%) falls over the county. The low elevation and moderate temperatures of the Coast Range combine to limit the development of a snow pack which could otherwise augment the low stream flows and ground water supplies during the summer months.

Stratigraphy

The geology of the upland areas of the county, where the majority of the precipitation falls, is generally composed of relatively impermeable soils and rock formations. Consequently, runoff is quite rapid, preventing any appreciable amounts of water from reaching aquifers[1] capable of freely transmitting a sufficient quantity and quality of ground water to underground streams and reservoirs for storage and withdrawal during the summer dry months.

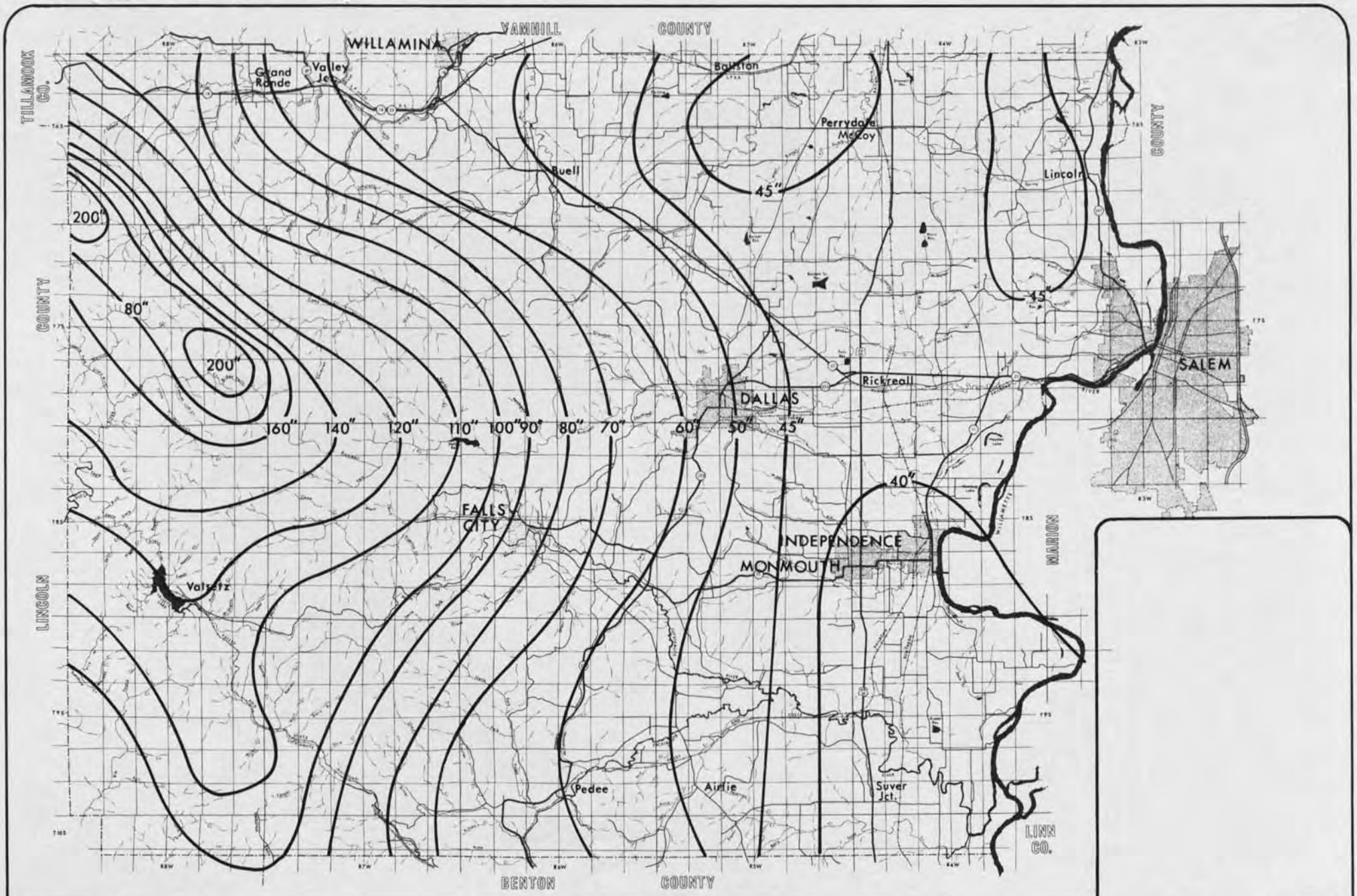
There are similar conditions existing in the valley terrace and foothill regions of the County where many of the soils display a high clay content. In those areas, during the winter wet months, the perched water table often rises and ponds above the surface of the ground where it either runs off very slowly or is evaporated. Very little water, if any, permeates through the hard pan to subsurface reservoirs or aquifers. As spring becomes summer, those soils lose virtually all their moisture through evapotranspiration[2] and many areas in the County are left with only enough water for very limited domestic use.

The number of dry wells, wells producing connate[3] water, and the inadequacy of many producing wells testify to the lack of water in the County for rural-domestic-agricultural use. The major underlying geologic formation in the county is that of Tertiary Marine Sedimentary Rock, which, although the name seems to imply water-bearing strata, is generally of low permeability and yields water slowly to wells and springs, see Map No. 1. Most of the wells that tap those rocks yield only from 1-5 gpm, except in

1/ Aquifer - A water bearing stratum of permeable rock, sand or gravel.

2/ Evapotranspiration - loss of water from the soil, both by evaporation and by transpiration through the plants growing thereon.

3/ Connate Water - Highly mineralized water entrapped during deposition generally unsuitable for drinking and most other uses.



MAP NO. 3

NORMAL ANNUAL PRECIPITATION

NORTH

SCALE IN MILES

1 0 1 2 3

MAP NO. 3

flood plain areas along the Willamette and Luckiamute Rivers where alluvial sand and gravel deposits overlie the sedimentary rocks. Some wells in those areas have reportedly tested at 100 gpm and more. Wells tapping aquifers in the Troutdale Formation (Willamette River alluvium and terrace gravels north of Salem in the Eola-Amity Hills) yield from 100-900 gpm.[1] In Polk County, however, these are the exception rather than the rule.

In contrast, many wells in the Perrydale-Salt Creek Area yield highly mineralized connate water. Water quality samples from wells in that area drilled to 200 feet have shown excessive quantities of dissolved solids, up to 2100 ppm (parts per million), including 1160 ppm of chloride.[2]

Due to the low permeability of this major geologic formation of sedimentary rocks, it has been necessary in some instances to drill more than one well to meet only domestic and stock watering needs. There are farms in the County with five or more wells of record that, combined, produce only enough water during the summer and fall months to meet those basic needs. There are, in addition, over 70 dry wells of record and probably many more unrecorded, unsuitable wells in the County, the majority of which are in the Marine Sedimentary Rock formations.

A second prominant formation in the County is that of the Columbia River Group, Map No. 1, which occurs generally north and west of Salem encompassing large portions of the Eola-Amity Hills. This is one of the two major Basalt formations in the County. Little is known of the Siletz River Volcanics, however, because they lie in mountainous areas west of Dallas that are largely undeveloped except for timber production.

In the Eola Hills, the Columbia Basalts are generally productive with respect to water availability due primarily to their seismic characteristics. The rifts and holes in the Basalt, along with the actual permeability of the rock, allow surface water to enter the formation and travel between and through the different flows. Therefore, wells that tap several thin layers of the Basalt are more likely to produce more water than those tapping fewer, thicker layers. The flow from wells in those areas varies from a few gallons per minute to over 500 gpm with the water quality and quantity generally good for domestic and other uses.

The geology and related water problems in Polk County have been extensively studied. It is not the purpose of this document to outline all the particular factors contributing to the problem. It is, however, important to

1/ Ground Water in the Eola-Amity Hills Area, Northern Willamette Valley, Oregon; Geologic Survey Water Supply Paper 1847, 1967

2/ The U. S. Public Health Service recommends the chloride concentration in drinking water not exceed 250 ppm, although concentrations as high as 1,000 ppm are not uncommon in the county. Analysis of the samples collected from the marine sedimentary rocks show not only the inordinately large concentrations of chloride, but also that the concentration increases with depth. For example, samples collected from 50 to 77 feet contained 172 ppm; samples collected from 191 to 201 feet contained 1160 ppm; and a deep sample from about 2000 feet contained 26,000 ppm of chloride. This order of concentration is due to the fact that fresh groundwater moves more freely closer to the surface, which serves to dilute the chloride concentrations and other solids, thereby creating more potable water.

recognize the magnitude of the problem relative to its effect on all segments of the County. The primary purpose is to search for solutions and develop policies which will address the problem. The proposals and policies which are included herein will affect virtually every person in the County.

Solution

Solutions to the water problem in Polk County are varied and many would serve to aid particular portions of the whole problem. The solutions that appear to be the most economically and environmentally feasible, however, are the ones currently in use, under active consideration, or under construction. They include:

1. Rural domestic water systems.
2. Selected multiple-use reservoirs, as indicated in the 1969 Willamette Basin Study and the 1969 Water and Sewer Study for Polk County.
3. Well sites tapping major aquifers along the Willamette River.
4. Diversion of water from major tributaries to large volume reservoirs or holding basins.
5. Individual "stock ponds" for agricultural use.

1. Rural Domestic Water Systems

Many rural areas within Polk County that have long experienced water shortage for domestic and agricultural needs have either developed or are planning area wide rural domestic water systems. Those systems are generally designed with a minimum of 100% growth reserve capacity beyond the number of services initially required to get the system developed and operating. That is, if 300 services are required initially, the system will be designed to accommodate at least twice that number in the future. Depending on the topography, service location, supply source and storage facilities, various phases or segments of the system may be developed with a reserve capacity one to ten times that of the initial load requirement to accommodate future growth and system demand increases.

These rural systems will influence the potential for rural development through the availability of water as the lack of the resource has kept development pressures minimal in the past. The utilization of modern appliances is one important factor that has contributed to a steady increase in per capita water consumption, and it is expected that this trend will continue. This, coupled with the increased desirability to live apart from the crowded urban environment, yet within easy commuting distance to jobs, shopping, etc., serves to help justify the need for the County to adopt stringent policies for the control and direction of rural residential development.

Map No. **4** shows the extent of the existing and proposed rural domestic water systems in the County today. Each of these systems has been studied extensively and technical data is available at the Planning Department office in Dallas. This report, therefore, offers only the following summary of these systems.

A. The Luckiamute Domestic Water System has been completed, and is now, 1974, in the process of extending services beyond its' initial service area in the southeast portion of the County. There is presently over 54 miles of pipeline serving some 300 hookups on the system.

B. An Engineering Feasibility Study has been completed in the Grand Ronde area, hearings have been held, and financing is now being sought for construction of the system. The initial system is proposed to include over 20 miles of pipeline.

C. During the 1973 construction season, over 23 miles of pipeline was installed for the Rickreall Rural Domestic Water System. The system is charged, however only emergency services use it at this time. The installation of meters for individual services will begin in the spring 1974.

D. A design for a Perrydale Rural Domestic Water System has been proposed, and funds applied for from FHA. The Marion-Polk Boundary Commission has approved establishment of the system, and the initial signup is now adequate to proceed with the System. Funding is expected by late summer 1974 so that construction can begin. The system is proposed to include over 68 miles of pipeline.

2. Selected Multiple-Use Reservoirs

The rural systems that have been developed or are in the planning stages will require modification and additional sources of supply as demands increase beyond present system capabilities. In some cases, the most feasible means, over the long run, of increasing the water supply to the systems will lie with the development of one or more of the reservoir sites identified in the Sewer and Water Plan[1] and the Willamette Basin Plan.[2] According to the most recent and best available information, Map No. 5 indicates some of the sites which have been identified as having economic and environmentally suitable benefits to the County.

The proposed short and long range projects could provide irrigation for some 55,000 additional acres of land that are not now irrigated. Presently, Polk County has approximately 10,000 acres under irrigation.[3] The increased economic potential from that additional irrigated acreage should serve to strengthen the case for the retention of those potentially irrigatable farm lands in agricultural production.

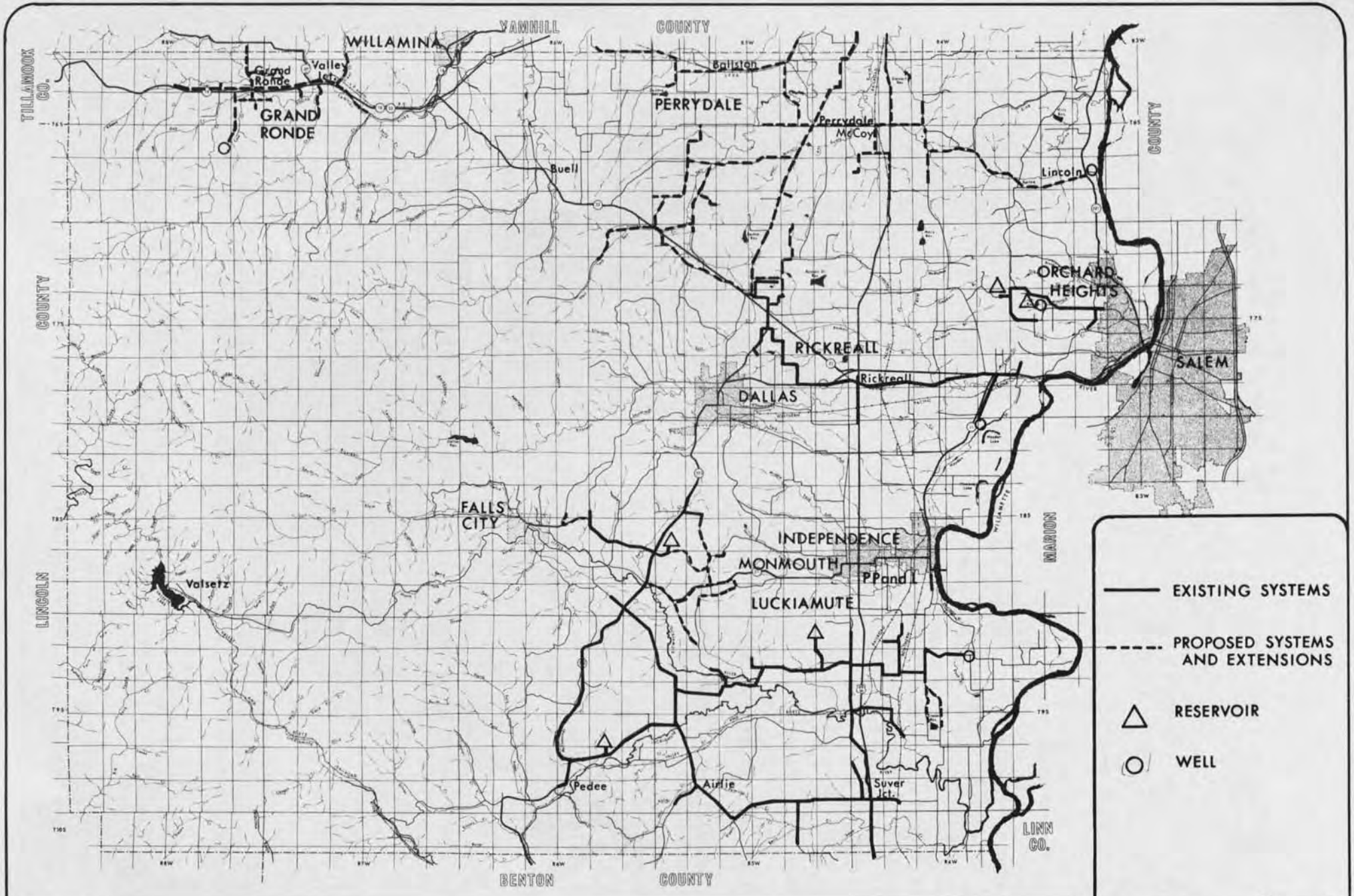
The following benefits would also accrue to the County from the proposed Multiple-Use Reservoir sites:

A. While Polk County has, historically, been a "pass-through" county, ("40 miles of road" on the way to some other place), the current energy shortage (gasoline) foreshadows an increase in the demand for water based recreation sites closer to the major urban centers. The construction of selected multiple-purpose reservoirs in the County would help fulfill that demand and at the same time, with proper management, enhance the propogation of fish and wildlife, which is a major goal of the State of Oregon.

1/ Polk County Comprehensive Sewer & Water Plan, Mid Willamette Valley Council of Governments and Boatwright Engineers, Inc., 1968

2/ Willamette Basin Comprehensive Study, Water and Related Land Resources, Willamette Basin Task Force, Pacific Northwest River Basin Commission, 1969

3/ Polk County Resource Atlas, OSU Extension Service, October 1973, Page 9



MAP NO. 4

WATER SYSTEMS

MAP NO. 4

B. Some of the proposed sites would be developed primarily for flood control with recreation and water supply as secondary benefits. This serves to protect lands and improve properties by limiting flood damage potential.

C. Because of the lack of underground water in the County, other sources must be developed to meet the requirements for domestic and municipal supplies. As population increases, the need to develop natural storage sites is increasingly evident if water availability is to keep pace with the County's growth rate. It is important, however, to note that the systems should not be designed to encourage growth in the exurban areas, but rather to only accommodate that growth that would be allowed through implementation of the County's land use policies.

3. Willamette River Groundwater

Beneath the Willamette River's floodplain in Polk County, the water is within only a few feet of the surface and is pumped, primarily, for domestic purposes. Most of the wells tapping the alluvium are less than 100 feet deep and yield moderate to large quantities of good quality water with only minimal drawdown.

The Willamette River ground water reservoir south of Salem is part of an extensive aquifer underlying some 1,100 square miles of the river's flood plain throughout the southern portion of the Valley. It has been estimated that the annual discharge/recharge capability[1] of the entire aquifer is in the range of 500,000 acre feet of water.[2]

The aquifer is presently supplying water to several cities and towns in the Valley and to many farming communities and individual farmsteads along the river. Where the potential exists for increased exurban development adjacent to the river, extreme care must be employed to maintain densities low enough to insure the continued high quality and quantity of the resource, particularly in areas where the disposal means of sewage effluent is proposed for individual subsurface septic drain fields.

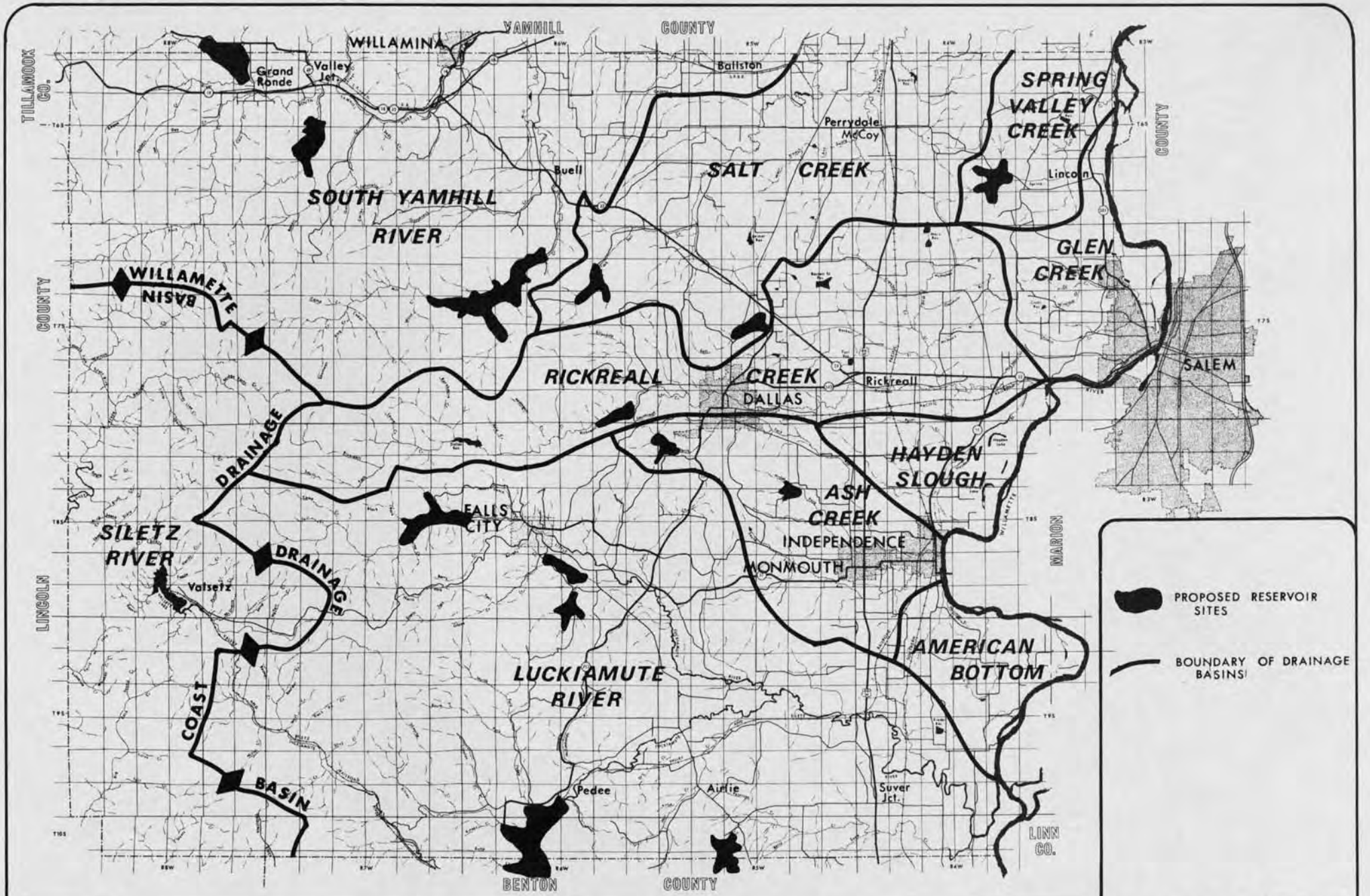
The major domestic users of the Willamette River groundwater in Polk County include:

A. The Luckiamute Rural Domestic Water System has one well tapping the alluvium. That well presently serves approximately 300 hookups with a maximum flow tested at about 700 gpm. Expansion of the present system is being considered at this time and may ultimately require an additional well or wells. This is the most expansive rural water system in existence in Polk County.

B. The heaviest users of the groundwater resource in the County are the Cities of Independence and Monmouth with a total of 9 wells tapping the alluvium. The city of Monmouth also has an impoundment site on Teal Creek south of Falls City for domestic use and is currently studying the feasibility of withdrawing water from the gravels beneath the channel of the Willamette, using the

1/ The discharge/recharge capability is a measure of the volume needed in order to replace an amount of water equal to that amount withdrawn over a comparable time period.

2/ U.S.D.A. Report on Water and Related Land Resources, Mid Willamette River Basin, Oregon. Prepared by Economic Research Service, Forest Service and Soil Conservation Service, July 1962, Page 121



MAP NO. 5

GENERALIZED DRAINAGE & PROPOSED RESERVOIR SITES

MAP NO. 5

Ranney Collection Method.[1,2]

C. The Rickreall Rural Domestic Water System has two wells drilled that yield about 125 gpm each. These wells will serve the 200 hookups presently registered on the system over a total distance of approximately 23 miles. The wells are located south of Brunks Corner along Highway #51.

D. The Perrydale Water System, as proposed, would utilize the flow from one well which has been drilled and tested at 180 gpm for service to their initial 275 users.

4. Diversion of Surface Water To Storage Reservoirs

Because of the low permeability of the soils in the upland areas of the County, the impervious underground rock formations, and the current infeasibility of developing natural reservoirs in the Coast Range Mountains, it may be desirable to divert water to large volume reservoir sites or holding basins in the lower foothills in order to capture appreciable amounts of the winter runoff.

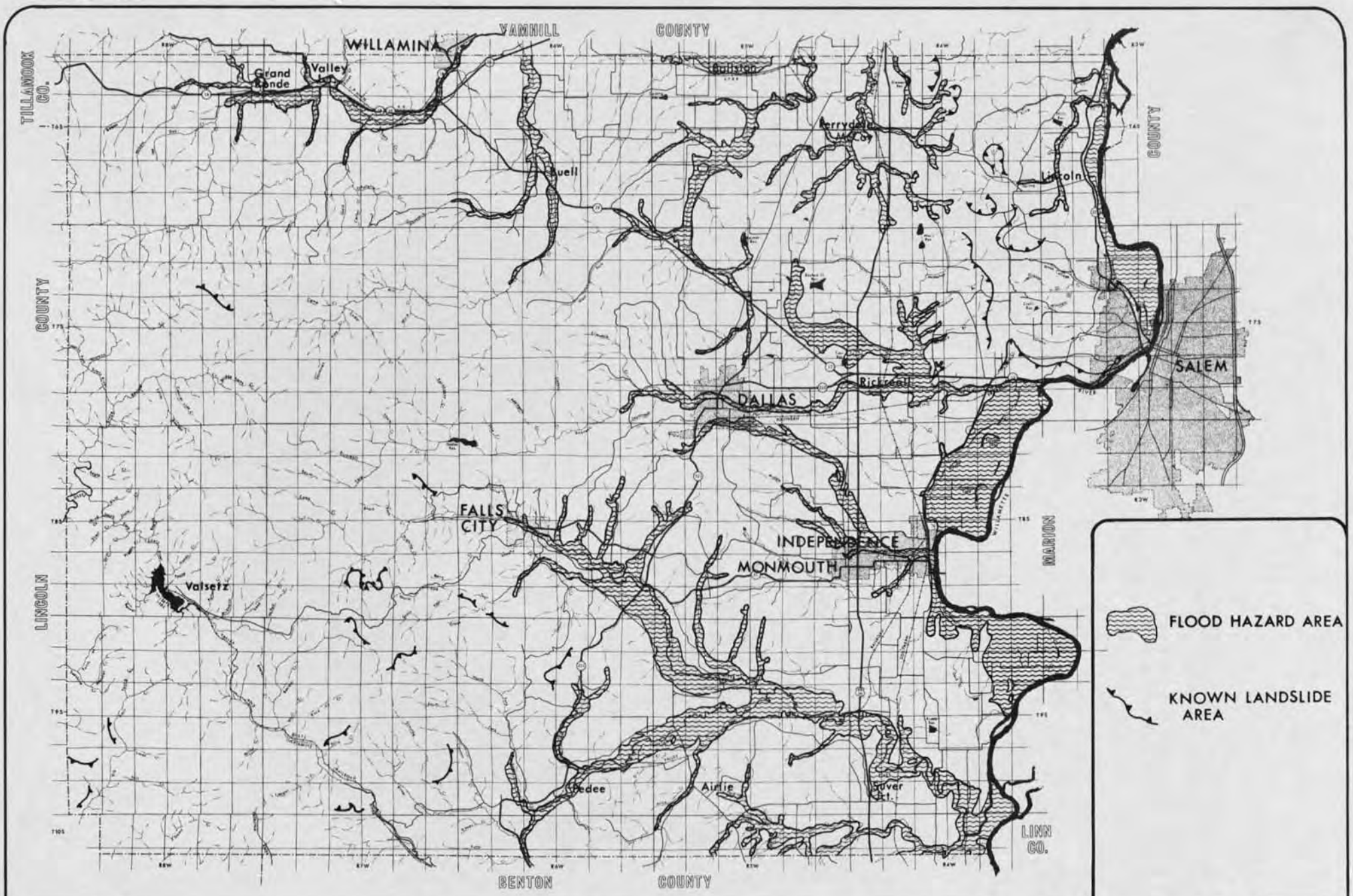
This has been a relatively common practice in other areas of the state and country where impoundment dams were not feasible. The city of McMinnville diverts water from the North Coast Basin, Nestucca River drainage area, to reservoirs in the Mid-Willamette River Basin. The city of Warrenton in Clatsop County also diverts water to a large holding basin in the coastal foothills south of Astoria. Diversion sites have been established at selected locations on principal tributaries, headworks and transmission lines installed and storage sites developed or constructed in-line between the supply and the user. In Polk County, the Little Luckiamute Project proposes to divert water to a reservoir to be established on Teal Creek south of Falls City.

The capacity of the holding facility would determine the use best suited to the particular volume. Were the storage facility a natural or excavated earthen basin, the volume might be sufficient for limited irrigation or for supplementing low stream flows. The capacity of constructed steel reservoirs would probably be best suited for augmenting domestic water systems. Either one, however, would help offset the current imbalance in the county between water supply and demand.

1/ Independence has 5 wells tapping the alluvium draining a combined 1725 gpm. However, during the winter months only, wells 4 and 5 are utilized, which have a combined flow in excess of 1000 gpm. All well flow measurements are made by Pacific Power and Light during the summer months.

Monmouth has 4 wells tapping the alluvium drawing a combined 875 gpm, measured during the winter months. During the 1973 summer low stream flow periods, however, the city was barely able to draw 200 gpm total from all four wells.

2/ Ranney Collection Method: This method utilizes a series of screened pipes (5 for Monmouth) set well into the gravels beneath the channel of the river but out of the main stream flow. The screened pipes radiate out from a central collection point, which is attached by pipeline to a pump station set above the flood stage of the river. The Cities of Ranier, Washington and St. Helens, Oregon utilize this method for withdrawing Columbia River water, and Sacramento, California uses it to withdraw water from the American River.



MAP NO. 6

DEVELOPMENT LIMITATIONS

MAP NO. 6

5. Individual Stock Ponds

Throughout the County, representatives of the Soil Conservation Service of the U. S. Department of Agriculture have worked closely with farmers and rural residents in the studying and engineering of individual "stock ponds". To date, some 600 of these small reservoirs exist in Polk County alone, serving a variety of functions, including domestic supplies, water for livestock, erosion control, and even minor amounts of irrigation water for lawns, gardens, etc.[1]

These reservoirs are generally associated with natural drainage ditches which oftentimes dry up in the summer. Occasionally, the ditch will drain a spring. However, they too often stop flowing in the summer. Whereas those reservoirs do aid in the relief of "local" problems, they do not offer a complete solution as they, too, are subject to the seasonal fluctuations and variations of the amount of precipitation that falls on the County.

Flood Control

On the other end of the water spectrum is flood control. Approximately 42,000 acres in Polk County are subject to flooding on a periodic basis.[2] The most extensive areas of flooding are found along the Willamette, South Yamhill and Luckiamute Rivers and on Rickreall and Ash Creeks, see Map No. 6. These areas generally contain the better farmland (alluvial soil groups), and are also the areas where the greatest degree of urban encroachment has occurred and where the greatest potential exists.

Man has traditionally handled the flood problem by building structures to control the flood waters, improving the watershed's ability to retain water or by avoiding the flood plain or building above the normal highwater level. Within Polk County, there have been several instances of channel improvement and rip rap installation, all designed to reduce flood damage, although no significant flood works have been installed. Several multi-purpose dams have been proposed, however, to help alleviate flood damage, see Map No. 5.

Even with those dams the flood plain remains a hazardous area for urban development. That hazard was recently recognized by Polk County with the adoption of a Flood Plain Overlay Zone. As a requirement for participation in the National Flood Insurance Program, a system of flood plain management was initiated whereby development is directed away from those hazard areas, and regulations are established for flood proofing development within the flood plains.

Beyond this, the flood plains adjoining the major streams in the county are generally composed of more productive soil types best suited for agricultural purposes and should be maintained as such. Smaller streams also have flood plains, therefore, development adjacent to them must also consider that potential hazard.

THE PEOPLE

Polk County moved into a new era after about 1940 when influence from Salem was increasingly felt in the West Salem area. West Salem more than doubled its population between 1940 and 1950, rising from a 1940 population of 1,490 to a 1950 population of 3,053. The end of World War II and increased use of the automobile helped bring this about.

1/ Interviews with representatives of Soil Conservation Service, Dallas, Oregon Office 1974.

2/ Flood Plain Report, Polk County, Oregon, USDA - Soil Conservation Service, 1973

The increasing urbanization of this northeastern part of the county and its inclusion within the Salem metropolitan area are doing much to broaden the economic activity of the county.

In the decade ending in 1970, the population of Polk County increased by 8,826 or approximately 33 percent.[1] This upsurge followed a previous ten year period during which there was only an .8 percent net increase. However, over the past 30 years, Polk County has experienced an average ten year increase of 21.5 percent. It is expected that a similar rate of increase will continue over the next 30 years, as Polk County participates in the growth of the Salem Standard Metropolitan Statistical Area (SMSA)[2] and the State.

The urban population projections for Polk County, shown in Table No. 2, are based on the assumptions that both the state and the SMSA will continue to experience substantial growth over the next several years, and that the past ratios of county to state population and county to SMSA population will hold true for future growth.

It is of particular importance in considering the future population of Polk County to recognize that since 1940, the relative proportion of the county population in incorporated areas has been increasing, while the proportion in unincorporated areas has been declining, see Table No. 3.

TABLE 2[3]

URBAN POPULATION 1960-1990

by Census Tracts

Census Tract	Name	Area (mi^2)	1960	1970	Density (mi^2)	1975	1980	1985	1990	Density (mi^2)
51,52,53	West Salem	70.7	3897	5336	146	6330	7370	8700	10,100	226.3
201	Perrydale	73.4	NA	NA	16.7	NA	NA	NA	NA	23.2
202	Dallas	54.5	5072	6361 / 7275*	167.5	7060	7710	8630	9500	238.2
203	Monmouth	111.4	2229	5237 / 5830*	91.4	6090	6940	7670	8400	157.1
	Independence		1930	2594 / 3390*		3450	3950	4450	4900	
204	Falls City	429.0	653	745 / 775*	10.4	770	790	800	810	11.6
	Willamina	-	146	478	-	520	570	660	750	-
TOTAL COUNTY:		739	13,927	20,751	47.8	24,220	27,330	30,910	34,460	71.96

1/ U. S. Bureau of Census, Census of Population, 1970

2/ SMSA established by the Bureau of Census, encompasses Marion and Polk Counties

3/ "Population Growth in the Mid Willamette Valley", Population Report, Annual Series, Issue No. 7, March 1973. Prepared by Mid Willamette Valley Council of Governments

* Certified July 1, 1973 Population - Center for Population Research and Census, Portland State University, Portland, Oregon

TABLE 3

Population Changes in Polk County [1]

YEAR	County POPULATION	County % CHANGE	Urban [2] POPULATION	Urban [2] % CHANGE	Rural POPULATION	Rural % CHANGE
1940	19,989		3,579		16,410	
1950	26,317	31.7	7,846	45.6	18,471	11.16
1960	26,523	0.8	8,969	14.3	17,554	-5.0
1970	35,349	33.3	20,795	131.9	14,554	-17.1 [3]

As of 1970, about 60 percent of the county population was located in urban areas. During the 1960-1970 period, unincorporated area population increased by 10.8 percent. The majority of the unincorporated growth took place in Spring Valley-Rickreall area (Census Tract 53) with declines in Independence-Falls City Census County Division.

The majority of growth is expected to follow the above basic pattern. The decline in agricultural employment due to consolidated and mechanized farming practices and the preference for urban areas where water, sewage treatment and other services are available, are reflected in this growth pattern. Though there will likely be some movement of people from urban places into adjacent rural-farm (exurban) areas as they express their preference for this type of living environment, the growth within urban areas is expected to be at a much faster rate.

The availability of water and sewage treatment facilities will greatly influence the development of the county. From 75 to 80 percent of the soils in the county have limitations for the use of septic tanks. Local and state health standards restrict the use of septic tanks to areas where suitable soils and drainage exist in order to prevent health hazards. The soil characteristics of the county thus limit high population density development generally to urban areas where sewage services are available or will soon be available.

The supply of water is another influential factor in the growth of the county. A number of projects to increase the water supply to rural areas have been proposed and several of these projects appear likely to become a reality within the next several years. However, the proposed rural domestic systems are limited in scope and would not be able to support substantial densities. Most

1/ (A) U. S. Bureau of the Census, Census of Population: 1960 & 1970

(B) A Preliminary Comprehensive Plan for Polk County, Oregon, Mid Willamette Valley Planning Council, Salem, Oregon, 1964

(C) 1940-1970 Population and Housing Trends - Cities and Counties of Oregon, Bureau of Governmental Research and Service, University of Oregon, Eugene, Oregon, December 1971.

2/ Urban: Urban is defined as those incorporated areas of 2500 population and over.

3/ The marked loss of rural population, 1960-1970, is due as much to reclassification of Independence and Monmouth from rural to urban as it is to natural decreases.

of Polk County's growth will be within the urban service centers of Dallas, Monmouth, Independence and particularly West Salem.

The availability of water and sewage treatment services is certainly not the only factor influencing the population growth and distribution in the county. Expansion of the Salem urban area, as well as other county urban areas, also exercises a considerable influence. Though this is of particular significance to the West Salem area, much of the total county upsurge in population during 1960-1970 period appears to be attributable to workers from Marion County (as well as other neighboring counties) using Polk County as their place of residence.[1]

In 1968 there were a total of 3,581 workers commuting to work outside the county.[2] This represented 34 percent of the total employed labor force of the county. It can be assumed that this part of the labor force supported a large portion of the total county population.

The indication is that major factors influencing the future growth of Polk County are its attractiveness as a place to live and its proximity to the expanding urban areas of neighboring counties.

Because employment data for Polk County has always been intermingled with that for Marion County, it is difficult to assess the relation of employment increases within the county to the upswing in population. However, trends in employment over the past several years indicate an increasingly stable economic base for the county. Though little employment growth is expected in the agricultural and wood products industries, due in part to limited water resources and mechanized agricultural methods, employment in these industries is expected to remain fairly stable, and they will continue to contribute substantially to the economic base.

During the period 1960 to 1970, there was an expansion of approximately 1,000 wage and salary jobs in the various industries of the county. Most of this expansion came in government, education, other than wood products manufacturing, and service types of employment.[3]

Moderate expansion is expected to continue in the above areas as well as a 15 to 20 percent increase in trade and finance over the next few years.[4] Much of this expansion will follow population growth resulting from expanding urban areas in neighboring counties.

Expansion of Oregon College of Education at Monmouth has played a considerable part in the population growth of the county over the past decade. The enrollment increased by 2500 students

1/ "Population Growth in the Mid Willamette Valley", Population Report, Annual Series Issue No. 7, March 1973. Prepared by Mid Willamette Valley Council of Governments.

2/ Oregon State Employment Service, Small Communities Program; Applicant Occupational Potential and Economic Base Report for Polk County, Oregon, Salem, Oregon; September 1968

3/ Ibid

4/ Ibid

and the student and dependent housing capacity on the campus increased by 620 to 1135 in the last decade.[1]

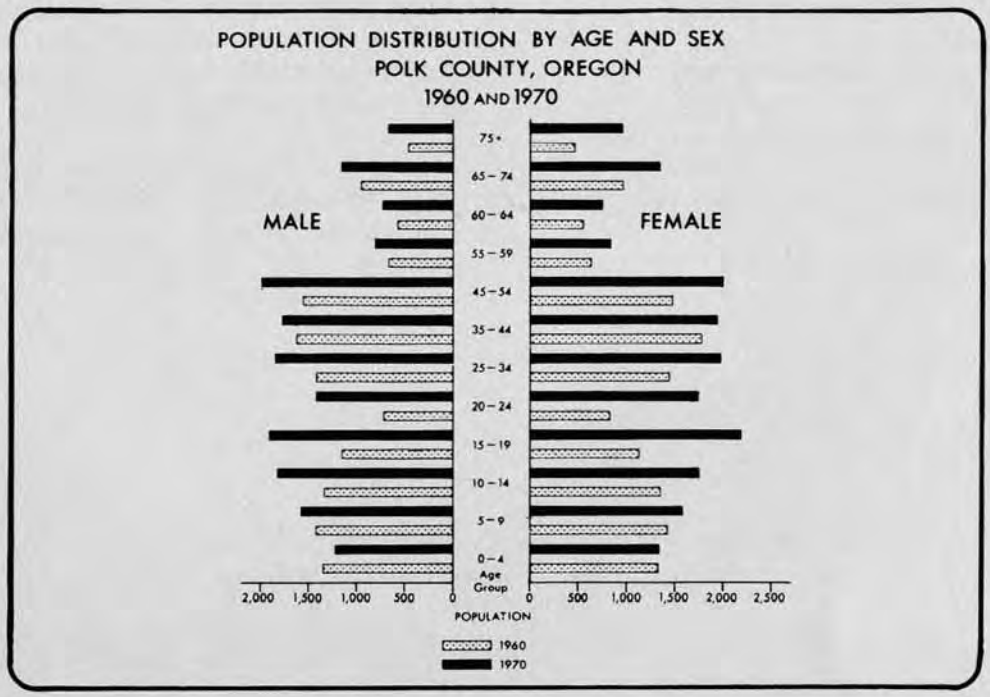
The projected campus expansion for the next ten years, however, is considerably less than the increase experienced from 1960 to 1970. The Oregon Educational Coordinating Council estimates only a 17 percent increase in enrollments during the 1970-1980 period.[2] This amounts to approximately 630 students. Though this projection indicates a radical change from the past growth rate, it is soundly based on expected decreases in the number of high school students; on the considerable decline in the demand for teachers; and on the limited expansion capability of the college due to lack of funding.

In the process of population shifts, there have been some obvious changes in the sex and age characteristics of the population of Polk County (Figure 4). One of the most interesting facts shown by the 1970 Census is the high percentage of females in the total county population. This percentage is high in the 15 to 24 age group, which reflects almost the total enrollment at Oregon College of Education. A high percentage of females also exists in the 65 and over age groups. In all age groups, with exception of the 10 to 14 age group, females outnumber males.

Although there was an actual increase in all age groups with the exception of the under 5 age group, the greatest percentage increases were in the 15 to 24 age group and the 75 and over age group. A good proportion of the increase in the 15 to 24 age group has no doubt come from the expansion of Oregon College of Education.

The increase in the 75 and over age

FIGURE 4



1/ Educational Coordinating Council, Enrollments in Oregon's Public and Independence Colleges and Universities, Salem, Oregon, February 1971

2/ Ibid

group is in part attributable to the opening of a large retirement facility and an elderly, low-income project during the 1960-1970 period. Also, there is a general increase throughout the nation in the number of people in older year groups. Oregon, in general, and Polk County specifically, are no doubt attractive to these people who are seeking a retirement location. For this reason, increases in the over 65 year group are expected to continue. This trend may adversely affect the county tax structure because of the numerous exemptions for those over 65.

Decreases in percentage of population are shown in groups 35-44 and below 10. The 35-44 age group decline may be attributed to the low birth rates during the depression. The decrease in the percentage of population in the under 10 age groups includes an actual decline in the number of children under age 5, from 2647 to 2565. This conforms with the largest nationwide decrease in this age group since record keeping began in 1850.[1]

Of particular significance is that the decrease in number of children under age 5, both nationally and in Polk County, coincides with a large increase in the number of people in the principal child bearing age range. This indicates a shift to smaller families and a consequent declining birth rate, which is of considerable significance to social and economic planning.

Presently, it appears that the upward population trend in Polk County will continue, although not at such a sharp rate of climb as in the past decade. The outlook is for increased use of the county as a residence area for Salem workers as well as workers from other neighboring urban areas. Future upward trends in the number of jobs within the county can also be expected to contribute to a steady growth in population.

The increase in population of the urban areas within the county has been estimated by use of a straight line projection method. The average 10 year rate of increase over the past 30 years was projected over the next 30 years. (Figures 5 and 6). The resulting figures were then compared to trends in the ratios of individual urban area populations to county population. This comparison was made to verify the assumption that future growth of the urban areas will continue to surpass the rate of growth of unincorporated areas.

West Salem, due to its function in the expanding Salem urban area, is expected to show the fastest rate of growth over the next several years. Although during the 1960-1970 period, West Salem increased in population at the same rate as Salem, it is not anticipated that this high rate of growth will continue. However, West Salem is expected to eventually become the most populous urban area in Polk County.

Dallas and Independence are expected to continue at the present rate of growth as indicated in the straight line projection on page 34.

The projected rate of increase for Monmouth is not based on a straight line projection of its past growth. The reason for this is the existence of the Oregon College of Education and the effect of its enrollment on the community.

The high population increase for the city of Monmouth during the ten year period 1960 to 1970 was attributable to the presence of the Oregon College

1/ Capital Jounal, "Baby Bust Replacing Baby Boom" (newspaper article), Salem, Oregon, September 8, 1971, Page 34, Section 3

FIGURE 5

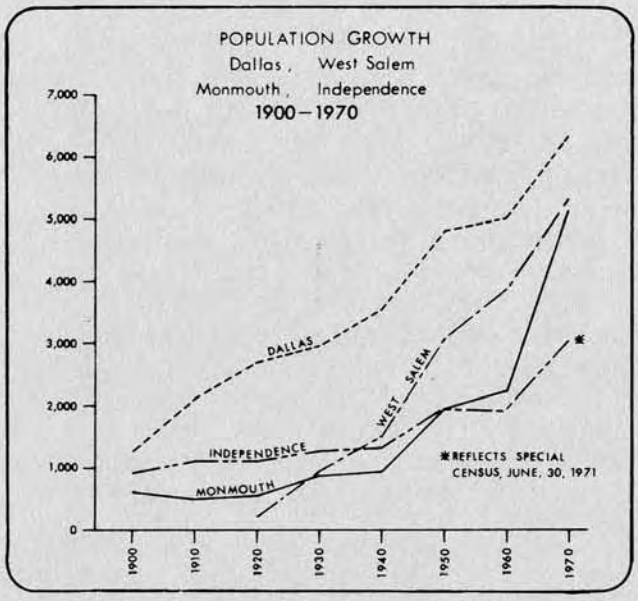
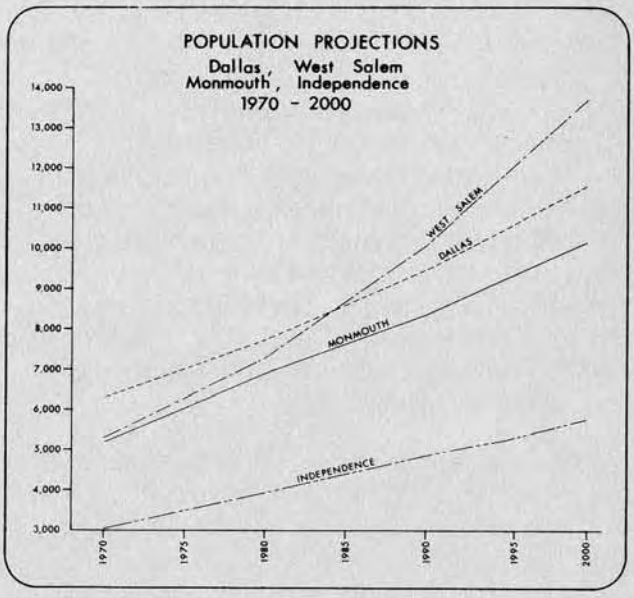
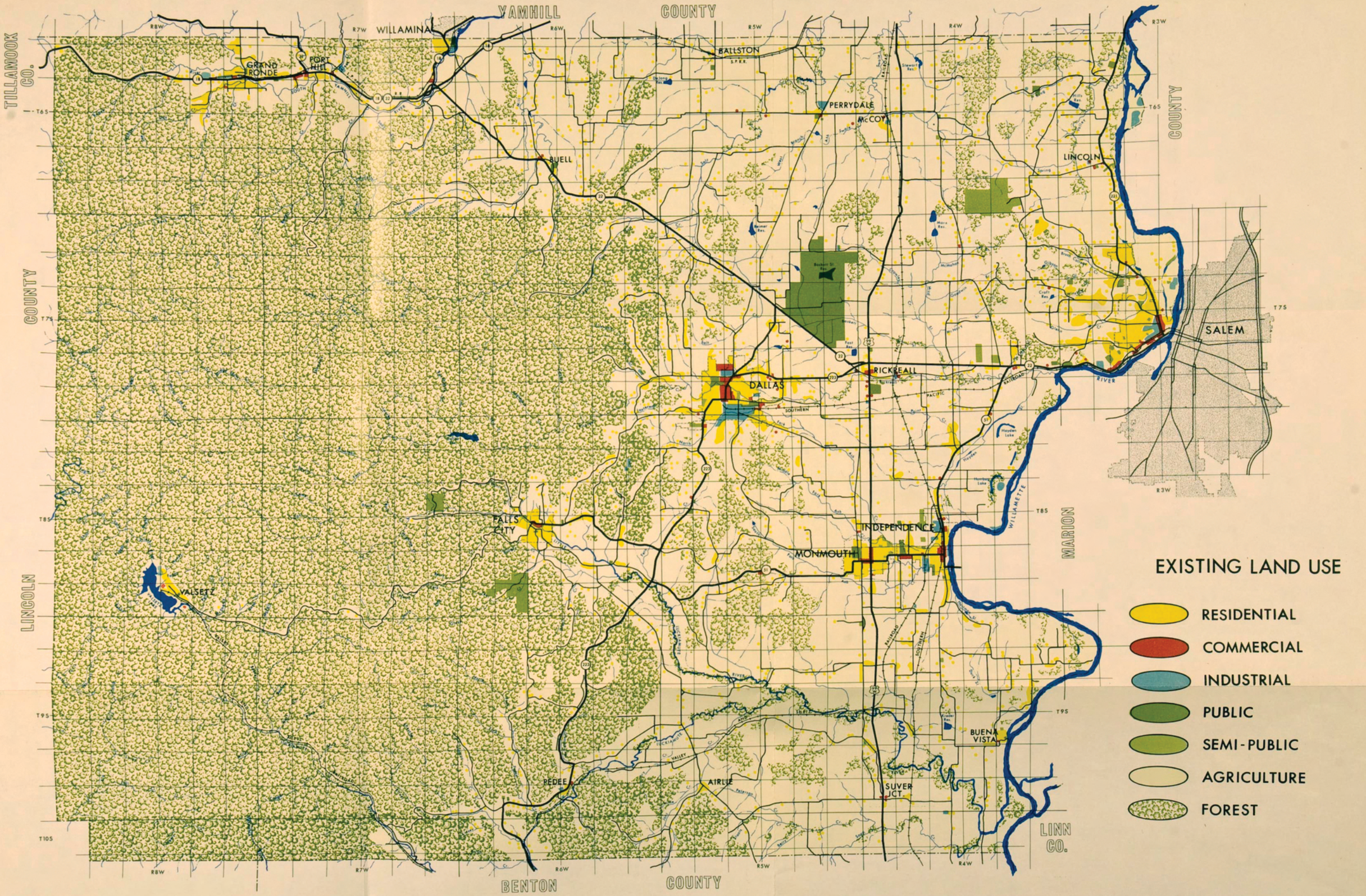


FIGURE 6



of Education. Both the rapid increase in enrollment (approximately 200%) and the counting of students residing on campus as residents of the community were major factors influencing the population increase.

PLAN FOR LAND USE



EXISTING LAND USE

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- PUBLIC
- SEMI-PUBLIC
- AGRICULTURE
- FOREST

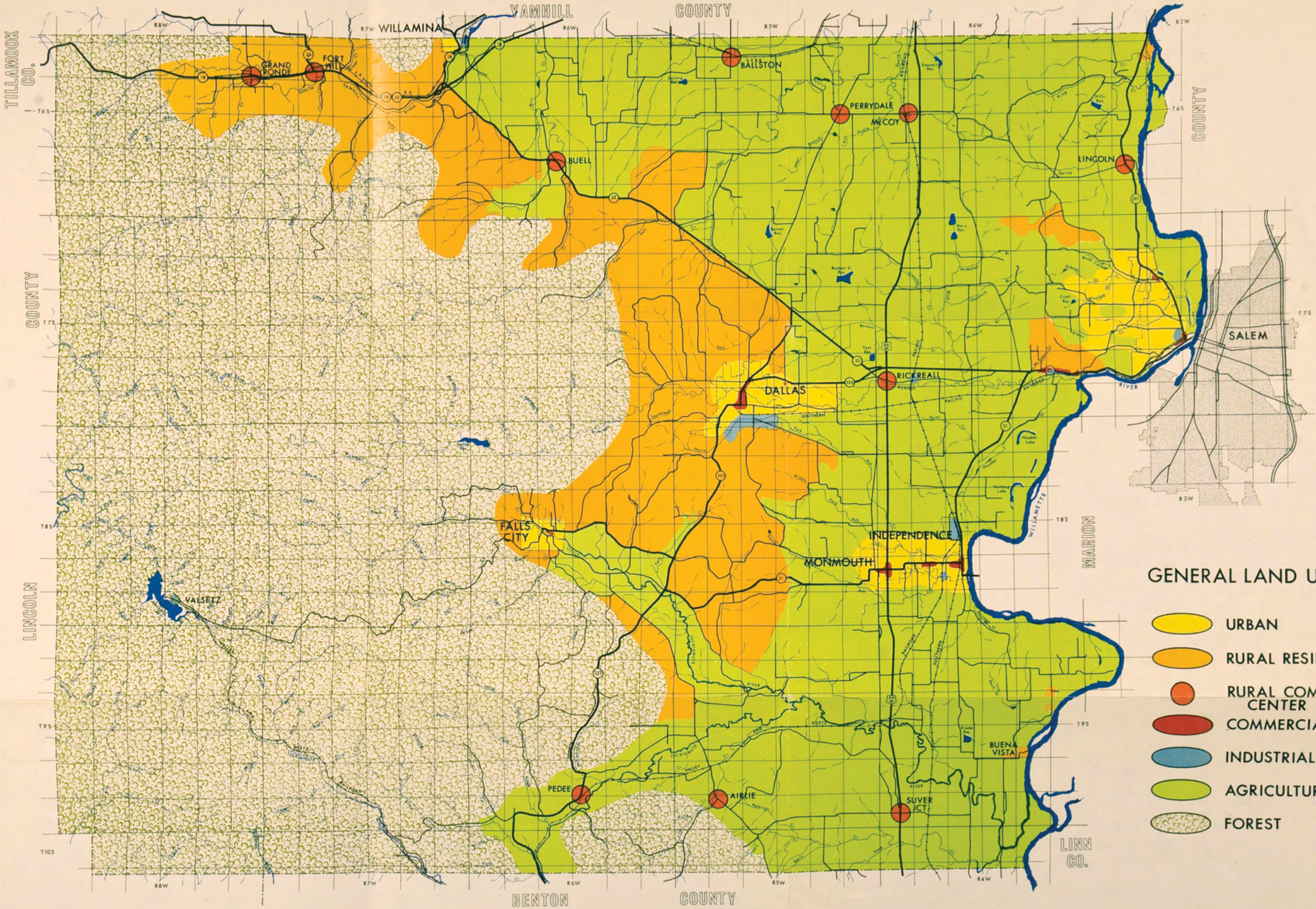
NORTH

1 0 1 2 3 4

SCALE IN MILES

The preparation of this map was financially aided through a federal grant from the Department of Housing and Urban Development under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended. Oregon P- 154

MAP NO. 7



GENERAL LAND USE PLAN

- URBAN
- RURAL RESIDENTIAL
- RURAL COMMUNITY CENTER
- COMMERCIAL
- INDUSTRIAL
- AGRICULTURE
- FOREST

NORTH

1 0 1 2 3 4

SCALE IN MILES

The preparation of this map was financially aided through a federal grant from the Department of Housing and Urban Development under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended. Oregon P- 154

MAP NO. 8

A general land use plan deals with how the land is used within a community. In Polk County, two basic living areas are identified in the county, rural and urban.

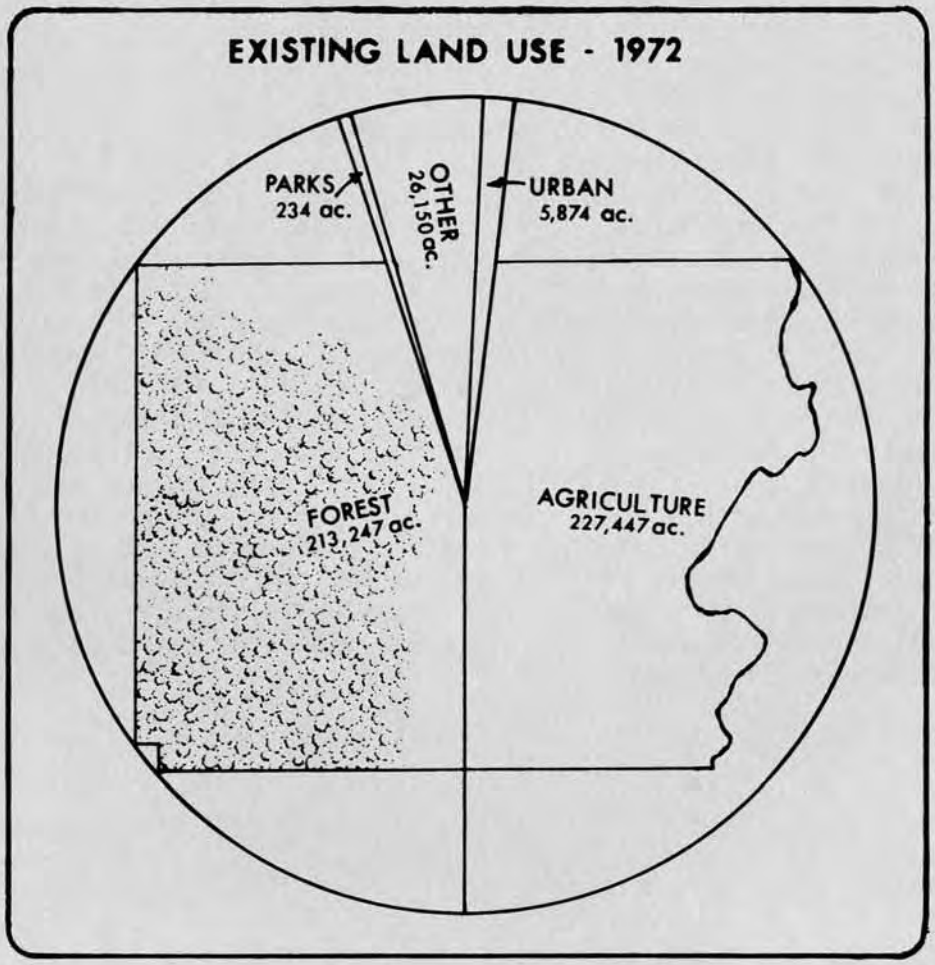
These segments can be further broken down into component parts such as urban into high, medium, and low density residential, and commercial, industrial, public, etc. The rural segment can be segregated into forestry, agriculture, rural community centers and rural development areas. Therefore, the main thrust of the plan will be to deal with overall policies for conservation and development of the communities resources in each main segment, particularly as it relates to future growth of the county.

Existing Land Use - 1972[1]

Polk County contains 739 square miles with 472,963 acres of land. Forestry and agricultural uses occupy the largest percentage (over 93%) of the county's land area. A breakdown by use is shown in Figure 7.

The existing land use pattern is one of the most important factors in any land use planning program. Map No. 7 gives a generalized view of the settlement pattern and major land uses. Over 90 percent of the land in the county is devoted to natural resource purposes. While only slightly more than 1 percent is used for urban purposes, the pattern of the urban settlement is extremely

FIGURE 7



1/ Agriculture and forestry figures from Agriculture Stabilization and Conservation Service, December 1972. (Agriculture figure includes 136,000 acres of cultivated crop land.)

important, as it would have devastating effects on agricultural operations if scattered across the landscape.

URBAN LAND USE

At present, the majority of the urban land is split almost equally between Dallas, Independence-Monmouth and West Salem. This development has taken place on generally level alluvial terrace land, and in the case of West Salem and Dallas, is expanding into low foothills to the west of each community.

The pattern of development that has occurred surrounding each community is important. In the case of Monmouth, the growth has been very compact as a result of water deficiencies in the area and policies of the city to cover the costs of sewer and water lines with the original town plat. While in Independence, the stripping of the main north-south route through town has occurred as the result of extension of the water lines outside the corporate limits. This phenomenon can be witnessed around Dallas and West Salem as well. The West Salem area has had scattered development occur as the result of a rural water system installed along the roads in the vicinity of the now abandoned Popcorn School, and because ground water can be found more readily in this area. These scattered developments have occurred while a great deal of land remains vacant within the corporate limits of cities in the county. The percentage of land identified in the most recent comprehensive plans for Monmouth, Salem, and Dallas was 32 percent, 25 percent and 39 percent respectively.

Industrial and Commercial Activities

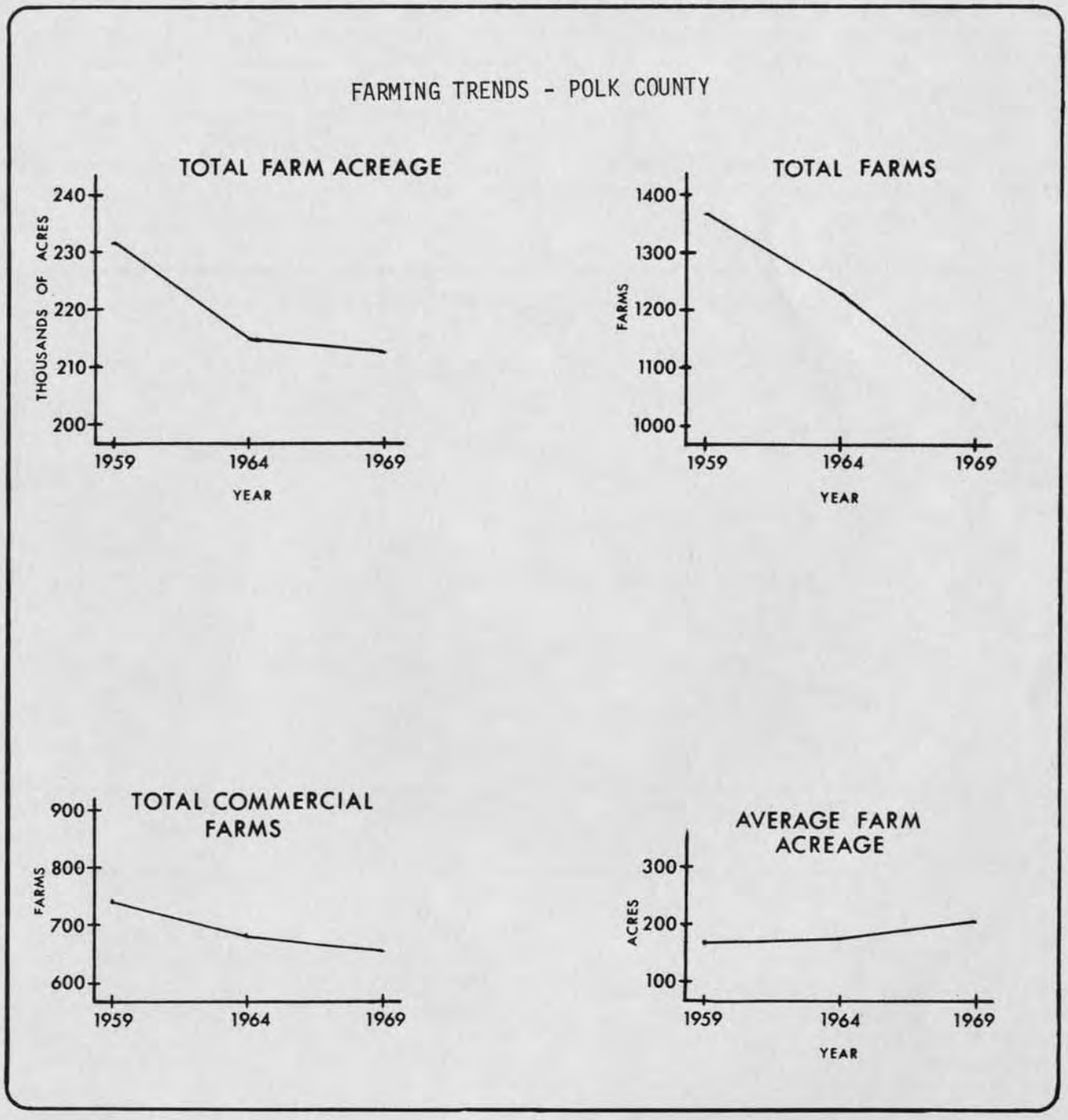
Presently, the only industrial developments outside of the three urban areas are the mills located in the Grand Ronde area; isolated fertilizer, cleaning and storage facilities, and scattered quarries and gravel extraction activities located mainly along the Willamette River. Commercial uses of a convenience nature are located at a number of small rural communities - Pedee, Airlie, Suver, Buena Vista, Perrydale, Salt Creek, Buell, Ballston, Lincoln, Grand Ronde, Valley Junction and Rickreall. The potential for significant commercial and industrial development in the rural portions of the county is limited. Rural-suburban-residential development potential is quite high and will continue because of the attractive pastoral setting and increased mobility making travel times to adjacent employment centers more convenient.

RURAL LAND USE

The acreage of land used for farm purposes has been recorded by the U. S. Census of Agriculture, as shown in Tables A-4, A-5, A-6.[1] In 1954, 237,321 acres were reported in farms. By 1959, this had dropped to 232,683 and to 215,055 in 1964. The 1969 census indicates that 213,108 acres were in farms. The decline in the number of farms and total farm acreage since 1959 can, in part, be attributed to the definition used in the census, and more importantly, to the conversion of land to other purposes or to an idle state. Figure 8 clearly indicates the trends.

1/ U. S. Dept. of Commerce, Bureau of Census, Census of Agriculture 1959, 1964, 1969. The Method of computation differs from that of the ASCS, however a trend can be established by analyzing this historic data.

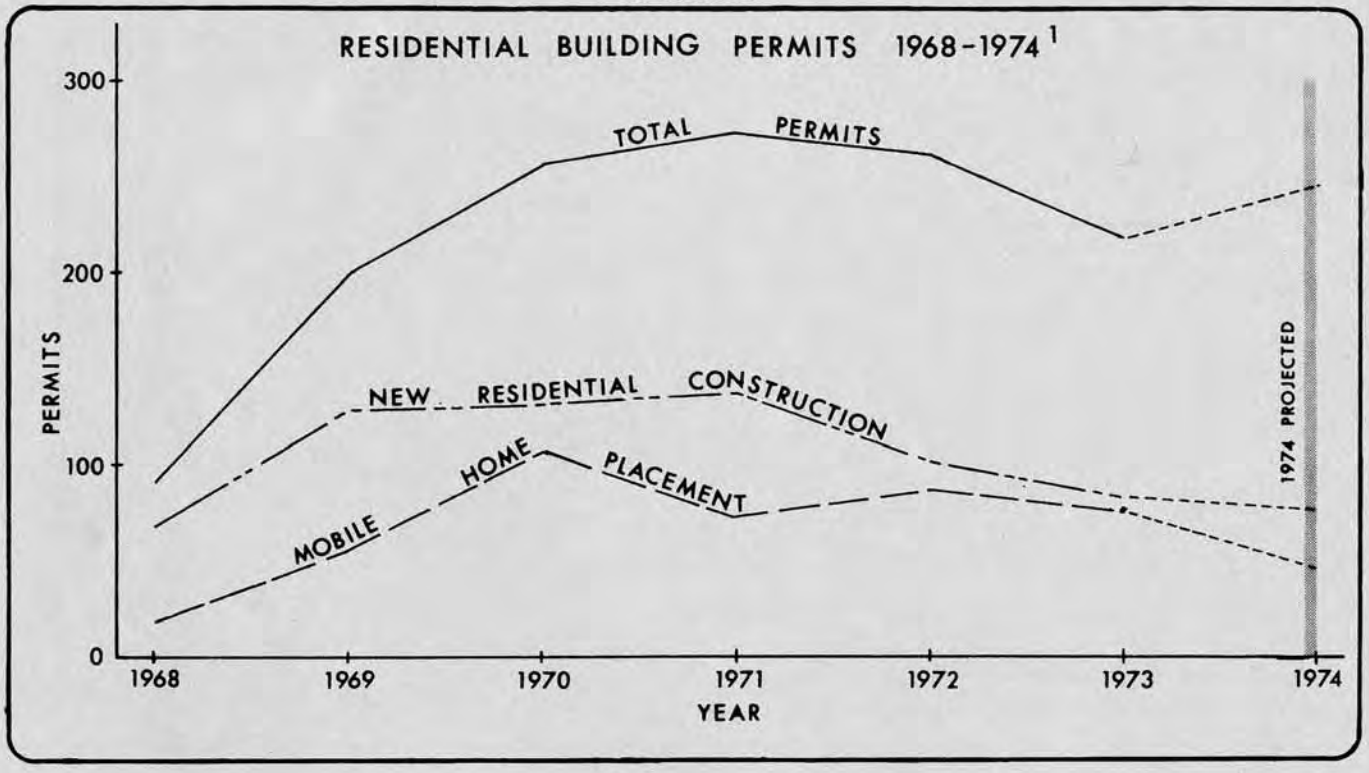
FIGURE 8



The state of idleness is quite likely in expectation of converting the land to other purposes. This speculative holding of land is discussed more fully in the Land Use Plan. It is likely that more land will be passed into a speculative phase as the impact of the rural water systems are felt throughout the country. These systems will follow existing road networks and thus there will be a propensity for strip type development along these roadways.

The building permits issued by the county portray a pattern of general development throughout the county with concentration of rural residential development in the Eola Hills, south-central part of the county and the hills to the west and north of Dallas. Figure 9 below depicts the relationship of permits for new residence construction and mobile home placement to the total number of residential building permits issued. The total number not only includes permits for new residences, but also for accessory buildings (garages, etc.) alterations and expansion, swimming pools, and for demolition and excludes permits issued for mobile home placement.

FIGURE 9



Agriculture

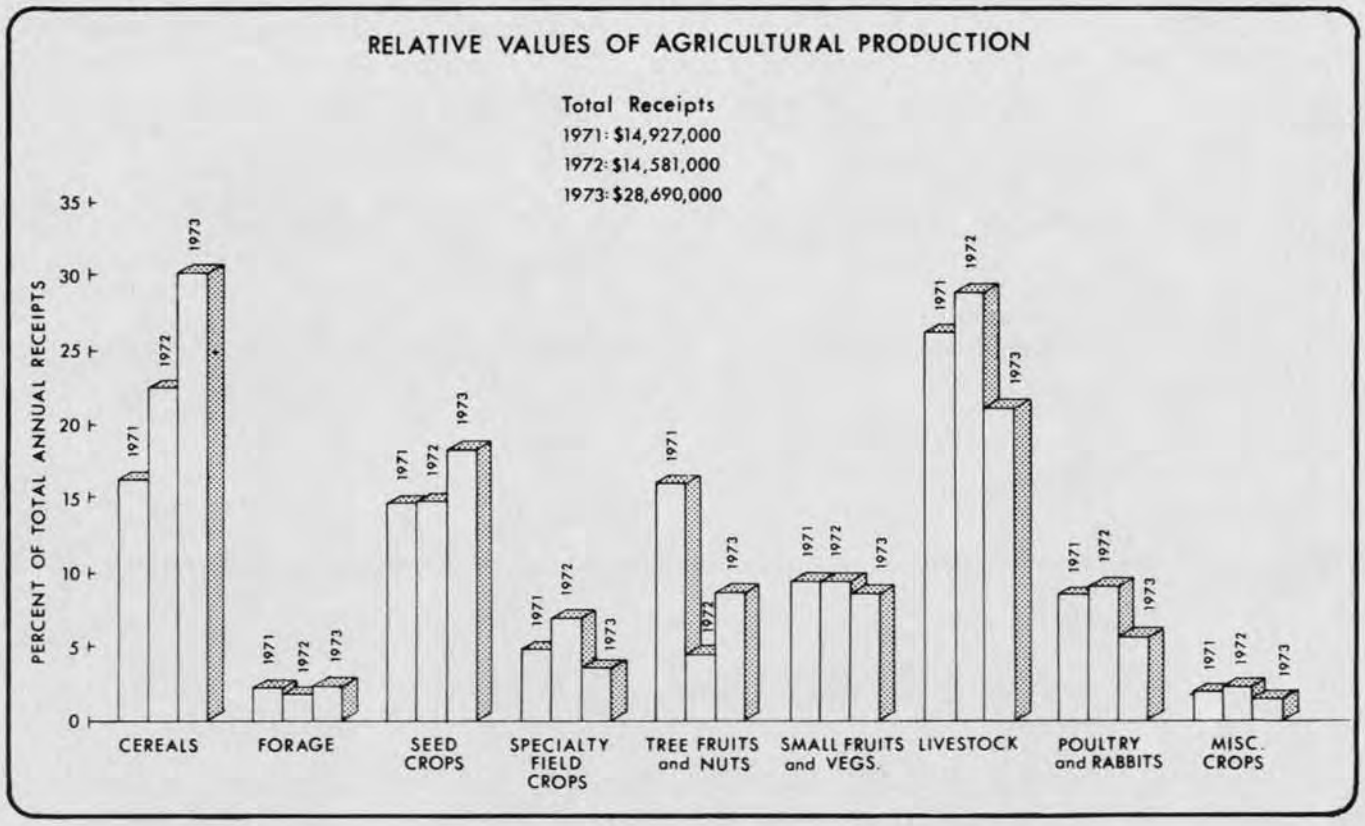
Agriculture occupies the largest percentage of county land and is the predominant activity in the eastern portion of the county.

While agricultural income is cyclical and dependent upon national policy, markets, and weather, its contribution to the county is significant. In 1972, when receipts for tree fruits, primarily sweet cherries, plumetted to one fourth that of the previous year, the total value of more than 50 different farm products was estimated at $14,581,000 by the County Extension Service. Figure 10 indicates the percentage of value that selected categories contributed to that total and shows their comparative values for 1971 and 1973.

Agricultural processing plants employ a peak season total of 1500 workers, producing an annual payroll of $4,000,000 in 1972, an increase of $1,000,000 from 1967. Year-round employment in the food processing industry increased by 50 over the same period.

1/ Annual Reports - Polk County Building Inspector

FIGURE 10



Forestry

Large scale forestry activities in Polk County began in the Dallas area in the early 1900's. Today second and third growth timber is being harvested from the western half of the county. A 1963 report listed commercial saw timber ownership in the county as follows: 47% forest industry, 37% farmers and miscellaneous private, 15% other public, and 1% National Forest.[1]

1971 timber harvest (in thousands of board feet, Scribner Scale) by ownership was: Forest Industry 47,982; Bureau of Land Management, 35,297; State, 9,772; and other private, 14,325, for a total of 107,376,000 board feet.[2]

Lumber prices vary drastically from one month to the next. Currently they are varying from $70 to $140 per 1000 board feet. Assuming $100 per thousand board feet as a representative price, the value of the 1971 Polk County harvest would be roughly $11,000,000.

The County has several sawmills and planning mills within its borders. These mills "import" saw timber from other counties in addition to the local saw timber they process, further adding to employment and income. Fifty-eight percent of the total manufacturing employment in the county, or 1400 workers, are employed in logging and the manufact-

1/ Forest Statistics for Northwest Oregon, 1963, Pacific NW Forest and Range Experiment Station, Portland, Oregon.

2/ 1971 Oregon Timber Harvest, August 1972, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

ure of associated products. In 1971 the annual payroll exceeded $14,000,000.[1]

It is expected that the forest industry will continue to play a major role in the economy of the county. However, improvement of the resource is necessary. The Oregon Conservation Needs Inventory[2] shows commercial forests as having adequate treatment on only 23.5 percent of the total resource, 11.2 percent needs establishment and reinforcement of the stocking and 65.3 percent needs timber stand improvement.

Projects above the normal management activities that are being undertaken by the more progressive timber companies include thinning young stands, fertilization of these stands, the growing of genetically improved trees by seed orchards and seeding grass or other plant materials on road banks or cat roads subject to erosion.

In summation, the western half of the county will continue as a major forestry resource area for years to come; agriculture will continue to be a major contributer to the local economy and rural-suburban development will make the county more of a bedroom community for nearby cities.

LAND USE PLAN

What does this impending growth mean and what are some of the problems associated with the process of urbanization? As noted, Polk County has had a mixed blessing in its lack of adequate water. The sprawl that is so evident in other communities of the Valley has not been as rampant in Polk County. Thus, we still have time to enact a program that will guide urbanization in a positive manner and avoid many of the problems associated with sprawl. These sprawl problems have been characterized in a number of ways:

1. A land use pattern that is chaotic and unsightly and unstable, therefore less preferrable than one that could develop under systematic planning.
2. Such a land use pattern is more costly to develop and service.
3. Utilizes excessive amounts of the land resource.
4. Results in greater conflicts between agriculture and urban uses.

1/ 1972 Directory of Oregon Manufacturers, State of Oregon, Office of the Governor, Economic Development Division, State Office Building, Portland, Oregon

2/ Oregon Conservation Needs Inventory - Oregon Conservation Needs Inventory Committee, January 1971

A section in the recently published Marion County Comprehensive Plan entitled Urbanization Problems and Issues, which is quoted in part below, clearly describes some of these problems.[1]

"The problems that scattered nonfarm uses create in an agricultural area are both social and economic. Social problems can develop between farm and nonfarm people because of different life styles and different tolerances to farming characteristics. Nonfarm people may object to the odors of agricultural production, to dust, chemical sprays, smoke and noise. It may be necessary for a farmer to severely restrict his operations if he is to comply with many of the possible objections. The nonfarm people may also pose other problems for the farmer. Loose dogs can cause the injury or loss of sheep and cattle. Economic problems are often created by increased school enrollments and higher school taxes. Also, increased assessed land values can drastically increase the overall tax burden.

"Knowing what sprawl is, the problems it creates, and the costs it demands of society should lend one logically to ask, what are its causes? How can it be prevented? Some of the main causes of sprawl are (1) fragmented development, (2) overzoning, (3) market lag, (4) poor market information, (5) land speculation, and (6) taxing policies.

"Fragmented development: Even under the best circumstances, smaller parcels of land are left between larger developments. These parcels may be uneconomical to develop or may remain undeveloped for some time.

"Overzoning" Zoning land for a particular use when it has no immediate demand for that use still tends to drive the price of land up. The higher price makes it unavailable economically for many other alternate uses.

"Market Lag: Land supply responds slowly to the stimulus of high prices, but it responds massively resulting in an oversupply. The process of converting land to urban use involves many time consuming steps which results in a slowness by public agencies in providing the necessary services, and maneuvering by private landholders to secure the best possible position before sale.

"Poor market information: Many buyers and sellers operate on inaccurate and incomplete market information concerning potential demand. There is no single, authoritative source of information these people can depend on.

"Land speculation: This is probably the single most important cause of urban sprawl, and it is related to all of the above mentioned causes. Land speculation drives the price of usable close in land higher than developers can afford and forces them to seek cheaper land further away from the urban area. Besides creating land waste and increasing direct development costs, land speculation also involves hidden costs to society. The profits extracted by the land speculator are actually created not by anything the speculator does, but by the growth and development of the community at large.

"Even though land speculation involves such costs to society, our local, state and federal tax systems actually aid the land speculator. At the local level, underassessment of vacant property within the urban area can allow a speculator to hold out for years in

1/ Marion County Comprehensive Plan, 1972, Mid Willamette Valley Council of Governments, Salem, Oregon

expectation of getting a price for his land which may be greatly over-inflated. State and federal tax laws treat the income derived from speculative land profits in a most favorable manner. Speculative land profits are taxed not more than half as heavily as ordinary income, being treated as capital gains instead of as ordinary income. Federal tax laws also permit the reduction of holding costs to the land speculator by allowing the local land tax to be deducted from their federal tax bill.

"Rapid urbanization and suburbanization during the post World War II period started out most significant patterns of sprawl. But, more recently, a counter-trend of "escaping" from the urban area has taken place. Because of increasing urban taxes, crime, racial conflicts and urban chaos, many urban people have sought personal solutions to these problems by moving from urban areas to rural areas, where they perceive the problems to be less and the benefits greater.

"Solving this aspect of urban sprawl can be best handled by a positive program to improve the quality of life in our cities by providing the open space **amenities** and privacy that many seek **in a** rural setting. To do this and to correct all the problems of the urban area will require the financial resources of all persons of the urban community. This includes resident and non-resident workers.

"Overhauling our land taxation system so that it would not only support but induce urban development would certainly be a significant step (and most likely a difficult one) towards solving some of our urban problems. But additional changes will be required. Some approaches that could be followed are listed below. These are not proposals, but only suggestions which deserve detailed study. And while it has been beyond the scope of the current planning program to provide such study, it should be part of the planning and implementation program of the county.

1) Liberalized annexation would allow cities to annex all the land within their planned growth areas, so that they would have uniform control of the developing land use pattern and sewer and water service.

2) Compensable land use regulations would put some effective force behind land use controls by supporting decisions with compensation for any property rights, such as height limitation, area restriction, use limitation, which are unduly restricted.

3) Public purchase, other than through condemnation, or major tracts of land in growth areas enable the public to capture directly the land profits, and the acquired land could be pre-planned at the community (or neighborhood) scale and then sold to developers who would be required to operate within the established overall design framework."

IT SHOULD BE EMPHASIZED THAT the above are not recommendations but proposals for further study.

Polk County is situated in a unique position in the Willamette Valley. It does not contain a major large city, yet is surrounded by counties with larger cities. This relation will not change during the next twenty years. As accessibility to the county is improved from Salem, Corvallis, and Albany by the construction of bridges and highways, the travel time to these centers will be sharply reduced and the county will experience considerable development as a bedroom community in the years to come. This will have significant impact upon

the county and school district's ability to provide services in the future. The future land use patterns will stimulate and be stimulated by future public expenditures for water systems, sewer systems, roads and schools.

To give some perspective to the amount of land available for development and the scale of development expected, Table 4 gives some basic figures for the County.

TABLE 4

POLK COUNTY AREAL CHARACTERISTICS

Total Land Area		472,247
Forest		213,247
Agriculture		227,458
inc. Flood Plain	41,664 acres	
Other Lands		32,228
inc. urban	5,874 acres	
parks	234 acres	
vacant, water, etc.	26,150 acres	
	1973	1990
Total Population	39,500	53,180
urban	24,221	34,460
rural	15,259	18,720
Density of potentially developable rural areas, excluding forest, flood plain, and urban lands.	.16 (people/acre)	.21

Although there are more than 200,000 acres of potentially developable agricultural land in the county in the interests of maintaining a strong agricultural base to the economy, the General Land Use Plan, Map No. 8 , identifies approximately 64,400 acres of marginal foothill property for rural residential development. By establishing a 5 acre minimum parcel size for those areas, potential exists to accommodate in excess of 12,500 residences for a population increase of over 45,000 persons. As indicated by Table 4, the availability of space is more than adequate to compensate for the projected population increase. Further, as technology improves methods for sewage disposal, the densities could be permitted to increase substantially without creating a need for a rural-regional sewerage system. However, it is now and will remain crucial to guide and direct growth to those areas designated on the General Land Use Plan as urban and rural residential if the agricultural areas are to be preserved.

The land use plan envisions a policy of containment and directed growth, as opposed to uninhibited and scattered development or complete containment of urban development within existing cities. Therefore, the following policies are proposed to implement this pattern of controlled and directed growth:

1. The county, in cooperation with the cities, shall strive to encourage future growth in specific areas within and adjacent to these communities where the full range of urban services are available.

2. That the county shall discourage densities in rural areas that are likely to cause the development or extension of urban service needs.

3. The county shall encourage the preservation of farm lands for future generations.

4. The county shall encourage development of rural water systems in areas designated for rural (suburban) acreage homesites (within low productivity areas).

Urban Areas

The county presently has three main urban areas: Dallas, Independence-Monmouth, and West Salem (part of metropolitan Salem), and two small cities: Willamina and Falls City. Comprehensive Plans have been completed for Salem in 1972; Dallas, 1970; Monmouth, 1972; and Willamina 1968. For details on the land use within these communities, their plans should be consulted.

It is the leading edge of expansion outward from these communities that is of concern to the county plan. The fostering of the necessary cooperation and coordination of planning among cities and the county is essential if logical patterns of land use are to be developed adjacent to and ultimately within these jurisdictions.

The Dallas Plan calls for future growth to be directed to the low coastal foothills to the west and north of the city. It also sets as a policy an eastern limit at Bowersville Road. At present, this area is predominantly used for agriculture and the majority of it will continue to be used for this in the future.

The Monmouth Plan defines an area immediately adjacent to that community that can reasonably expect to be utilized in the next twenty years. Expansion to the east to utilize the vacant land between Independence and Monmouth is recommended and northward into vacant land south of Hoffman Road. Again, much of this area will be used agriculturally for years to come.

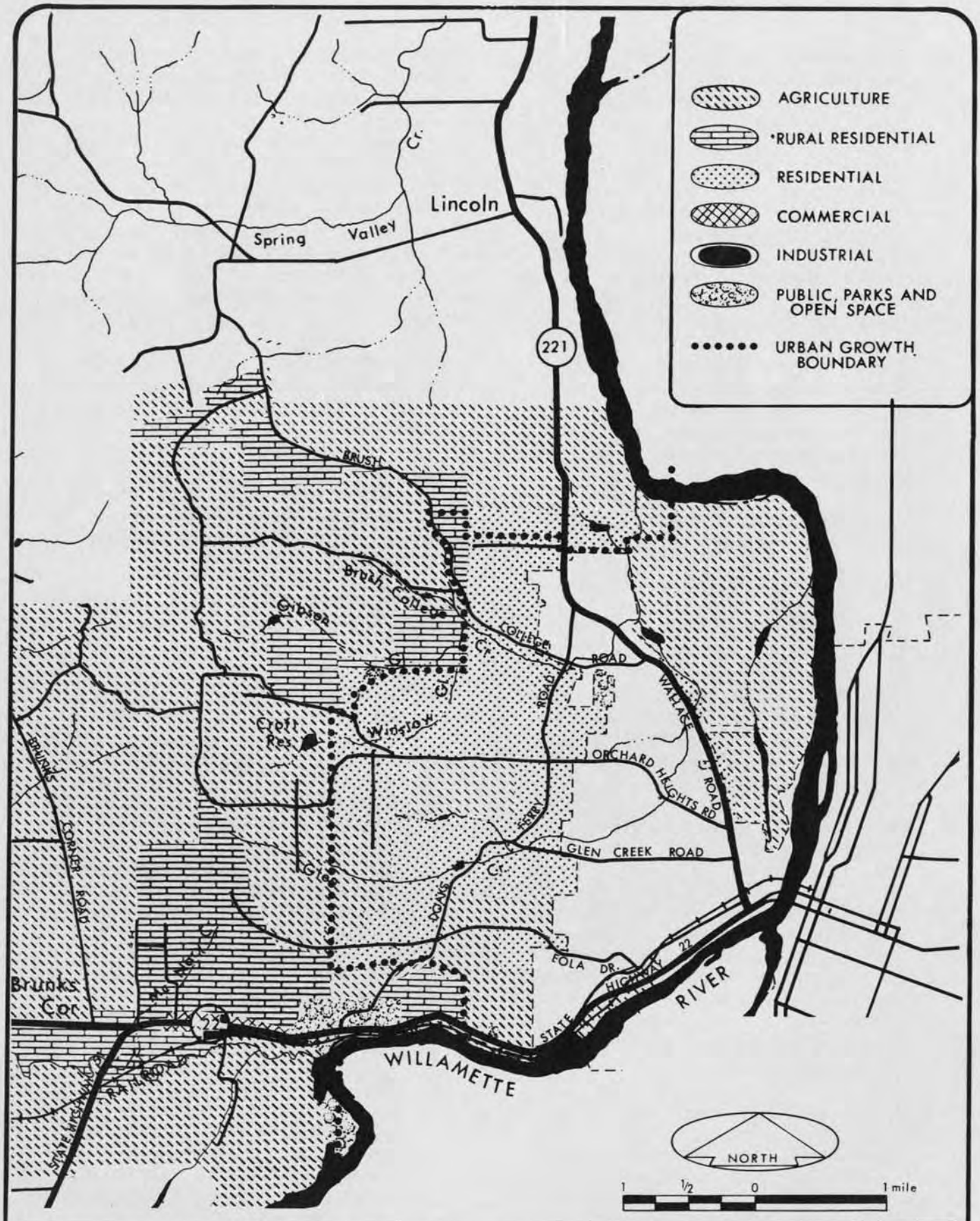
The Salem Area Comprehensive Plan delineates an urban growth boundary surrounding the present city limits. The Salem Plan generally conforms to the Eola Hills Land Use Plan adopted by the Board of Commissioners in 1971. Development of the area between the existing city limits and the Urban Growth Boundary, as shown in Map No. 9, is to be guided by the following policies which were adopted by the Polk County Board and the City of Salem in April 1974:

1. Future urban development shall be contained within the geographical limits of an urban growth boundary.

2. An urban growth boundary shall be established by the parties hereto and said parties shall take the necessary action to have the boundary and the policies herein set forth made a part of their respective comprehensive plans.

3. The area outside the urban growth boundary shall be maintained with low density living areas, open space lands and other uses compatible with the intent of the Urban Growth Policies.

4. All parties shall work toward the development of the most efficient and economical method for providing specific urban services to the area within the Urban Growth Boundary.



SALEM URBAN GROWTH AREA

MAP NO. 9

5. All parties should encourage the orderly annexation to the City of Salem of the land within the Urban Growth Boundary.

6. All parties shall work toward improved delivery systems of services that require coordination by larger units of government.

By the joint adoption of the above policies, Polk County and the City of Salem demonstrated their intent to:

1. Contain urban development within planned urban areas where basic services such as sewers, water facilities, police and fire protection can be efficiently and economically provided.

2. Conserve resources by encouraging orderly development of land.

3. Preserve farmland and open space.

4. Make more economical use of local tax dollars in locating facilities and providing services for the benefit of all citizens within the urban growth area. Since urban services are interrelated, coordination is best achieved by a single governmental unit.

5. Provide property owners greater security in long range planning and investments.

6. Make it possible for utility extensions, transportation facilities and schools to be designed and located so as to more closely match population growth.

7. Preserve and enhance the livability of the area.

Urban Area Peripheral Development

Urban development with densities of one dwelling unit per acre is recommended adjacent to the communities. Review of any proposals in these areas should be made by the local community in anticipation of future annexation and for the purpose of coordinating design of urban services.

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Within areas designated for urban growth on the General Land Use Map, the following general development policies should be adhered to:

1) The general policies and plans established in this report shall serve as guidelines for specific development plans within urban areas.

2) Expansion of urban areas should occur outward from existing development in an orderly, efficient and logical manner. This will involve the staging of roads, water and other services according to planned development areas and the use of land use control measures.

3) Urbanization should be directed away from the land which is used for the production of agricultural crops. The use of open space and permanent green belts should be utilized to stop expansion into such areas.

4) Urbanization should not encroach into known flood plains, geologically unstable areas or other physically hazardous areas.

5) Municipal sewer and water facilities should be restricted to those areas planned for urban development and not extended into rural areas planned for agriculture, forestry or other open space use.

The General Land Use Plan depicts the area of existing and proposed urban development. The two minor urban areas of Falls City and Willamina are expected to experience minor growth during the target period. In the case of Willamina, limited expansion to the southwest would seem to be most desirable. For Falls City, expansion should be limited to the existing city limits and low densities should be maintained until a sewage treatment system is installed.

The only other area where dense urban development potential exists is in the Rickreall-Derry-Highway 99W area. The development of the rural water system will enable further development in this area. This area is viewed as having long term potential only if the necessary "public" utilities and flood protection can be provided. It's central location, accessibility to both rail and highway transportation gives it potential for industrial development. However, the lack of a sewerage system dictates that densities and industries with high waste discharge must be strictly controlled. One solution to the sewerage problem would be to provide a force main west to the Dallas Treatment Plant.[1]

Where commercial and industrial uses are developed along principal arterials such as Highway #22 and #99W, setbacks of 125 feet from the centerline of such facilities should be observed. Additionally, site design review techniques, i.e., planned development or resolution of intent to rezone, should be the mechanism by which development is reviewed and ultimately permitted.

Another alternative to encourage well planned, clean industry at this location would be to investigate the creation of a dry land port district with authority to grant development bonds to cover costs of developing the high capacity water, sewer, (and flood protection) systems so vital to the successful development of a viable industrial park.

1/ Water Quality Management Plan, Mid Willamette Valley Council of Governments, February 1974

RURAL LAND CONSERVATION AND DEVELOPMENT POLICIES

As a specific framework for guiding future development and conservation decisions, the rural segment of the county has been designated for agricultural areas, rural residential areas, forest areas, and rural community centers. Policies are established relating to this breakdown and on the means of conversion of rural lands.

Agricultural Areas

The area designated agriculture on the General Land Use Plan, Map No. 8, comprises 179,500 acres. This area is characterized by larger ownership patterns, productive soil, little urban intrusion, and homogeneous agricultural use. A portion of the area is in the flood plain of the Luckiamute and Willamette Rivers. Topographically, it contains level to gently rolling hill land. Areas within this designation do have some steep brush and tree covered slopes which are often used as pasture.

The suitability for septic tanks is about 8 percent (14,535 acres) good, 16 percent (29,070 acres) fair, 41 percent (74,340 acres) poor and 34 percent (61, 555 acres) very poor.

The intent of the agriculture designation is to preserve the agricultural economy of the county by strictly limiting nonagricultural development in the area. Only those nonfarm uses that are essential to the farming community would be permitted; such uses may include schools, churches and parks.

Such nonfarm uses or dwellings may be permitted in this area only after review by the Planning Commission and determination that such uses or dwellings will not be detrimental to the purpose and intent of the Comprehensive Plan to conserve this area for farm purposes. Subdivisions should not be permitted. Zoning in the area should be of the Exclusive Farm Use or Exclusive Farm Use 20 type.

Development should take place only where the rural development policies concerning development in agricultural areas can be found to apply.

The rural land conservation and development policy attempts to identify the areas and circumstances under which land will be permanently preserved for agricultural use. It is apparent that a great deal of land is not being farmed or not being farmed as intensively as is possible. This, then, tends to set the stage for the question of which land, where, and when it should be preserved? The farm community provides both direct and indirect benefits to the county. The farm and related agribusiness employment provide direct economic benefits. The open space, pastoral setting and beautiful scenery are indirect benefits that society receives due to the farm community. When the farm community is viewed in light of the local economy, social and environmental benefits and long range projections, then a plausible argument for preservation of this farm land can be made and sustained.

This means that the county as a whole and particularly the farm community must be committed to the goal of preservation of farm areas free from further encroachment. It means that an agriculture area should be set aside. It means that some land area will be converted to urban uses in those areas designated Rural Residential and Rural Community Center.

The very fact that some areas will experience development will result in conflicts in land uses. Within these areas, the predominant (most extensive) use will remain agriculture, and there is a need to afford these prior activities some protection for their usual and normal operational practices. The particular policy statements follow on the next page:

1) In order to conserve productive soils for agriculture, every effort shall be made to prevent undue encroachment of urban influences onto the best and most productive agricultural lands in the areas designated for agriculture.

2) Residential uses within the agricultural and forest areas are limited to dwellings for owners and operators of these activities and to persons employed in these sectors.

3) In agriculture areas, every effort shall be made to discourage encroachment or conversion of farm lands to nonfarm, urban uses.

(In order to avoid unnecessary conflicts and community costs in areas designed as agriculture and rural residential, conversion of rural land to urban purposes may be permitted when all of the conditions listed under 3A below are met and a majority of the conditions listed under 3B are satisfied.)

A. Mandatory conditions for all rural development:

1. An adequate quantity and quality of water supply will be available at each new lot.

2. The land is not located in a known flood plain or geologic hazard area.

3. The land is suitable for subsurface disposal of septic effluent for the life of the property, meaning that sufficient ground of suitable characteristics are available for the initial system plus space for repairs and additional systems.

4. The new use will be compatible with existing farm and other rural activities in the area.

B. A majority of the following conditions must be satisfied:

1. The land to be converted is composed mainly of low productive, low classified soils.

2. The land is wooded, (oak grub or brush covered).

3. The land has marginal utility for agricultural use because of its physical characteristics, terrain, shape, vegetative cover, etc.

4. The conversion will not alter or cause an alteration of the stability of the land use pattern.

5. The impact on public services such as roads, schools, sewers, is not detrimental to the community.

4) When it is determined that a parcel of land is suitable for development under the rural land development policy, then the following standards should apply to such developments:

A. In cases where the ground water table (supply) is known to be variable or deficient, the developer must develop a community water system providing an adequate quantity and quality to each lot or be able to utilize an existing domestic water system.

B. The stripping of existing farm to market roads shall be dis-

couraged and access should be from an internal street network.

C. The lots created shall have sufficient area to be able to handle the subsurface disposal of septic effluent for the life of the property. This will require sufficient ground of suitable characteristics for initial installation and additional area for repair and second fields.

D. Subdivisions shall have paved streets, except when only a few parcels are involved, and there is no potential for increased traffic or the parcels are involved, and there is no potential for increased traffic or the parcels are extremely large. The grades and width shall meet the minimum county standards.

5) In the rural residential areas, the density of development will be related to the capabilities of soils, the types of terrain, proximity to cities and adjacent rural activities. The basic density will be from 2 to 20 acres per dwelling unit. Under appropriate conditions and with cluster development, a one acre minimum may be approved.

6) In any rural area which is known for a variable and limited water supply, the developer has the responsibility to prove that a sufficient water supply is available and to install an approved water system for the development.

7) In any known geologic hazard area, it shall be the developer's responsibility to provide the necessary detailed engineering geology studies performed by competent engineers that will ensure a safe development of the land prior to any consideration for development.

8) All residential uses shall have sewer and water systems that will meet or exceed standards that exist at that time for health and sanitation.

9) Areas designated for reservoir sites within the Plan will be protected from development that would jeopardize such projects, unless a study has been conducted showing the project to be infeasible.

10) Land within commercial farm units should be taxed based on its productivity index.

11) Rural development shall not be designed so as to strip existing farm to market or rural collector streets.

12) Fragmentation of large farm units in farm areas shall be discouraged.

13) Development of permanent structures within the 100 year flood plain shall be discouraged. The best use of this land is for agriculture, parks and recreation in poorer soils and other open space activities. It shall be the responsibility of the developer to prove that development is feasible and safe before any approval will be given in an area identified as flood plain.

14) Extraction of minerals from the rural-urban area should be permitted if a suitable rehabilitation plan is completed and the extractive activity is otherwise compatible with surrounding uses and does not damage adjacent areas.

15) In areas designated agriculture, all land division should be submitted to and approved by the Planning Commission. An affirmative decision will be granted only if one or more of the following conditions are found to exist:

a. The division is for the purpose of expansion or consolidation of adjoining farming activities;

b. The division is for the purpose of disposing of a second dwelling which has existed on the property.

c. The parcels to be created are of such an expansive nature so as to impose minimum threat to adjoining farm operations.

d. The division clearly follows a physical feature which would hinder normal and necessary farming activities.

e. The division is required to obtain construction financing for housing to be occupied by those engaged in the farming operation.

16) Rural developments should utilize the planned unit development approach to insure future livability in the development and compatible relationship with adjoining land. The clustering of structures will insure the retention of open space and allow the provision of buffers between development and adjacent farmland.

17) Rural developments that are outside of existing or proposed sewerage service areas shall have sufficient land area of suitable soil characteristics that would be reasonably expected to provide a viable subsurface disposal system for at least 40 or more years or the life of the property. This means that enough room must be available on the lot for the initial system plus room for repairs or second tile fields, if necessary.

18) Acreage subdivisions in urbanized areas that are likely to be within service areas by the year 1990 should be designed with redivision plans incorporated to urban densities and reservations made for the necessary streets.

19) To insure an adequate, efficient and safe road network, accesses to rural arterials and collector roads shall be limited.

Rural Residential Area

Within the county several areas totaling approximately 64,400 acres, have been designated as rural residential areas. These areas are characterized by generally hilly topography, a high percentage of poorer soils, oak and brush covered slopes, and are sparsely settled. Agriculture is an extensive use in most of these areas, and is generally located on the smaller valley floors. Densities will be maintained very low and will be determined by soil conditions, water availability, slope and slope stability, conflict with farming activities and proximity to urban area. The suitability for septic tanks on these lands is approximately 5 percent (3415 acres) good, 10 percent (6830 acres) fair, 60 percent (40,980 acres) poor and 25 percent (17,075 acres) very poor. The minimum density in such areas will be one dwelling per acre and vary up to one dwelling per 20 acres or more. In most instances the density will be from 2 to 20 acres per dwelling. This area will allow farming, low density rural subdivisions and other uses subject to land use policy guidelines and commission approval, such as commercial, recreational uses, farm related businesses and mineral extraction.

Forest

This area designates the area of the county that is mainly within the Coast Range, held in large ownership patterns, and is covered by commercial stands of Douglas Fir, True Fir, Hemlock, Cedar, Spruce and other varieties of merchantable species. Consideration is given

soil type and the existing timber stand. The primary use of this area will be the raising, harvesting of the forest crop. Secondly, public park and recreational areas, community facilities and agricultural uses are allowed. Isolated dwellings and commercial recreational uses may be allowed subject to Rural Land Development Policies and Planning Commission approval.

Rural Community Centers

These areas are existing, service communities where small lots have been platted, commercial service has developed and community facilities are located. These are areas where utility systems are generally lacking and will be impractical during the next 20 years. Therefore, residential densities should be maintained low and commercial and industrial activities should be limited to those which are essential and compatible to the surrounding rural activities and/or development.

PUBLIC FACILITIES AND UTILITIES

This section deals with the various community facilities that are quite often taken for granted in our every day lives; the provision of fire protection, schools and government centers.

Emphasis will be placed on the schools and government center within this chapter and updating where necessary of the sewer and water plan. Fire protection outside of incorporated areas is supplied mainly by volunteer fire departments with facilities located throughout the county.

SCHOOLS

Polk County has five school districts located within the county boundary and five other districts that overlap from neighboring counties into Polk County. Each of these districts and their enrollments are listed in Table A-7.

Several changes in district names and boundaries have taken place since 1965. Ballston school district was consolidated into Amity school district of Yamhill County, as was Bethel school district. Buell district was consolidated into Willamina and Sheridan districts of Yamhill County and part into Perrydale district of Polk County. Salem school district took over the Popcorn district and Grand Ronde district was consolidated into Willamina of Yamhill County.

The school facilities located within Polk County are described in Table A-8. There are three high schools, four junior high schools and nineteen elementary schools in the county. Also, there are two small school facilities at Perrydale and Valsetz that include all grades 1 to 12.

During the past six years, the rural elementary schools of Orchard View, Airlie, Greenwood, Riverside, Bethel, Buell and Popcorn have closed. The students previously enrolled in these schools have been moved into existing schools in nearby communities. The only new schools built in the county during that time have been Talmadge Junior High in Independence and LaCreole Junior High in Dallas, although Dallas is in the process of constructing a facility to replace the old Morrison Elementary School. Talmadge replaced Henry Hill, freeing that school for elementary use and LaCreole began sharing the 7-9th grade enrollment with previously overcrowded Academy Junior High. The old Morrison Elementary School structure is proposed for use as office space, storage and shop area for the District. All totaled, recent and ongoing improvements in the Dallas school district will add more than 20 new classrooms or special use rooms such as shops, music halls, theaters, etc., while improvements in other districts in the county remain relatively static. Talmadge, at Independence, reduced the grades taught at Central High in order to better service the increased enrollments from population growth and consolidation. Monmouth elementary also absorbed some of the increase in students by adding a seven room addition to its building.

There are only two private schools in Polk County. These are the Salem Academy and the Western Mennonite Academy, both of which are located in West Salem. The Salem Academy has grades 7 through 12 and is filled to capacity at over 400 students. Plans are being developed for expansion to increase capacity to 600 students. Western Mennonite Academy is a boarding school and has an enrollment of 128. Both schools attract students from a wide area and only a part of them are actually residents of Polk County.

All schools in the county make considerable use of busses to transport students from outlying rural areas to centrally located schools. Transportation needs are high due to the closing of several rural schools and the subsequent consolidation of school services. Another factor that influences transportation is the irregularity of existing

district boundaries which frequently require transportation of students to distant schools when school facilities of another district are close at hand.

The Polk Intermediate Education District (I.E.D.) Boundary Board decides on all boundary changes subject to appeal to the Oregon State Board of Education. The criteria governing boundary changes is set down by state law. At present, the Polk I.E.D. plan calls for an eventual reorganization into two districts.[1]

In addition to the transportation of students within Polk County districts, about 1,000 elementary and high school aged students who reside in the Polk portion of Willamina, Amity, Sheridan, Salem and Philomath school districts commute to schools in Yamhill, Benton and Marion Counties.

Over the 1960-1970 period, the school-aged population of Polk County increased by 2,000 people.[2] Most of this increase was in the older age groups. An additional 770 children aged 15 to 17 were living in the county in 1970 whereas only 370 more children aged 6 to 9 were present. Of additional significance to future use of school facilities is the actual decrease of 125 members of the county population 0-5 years old. This decrease, combined with the relatively small increase in population of ages 6 to 9, seems to signal a future decrease in demand for student use of school facilities during the next ten years. High schools and junior highs can be expected to feel the pressure of high enrollments over the next few years until the effects of declining birth rates reach these grade levels.

However, in-migration, which historically has contributed 60% of the population increases in the Mid Willamette Valley, must be considered in estimating future enrollments. Polk County's population is expected to reach fifty to fifty-five thousand people in the next twenty years. Based on the 1970 ratio of school aged population to total population, the number of children 6 through 17 years old is expected to increase from the 8,400 in 1970 to 10,500 in 1980 and 12,000 in 1990.

The standards for public schools, adopted by the State Board of Education, specify that the average class load within a school in grades one, two and three should be a maximum of 25 pupils and in grades 4 to 8, it should not exceed 30 pupils.[3] Based on this standard, Henry Hill, Independence, Monmouth, Whitworth, West Salem, and Brush College elementaries are at or near capacity in several classes, Table No. A-8. This present enrollment situation and the expected growth for the county during the next twenty years indicate both a short range and long range need for additional classrooms, and even complete buildings.

The projected population increase for Polk County is expected to happen primarily in and around the incorporated areas of Dallas, West Salem, Monmouth and Independence. It is in these areas that 90% of the present student enrollment is located.

Salem School District 24J is presently improving the school facilities in West Salem. In 1973, Myers Elementary, a new school of 300 capacity opened and Mountain View, a limited 3 room building

1/ Interview with Elton Fishback, Superintendent Polk Intermediate Education District

2/ Annual school census

3/ Minimum Public School Standards, adopted by Oregon State Board of Higher Education, 1966

closed. This has increased total capacity in West Salem elementary schools to 1250 students. The excess space will allow the Salem School District to greatly improve West Salem elementary by closing the older, unsatisfactory section of the building and remodelling the remaining facility. Enough vacant pupil stations will remain to accommodate enrollment increases in the near future.

However, if the Salem District is to remain ahead of the expected enrollment increases in West Salem over the next ten to twenty years, several additional improvements will be necessary. Recommendations have been made to:

1) Enlarge Brush College Elementary to 500 student capacity.

2) Build a new 1000 student capacity junior high

3) Convert Walker Junior High to elementary use.

4) Close West Salem elementary, and

5) Acquire two new elementary sites - all within the next eight years.

The two new sites should be used for two 500 student capacity elementary facilities sometime between 1982 and 1990.

In the Dallas School District, the average daily membership has increased at a moderate rate since 1963. This increase was due primarily to in-migration which more than compensated for the decline in birth rate. It's estimated that the rate of increase of average daily membership will accelerate slightly resulting in an additional 750 students by 1990. This will mean a total demand over current numbers of more than 30 additional classrooms.

Over the past eight years, there has been a considerable increase in the average daily membership of Central School District. Approximately 600 additional students have entered Central's schools since 1963.[1]

This growth rate should slow slightly, bringing an increase of 1200 in average daily membership by 1990. This could mean a demand for 40 to 50 additional classrooms.

In other school districts that service Polk County residents, enrollment pressures are also being felt. Amity district has studied school facility needs through a citizens advisory committee. The first priority identified was to relieve enrollment pressures at the 7 and 8 grade levels. Ballston elementary in that district is also at capacity and the land area it has available is too small for expansion.

Sheridan district has experienced a stable enrollment over the past few years and has adequate classroom space for the present student load.

Willamina district needs approximately $1.8 million in new school facilities according to a recent building committee report. Grand Ronde elementary, the only Willamina district school located in Polk County, is in need of replacement. However, due to lack of funding, no plans for a new building exist.

In general, several schools in the county are well below the standard minimum site acreage, adopted by the State Board of Education. The minimum requirement of sites for new buildings or enlargements of existing school buildings are five usable acres plus one usable acre for 100 children or fraction thereof of ultimate building capacity for elementary schools

[1] Interview with Elton Fishback, Superintendent Polk Intermediate Education District

and ten usable acres plus one usable acre for each 100 children or fraction thereof of ultimate building capacity for junior high or high schools.[1]

Although this standard specifies sites for new buildings or enlargements, it is of significance to compare the site sizes of existing facilities to the minimum size requirements. Site size determines in part the ability to increase enrollment capacity and also indicates the amount of open activity area around the building.

Out of 27 schools in the county, 15 do not have sufficient acreage to conform to the minimum site size. Several of these schools do not vary enough from the standard to have much consequence. However, nine schools, including Academy Junior High, Morrison, Bridgeport, Independence, Oak Grove, Eola, West Salem, Mountain View and Ballston elementaries have less than one half the specified acreage.

With the exception of Oak Grove, Mountain View and Ballston, all schools within Polk County conform to the standard requiring each public school to have a central library facility.

Nearly all the schools also make their facilities available to the local communities for use after school hours. In this regard, the schools serve as an asset to the county in providing places for community wide meetings, recreation and adult education.

It has been the normal operating condition for schools to be behind needs in new construction and expansion to take care of increased enrollments. This is primarily due to the requirement for public approval of bond issues and higher tax support.

It is apparent that long range planning in site location and purchase and expansion and construction is desirable both in terms of dollar savings to tax payers and in providing adequate educational services.

The location of a school complex also plays a vital role in community organization and development. Schools provide logical hubs for residential neighborhoods. A properly located school encourages desirable development, maintains surrounding property values, and adds stability to a residential area. Oftentimes new sites are purchased on the urban fringe because land is cheaper and a new demand is developing there. After construction, the new school then attracts additional housing developments and population and it soon becomes overloaded.

In influencing urban growth so that public services can be provided at least cost and in the most efficient manner, new school locations and school expansions must be planned in coordination with the overall general plan for the growth of the area. Polk County is no exception. The existing needs for additional classrooms and the anticipated facility requirements for future enrollments should serve as an input into the overall county planning effort.

LIBRARIES

The library facilities in Polk County are not capable of adequately serving the present population. Based on the standard recommended by the American Library Association, the county should have approximately 25,000 sq. ft. of library space. Presently, there is only a combined total of approximately 10,500 sq. ft. in the libraries serving the residents of Dallas, Monmouth, Independence and Falls City. People residing in the unincorporated areas of the county who wish to use a library must pay a non-residents service charge to use those facilities existing in

1/ Op cit, Minimum Standards for Public Schools, adopted by Oregon State Board of Higher Education, 1966.

Salem or in the above mentioned communities. See Table A-9.

Another indication of inadequate library service is the level of financial support. The average per capita expenditure for libraries in Polk County during the 1971-1972 period was $1.21. This amount is considerably less than the state average of $2.97 for the same year.

The limited facilities and the relatively small per capita expenditure for libraries is of special significance when it is considered with the fact that Polk County's rate of unemployment historically has been higher than the state average. In working to improve this situation, adequate library facilities can be an asset to the county in that they can serve as a convenient community resource for vocational, educational and recreational reading material.

In this regard, it is recommended that Polk County act to improve library service to its residents. Several alternative methods are possible. Use of bookmobiles could be considered a logical first step. It is the least expensive means of making books available to people living in the unincorporated areas. However, it should be considered only as an intermediate step to developing stronger branch libraries. Another alternative of an intermediate nature would be to open school libraries to public use. In the West Salem area, instead of school libraries, the county could contract for the use of the West Salem branch of Salem's public library. This procedure would make library services available to county residents free of charge.

These improvement methods do not solve the long-range problem. Plans must be made for expansion of existing facilities so that they increase proportionately with the growth in population. In addition to the 15,000 square feet of library space presently needed, another 10,000 square feet of space will be required by 1990 to serve the county population projected for that date.

One long range approach that could improve library services without major expenditures for additional floor space is the establishment of a county library system. Such a system could coordinate all existing and future library facilities under one county-wide program. This system would make library services available, without service charge, to all residents of the county. It could also result in greater administrative efficiency and less over-all costs.

Another possible method for satisfying long range library needs is a cooperative library system at the regional level. In a study completed in November 1973, the Mid Willamette Valley Library Study Committee, which was formed at the request of Polk, Yamhill and Marion (PYM) librarians, looked at ways to equalize library services and provide a greater depth and range of resources within the Tri-County area.

The Committee, composed of elected city and county officials, various library board members, and assisted by a professional library consultant, has reviewed existing facilities and made recommendations for improving library service. Described in the recommendation are the kinds and levels of library service which would be a part of the future development of cooperative regional library services. The guidelines for accomplishing them address the following: Organization, management, staffing, financing and legislative implications.[1]

"The recommended Plan and policies presented indicate that:

1) Cooperative regional library service would provide library ser-

1/ Dalton, Phyllis I., The Chemeketa Cooperative Regional Library Service, Mid Willamette Valley Council of Governments, November 1973

vice to all people in the Chemeketa Cooperative Regional Library Service;

2) Cooperative regional library service should be preplanned and be developed in stages;

3) A higher level of library service to all the residents would result.

The cooperative regional library service plan should be followed in order to:

1) Provide library service to all residents on a planned cooperative regional basis;

2) Improve library service to each resident through the creation of a cooperative regional library service that provides a basic structure for continuing cooperation in the Region;

3) Provide books and other media to every resident in the Chemeketa Cooperative Regional Library Service by direct access; to provide also professional library assistance for information, knowledge, recreation, pleasure, culture and education.

Basically, the Plan provides for a cooperative regional library service. The proposed Chemeketa Cooperative Regional Library service, which is an association of autonomous local libraries working together to provide improved library service for all residents in the area, should be provided with the legal and financial support necessary to initiate the service and to sustain the service. The legal structure for the Chemeketa Cooperative Regional Library Service would be the Chemeketa Community College."[1]

FIRE FACILITIES

Fire protection outside of incorporated cities is provided by rural fire districts manned by volunteers. As development takes place, increasing demands will be made on existing facilities. Since fire insurance rates are related to response time, it is anticipated that demands will be generated for establishment of additional facilities, equipment and expanded service.

The service area for what can be considered minimal response time is judged to be 5 miles for initial response with secondary response available within 8 miles. This qualifies a dwelling for a Class 8 fire insurance rate. Certain areas of the county proposed for development either fall below established minimums for response, are unprotected or suffer from an inadequate number of volunteer membership. Areas that may require additional or new facilities include the Eola Hills-Spring Valley Area, Pedee and Buell.

GOVERNMENTAL FACILITIES

As population increases, demands for governmental services tend to increase. This is expected to be the case for Polk County. Providing space for these services will be the responsibility of the County. The question of how to meet this need and where to locate additional facilities will have to be answered over the time period of this Plan.

Initial space requirements may be met by remodeling the existing courthouse. However, continuing analysis of space needs and development of a definite expansion policy will be needed to meet short and long-term needs. Alternatives include 1) centralization - retaining all county offices in Dallas, and 2) decen-

1/ Ibid. Page ii

tralization, which would allow delivery of certain services, primarily social services, at the local community level.

Over the short term (3-7 years), the county should look toward acquisition of land in the vicinity of the present courthouse to provide needed parking and office space.

PUBLIC UTILITIES

Sewer and Water Plan Update

The 1961 Plan identified several areas in Polk County with deficient domestic water supplies. Two areas have since installed rural water systems using Farmers Home Administration funds. The Luckiamute system is now in full operation and expanding and pipeline for the Rickreall System is in place and individual services are currently being installed. Two other systems, Perrydale and Grand Ronde, Map No. 4, are approved and awaiting funding.

These systems are governed by the Cooperative Corporations which are not responsive to other needs of the people for sewers, police protection, etc., due to the restrictions set by the Oregon Revised Statutes.

Most rural systems, like the Luckiamute Domestic Water, can provide service to a large number - 100 to 200% growth capacity over and above the initial water users. However, the location of additional users must be reviewed if concentrations of demand higher than anticipated, are encountered. These systems can generally withstand growth that is uniformly distributed but they may be restricted in their ability to handle large subdivision development in some or all areas of services.

Adequate water for domestic use and stock watering is needed throughout much of the county for both the current and future needs of the farmers and rural residents. Adequate water through large domestic water systems like Luckiamute, Rickreall, Grand Ronde, and Perrydale will stimulate and promote rural development which must be anticipated. With water, this land has additional demands for use other than farmland or idle brush and scrub lands. Care must be exercised to retain farmland for future agricultural activities. Rural development with proper soils for septic tank development should be encouraged on lands of limited agricultural potential. This will generally restrict rural development to 2 to five, ten, twenty or more acre tract sizes where water is available.

The 1969 Plan[1] projected little need for sewerage systems in the planning period. Increasingly stringent water quality standards established by the State Department of Environmental Quality, together with septic tank failures, now necessitate more detailed studies, particularly in the Grand Ronde, Rickreall and the Falls City areas to 1) determine the need, and 2) the feasibility of sewerage systems for these areas.

The Water Quality Management Plan,[2] prepared by the Mid Willamette Valley Council of Governments staff in February 1974, has identified "the major point-source dischargers in the (Tri-County) planning area and developed sewerage facilities designed to meet the federal algae removal and state water quality standards. It was designed to complement the previous water and sewerage studies of the area and to implement the strategies of local comprehensive plans regarding the location and density of urban land uses.

1/ A Water and Sewer Plan for Polk County, Oregon, Mid Willamette Valley Council of Governments and Boatwright Engineering, Inc. 1969

2/ Water Quality Management Plan (Draft Copy), Mid Willamette Valley Council of Governments, February 1974

"The report provides a background analysis of population and economic conditions and community sewerage systems. It also develops a series of goals and objectives for water quality management planning; assigns engineering design criteria, and establishes a cost-effective methodology for the evaluation of alternative sewerage arrangements. Using this procedure regional sewerage arrangements are evaluated according to their costs and environmental impacts in ten areas of the planning jurisdiction.

"A capital improvement program identifies the type, cost and timing of the construction of the facilities associated with the cost-effective solution. The type of institutional framework and revenue funding strategies are identified for areas requiring regional treatment systems."[1]

The county should investigate the possibility of establishing a county-wide service district for the purpose of providing sewer and water services. The proposed service district working in concert with the policies and proposals contained in the Comprehensive Plan could then direct growth in an orderly planned fashion.

GAS and ELECTRICITY

Polk County has provided corridors for the intrastate transmission of electricity and gas. As future needs for these energy sources increase, additional facilities may be required. Right-of-way acquisition should be coordinated with and reviewed by the county so as to minimize adverse impacts on the community. Specifically, such facilities should:

1) Utilize or parallel existing utility, rail or highway rights-of-way;

2) Minimize impacts on land owners by paralleling property boundaries wherever possible;

3) Minimize impact on crops and field drain tile installations;

4) Recognize and respect accepted farming practices in the affected areas for preservation and replacement of topsoil and to minimize erosion potential;

5) Prevent the creation of unuseable parcels in and adjacent to urban areas;

6) Consider utilization of parts of rights-of-way for bicycle paths or other multiple uses where conditions warrant and conflicts would not be created with adjacent land uses.

1/ Ibid, Abstract

PLAN FOR TRANSPORTATION

The transportation system is a primary structuring element of the county, region and the urban areas. Historically, the movement of people and goods to and through the region has directly affected the development of Polk County. While surface transport played the major role in the development of urban settlements, water borne transportation utilizing the Willamette River also contributed to the early development of large and small settlements along the eastern boundary of Polk County. Place names like Wells Landing, Wigrich Landing attest to the importance of this form of transportation in earlier days. At some riverside locations, settlements such as Lincoln, Buena Vista, developed as grain shipping centers. Today, of course, the highway and rail systems are the primary modes of transportation in the county. The following section attempts to integrate the transportation systems in the county with the proposed land uses and to provide recommendations relating to the location and standards of thoroughfares which will make up the county's road system. Separate sub-elements will discuss airport facilities and rail facilities as they relate to the Polk County transportation system.

HIGHWAY DEVELOPMENT

For some years to come, the primary mode of inter-city movement will be the motor vehicle - cars, busses and trucks. The provision of adequate facilities to accommodate the future volumes of traffic is of prime importance. In order to provide a common frame of reference when discussing highway proposals on a county, regional and statewide and national level, the following classifications are recommended.[1] The list that follows is based on the rural area system while the classifications contained here relate to rural areas.[2] They necessarily inter-connect with existing and proposed routes through urbanized areas. For specific alignments and street classifications in these urban areas, the existing plans for the specific areas should be reviewed.

Rural Principal Arterial Road System

The rural principal arterial road system for 1990 will consist of a connected rural network of continuous routes having the following characteristics:

1. Serve projected corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.

2. Serve all, or virtually all 1990 urban areas of 50,000 and over population and a large majority of those with population of 25,000 and over.

3. Provide an integrated network without stub connections except where unusual geographic or traffic flow conditions dictate otherwise (e.g. international boundary connections and connections to coastal cities).

The principal arterial system should be stratified into the following two categories (of which only the latter applies to Polk County):

Interstate system - The interstate subclassification should include the entire 42,500 mile interstate system.

1/ It should be noted that the Plan addresses the rural transportation system of the County. The Salem Area Transportation Study (SATS), which covers most of the east side of the Eola Hills in the West Salem Area, is essentially an urban system utilizing generally different funding sources, definitions and standards. For specific projects in the SATS area, see the SATS 1982 Plan, Map No.11.

2/ Extracted from the National Highway Functional Classification Manual, U. S. Department of Transportation

Other principal arterials - This classification consists of all existing and projected non-interstate principal arterials.

Rural Minor Arterial Road System

"The rural minor arterial road system for 1990 should, in conjunction with the principal arterial system, form a rural network having the following characteristics:

1. Link cities and larger towns (and other traffic generators, such as major resort areas), that are capable of attracting travel over long distances and form an integrated network providing interstate and intercounty service.

2. Be spaced at such intervals, consistent with population density, so that all developed areas of the state are within a reasonable distance of a principal arterial highway.

3. Provide (because of the two characteristics defined immediately above) service to corridors[1] with trip lengths and travel density greater than those predominantly served by rural collector or local systems. Minor arterials therefore constitute routes whose design should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.

Rural Collector Road System

"The rural collector routes generally serve travel of primarily intracounty rather than statewide importance and constitute those routes on which (regardless of traffic volume) travel distances are shorter than on arterial routes. Consequently, more moderate speeds may be typical.

In order to define more clearly the characteristics of rural collectors for this study, this system should be subclassified according to the following criteria:

Major Collector Roads - These routes should: (1) provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators of equivalent intracounty importance, such as consolidated schools, shipping points, etc.; (2) Link these places with nearby larger towns or cities, or with routes of higher classification; and (3) serve the more important intracounty travel corridors.

Minor Collector Roads - These routes should (1) be spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road; (2) provide service to the remaining smaller communities; and (3) link the locally important traffic generators with their rural hinterland.

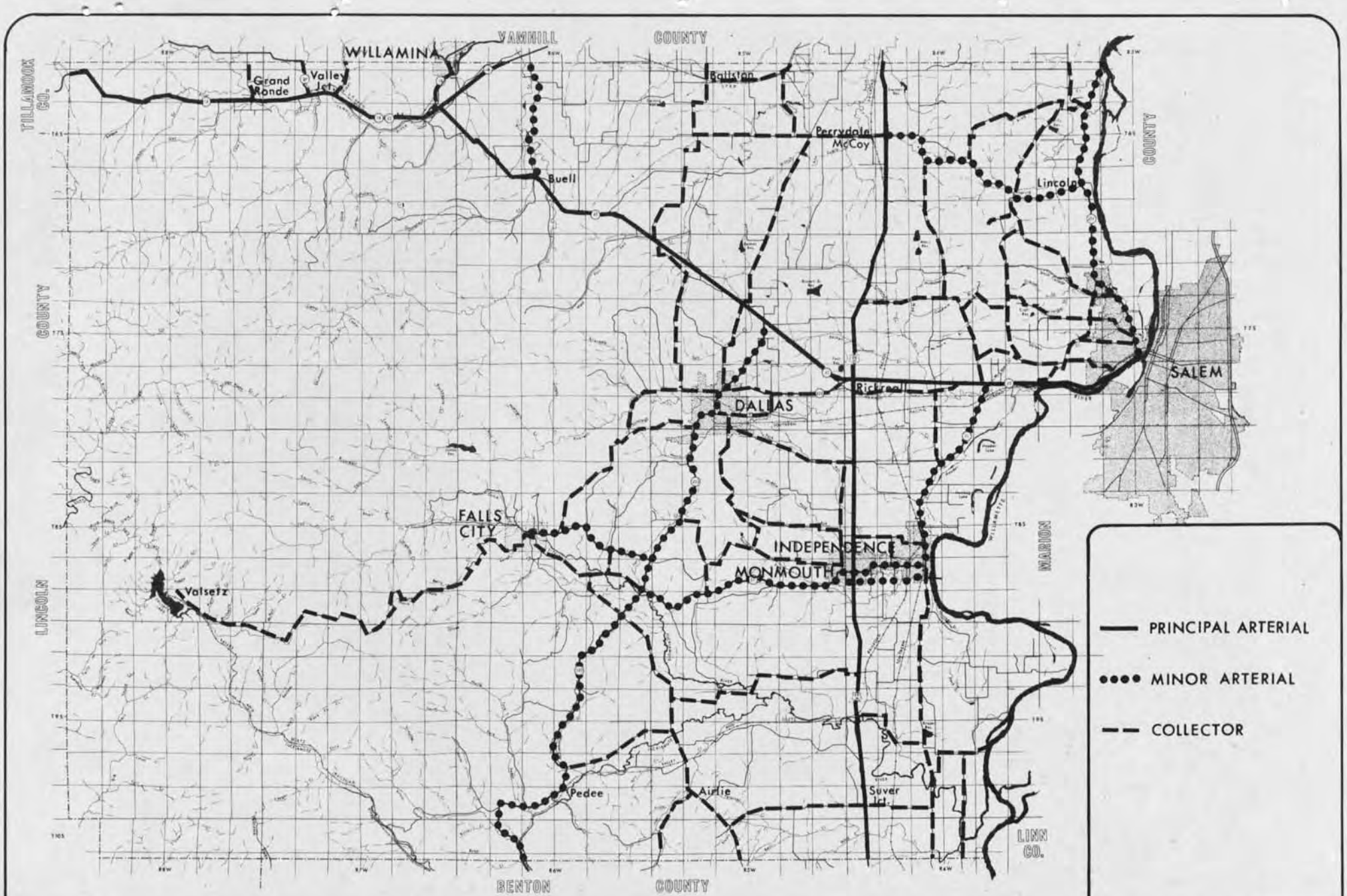
Rural Local Road System

"The rural local road system should have the following characteristics: (1) Service primarily to provide access to adjacent land and (2) to provide service to travel over relatively short distances as compared to collectors or other higher systems. Local roads will, of course, constitute the rural mileage not classified as principal arterial, minor arterial road or collector road."

EXISTING CONDITIONS

At the present time, there are 882 miles of various types of public highway with-

1/ Corridor - The path a highway takes through an area.



MAP NO. 10

TRANSPORTATION PLAN

MAP NO. 10

in Polk County. Of this, Polk County is totally responsible for the upkeep of 405 miles. An additional 168 miles which are designated county road are eligible for federal aid as are all state primary and secondary routes within the county. Federal aid highways are those selected by mutual agreement between the U. S. Bureau of Public Roads and the State Highway Commission to be placed on the Federal Aid system. Funds are provided through Acts of Congress to develop interstate and defense highways for primary and secondary facilities into urban areas. Table A-10 lists the mileage and surface condition of the various highway types in Polk County.

Primary and secondary highways financed through the federal aid system are nearly always coincident with the state primary and secondary systems. Construction costs of primary facilities in the State of Oregon are shared at a ratio of 63.5 percent Federal and 36.5 State. Federal aid primary routes within Polk County include the Pacific Highway #99W; the Salem-Willamina (Coast) Highway Route #22; Three Rivers Highway Route #22; and the Salmon River Highway Route #18. These facilities are designated as principal arterials on the Transportation Plan Map No. 10.

The Federal aid secondary road systems includes both major traffic carriers of the state secondary system and minor county roads utilized for farm to market traffic on the state secondary system. The Federal government provides 60% of the cost of new construction with the State sharing 40%. All maintenance of these facilities is carried out by the State. Roadways designated State secondary routes include the Monmouth-Independence Highway (Route #51), Kings Valley Highway (Route #223), and Dallas-Rickreall Highway (Route #223) and the Salem Dayton Highway (Route #221). These facilities generally fall into the minor arterial classification.

County Roads

The second type of Federal aid secondary roadway is at the county level. Of a total county mileage of 521 miles, 168 miles are designated as Federal aid secondary routes. Construction costs of new routes are shared on a 60% Federal, 20% state and 20% county basis with the county also being responsible for the purchase of the required right-of-way and the future maintenance of the facility. In the past, the county has utilized Federal aid system funds for the replacement of bridges on these routes. Of the total county highway systems, these routes, for the most part, are paved with either an oil mat, Macadam or asphalt-concrete. Only 27 miles or 23.2% of the Federal aid system county highways are gravelled.

The remainder of the county roads, 353 miles, are for the most part gravelled rural farm to market roads serving basically rural, low density areas. These roads, as a rule, carry low traffic volumes of less than 700 vehicles per day. Because of their rural character and the sparse development along them, the distinction between local and collector status is difficult. Generally, if the facility provides direct access between rural settlements or joins them to an arterial, it is classified as a collector even though traffic volumes or roadway design is not in compliance with higher standards. So long as use of these facilities is limited to rural purposes, low priorities should be assigned to them for future expansion. Some exceptions do exist where non-rural traffic generators such as motorcycle race tracks and youth camps may require upgrading of existing facilities. Along these sparsely settled routes, county policy has been to oil the surface of existing gravelled roads adjacent to farmsteads for the purpose of dust suppression. This should be a continuing policy in the future.

Other Roads

Other roads in Polk County are those private and federally owned and maintained facilities located in its western half where they provide access to logging sites, aid in forest maintenance and fire protection. The Bureau of Land Management is the primary government entity providing roadways. Private timber companies maintain most of the road mileage in this remote area for their own, and in some cases, public use.

MAJOR THOUGHFARE PLAN

The major thoroughfare plan for Polk County, as shown on Map No. 10, is incorporated in the General Land Use Plan. It is intended to be a guide to each community to aid in the planning, programming and coordinating future highway projects whether they be state, county or city. For the purpose of simplification, three designations, principal arterials, minor arterials and collectors are designated.

Development Standards

As was indicated earlier, various highway types have different requirements for right-of-way, width, peripheral treatment and other characteristics. From a cost standpoint, it makes little sense to develop curbs and gutters where homesteads are distant from one another. Building setbacks should be observed from the centerline of existing rural roadways. The standards should be based on the specifications listed in Table No. 5.

TABLE 5

SPECIFICATIONS FOR RURAL ROADS

	Right-of Way	Bldg. Set-back from Centerline	Traffic Lanes	Median	Shoulders	Speed	ADT * Lane
Principal Arterials	100'-200'	75'-125'	2-4 12'	0'-24'	10'	55-70	1000-6000
Minor Arterials	90'-120'	70'-85'	2-4 12'	0'-24'	8'	55	1000-6000
Collectors	80'-100'	65'-75'	2 11'-12'	None	6'	40-55	500-2500

* ADT - Average Daily Traffic

Specific Area Proposals

Increased urban development in Polk County will place higher demands on existing facilities peripheral to urbanizing areas. The county should concentrate its upgrading and development activities to arterials and collectors in the urbanizing areas. Because of limited funds for development of major facilities, priorities should be established by the county. Particular areas where county road systems require coordination with local plans are the Eola Hills-West Salem area, Monmouth-Independence and Dallas. This section will review these areas and address specific proposals in order to develop an integrated circulation system.

Eola Hills - West Salem

The Eola Hills-West Salem area is the most populous sub area existing in Polk County. The area is topographically varied with deeply incised valleys and severe slopes in many places. Elevations vary from 100 ft. above sea level along the Willamette River to approximately 1000 feet above sea level in its western portions. Because of its proximity to Salem employment centers and the view the area commands, it is and will continue to be under extreme development pressure.

The existing road system affects a radial development pattern with streets following a general east-west alignment as they follow the ridges and valleys of the area. North-south circulation is severely restricted by topographic limitations.

Doaks Ferry Road

The primary north-south link in the area is provided by Doaks Ferry Road, which connects Wallace Road (Oregon #221) on the north to the Salem-Willamina Highway (Oregon #22) at the south end of the Eola Hills. It is anticipated that this facility will continue to be the primary north south route through the area. The 1968 Salem Area Transportation Study (SATS) recommends that this facility be widened to four lanes with grade separated interchanges at Eola Drive, Glen Creek, Orchard Heights and Brush College Road. It is not expected that these structures will be required within the time frame of this plan. In fact, the 1982 SATS Plan, Map No. 11, proposes to redesignate the road as a minor arterial. A further modification of the SATS proposal is to realign Doaks Ferry Road in the vicinity of Glen Creek Road in order to provide a smoother alignment and thereby eliminate exaggerated turning movements onto the Glen Creek Road section of this roadway.

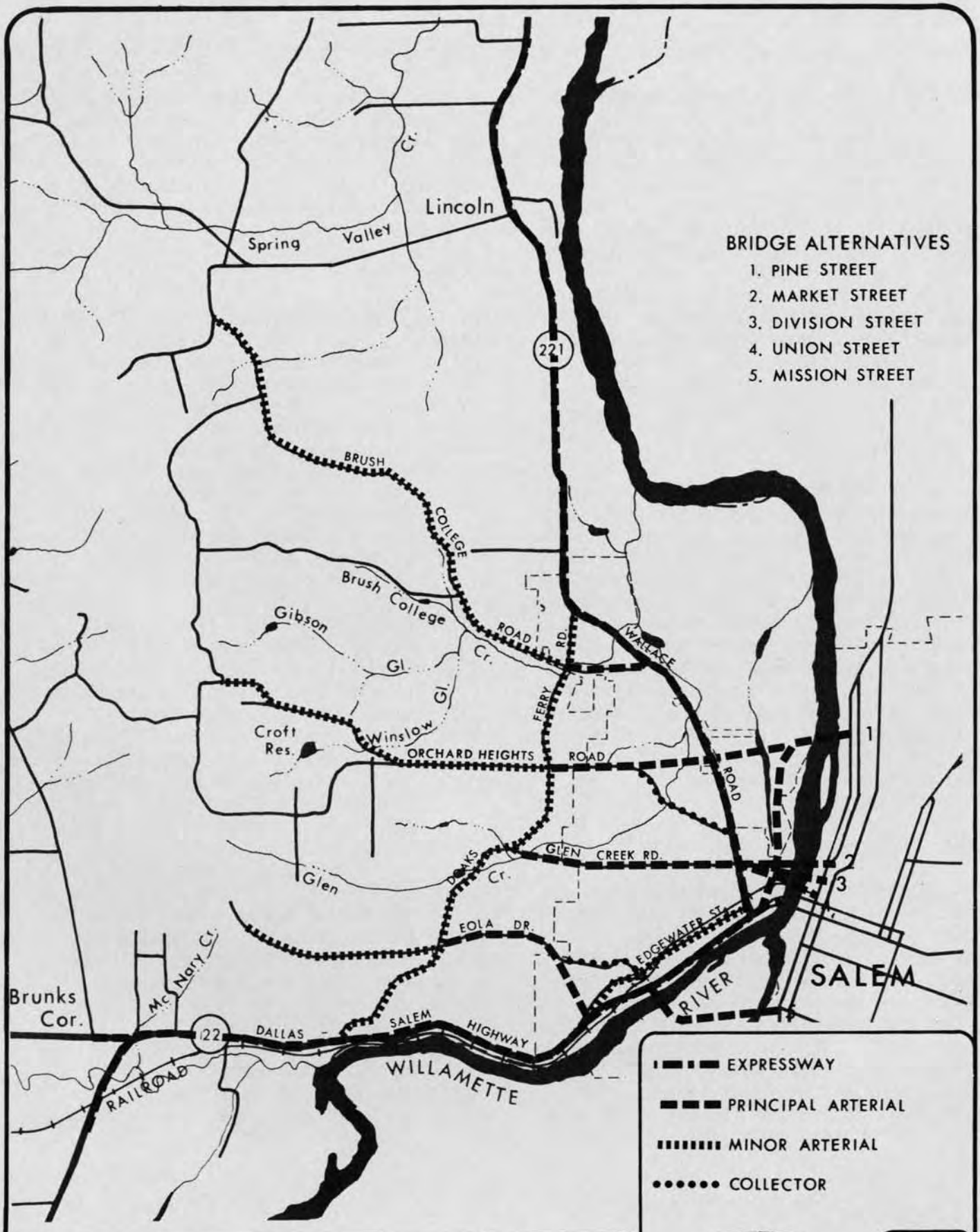
Wallace Road (Oregon #221)

This facility is the only primary north-south route existing in the area. Its alignment follows a low level route atop a bench which defines the flood plain of the Willamette River. Also known as the Salem-Dayton Highway, this roadway is the eastern-most arterial in Polk County and is the terminal point of the majority of the collector streets penetrating the Eola Hills to the West.

The SATS Plan and current State Highway Department plans recommend that this highway be widened to four lanes from the end of the existing four lane portion at Orchard Heights Road to Brush College Road. This action would increase capacity to 25,000 vehicles per day (vpd). The study estimates 1982 volumes at 15,000 vpd at Orchard Heights Road and 10,000 vpd at Brush College Road. 1971 volumes at these locations were 8700 and 5100 respectively. The SATS report also states that a proposed Pine Street bridge will have a decided effect on volume utilizing this section. Undoubtedly this is true, however the county should examine very closely the effect that the construction of a river crossing north of a connection to the Coast Highway (Oregon #22) will have upon proposed land uses in the southern Spring Valley and northern Eola Hills areas. Current county planning calls for relatively low density residential uses and primary farm activities.

Brush College Road

Brush College Road is the northernmost radial route connecting Ore. 221 to the Eola Hills. It lies mostly within the city limits of Salem. The SATS proposal recommends upgrading this route to four lanes from Doaks Ferry Road to Wallace Road (Ore 221). This action will increase capacity to 15,000 vpd. Recent traffic counts, 1971, recorded an average daily traffic of 900 vehicles travelling this route.



SALEM AREA TRANSPORTATION STUDY PLAN - 1982

for POLK COUNTY

MAP NO. 11

Orchard Heights Road

Another east-west radial extending from Wallace Road (Ore 221), this route is the only one that traverses the Eola Hills. Though gravelled much of its length west of the crest of the Hills, the SATS plan calls for increasing capacity at its eastern extremity to 15,000 vpd by widening it to four lanes from Doaks Ferry Road to Wallace Road. In addition, an easterly extension from the Mountain View School to a point just south of the intersection of Empire Street and Wallace Road is proposed. East of Wallace Road, the new road would connect with a proposed Pine Street bridge.

Glen Creek Road

This southernmost east-west radial connection with Wallace Road (Ore 221) is proposed to be upgraded to four lanes in the SATS Plan. This improvement will increase total capacity to 15,000 vpd. The connection at its intersection with Doaks Ferry Road should be restudied in light of a possible realignment of that road to alleviate exaggerated turning movements necessary to travel the Doaks Ferry-Glen Creek section of this roadway. Whatever alignment is selected, the 4 lane section of Glen Creek Road should terminate at its easternmost connection with Doaks Ferry Road.

Eola Drive

The SATS Plan proposes an expansion (widening) of this route to four lanes from Doaks Ferry Road to its easterly connection to the Salem Willamina Highway (Ore 22). This alignment was considered more desirable than the more circuitous route traversing existing portions of Eola Drive and Cascade Drive. Recently, the development of a Turnkey Housing project astride the proposed alignment pre-empted the possibility of this route being developed. Because of topographic problems in this area, it appears that any future connection of Eola Drive to the Salem-Willamina Highway has been thwarted. It is questionable at this time whether a 4 lane facility with a 40' pavement width will be capable of serving the upper Eola Drive area. Traffic originating in this area can then utilize Doaks Ferry Road, College Drive, Glen Creek Road and Eola Cascade Drive to gain access to arterial routes.

Dallas Area

Dallas developed a traffic circulation plan as a part of its 1970 Comprehensive Plan. Those proposals involve alignments and improvements on the periphery of the city which will require city-county coordination. See Map No. 10 in the Dallas Comprehensive Plan. A brief description of each proposal follows:

East Ellendale - Improve East Ellendale from Main Street to the Washington Street extension to arterial street standards.

Washington Street Connection - Extend Washington Street eastward bridging Rickreall Creek and continuing northeast to the Salem-Dallas Highway just west of Fir Villa Road. This street would be an arterial and it is suggested that it be treated as a boulevard or parkway for the length just described. From this point east to the new Highway #22 intersection, the Salem-Dallas Highway will eventually need to be widened to four lanes. The south side of the street is residentially developed. Therefore, right-of-way on the north side should be preserved.

Oak Villa Road - Extend Oak Villa south to the eastern bypass or New Monmouth Cutoff. This is an arterial and should be improved to these standards.

Polk Station Road - Improve the intersection of Polk Station Road

and Highway #22 by creating a 90 degree intersection. Consideration should be given to an interchange at this point.

Eastern Bypass Route - This new arterial road begins at the western terminus of the realigned Highway #22 travelling southwest, crossing Rickreall Creek and continuing southwest to intersect with the New Monmouth Cutoff 1/4 mile east of Godsey Road. This road then will continue around the foot of Mt. Pisgah southwest to Kings Valley Highway. The bypass route will provide excellent access to the industrial area and serve to bypass regional traffic.

Webb Lane - Extend Webb Lane west turning south to James Howe Road, bridge Rickreall Creek and continue on to intersect the eastern bypass in the vicinity of South Church Street. This would be the western leg of the circumferencial arterial system.

Several collectors are indicated on the traffic circulation plan. Right-of-way for these should be reserved as the land is developed.

Monmouth-Independence Area

This area is served by two main highways, U. S. 99W and Oregon #51. The two communities have prepared circulation plans in the past, none of which have been adopted. However, certain proposals should be considered by the county as they presently affect land under its jurisdiction.

Monmouth-Independence Highway

Of these particular proposals, the future treatment of the Monmouth-Independence Highway has received the most attention. This two lane facility which bisects both communities in an east-west direction, carries in some sections, over 7,000 cars average daily traffic. At the present time, the State Highway Department is conducting a traffic survey to determine the origin and destination of traffic within the communities.

In the past, a compromise alignment proposing a shallowing of the "S" turn and a widening of the facility from two to four lanes was proposed. Until such time as a proposal is received from the State Highway Department and concensus is reached between the two communities, the alignment incorporating an improvement in the "S" turn should be retained.

A further recommendation includes extending Highway #51 due west from the Independence Bridge to intercept Highway #99 at a point near the southwest Monmouth city limits line. This will eliminate numerous turning movements through an existing residential area and provide a southerly bypass around these two communities.

Pacific Highway (#99W), the primary north-south route in the area, bisects the city of Monmouth. It is anticipated that this principal arterial will eventually require improvement to a four lane capacity. Rights-of-way in the area appear to be sufficient. It is recommended that access to property along its alignment be allowed only by service roads in urbanizing areas.

Hoffman Road

This route provides an east-west bypass to the north of Independence and Monmouth. Development along this route is minimal at present and includes the Independence State Airport at the east end. Every effort should be made to insure adequate setbacks along this road to allow for a future four lane facility. Also development should be limited to the south side of this street.

State Principal Arterials

It is anticipated that the three principal arterials (Routes #22, #18 and #99W) in Polk County will continue to serve

the county over the time span of this plan. It appears that there will be no new major principal arterial highways constructed through the county during the 20 year time span covered by this plan.

Nevertheless, the primary purpose of these routes is to expeditiously and safely move traffic to and through the county. To accomplish this, certain improvements will be required.

Willamette River Crossings

At the present time, access to Polk County from the east side of the Willamette River is provided at two points, via one eastbound and one westbound bridge connecting downtown Salem to West Salem, and the Coast Highway (Oregon #22), a bridge at Independence and a state owned ferry at Buena Vista. No improvements are proposed at the Independence crossing, which presently carries an average daily traffic volume of 1650 vehicles. The Salem crossing has an ADT of approximately 35,000 vehicles. This crossing, which links I-5 and the State Capital to the Central Oregon Coast, is in need of relief. Crossing alternatives have been proposed at Pine, Market, Division, Union, and Mission Streets to connect to Highway #22. It appears that the southerly connection would have less impact on Polk County from a land use standpoint and provide a less circuitous connection to Independence, Monmouth, Dallas and the Coast.[1]

Coast Highway, Oregon 22

The State recently opened a four lane realignment of Oregon #22 between Brunks Corner and Rickreall. The County should urge the Oregon Department of Transportation to begin the planning and design studies necessary to increase Oregon #22 and #18 to four lane facilities the full expanse of the County and on to the Oregon Coast. This facility experiences high volumes of use by recreation oriented traffic (10,000 ADT) during the summer months and on weekends. The section between Wallace Bridge and the west county line should receive the earliest consideration with a targeted 1980 completion date.

Highway #99W

The Pacific Highway is the primary north-south route through the west half of the Willamette Valley. Extending from Portland to Eugene on the west side of the Willamette River, this route is not expected to experience major increases in traffic volume through Polk County. The only exception would be between the realigned Route #22 at Rickreall and the City of Monmouth. This section may require expansion to four lanes, particularly in the Monmouth area within the time frame of this Plan.

Other County Roads

Identified on the circulation plan are local roads and collector roads. These are Federal aid secondary and county routes primarily. Responsibility for improvements and maintenance will fall upon the county for the most part.

Improvements on these routes are of a less significant nature than on those routes covered in the preceeding pages of this plan. Many of these improvements will consist of logical connections of roads, straightening and realigning of narrow and crooked routes. For the most part, these areas are readily apparent. In establishing priorities for the improvement of existing facilities, the county should take into consideration existing and anticipated volumes, density of development along the right-of-way, the type of vehicles using the roadway and the proximity to an urban settlement or other traffic generator.

1/ Salem Bridge Location Interim Report, Prepared by Technical Advisory Committee, Salem Area Transportation Study, June 1973.

The county should consider the following policies with regard to county roadway development.

A. Within a developing urban area

1. Adopt the financing policy of the adjacent city.

2. Coordinate with the particular city on design, right-of-way, capital investment priorities, etc.

B. Outside a developing urban area

1. Arterials - county pay 100% of cost.

2. Collectors - county pay 75% of cost - abutting property owners pay 25%.

3. Local roads - abutting property owners pay 100%.

C. Building Setback Policy (measured from right-of-way centerline)

1. Principal Arterials - 125' minimum.

2. Minor Arterials - 85' minimum

3. Collectors - 65' minimum

4. Locals - 50' minimum

AIRPORTS

Polk County is not served by scheduled commercial passenger or freight air service. It is anticipated that Salem and Portland airports will continue to provide this type of service to county residents over the next twenty years.

The interest in civil aviation in the county is on the increase. In 1969, 56 airmen were registered in Polk County. This figure nearly doubled to 110 in 1972. The number of registered aircraft over the same period increased from 23 to 39. These aircraft are used for agricultural, business, and private recreational purposes and are based at five private and two public airfields located in the county. All of these strips are dirt and none are lighted.

The State Board of Aeronautics is in the process of developing a master systems study for the entire state which is scheduled for completion in 1975. At this time, the only airport under consideration is the Independence State Airport located north of that city. While the study is not limited to state airports, it is felt that Independence is the only one in the county suitable for long range planning. The only other airport open to public use in Polk County is located in Dallas and is rapidly being surrounded by new homes. The city, however, is currently considering adoption of zone provisions that would preserve the airports viability.

Today, the Independence facility is one of the state's busier airports with an estimated 9400 operations a year. Improvements which have been recommended include improving the drainage and blacktopping the present runway, locating an IFR landing aid such as a beacon or homer, adding a parallel runway, installation of runway lighting, and the construction of a crosswind runway. The last proposal is questionable, as land uses east of the present facility limit expansion possibilities.

Airport facilities should be located within one half hour (surface) travel time of their market. From a service area standpoint, this criteria is met with existing facilities located at McMinnville, Albany, Salem, Independence and Dallas. Only the sparsely developed western portion of the county is the exception. The Valsetz area should be served with a recreation-emergency airport capable of handling light aircraft only, The potential use would be for hunters and fisherman and other recreationists and emergency uses such as air ambulances and supply. It is expected that small private strips will increase in number. Also, it is expected that heliports will be constructed around the county, particularly in association with lumber mill and logging activities.

Recommended Development Policies

The following policies are recommended for airport development:

1. That development of heliports, except for emergency use, be restricted to industrial and farm areas.

2. That the county submit any development proposal that has the potential to interfere with the safe operation of aircraft of any existing airport or heliport to the State Aeronautics Division and the Federal Aviation Administration for comments.

3. That the county honor all height restrictions established by the Oregon Aeronautics Division and the Federal Aviation Agency which pertains to minimum standards for flight safety.

4. That the county in conjunction with Independence, Monmouth and Dallas consider the appointment of joint airport zoning boards to develop protective zoning around the Independence and Dallas airports.

RAIL TRANSPORTATION

Polk County is served by the Southern Pacific, Valley and Siletz Railroad and the Longview, Portland and Northern Railroads. The distribution of these railroads in the county is extremely good with the Southern Pacific providing both a north-south Portland to Eugene connection and an east-west Salem to Dallas alignment. The intersection of these two lines near Rickreall makes that area particularly attractive for potential industrial development, provided extensive capital outlay is made to solve water and sewer problems. Freight service to the lumber industry is provided to the Grand Ronde and Independence-Valsetz areas by the Longview, Portland and Northern and the Valley & Siletz Railroads.

Although these facilities provide only freight service at this time, the potential for the use of these facilities, particularly the Salem-Dallas-Independence-Monmouth interconnection, for rapid rail passenger service does exist. Obviously, present population densities are not sufficient to economically justify such a development at this time, or even over the 20 year time span of this Plan. Nevertheless, the county should, with the cooperation of the railroad companies, attempt to preserve and protect these rights of way for possible future use as mass transit corridors. In the future, this will reduce the amount of land taken out of productive land uses for highway use. In addition, a rapid rail system would reduce air, noise and visual pollution and provide a more efficient means of utilizing natural resources. Obviously this proposal is extremely long term, yet the county should not ignore the possibility of future utilization of these already existing rights of way for travel purposes.

PLAN FOR PARKS AND OPEN SPACE

RECREATIONAL DEVELOPMENT

Polk County, bounded on the east by the Willamette River and on the west by the crest of the Coast Range, exhibits a wide range of topographic conditions, natural recreation areas and scenic vistas and offers excellent potential for recreational development. Vacationers have historically bypassed the recreational areas of Polk County, however, in favor of more popular retreats in the Cascade Mountains or along the seashore. Nevertheless, interest has been generated within Polk County to combine appropriate local, State and Federal agencies with interested private groups to provide a diversity of recreational opportunities which compliment the geography of the area.

Coupled with increased leisure time, mobility, income and population is a definite need by governmental and private interests to provide additional facilities and preserve open space for the enjoyment of the inhabitants of the area.

In an attempt to meet these needs, Federal, State and local governments are attempting to provide funds for the acquisition of scenic rights and land and development of recreation and open space sites throughout the county.

While the conservation and protection of the county's natural, scenic and historic areas is the primary goal of this plan, monies for implementation are often scarce. The task of establishing priorities is also extremely difficult due to the many varied recreational activities.

Table No. 6 lists the recreational facilities presently available in Polk County with the activities and facilities available at each site. The approximate locations of these parks are shown on Map No. 12 with the exception of facilities provided in conjunction with existing schools and colleges. An attempt has been made to also list significant quasi-public and private recreational facilities within the county.

Another manner in which recreational benefits will accrue to the members of the community will be through the development of multiple purpose dam and reservoir projects. The Willamette Basin Plan proposes 14 such sites throughout the county, as indicated in the Water Resources Section, Map No. 5.

Trail development in the past has been limited exclusively to hikers. In recent years, however, a new dimension has been added in the form of bicycling. In 1971 the State legislature, recognizing this rapidly growing activity, passed legislation setting aside a percentage of highway funds to provide for development of bike routes. Initial bikeway development in Polk County has taken place in the Independence-Monmouth area, and along Highway #22 and #99 from Salem to Rickreall and Rickreall to Monmouth.

New bikeways should be developed to connect regional attractors such as the Willamette Greenway system, state and regional parks. Additional special purpose routes to connect educational facilities could also be considered. In addition, hike-bike trail easements could be obtained to develop such facilities in areas of particular scenic attraction such as the crest of the Eola Hills and the Basket Slough Wildlife Refuge. Areas subject to seasonal flooding offer additional opportunity for trail development.

WILLAMETTE RIVER GREENWAY

The Willamette River, which forms Polk County's eastern boundary, has played an important role in the settlement of the county. This water course, which drains a valley 135 miles long by 30 miles wide and joins the Columbia River at Portland, has in the past provided a means of transportation, communications, power and food supply for the populace residing within its basin.

TABLE 6

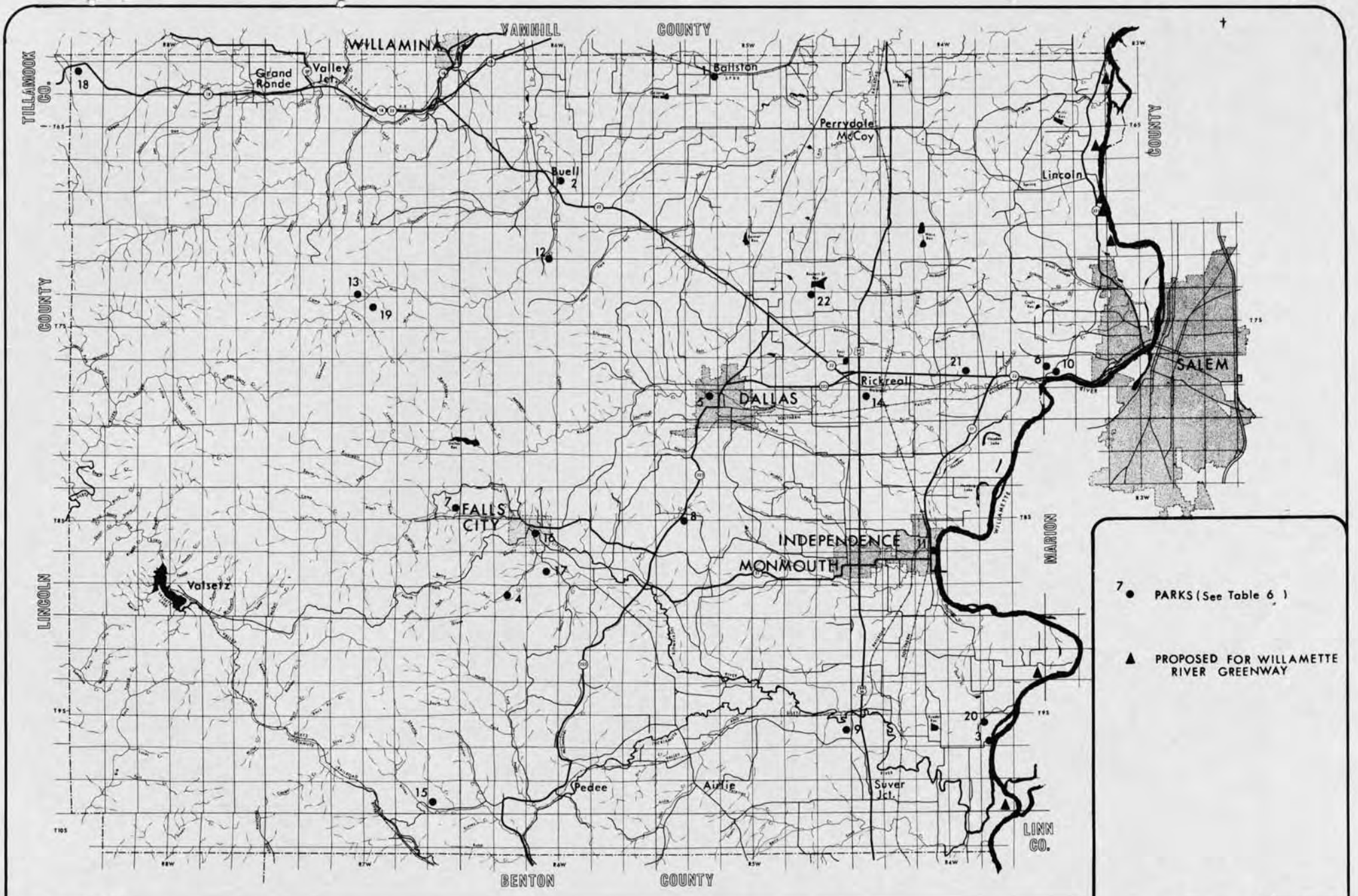
EXISTING PUBLIC RECREATIONAL DEVELOPMENT
FOR POLK COUNTY, OREGON [1]

Map Index Number	Name	*	Facilities **
1	Ballston School	C	Hi
2	Buell Park	C	P, Hi, St, F
3	Buena Vista Ferry	C	Br, F, Ws
4	Camp Kilowan	CFG	Tc, P
5	Dallas Pool	M	Sp
6	Eola Park	C	Undeveloped
7	Gerlinger Park	C	P, F, St
8	Guthrie Wysd.	C	P
9	Helmick Park	S	P, Sh, F, S
10	Holman Wysd.	S	P
11	Indep. Boat Landing	M	F, Br
12	Mill Creek Park	C	P, F, Hi St
13	Mill Creek Park	BLM	P, F, St
14	Polk Co. Fairgrounds (Nesmith Memorial Park)	C	P
15	Ritner Creek	C	P, H, St
16	Riverside	M	P, S, F, H, S, St
17	Teal Creek	C	P, F, St,
18	Van Duzer Forest Corr.	S	P, F, St
19	Willamette Ind.	P	T, P, H. St, Tc
20	Wells Island	C	P, S
	Golf Courses		
21	Oak Knoll	P	Golf Course
	Wildlife Refuges		
22	Basket Slough	DI	Wildlife Reserve

* P - Private
M - Municipal
C - County
S - State
CFG - Campfire Girls
BLM - Bureau of Land Mgmt.
DI - Dept. of Interior

** Br - Boat Ramp
F - Fishing
H - Hiking
Hi - Historical Interest
P - Picnic Site
S - Swimming
Sp - Swimming Pool
Sh - Shelter
St - Stream
Tc - Tent Campsites
Ws - Water Sports

1/ See specific city plans for other municipal parks and recreational facilities not mentioned herein.



MAP NO. 12

PARKS AND OPEN SPACE

MAP NO. 12

Until the coming of the railroads and highways, it was the primary means of transporting goods produced in the area.

In recent years, the river has surrendered its role as a transporter of products to the freight liner and freight car. In place of goods, the river's role was to carry wastes produced by communities and industries along its banks. The river became increasingly polluted and dangerous to the health of the inhabitants who utilized it for recreational purposes. Recent state legislation affecting water quality standards, however has reversed this former trend.

At a time when national opinion was increasingly concerned with matters affecting the quality of life, the Oregon State Legislature in March of 1967 on the recommendation of Governor Tom McCall, authorized a program to preserve the largely undeveloped Willamette shoreline from future despoilation.

The following three paragraphs contain the basis that the Willamette River Greenway recommendations made by the Governor to the 54th Legislative Assembly were predicated on.[1]

> "The basic objective is the preservation and enhancement of the river's natural environment while at the same time developing the widest possible recreational opportunities in a manner that injures no one and benefits all.
>
> Through imaginative yet wise planning and with the cooperation of both citizenry and government, this can be done without harm to the legitimate needs of industry or agriculture, or to local and private interests.
>
> We must be astute enough to see that preservation is far easier than correction, perceptive enough to realize that in the Willamette River we still have more to preserve than to correct, and be bold enough to act accordingly."

Also contained in the Governor's recommendation was "A Six Point Program for Public Enjoyment."[2]

1. A River Camp System

   A system of river recreation camps where the boater may disembark and enjoy camping, picnicing and other recreational experiences. River recreation camps would be situated at convenient intervals along the entire length of the river, and some would be accessible only from the river or from trails.

2. A River Access System

   River recreation areas and boat-launching sites to permit non-boaters to picnic and enjoy other recreational pursuits along the river and to permit boaters maximum opportunity to launch and retrieve their craft. These sites would vary in size from large multi-purpose recreation areas to smaller sites designed primarily for boat launching.

3. A Recreation Trail System

   Recreation trails would be developed along the river to permit hiking, cycling, and riding activities. At places the trail will diverge from the river bank

1/ Extracted from the unpublished "Willamette River Greenway Policy Conference Study Guide", composed and edited by Royston, Hanamoto, Beck & Abey, and Williams & Mocine; Consultants to the Oregon Department of Transportation, March 1974

2/ Ibid

to follow old river channels or other interesting landscape features, or on roadways or subdivision streets where it will be necessary to circumvent existing developments, recreation trails could be developed to tie in with other trails and parkways.

4. A Scenic Drive System

   A system of existing parkways and public roads would be identified which extend along portions of the Willamette River and from which a scenic view of the river may be enjoyed on pleasure drives. Protective measures would be undertaken to preserve the scenic values of the roadways.

5. A Recreation Tract System

   Acquisition of recreation tracts of varying sizes for the following purposes is proposed:

   a. Sites for multipurpose regional parks in urban and rural areas for intensive development for a wide range of recreational and historical attractions.

   b. Scenic areas such as the 7000 acre Forest Park in northwest Portland to preserve a scenic hillside behind the river and to provide dramatic viewpoints of the riverscape.

   c. Large tracts of undeveloped lands in the river's flood plain which could be retained in a natural state for wildlife reservations or for future recreational developments.

6. A Scenic Conservation Easement System

   Easements would provide for the protection of scenic qualities along the river bank in numerous places where land is not needed for recreational development, but protection of its visual qualities is necessary. This would permit the continuance of other compatible uses without diminishing the greenway concept."

House Bill 1770, adopted early in the 1967 regular session, established a Willamette River Greenway recreational system. The Bill authorized grants, of up to 50%, from the State Highway Fund to assist local governments in acquiring lands for scenic and recreational purposes to further the purposes of the Greenway. The Bill also authorized a Willamette River Greenway Committee to be appointed by the Governor to further the purposes of the Act. The appropriation included in the Act was $800,000.00. The Act contained a termination date of June 30, 1969.

In May 1967, House Bill 1770 was amended to change "Greenway" to "Park System" and to provide that condemnation could not be used either by local government or the State to acquire property under the Act. The amendment further provided that water rights or installations could not be acquired.

In 1973, the State Legislature further defined the Greenway by adoption of House Bill 2497. This law provides the framework and motivation for the Greenway Planning Study now underway. In order to give Polk County citizens a sense of the law, the summary on the face of the Bill is included:

Summary:

"The following summary is not prepared by the sponsors of the measure and is not a part of the body thereof subject to consideration by the Legislative Assembly. It is an editor's brief statement of the essential features of the measure.

"Changes name of Willamette River Park System to Willamette River Greenway. Provides new statement prescribing elements of integrated Willamette River Greenway. Establishes maximum area limitation for greenway. Requires State Highway Commission in cooperation with certain units of local government, within one year after effective date, to prepare plan for development and management of lands along Willamette River for purposes of greenway; provides that such plan may be prepared for segments of Willamette River. Requires submission of such plan or segment thereof to be revised by commission and units of local government if approved by board. Provides for filing and public inspection of such plan or segment thereof.

"Authorizes commission to acquire by any means scenic easements in lands within 150 feet of River. Prohibits acquisition through exercise of power of eminent domain of scenic easement in such lands devoted to farm use; authorizes acquisition by eminent domain upon change in use of lands from farm use; and requires elimination of easement restrictions on use if land subject to easement is later devoted for farm use. Defines "farm use." Requires prior consent of commission to change in use of such lands. Prohibits acquisition of public access in scenic easements acquired by condemnation, but allows acquisition of public access without condemnation.

"Limits condemnation power of commission for acquisition of state parks and recreation areas to five described areas. Permits such acquisition, without condemnation, of other lands within greenway. Provides procedure for acquisition and compensation. Requires payment of value of subsurface mineral aggregate deposits on lands acquired by commission within greenway. Provides that designated provisions relating to acquisition and compensation do not apply to acquisition of lands or interest therein acquired for state parks or recreation areas prior to effective date of Act and to any lands or interests in land subject to legally enforceable option held by state on effective date of Act for purpose of acquisition of such lands or interests for state parks and recreation areas.

"Amends existing Willamette River Greenway provisions to limit use of lands acquired by units of local government to scenic and recreational uses. Requires units of local government to comply with plan for greenway in acquisition of such lands.

"Authorizes cities to use any power of condemnation otherwise provided by law in acquisition of lands within greenway for scenic or recreational use with grants from commission."

Early in 1972, the State received a $10,000,000 grant from the Secretary of Interiors Contingency Fund for the purpose of acquiring directly without local government assistance, lands located in nonurban areas where land costs are lower and more river frontage can be obtained for the dollar. It is expected that this action will aid in substantial fulfillment of the parks system concept by providing a series of parks and scenic areas along the banks of the Willamette. The action, coupled with water quality and other controls, will restore the Willamette to its former magnificance and provide the citizens of the State and Polk County an outstanding scenic and recreational resource in the most populous region in the State.

The Willamette River Greenway proposes acquisition of six sites in Polk County totaling 1,129 acres and 12.4 miles of river frontage. Map No. 12 shows the river front properties currently under state ownership and proposed for inclusion in the total Greenway system.

POLICIES FOR PRESERVATION OF OPEN SPACE

Conserve areas where critical natural processes would be endangered by development.

Focus urban development to vacant, skipped over land in existing utility and service areas thereby preserving open space.

Where appropriate, agreements should be made with school districts insuring the provision, improvement and availability of activity rooms and athletic facilities at or adjacent to school sites.

Steep slopes should be preserved in their natural state to the maximum extent possible.

Preserve, protect and acquire elements of special visual scenic, recreational and historic importance to the local population.

Preserve natural waterways, flood plains in their natural state to insure their continuance as a natural area, preserve the community's water resources and to avoid drainage problems.

Encourage cooperative development of trail systems along watercourses adjacent to urbanizing areas.

Acquire lands in advance of development in order to avoid higher acquisition costs in the future.

Identify and preserve landmark and areas of historical significance.

Cooperate with appropriate state and Federal agencies in the preservation and enhancement of the Willamette River and its tributaries in Polk County.

IMPLEMENTATION

Environmental Assessment

In recent years, there has been a growing nationwide awareness of the interrelationships between society, the economy and the environment. Central to this awakening has been the realization that the vitality of our economy and the quality of life of our society are heavily dependent upon the resources and condition of our environment. Both Federal and state governments have responded with laws and legislation which will have a significant impact on local land use decisions and planning.

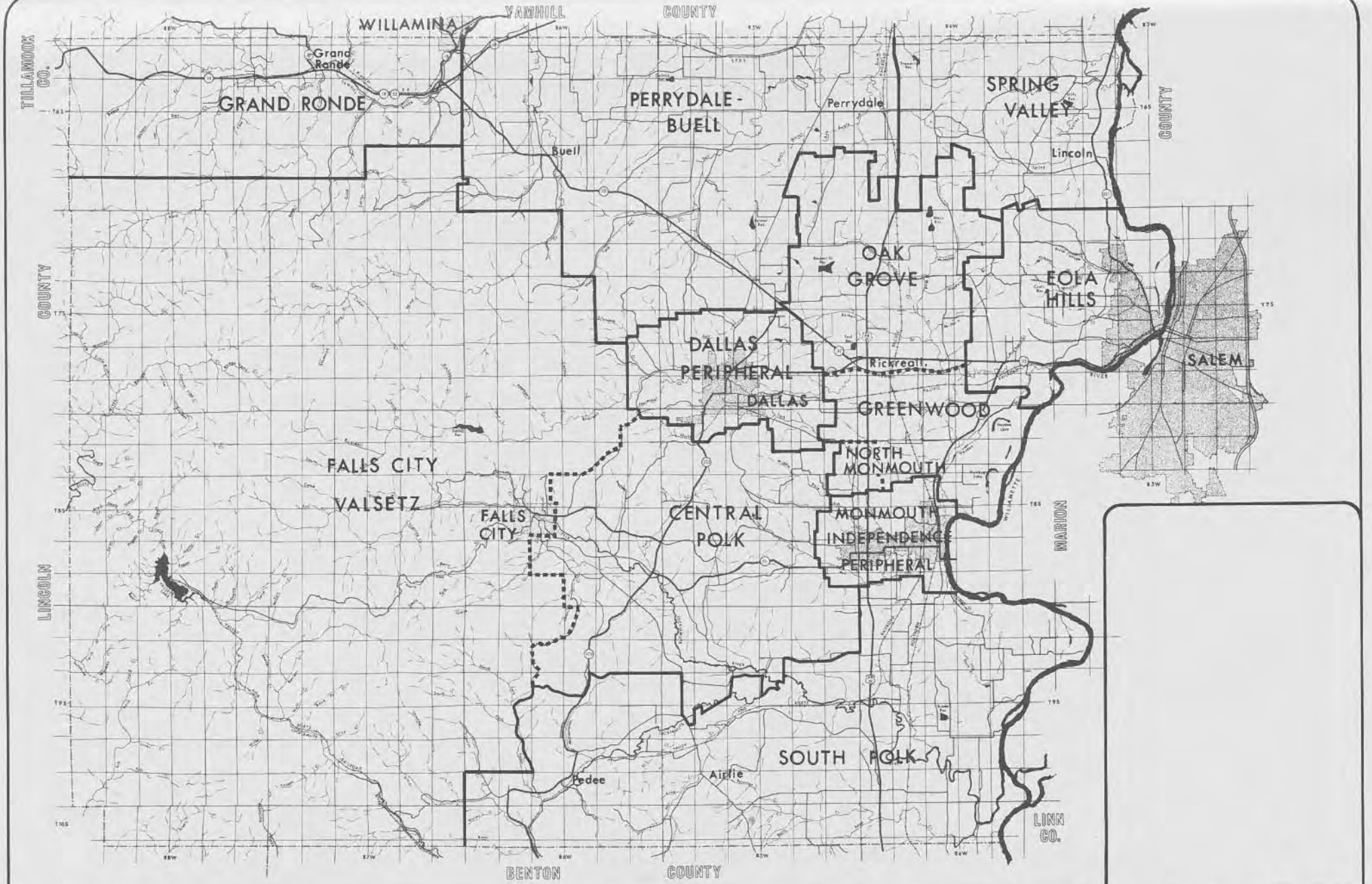
The major piece of Federal legislation to date in this regard is the National Environmental Policy Act of 1969 (NEPA). The significance of this act lies in the fact that it establishes a comprehensive environmental policy for the nation and outlines both procedural and substantive duties for federal agencies to implement that policy. In doing so, Congress has directed that "to the fullest extent possible" the policies, regulations and public laws of the United States shall be interpreted and administered in accordance with NEPA.

At the state level there has also been action, both in response to local concerns and because of the federal stimulus for state involvement in resource management and land planning.

In Oregon, SB 100 is the most far reaching legislation to date. Patterned after the American Law Institute's Model Land Development Code, among other things, it more explicitly spells out the criteria for an acceptable Comprehensive Plan. Emphasis has been put on the policy nature of the Plan as the basis for all land use controls, including zoning. It must be a coordinated plan that considers the inter-relationships between society, the economy and the environment.

Based, therefore, on both state and Federal criteria for protection of the environment, there are no developments contemplated at this time that would irreversibly or irretrievably commit any resources or that would have any other adverse environmental effects on any sector of the land or economy in Polk County. Any major development projects contemplated in the future will be reviewed by appropriate Federal, state and regional agencies concerned with environmental protection. Specifically, they include the Mid Willamette Valley Air Pollution Authority, the State Department of Environmental Quality and the Federal Environmental Protection Agency.

APPENDIX



MAP NO. A-1

AREA ADVISORY COMMITTEES

NORTH

SCALE IN MILES

1 0 1 2 3

MAP NO. A-1

TABLE A-1

Polk County - Soil Associations

AREAS DOMINATED BY WELL TO POORLY DRAINED, NEARLY LEVEL, FLOODPLAINS OF THE MAJOR RIVERS AND THEIR TRIBUTARIES.

1. Chehalis - Newberg - Cloquato Association. Well drained Chehalis silty clay loam, and somewhat excessively drained Newberg sandy loam; and well drained Cloquato silt loam soils.

2. Waldo - McAlpin Association. Nearly level poorly drained Waldo soil with a silty clay loam surface layer and clay subsoil; and moderately well drained McAlpin soils with a silty clay loam surface layer over silty clay subsoils.

3. Bashaw - Cove Association. Poorly drained silty clay loam and clay surface layers over clay subsoils.

AREAS DOMINATED BY WELL TO POORLY DRAINED, NEARLY LEVEL TO MODERATELY STEEP VALLEY TERRACE SOILS.

4. Chitwood - Knappa Association. Nearly level to gently sloping somewhat poorly drained Chitwood soil with a silt loam surface layer over a silty clay subsoil; and well drained Knappa soils with a silt loam surface over a silty clay loam subsoil.

5. Malabon - Coburg Association. Nearly level well drained Malabon soil; and moderately well drained Coburgsoil with silty clay loam surface layers and silty clay subsoils.

6. Dayton - Amity - Concord Association. Nearly level poorly drained Dayton soil with a silt loam surface layer over a clay subsoil; somewhat poorly drained Amity soil with a silt loam surface over a silty clay subsoil; and poorly drained Concord soil with a silt loam surface layer over a silty clay subsoil.

7. Woodburn - Amity - Concord Association. Nearly level to moderately steep moderately well drained Woodburn soils with a silt loam surface over silty clay loam subsoil; and somewhat poorly drained Amity soil with a silt loam surface layer over a silty clay subsoil; and poorly drained Concord soil with a silt loam surface layer over a silty clay subsoil.

8. Woodburn - Willamette Association. Nearly level to moderately steep, moderately well drained Woodburn soils and well drained Willamette soils with silt loam surface layers and silty clay loam subsoils.

AREAS DOMINATED BY THE WELL DRAINED NEARLY LEVEL TO MODERATELY STEEP DISSECTED GRAVELLY TERRACES.

9. Briedwell Association. Nearly level to moderately steep, well drained soils with silt loam surface layers over very gravelly clay loam subsoils.

10. Salkum Association. Nearly level to gently sloping, well drained silty clay loam surfaces over silty clay subsoils with a very gravelly loam substratum.

AREAS DOMINATED BY WELL TO SOMEWHAT POORLY DRAINED, SHALLOW TO DEEP, SEASONALLY DRY SOILS OF GENTLY SLOPING TO VERY STEEP FOOTHILLS AND FANS.

11. Hazelair - Santiam Association. Gentle to steep slopes. Gently sloping and steep moderately well and somewhat poorly drained Hazelair soils, with silt loam surface layers and clay subsoils, 20 to 40 inches to siltstone bedrock; and moderately well drained Santiam soils with silt loam surface layers and clay subsoils, and over 60 inches deep.

12. Chehulpum - Steiwer Association. Gentle to steep slopes. Gently sloping to steep, well drained Chehulpum soils with silt loam surface layers and silty clay loam subsoils, 14 to 20 inches deep to siltstone bedrock; and well drained Steiwer soils with silt loam surface layers and silty clay loam subsoils, 20 to 40 inches deep to siltstone bedrock.

13. Bellpine - Rickreall Association. Gentle to steep slopes. Gently sloping to steep, well drained Bellpine soils with silty clay loam surface layers, and clay subsoils, 20 to 40 inches to siltstone bedrock; and well drained Rickreall soils with silty clay loam surface layers and clay subsoils, 14 to 20 inches deep ti siltstone bedrock.

14. Nekia - Jory - Ritner Association. Gentle to steep slopes. Gently sloping to steep well drained Nekia soils with silty clay loam surface layers and clay subsoils, 20 to 40 inches to basalt bedrock; and well drained Jory soils with silty clay loam surface layers, clay subsoils and over 60 inches deep; and well drained Ritner soils with gravelly silty clay loam surface layers, and very cobbly clay subsoils, 20 to 40 inches deep to basalt bedrock.

AREAS DOMINATED BY WELL DRAINED, SHALLOW TO DEEP, MOIST SOILS OF GENTLY SLOPING TO VERY STEEP HILLS AND CANYONS OF THE COAST RANGE.

15. Honeygrove - Peavine - Klickitat Association. Gentle to steep slopes. Gently sloping to steep Honeygrove soils with silty clay loam surface layers and clay subsoils, more than 60 inches deep; and Peavine soils with silty clay loam surface layers and clay subsoils, 20 to 40 inches to siltstone bedrock; and Klickitat soils with gravelly loam surface layers and very gravelly clay subsoils 30 to 48 inches deep to basalt bedrock.

16. Blachly - Kilowan - Association. Gentle to steep slopes. Gently sloping to steep Blachlysoils with silty clay loam surface layers and silty clay subsoils, more than 60 inches deep; and Kilowan soils with silt loam surface layers and silty clay subsoils, 20 to 40 inches deep to shale or siltstone; annual precipitation is 80 to 120 inches.

17. Bohannon - Preacher - Astoria Association. Gentle to steep slopes. Gently sloping to steep Bohannon soils with gravelly loam surface layers and subsoils, 20 to 40 inches to sandstone bedrock; and Preacher soils with clay loam surface layers and subsoils, 40 to 60 inches deep to sandstone bedrock; and Astoria soils with silty clay loam surface layers and silty clay subsoils, 40 to 60 inches to siltstone bedrock.

18. Klickitat - Kilchis - Hembre Association. Gentle to steep slopes. Gently sloping to steep Klickitat soils with gravelly loam surface layers and very gravelly clay loam subsoils, 30 to 48 inches to basalt bedrock; and Kilchis soils with gravelly loam surface layers and a very gravelly loam subsoils, 14 to 20 inches to basalt bedrock; and Hembre soils with a silt loam surface and silty clay loam subsoils, 40 to 50 inches to basalt bedrock; annual precipitation is 80 to 120 inches.

AREAS DOMINATED BY WELL DRAINED SHALLOW TO DEEP COLD SOILS OF GENTLY SLOPING TO VERY STEEP MOUNTAINS AND CANYONS.

19. Valsetz - Cruiser - Yellowstone Association. Gently sloping to steep. Gently sloping to steep Valsetz soils with a gravelly loam surface layer and very gravelly subsoils, 20 to 40 inches to gabbro bedrock; and Yellowstone soils with a gravelly loam surface soil, and very gravelly loam subsoils, 14 to 20 inches to basic igneous bedrock; and Cruiser soils with gravelly loam surface layers, and gravelly clay loam subsoils over 60 inches deep; annual precipitation is 90 to 180 inches.

20. Luckiamute Association. Gently sloping to steep soils with shaley loam surface layers, and very shaley subsoils, 14 to 20 inches to shale bedrock; annual precipitation is 90 to 180 inches.

TABLE A-2

GENERAL SOIL LIMITATIONS FOR RURAL RESIDENTIAL DEVELOPMENT

LANDFORM		SOIL ASSOCIATION	SEPTIC DRAIN FIELD		DWELLINGS	
			RATING	LIMITING FACTORS	RATING	LIMITING FACTORS
Alluvial Bottomlands 120-220 ft.		Chehalis-Newberg-Cloquato Waldo-McAlpin Bashaw-Cove	Severe Severe Severe	Flooding Flooding-High water table Flooding-Slow percolation	Severe Severe Severe	Flooding-Low Shear Strength Flooding-Low Shear Strength Flooding-High Shrink-Swell
TERRACES	Willamette Valley 175-750 ft.	Malabon-Coburg Dayton-Amity-Concord Woodburn-Amity-Concord Woodburn-Willamette Briedwell Salkum	Mod-Severe Severe Severe Mod-Severe Sl-Severe Severe	Some Flooding-Slow Perc. Slow Perc-High Water Table Slow Perc-High Water Table Slow Perc-Wet-Slope Slope Slow Perc	Mod-Severe Severe Severe Mod-Severe Sl-Severe Moderate	Low Strength-Mod Shrink-Swell Low Strength-High Shrink-Swell Low Strength-Perched Water Table Low Strength-Slope-Wet Slope Low Strength-Mod. Shrink-Swell
	Coast Range 600-1100 ft.	Chitwood Knappa	Sl-Severe	High Water Table-Slope-Slow Perc.	Sl-Severe	Slope-Mod Shrink-Swell-High Water Table
FOOTHILLS	Low 275-350 ft.	Hazelair-Santiam Chehalpum-Steiwer	Severe Severe	Slow Perc-High Water Table Depth to Rock-Slow Perc	Severe Mod-Severe	Wet-depth to Rock Low Strength-Slope
	High 300-1100 ft.	Bellpine-Rickreall-Suver Nekia-Jory-Ritner	Severe Severe	Depth to Rock-Slope-Slow Perc. Slope-Depth to Rock-Slow Perc.	Mod-Severe Mod-Severe	Slow-Depth to Rock Low Strength-Slope-Depth to Rock
MOUNTAINOUS UPLAND	750-1700 ft.	Honeygrove-Peavine-Klickitat Blachly-Kilowan Bohannon-Preacher-Astoria Klichitat-Kilchis-Hembre	Severe Severe Mod-Severe Mod-Severe	Slope-Mod. Permeability Slope-Mod. Slow Permeability Slope-Mod. Slow Permeability Slope-Depth to Rock	Sl-Mod. Mod-Severe Mod-Severe Mod-Severe	Erosion and Slope-Low Strength Slope Slide Hazard-Depth to Rock Slope-Depth to Rock
	"cold" 1700 ft.	Valsetz-Cruiser-Yellowstone Luckiamute	Mod-Severe Severe	Slope-Depth to Rock-Slow Perm. Slope-Depth to Rock-Slow Perm.	Mod-Severe Severe	Slope Slope-Depth to Rock-Slow Perm.

Source: Soil Conservation Service

TABLE A-3

AGRICULTURAL PRODUCTIVITY

LANDFORM		SOIL ASSOCIATION	Agricultural Productivity Index (%)	Winter Wheat (Bu/Ac)	Spring Barley (Bu/Ac)	Alfalfa (Tons/Ac)	Bentgrass Seed (Lbs/Ac)	Prunes (Tons/Ac)	Filberts (Lbs./Ac)	Sweet Cherries (Tons/Ac)	Pasture (Aums/Ac)
Alluvial Bottomlands 120-220 ft.		Chehalis-Newberg-Cloquato Waldo-McAlpin Bashaw-Cove	85 40 40	65-80 70 Mc -	50-65 40-55 25	4.5-6.5 4 Mc -	400-450 300-450 300	3.5-4 1.5 Mc -	1700-1800 1000 Mc -	2.5-3.0 2.5 Mc -	6 4-6 3
TERRACES	Willamette Valley 175-750 ft.	Malabon-Coburg Dayton-Amity-Concord Woodburn-Amity-Concord Woodburn-Willamette Briedwell Salkum	90 45 80 95 55 65	75 70 Am. 70-80 80 35 40	60-65 30-60 30-70 65-70 30 25	5-6 3.5 Am. 3.5-5.5 5.5-6.5 3.4 3	400-450 350-450 350-450 450 300 250	4-4.5 1.5 Am. 1.5-4.5 4.5-5 1.5 4	1800-2000 700 Am 700-1800 1800-2000 1200 1400	2.5-3.5 - 3.0 Wdb. 3+3.5 2 4.4	6 3-4 3-6 6 3-4 3
	Coast Range 600-1100 ft.	Chitwood Knappa	35	High Rainfall - Valsetz Area							
FOOTHILLS	Low 275-350 ft.	Hazelair-Santiam Chehalpum-Steiwer	50 30	40-65 45 Stw.	25-50 25 Stw	3.5 Sant. 1.5 Stw	200-400 175 Stw	1-1.5 3 Stw	500-1400 1200 Stw	3 Sant. -	4 2-3
				Chehulpum - Unsuitable due to soil characteristics							
	High 300-1100 ft.	Bellpine-Rickreall-Suver Nekia-Jory-Ritner	35 60	35 60	25 Bell 25-50	2 Bell 2-4.5	200 Bel 175-400	3 Bell 1.5-4.5	1000 Bell 700-1400	2 Bell 1.5-4.5	4 Bell 4-5
				Rickreall - Unsuitable due to soil characteristics							
MOUNTAINOUS UPLAND	750-1700 ft.	Honeygrove-Peavine-Klickitat Blachly-Kilowan Bohannon-Preacher-Astoria Klichitat-Kilchis-Hembre	Forested Forested Forested Forested								
	"cold" 1700 ft.	Valsetz-Cruiser-Yellowstone Luckiamute	Forested Forested								

Source: Oregon State University Extension Service and the Soil Conservation Service

TABLE A-4

Land Use in Farms

	1959	1964	1969
Total farm acres	232,683	215,055	213,108
Cropland harvested	111,200	102,505	99,763
Pasture and other cropland	41,766	35,394	40,344
Woodland and woodland pasture	67,946	50,077	42,445
Other land	25,907	27,069	30,556

Source: U. S. Census of Agriculture 1959, 1964, 1969

TABLE A-5

Number of Farms by Size

Size in Acres	1959	1964	1969
1 - 9	124	100	97
10 - 49	393	379	273
50 - 99	235	217	186
100 - 499	498	426	402
500 - 999	88	88	74
1000 and over	25	25	24
Total number of farms	1363	1235	1056
Average Size	170.7	174.1	201.8

Source: U. S. Census of Agriculture, 1959, 1964, 1969

TABLE A-6

Number of Commercial Farms

Economic Class [1]	1959	1964	1969
Class I - Sales of $40,000 and over	42	63	97
Class II - Sales of $20,000-39,999	125	82	91
Class III - Sales of $10,000-19,999	145	130	107
Class IV - Sales of $5,000-9,999	179	138	151
Class V - Sales of $2,500-4,999	190	142	151
Class VI - Sales of $50-2,499	60	125	59
TOTAL:	741	680	656

(1) Classification of farms by economic class considers only those classified by the U. S. Department of Agriculture as "commercial farms". In general, all farms with a total value of products sold amounting to $2,500 or more are classified as commercial. Farms with sales of $50 to $2,499 are classified as commercial if the farm operator was under 65 years of age, and (1) he did not work off the farm 100 or more days during the year, and (2) the income received by the operator and members of this family from nonfarm sources was less than the value of all farm products sold.

Source: U. S. Census of Agriculture, 1959, 1964, 1969

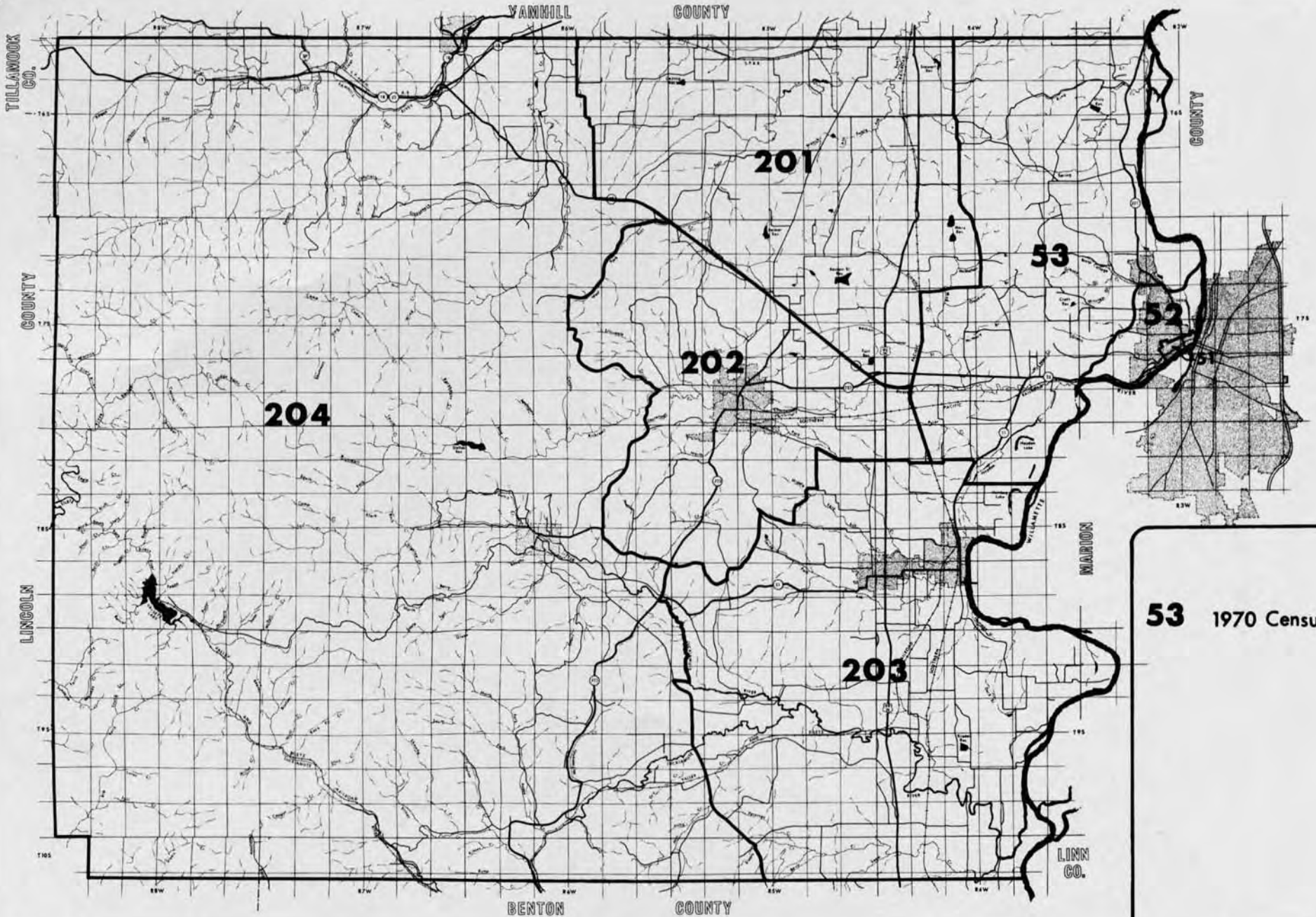
TABLE A-7

POLK COUNTY SCHOOL ENROLLMENTS

BY DISTRICTS

Name of District	General Location	Elementary Students	Jr. High Students	High School Students	Total
Dallas #2	Dallas	1254	712	601	2568
Central #13J	Monmouth-Independence	1156	619	489	2264
Perrydale #21	Perrydale	74	30	35	139
Falls City #57	Falls City	98	65	34	197
Valsetz #62	Valsetz	90	42	33	165
Salem #24J	West Salem	851	536 (57-EMR)[b]	(500)[c]	1387[d]
Willamina #30Jt	Grand Ronde	117	-	-	117[e]
Amity #4Jt	Ballston	43	-	39	82[f]
* Sheridan #48Jt	Sheridan	-	-	-	-[g]
Philomath	Philomath	-	-	-	-[h]

a) Enrollments for Spring 1974
b) EMR - Educationally Mentally Retarded - facilities at Walker Jr. High School
c) Estimated figure based on number of junior high students graduating to South Salem High School and considering drop outs and transfers in and out of district in both junior and senior high categories.
d) Students attending schools located in Polk County portion of Salem District #24J
e) Students attending elementary school located in Polk County portion of Willamina District #30Jt Approximate total of 416 Polk County residents attend schools in this District.
f) Approximate total of 82 Polk County residents attend schools in this District.
g) No school facilities of Sheridan District are located in Polk County. Approximate total of 94 Polk County residents attend Sheridan District schools in Yamhill County.
h) Approximately 6 Polk County residents attend Philomath District school in Benton County.



53 1970 Census Tract

MAP NO. A-2

CENSUS TRACTS

NORTH

SCALE IN MILES

1 0 1 2 3

MAP NO. A-2

TABLE A-8

POLK COUNTY SCHOOLS & FACILITIES

Name of School	Location	Grades	Classrooms	Pupil-Teacher	Facilities Other Than Classrooms	Site Size	Future Plans
District #2							
Dallas High	Dallas	10-12	30	1-18	Gym, cafeteria, multi-purpose library	36 ac.	Major expansion
LaCreole	Dallas	8, 9	15	1-18	" " "	31 ac[a]	Add 5 classrooms and library exp.
Academy	Dallas	7, 8	21	1-19	" " "	4.75 ac	None
Lyle	Dallas	1-6	16	1-24	Library,cafeteria	19 ac	Add 1 special-use room - remodel
Morrison	Dallas	1-6	14	1-23	Gym, library, cafeteria	1.6 ac	Replace - Gain 4 additional classrooms
Whitworth	Dallas	1-6	15	1-25	Gym, cafeteria, library multi-purpose	36 ac	Remodel - Gain 2 add. classrooms
Bridgeport	Route #2	1-5	3	1-24	Library, cafeteria	3 ac	Receive portable structure from Dallas (Morrison)
Pedee	Route #2 Monmouth	1-6	4	1-18	Gym, library, cafeteria	5 ac	None
Rickreall	Rickreall	1-6	4	1-15	Library, gym	3.1 ac	Replace
District 13J							
Central High	Independence	10-12	27	1-19	Library, gym, cafeteria	27½ ac	Remodel - add 2 rooms
Talmadge	Independence	7-9	30	1-19	Multi-purpose, gym, library	27½ ac	None
Henry Hill	Independence	4-6	12	1-25	Gym, cafeteria, library	8.7 ac	None
Independence	Independence	1-4	12	1-23	Gym, cafeteria, Library	2.9 ac	None
Monmouth	Monmouth	1-6	14	1-25	Multi-purpose, library	10.9 ac	Recent 7 room expansion
Campus	Monmouth	1-6	14	1-21	Auditorium, library	(b)	None
Eola	Dallas Hwy NW West Salem	1-6	2	1-18	Library	2 ac	None
Oak Grove	Rickreall	1-6	2	1-13	-	2½ ac	None
(c)	Brunks Corner	-	-	-	-	10 ac	None
District #21							
Perrydale	Perrydale	1-12	11	1-13[d]	Gym, library	14.4 ac	Add 1 room - (Remodel) new locker room
District #57							
Falls City High	Falls City	9-12	6	1-13	Gym, library	15 ac	Add. to gym
Falls City Elem.	Falls City	1-8	9	1-17	Library	(e)	
District #62							
Valsetz	Valsetz	1-12	16	1-13[d]	Gym, library	5-8 ac	Modernize elementary
District #24J							
Walker	West Salem	7-9	24	1-20	Gym, pool, library	12 ac	Remodel library
West Salem	West Salem	1-6	19	1-29		3.5 ac	Remodel into 12 room elementary
Brush College		1-6	14	1-24		7 ac	None
Mt. View		1-3	3	1-19		2 ac	Close 1973
Myers		1-6	12	-	Gym	7+ ac	New School
District 30Jt							
Grand Ronde	Grand Ronde	1-6	8	1-20	Library	7 ac	Replace
District 4Jt							
Ballston	Ballston	3,4	3	1-25	Playshed	2 ac	None

NOTES:

a. Includes 9 acre elementary site
b. Part of OCE Campus
c. 10 acre site owned by District 13J for future elementary school when need exists
d. Average pupil-teacher ratio for high school - elementary
e. Combined acreage for both elementary and high school sites

Information herein contained is based on 1972 research efforts and updated in May 1974 by interviews and telephone conversations with appropriate officials of each District.

TABLE A-9

POLK COUNTY LIBRARY STATISTICS*

	DALLAS	INDEPENDENCE	MONMOUTH	FALLS CITY
Square Footage of Building	4,240	2,664	3,500	
Titles in Collection	11,584	?	10,301	
Number of Paperbacks	0	0	900	
Periodicals Received	72	0	54	
Newspapers Received	5	0	5	
Phonograph Record Connection	244	0	160	
Microfilm Collection	0	0	yes	
Interlibrary Loan	None	None	1,100	
Librarian in the Community	34 hrs/wk	?	40 hrs/wk	
Reference Books - (40)	22	5	26	
Adult Books - (80)	19	2	61	
Childrens Books - (40)	8	1	40	
Book Selection Aids - (10)	5	1	8	
Books That Reflect the Times	None	Few	Many	
Annual Circulation	48,889		30,015	2,115
Fiscal Support 1971	$17,215		$17,213	$945
Number of Staff Members, Full and Part-time	5		3	?
Hours Open Per Week	34		30	9

* Compiled by Oregon State Library for Mid Willamette Valley Council of Governments, February 1972.

TABLE A-10

ROAD MILEAGE BY SURFACE TYPE*

Municipal	Primitive	Graded & Drained	Gravel Cinders	Oiled Pavement	Asphalt Pavement	Total
State Primary				2.08	4.30	4.30
State Secondary					6.97	9.05
Extensions of county roads			.04	.62	.51	1.17
City Streets	2.00	1.40	18.29	18.30	70.28	110.27
Sub Total:	2.00	1.40	18.33	21.00	82.06	124.79
Rural						
State Primary				1.13	63.56	64.69
State Secondary				26.86	16.85	43.71
County Roads	22.97	3.20	286.29	92.50	116.08	521.04
Federal Aid System (County			27.00	25.23	116.08	
Public Roads	1.73	.45	43.22	3.36	3.09	51.85
Bureau of Land Management	6.00	20.00	50.00	____	____	76.00
	30.70	23.65	379.51	123.85	199.58	757.29
TOTAL:	32.70	25.05	397.85	144.85	281.64	882.08

* Oregon State Highway Division, Salem, Oregon

POLK COUNTY PLANNING COMMISSION

AMENDMENTS

TO THE PROPOSED

POLK COUNTY COMPREHENSIVE PLAN

The enclosed document lists amendments to the June 1974 Polk County Comprehensive Plan. Please attach to your copy of the Plan. The Polk County Board of Commissioners will hold a public hearing on the amended Plan and land use map on Tuesday, September 23, 1975 at 7:30 P.M. at the Polk County Fairgrounds in Rickreall.

Copies of the amended map are available at the post offices and libraries and city halls throughout the County.

JUNE, 1975

Page	Col.	Para.	Line	Recommended Change
1	1	2	1	Typo....change "his" to "this"
1	2	all numerical items		assign consecutive alphabetical letters in place of numbers (a-i)
2	1	1	9	Change SB 10 to O.R.S. Chapter 215
3	1	numerical item (4)		add: The plan can result in changes in existing zoning.
3	1	2	4	delete..."over time."
3	2	1	5	change "their" to "his"
3	2	1	10	change line to read...."resources, to improve the economic base and to..."
3	2	2	9	change "General" to "Comprehensive"
4	1	7	1	delete "To"; begin with "Promote.."
8	1	4	2	remove "1" from agricultural"
14	1	2	3	insert "SCS" between "the" and "soil"
24	1	2	(c) 12	change ""exurban" to "suburban"
36	1	-	-	include the following paragraph as the first full paragraph on this page. Insert prior to heading "Urban Land Use".

The existing use that any land or building is put to at the time of adoption of the Comprehensive Plan and Map shall be allowed to continue as a pre-existing use, even though not in conformance with the plan for the area. Any expansion of those pre-existing activities beyond 10% of the original floor area, or any other expansion of the use shall require the approval of the Planning Commission and the County Board after the holding of a public hearing. In the event of destruction of a pre-existing, nonconforming structure, the use may be rebuilt without the approval of the Planning Commission provided the rebuilt floor area does not exceed 110% of the floor area of the original structure. In the event a nonconforming, pre-existing use is abandoned for a consecutive period

Page	Col.	Para.	Line	Recommended Change
				12 months, the new use shall comply with the General Land Use Plan and the uses permitted by the zone affecting the property."
43	-	-	-	delete completely
44	-	-	-	delete all but final paragraph
47	1	2	3	add comma (,) after "County"
"	1	2	7	change "64,400" to "51,000"
"	1	2	9	change "5" to "2-20"
"	1	2	12 & 13	change "12,500" to "25,000" change "45,000" to "75,000"
"	2	3	2	delete "containment and"...
"	2	3	4	delete "complete"...
"	2	3	8	delete "controlled and"...
50	2	2	-	delete complete paragraph beginning with "Urban development..."
52-56	-	-	-	major structural changes to improve continuity and several internal changes in conformance with the public input. See pages E4-E8
61	2	Last	2	
61	2	Last	2	Add footnote "2" after "...that:"
61		Footnote	-	Add footnote number "2" after "1" - should read "1 & 2/Dalton, Phyllis..."
62	1	1	1	Add quotation marks at beginning of senten to read - "The cooperative....."
"	1	1 (#3)	-	Add quotation mark at end of sentence to to read "...and education."
67	(Map 10)			The following roads should be re-designated as collectors: #669 - Steel Bridge Road (Willamina) #654 - Ballston Road #843 - Rogers Road
81	2	1	4 & 5	Remove commas after the words "grants," and "50%,"

Page	Col.	Para.	Line	Recommended Change
83	1	1	-	Delete paragraph - replace with the following: "The Willamette River Greenway proposes acquisition of 1,129 acres in Polk County which will include 12.4 miles of river frontage. To date 978.28 acres have been purchased. Map No. 12 shows the areas where the State has purchased and is proposing to purchase additional river front properties for the Greenway."
83	2	7	-	Add as final paragraph to this section the following: "At the present time the Willamette River Greenway Plan is before the Land Conservation and Development Commission for review and approval and the Regional Parks Plan is being updated. When finally adopted those elements pertinent to Polk County in both plans should be amended into this Plan for implementation.
85	2	1	-	Delete paragraph beginning with - "The County should also develop..." In it's place, add the following paragraph - "The County should also consider adoption of an erosion and sedimentation ordinance that would allow for regulating of grading and construction practices to prevent degradation of its land and water resources."
85	2	-	-	add as new paragraph prior to paragraph starting "The County should..." "Because the plan serves as a long-range guide for developing the county's resources, it is intended to be broad and general in nature, thereby allowing for flexibility in its interpretation by the County. Further, recognizing the need to conform the implementing ordinances to the Plan, it is intended that it be accomplished over the time frame of the Plan being careful not to exceed the intensity of development prescribed by the adopted policies."

As a specific framework for guiding future development and conservation decisions, the rural segment of the county has been designated for agricultural areas, rural residential areas, forest areas, and rural community centers. Policies are established relating to this breakdown and on the means of conversion of rural lands.

The rural land conservation and development policy attempts to identify the areas and circumstances under which land will be permanently preserved for agricultural use. It is apparent that a great deal of land is not being farmed or not being farmed as intensively as is possible. This, then, tends to set the stage for the question of which land, where, and when it should be preserved?

The farm community provides both direct and indirect benefits to the county. The farm and related agribusiness employment provide direct economic benefits. The open space, pastoral setting and beautiful scenery are indirect benefits that society receives due to the farm community. When the farm community is viewed in light of the local economy, social and environmental benefits and long range projections, then a plausible argument for preservation of this farm land can be made and sustained.

This means that the county as a whole and particularly the farm community must be committed to the goal of preservation of farm areas free from further encroachment. It means that an agriculture area should be set aside. It means that some land area will be converted to urban uses in those areas designated Rural Residential and Rural Community Center.

Agricultural Areas

The area designated agriculture on the General Land Use Plan, Map No. 8, comprises 193,250 acres. This area is characterized by larger ownership patterns, productive soil, little urban intrusion, and homogeneous agricultural use. A portion of the area is in the flood plain of the South Yamhil Luckiamute and Willamette Rivers. Top graphically, it contains level to gently rolling hill land. Areas withi this designation do have some steep brush and tree covered slopes which ar often used as pasture.

The suitability for septic tanks is ab 5 percent (9,662 acres) good, 15 perce (28,988 acres) fair, 50 percent (96,62 acres) poor and 30 percent (57,975 acr very poor.

The intent of the agriculture designati is to preserve the agricultural economy of the county by strictly limiting non-agricultural development in the area. Only those nonfarm uses that are essent to the farming community would be permitted; such uses may include schools, churches and parks.

Such nonfarm uses may be permitted in this area only after review by the Plan ning Commission and determination that such uses will not be detrimental to the purpose and intent of the Comprehen sive Plan to conserve this area for far purposes. Subdivisions should not be permitted. Zoning in the area should b of the Exclusive Farm Use or Exclusive Farm Use 20 type.

Development should take place only wher the rural development policies concern-ing development in agricultural areas can be found to apply.

The very fact that some areas will expe ience development will result in con-flicts in land uses. Within these area the predominant (most extensive) use wi remain agriculture, and there is a need to afford these prior activities some protection for their usual and normal operational practices. The particular policy statements follow on the next page.

1) Every effort shall be made to prevent undue encroachment of urban influences onto the best and most productive agricultural land in the areas designated for agriculture.

2) Residential uses within the agricultural and forest areas are limited to dwellings for owners and operators of these activities and to persons employed in these sectors. Such residential use shall be permitted on contiguous holdings existing at the time of the adoption of this Plan.

3) In agriculture areas, every effort shall be made to discourage encroachment or conversion of farm lands to nonfarm, urban uses.

4) Land within commercial farm units should be assessed based on its productivity index.

5) Fragmentation of large farm units in farm areas shall be discouraged.

6) In areas designated for agriculture, all land division should be submitted to and approved by the Planning Commission. An affirmative decision will be granted only if one or more of the following conditions are found to exist:

   a. The division is for the purpose of expansion or consolidation of adjoining farming activities.

   b. The division is for the purpose of disposing of a second dwelling which has existed on the property.

   c. The parcels to be created are of such an expansive nature so as to impose minimum threat to adjoining farm operators.

   d. The division clearly follows a physical feature which would hinder normal and necessary farming activities.

   e. The division is required to obtain construction financing for housing to be occupied by those engaged in the farming operation.

Rural Residential Area

Within the county several areas totaling approximately 51,000 acres have been designated as rural residential areas. These areas are characterized by generally hilly topography, a high percentage of poorer soils, oak and brush covered slopes, and are sparsely settled. Agriculture is an extensive use in most of these areas, and is generally located on the smaller val floors. Densities will be maintained very low and will be determined by soil conditions, water availability, slope and slope stability, conflict with farming activities and proximity to urban areas. The suitability for septic tanks on these lands is approximately 15 percent (7650 acres) good, 20 percent (10200 acres) fair, 35 percent (17,850 acres) poor and 30 percent (15,300 acres) very poor. The minimum density in such areas will be one dwelling per acre and vary up to one dwelling per 20 acres or more. In most instances the density will be from 2 to 20 acres per dwelling. This area will allow farming, low density rural subdivisions and other uses subject to land use policy guidelines and commission approval, such as commercial, recreational uses, farm related businesses and mineral extraction.

(In order to avoid unnecessary conflicts and community costs in areas designated as agriculture and rural residential, conversion of rural land to residential purposes may be permitted when all of the conditions listed under 1A below are met and a majority of the conditions listed under 1B are satisfied.)

1. A. Mandatory conditions for all rural residential development:

1. An adequate quantity and quality of water supply will be available at each new lot.

2. The land is not located in a known flood plain or geologic hazard area.

3. The land is suitable for subsurface disposal of septic effluent for the life of the property, meaning that sufficient ground of suitable characteristics are available for the initial system plus space for repairs and additional systems.

4. The new use will be compatible with existing farm and other rural activities in the area.

1. B. A majority of the following conditions must be satisfied:

1. The land to be converted is composed mainly of low productive, low classified soils.

2. The land is wooded, (oak grub or brush covered).

3. The land has marginal utility for agricultural use because of its physical characteristics, terrain, shape, vegetative cover, etc.

4. The conversion will not alter or cause an alteration of the stability of the land use pattern.

5. The impact on public services such as roads, schools, sewers, is not detrimental to the community.

2. When it is determined that a parcel of land is suitable for development under the rural land development policy, then the following standards should apply to such developments:

A. In cases where the ground water table (supply) is known to be variable or deficient, the developer must develop a community water system providing an adequate quantity and quality to each lot or be able to utilize an existing domestic water system.

B. The stripping of existing farm to market roads shall be discouraged and access should be from an internal street network.

C. Subdivisions shall have paved streets, except when only a few parcels are involved, and there is no potential for increased traffic or the parcels are extremely large. The grades and width shall meet the minimum county standards.

3. In the rural residential areas, the density of development will be related to the capabilities of soils, the types of terrain, proximity to cities and adjacent rural activities. The basic density will be from 2 to 20 acres per dwelling unit. Under appropriate conditions and with cluster development, a one acre minimum may be approved.

4. In any rural area which is known for a variable and limited water supply, the developer has the responsibility to prove that a sufficient water supply is available and to install an approved water system for the development.

5. In any known geologic hazard area, it shall be the developer's responsibility to provide the necessary detailed engineering geology studies performed by competent engineers that will ensure a safe development of the land prior to any consideration for development.

6. All residential uses shall have sewerage and water systems that will meet or exceed standards that exist at that time for health and sanitation.

7. Areas designated for reservoir sites within the Plan will be protected from development that would jeopardize such projects, unless a study has been conducted showing the project to be infeasible.

8. Rural development shall not be designed so as to strip existing farm to market or rural collector streets.

. Development of permanent structures within the 100 year flood plain shall be discouraged. The best use of this land is for agriculture, parks and recreation in poorer soils and other open space activities. It shall be the responsibility of the developer to prove that development is feasible and safe before any approval will be given in an area identified as flood plain.

9. Extraction of minerals within the County should be permitted as determined after public hearings have been held. Mineral extraction sites should be identified and inventoried with emphasis on the quality and quantity of the resource.

10. Rural developments should utilize the planned unit development approach to insure future livability in the development and compatible relationship with adjoining land. The clustering of structures will insure the retention of open space and allow the provision of buffers between development and adjacent farmland.

11. Rural developments that are outside of existing or proposed sewerage service areas shall have sufficient land area of suitable soil characteristics that would be reasonably expected to provide a viable subsurface disposal system.

12. Acreage subdivisions in urbanized areas that are likely to be within service areas by the year 1990 should be designed with redivision plans incorporated to urban densities and reservations made for the necessary streets.

13. To insure an adequate, efficient and safe road network, accesses to rural arterials and collector roads shall be limited.

Forest

This area designates the 183,800 acres of the county that is mainly within the Coast Range, held in large ownership patterns, and is covered by commercial stands of Douglas Fir, True Fir, Hemlock, Cedar, Spruce and other varieties of merchantable species. Consideration is given soil type and the existing timber stand. The primary use of this area will be the raising, harvesting of the forest crop. Secondly, public park and recreational areas, community facilities and agricultural uses are allowed. Isolated dwellings and commercial recreational uses may be allowed subject to Rural Land Development Policies and Planning Commission approval.

Rural Community Centers

These areas are existing, service communities where small lots have been platted, commercial service has developed and community facilities are located. These are areas where utility systems are generally lacking and will be impractical during the next 20 years. Therefore, low residential densities should be maintained and commercial and industrial activities should be limited to those which are essential and compatible to the surrounding rural activities and/or development.

Proposed changes to create or expand commercial or industrial areas within the rural community centers must be approved by the county following the holding of public hearings.