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GENERAL INFORMATION

A. PLAN BACKGROUND

The document which follows represents the results of a planning process which formally began in 1973 with the drafting of a Comprehensive Land Use Plan for the City of Sherwood. The draft plan was presented to the City Council for consideration in February of 1974. Action on the Plan was tabled at that time due to the need for the development of a plan which would meet requirements to be set forth by the Oregon Land Conservation and Development Commission (LCDC) in a set of Statewide Planning Goals and Guidelines later that year. State law (SB 100) passed in 1973, required that Oregon cities and counties adopt plans which are in conformance with the State Goals and Guidelines and that plans be coordinated with affected local governments, agencies and special districts. In order to accomplish this task, LCDC made available planning assistance monies to partially defray costs incurred in plan development.

Eventually the City of Sherwood Community Development plan was completed in draft form in July 1979, adopted by City Council in August 1980 and acknowledged by LCDC in May 1981.

The current document represents a Plan Update beginning in 1989 and required by State law, a process officially known as periodic review. Elements of the original plan remain, but modifications have also been incorporated reflecting changing conditions in Sherwood and revisions to state law. The draft update was completed in April 1990 and adopted by City Council March 13, 1991. LCDC again made planning assistance monies available to partially defray costs incurred in the update. The update was prepared by City staff, the Comprehensive Plan Update Citizens' Advisory Committee, the Sherwood Planning Commission and City Council and citizens of the Sherwood Urban Area.

B. PLAN PURPOSE AND AUTHORITY

The purpose of the Sherwood Community Development Plan (Part 2 of the Comprehensive Plan) is to guide the physical growth and development of the Sherwood Planning Area consistent with City policy goals and State Goals and Guidelines. It is the fundamental assumption of this plan that planning is a process and not a document. The document which follows seeks to communicate the process and the results of the process at the point in time of the document's last revision. The Plan is intended to be the City of Sherwood's perception of what it is, what it seeks to be and how it seeks to become what it wants to be as a City. Its aim is to preserve what is essential to its identity, develop what it needs to be economically and environmentally healthy and meet the needs of the people who contribute to its community life and make use of its land use resources.

The Community Development Plan when adopted together with the Background Data and Analysis (Part 1) and Community Zoning and Development Code (Part 3) will constitute the City of Sherwood's Comprehensive Plan. The Comprehensive Plan will be the basis for the

evaluation and regulation of all City development.

C. PLAN ORGANIZATION

The Sherwood Comprehensive Plan consists of three parts, Background Data and Analysis, the Community Development Plan and Community Zoning and Development Code. These sections correspond to the data base, plan, and implementing provisions respectively. Parts 1 and 2 are organized in sections relating to the seven major topics of the Plan: Citizen and Agency Participation and the Planning Process; Growth Management; Environmental Resources; Land Use; Transportation; Community Facilities and Services and Economic Development. The purpose and general content of each of these subject areas are summarized in the beginning of each section. Part 3 is organized by section under the Chapter headings of General Provisions; Land Use and Development; Administrative Procedures; Planning Procedures; Community Design; Public Improvements; and Subdivision, and Partitions; Environmental Resources; and Historic Resources.

D. THE PLANNING AREA

The Planning Area for the Sherwood Comprehensive Plan consists of that portion of the Portland Area Urban Growth Boundary acknowledged by the Land Conservation and Development Commission on December 14. Except for an area-wide UGB change/trade in Southern Washington County in 1987 where Sherwood had a net loss of about 15 acres, the boundary remained unchanged following the 1989 periodic review by both the City of Sherwood and the Metropolitan Service District, the agency responsible for changes to the Portland Area Urban Growth Boundary.

E. DEFINITIONS

All words, phrases and abbreviations used in this section of the Sherwood Comprehensive Plan, except where specifically defined in this subsection, shall carry their customary meanings when not inconsistent with the context. Words used in the present tense include the future tense; words used in the future tense include the present tense; the plural includes the singular and the singular includes the plural. The word "shall" is mandatory and the word "may" is permissive. A more complete list of plan and zone definitions is in the Community Development Code.

ACCESS: The way or means by which pedestrians and vehicles enter and leave property.

AESTHETICS: Judgments pertaining to the visual appeal of sites and structures.

AGRICULTURAL LAND: In western Oregon, land of predominantly Class I, II, III and IV soils and in eastern Oregon, land of predominantly Class I, II, III, IV, V and VI soils as identified in the Soil Capability Classification System of the United States Soil Conservation Service, and other lands which are suitable for farm use taking into consideration soil fertility, suitability for grazing, climatic conditions, existing and future availability of water for farm irrigation purposes, existing land use patterns, technological and energy inputs

required, or accepted farming practices. Lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands, shall be included as agricultural land in any event.

ALLEY: A minor public thoroughfare upon which the rear of building lots generally abut, used for service purposes and not for general travel.

ANNEXATION: The act of adding land to the corporate limits of the City.

BUILDING: A structure having a roof supported by columns or walls for the housing or enclosure of persons, animals, or materials.

BUILDABLE LANDS: Lands within the Urban Growth Boundary which are vacant, serviceable by water, sewer and public streets and are not subject to natural hazards including flooding, landslides and weak foundation soils.

GROSS BUILDABLE LAND: The total land area of a parcel that is buildable.

NET BUILDABLE LAND: The total buildable land area of a parcel remaining after subtracting the area required for future public uses including streets, community facilities, utility services and other similar uses.

CAC: Citizens' Advisory Committee. The committee responsible for the 1989 Comprehensive Plan update.

CARRYING CAPACITY: Level of use which can be accommodated on a defined land area without irreversible impairment of natural resources, the ecosystem and the quality of air, land and water resources.

CCI: Committee for Citizen Involvement in the City known as the Sherwood Citizens Planning Advisory Committee (SCPAC).

COMMON WALL DWELLING: Dwelling units characterized by shared wall structures such as a duplex or multi-family dwelling.

CONDITIONAL USE: A type of land use that, due to its potential adverse effects on other land uses within a planning designation, requires special approval conditioned upon measures to be taken to address those effects.

CONDOMINIUM: An individually owned dwelling unit in a multi-family housing structure.

DEDICATION: The act of conveying land ownership rights to the City for a specified public purpose.

DENSITY: The average number of families, persons or dwelling units per unit of land area.

GROSS DENSITY: Refers to all the land area.

NET DENSITY: Refers to the land area remaining after removal of land currently used for or estimated to be used for public and semi-public land uses.

DENSITY TRANSFER: The practice of allowing the permitted density of development in one part of a site to be added to other portions of the same site while maintaining the average overall density on the entire site. In certain cases density transfer may include transfer of density from unbuildable portions of a site in exchange for the dedication of a portion of the site for public purposes.

DEQ: Oregon State Department of Environmental Quality.

DLCD: Department of Land Conservation and Development; staff department for the Land Conservation and Development Commission (LCDC).

DU: Dwelling Unit.

DWELLING UNIT: A building or portion thereof used exclusively for residential occupancy.

SINGLE FAMILY: A detached building with one complete dwelling unit.

DUPLEX: A detached building with two complete dwelling units.

MULTI-FAMILY: A building with two or more complete dwelling units.

EASEMENT: The grant of the right to use a strip of land for specific purposes.

ENCOURAGE: Stimulate, give help to, foster.

EPA: Federal Environmental Protection Agency.

FAMILY: An individual or group of two or more persons living together as members of a single dwelling unit.

FLOOD PLAIN: Land adjacent to a water course that is covered with water during periods of flooding; normally defined as an area of land inundated by a flood having a 1% chance of occurring in any year.

FULL RANGE OF URBAN FACILITIES AND SERVICES: Refers to a minimum number and level of facilities and services required to support urban development. The facilities and services include sanitary sewer, water, drainage, schools, parks, transportation access, fire protection, police protection, and electric service. The level of the facility or service shall be determined by the City Engineer consistent with the Sherwood Comprehensive Plan and

shall include where appropriate the oversizing and extension of lines to property boundaries to accommodate future growth.

GARDEN APARTMENTS: Multi-family residential developments characterized by the use of open space and landscaped areas.

GREENWAY: A linear park-like or naturally landscaped strip of land usually located adjacent to water courses or roadways.

GROSS ACRE: An acre of land representing all land area on a parcel or site.

GROWTH MANAGEMENT: The use of a wide range of techniques singly or in combination by the City to achieve a desired kind, rate, and location of growth.

INSURE: Guarantee; make sure or certain something will happen.

LCDC: Land Conservation and Development Commission.

LOT: A piece, plot or parcel of land.

LOT AREA: The area of land enclosed within the boundaries of a lot.

MAINTAIN: Support, keep and continue in an existing state or condition without decline.

MANUFACTURED HOME: A structure transportable in one or more sections, intended for permanent occupancy as a dwelling. All manufactured homes located in the City after the effective date of this Code shall meet or exceed the Standards of the U.S. Department of Housing and Urban Development, and shall have been constructed after June 15, 1976.

MANUFACTURED HOME PARK: A mobile home park is a lot, tract, or parcel with four or more spaces for rent within 500 feet of one another.

MSD: Metropolitan Service District. A regional government agency having land use planning and other powers and responsibilities of a regional nature.

NATURAL RESOURCES: Air, land and water resources and the elements thereof which are valued for their existing and potential usefulness to man.

NET ACRE: An acre of land representing the land area of a parcel or site minus land required for public or semi public uses.

OFFICIAL MAP: A map or maps that locate future public improvements with detail and exactness so as to furnish a basis for property acquisition and building restrictions as development occurs.

POLLUTION: The violation or threatened violation of applicable state, federal or local

environmental performance standards.

PRESERVE: To save from change or loss and reserve for a special purpose.

PROVIDE: Prepare, plan for, and supply what is needed.

RIGHT-OF-WAY: A strip of land reserved for public purposes such as roadways and utility lines.

RURAL LAND: Lands outside of the Urban Growth Boundary.

SCPAC: Sherwood Citizens Planning Advisory Committee.

SMSA: Standard Metropolitan Statistical Area, U.S. Bureau of Census, i.e. Portland SMSA.

STRIP DEVELOPMENT: A pattern of development characterized by a narrow area of use located along major streets with multiple driveway access to individual uses and parcels.

SUBDIVISION: The division of a parcel of land into four or more lots requiring the creation of a road or street.

STRUCTURE: Anything constructed or erected, the use of which requires location on the ground, or attached to something having a permanent location on the ground, but not including fences up to 42 inches in height, tents, vehicles, or poles and appurtenances thereto used for the provision of public utilities.

URBAN GROWTH BOUNDARY: A line defining the area expected to be needed to accommodate City growth to the year 2010, coincident with the Portland Urban Growth Boundary, (UGB). Also referred to as the Urban Planning Area.

THE PLANNING PROCESS

A. INTRODUCTION

Planning is a process which involves affected persons and approving authorities 1) defining issues and problems, 2) establishing goals and policies, 3) adopting implementation measures, 4) enforcing and carrying out those measures and 5) evaluating and updating each of the above steps. The Comprehensive Plan and implementing zoning ordinance documents represent a guide to action and are not an end in themselves. They must be continually reviewed and updated to respond to changing values, policies and conditions. Likewise, plans and ordinances must be properly implemented or their primary purpose as a guide to action is negated. This Section outlines three major ingredients in the Sherwood Comprehensive Planning Process: Citizen Involvement, Planning Coordination and Plan Administration.

B. CITIZEN INVOLVEMENT

The City of Sherwood is committed to maintaining a creative and responsive planning process which assures the opportunity for the involvement of all parties affected by development decisions in the Urban Growth Boundary consistent with LCDC Goal 1. To that end the City has adopted a Citizen Involvement Program (CIP) outlining how it intends to assure opportunity for citizen involvement in the planning process. The goals of the program are as follows:

To insure the opportunity for citizens to be involved in all phases of the development and implementation of Sherwood's Comprehensive Plan.

To provide information that enables citizens to identify the issues and suggest alternative approaches to addressing identified needs and problems.

To provide a local citizen participation structure which may be used by federal agencies, LCDC, Metropolitan Service District and other agencies involved in the Sherwood urban area.

To assure effective two-way communication between citizens and elected officials on planning related matters.

In adopting the CIP, the City established the Sherwood Citizens Planning Advisory Committee as the Committee for Citizen Involvement (CCI). SCPAC adopted its own bylaws in December of 1978 which include the following organizational goals:

1. To assist City government in making decisions regarding land use by providing information based on available citizen input.
2. To provide a forum for the development of ideas and concepts that benefit the

Sherwood community as a whole by careful monitoring and continued use of the Comprehensive Plan.

3. To create an awareness of the planning process, and to encourage citizen involvement so that the citizens decisions reached reflect the broadest technical opinion.
4. To speak to those issues involving the community as a whole, rather than specific areas that may be affected by growth decisions.

The full texts of the Citizen Involvement Program and SCPAC bylaws as well as a more detailed account of citizen involvement during plan development is contained in Background Data and Analysis, Section 1.

Consistent with provisions of LCDC Goal 1, the Sherwood Citizens Planning Advisory Committee (SCPAC) shall conduct an evaluation of the City's Citizen Involvement Program (CIP) and include the evaluation with the Plan when it is submitted for LCDC acknowledgment. SCPAC will conduct an evaluation of the CIP each year on the anniversary of initial Plan acknowledgment at the time of each Plan update.

Preceding the 1989 Plan update, the City evaluated the adopted CIP in relation to the update process. Because of the minimal response to advertised citizen participation solicitation and the nature of a limited update, versus full plan development, the City appointed one eleven (11) member advisory committee responsible for all elements of the update. The elaborate system of subcommittees was not possible nor deemed necessary. The adopted CIP program remains unchanged, however, and will be evaluated with each Plan update.

C. AGENCY INVOLVEMENT

LCDC Goal 2 requires that "each plan and related implementation measure shall be coordinated with the plans of affected governmental units." The City and its consultants have coordinated work on the Plan in its various phases with interested agencies. Coordination has occurred in the area of data provision and consistency, goal and policy development and implementation of current programs and procedures. Specifically, the City has received and reviewed State agency coordination programs pursuant to ORS 197.80 and have taken advantage of technical assistance offered in several cases. The City will provide the following agencies with plan products for review and comment during progressive plan phases.

1. Land Conservation and Development Commission
2. Metropolitan Service District
3. Washington County
4. Cities of Tualatin, Wilsonville, and Tigard

5. Portland Metropolitan Area Local Boundary Commission
6. Tri-Met
7. Sherwood School District 88J
8. Clackamas County
9. Tualatin Valley Fire and Rescue
10. Unified Sewerage Agency
11. State of Oregon:
 - Department of Transportation
 - Department of Environmental Quality

In addition, contact has been maintained with the following private utility companies concerning matters of mutual concern: General Telephone Company, Portland General Electric, Northwest Natural Gas, and Columbia Cable Co.

D. PLAN DEVELOPMENT PROCESS

The development of Sherwood's first Comprehensive Plan has proceeded from the development of an initial draft plan in 1974 through present efforts to achieve compliance with Statewide Goals and Guidelines. Since the availability of Planning Assistance funds in fiscal 1976-1977, the City has conducted its planning in five major phases; Data Collection and Analysis; Evaluation of Alternative Policy; Plan Preparation and Adoption and Preparation and Adoption of Implementing Ordinances. A chronology of the process through the City's original compliance date of January 1, 1980 is shown in Figure II-1. The 1989 Plan Update followed a similar process as illustrated in Figure II-2.

E. PLAN INTERPRETATION

The Sherwood City Council shall have final authority for the interpretation of the text or maps of the Sherwood Comprehensive Plan. In cases of conflict between the map and text of the Comprehensive Plan, the text of the plan shall take precedence in interpreting plan intent. The location of zones on the Plan Map shall be determined according to the rules contained in Part 3, Section 1.102.03. The Plan Map and Zoning Map are identical.

F. PLAN AMENDMENTS

This Plan, and each of its parts shall be opened for amendments that consider compliance with the goals and objectives and plans of the Metropolitan Service District (MSD) or its successor, on an annual basis and may be so amended or revised more often than annually if

deemed necessary by the City Council as provided in this Section. Annual amendment and revision for compliance with the above regional goals, objectives and plans shall be consistent with any schedule for reopening of local plans approved by the Land Conservation and Development Commission (LCDC).

Amendments to the maps and text of this Part shall comply with the provisions of Part 3 Chapter 4 Section 4.200.

GROWTH MANAGEMENT

A. INTRODUCTION

The 1980's were projected to mark the beginning of a period of strong growth pressure in the Sherwood Urban Area. The ultimate level, rate and direction of growth can, to a large extent, depend on the growth management policies and objectives of City and the region. This Section of the Plan contains the assumptions, goals, needs and policies which together express how the City intends to manage expected growth. However, for a variety of reasons, primarily the overall Oregon recession during most of the 1980's, the projected growth for Sherwood did not occur. During the 1989-90 Plan update process population projections and general growth assumptions were re-evaluated and scaled back. The UGB remained unchanged; however the planning period which it represents was extended from 2000 to 2010. In 2006 the City developed an Economic Development Strategy that included updated forecast for employment needs within the 2025 planning horizon, where appropriate, the forecasts are updated to reflect the most current information.

This Section summarizes the results and recommendations of the 1989-90 Comprehensive Plan CAC as reviewed and revised by the Planning Commission and City Council. This Plan element designates land within specific urban growth boundaries to meet the needs of a projected 2010 population; provides for the orderly economic extension of urban services; and specifies policy for the conversion of rural, agricultural and urbanizable land to urban uses. The overall purpose of this Section is to establish policy for the management of the City's growth consistent with LCDC Goal 14.

Until 1985, this Plan was a complementary plan, that is, it applied within the City limits. The Washington County Comprehensive Plan continued to apply to land within the Sherwood Planning Area, but outside of the City limits. The Washington County/Sherwood Urban Planning Area Agreement (UPAA) developed in order to meet inter-jurisdictional coordination requirements of LCDC Goal 1, details the on-going relationship between the City and County in developing, implementing and revising their respective Comprehensive Plans for the Sherwood Planning Area. This agreement has been updated biennially, the most recent in 1988. Amendments to the agreement have been incorporated into this section. The most significant change in the UPAA between the County and the City occurred in 1985 when Sherwood opted to gain "active plan status" versus complimentary status of the urban area outside the city limits but inside the UGB. This means that the City is responsible for comprehensive planning within the urban planning area and regulates development activities to the greatest extent possible. The City is identified as the appropriate provider of local water, sanitary sewer, storm, and transportation facilities within the urban planning area. The agreement now states that the county shall not approve land divisions within the unincorporated portions of the urban planning area which would create lots less than 10 acres in size.

During the 1989-90 Plan update the city adopted an additional provision to be incorporated into the Urban Planning Area Agreement. Since the Sherwood Comprehensive Plan

employs a one-map system wherein the Comprehensive Plan Map fulfills a dual role by serving as both Plan Map and Zone Map, the map establishes land use designations or zones for unincorporated portions of the Urban Planning Area. Therefore, to simplify the process, the agreement provides that with adequate notice to the affected property owners, upon annexation of any property within the urban planning area to the City, the land use designation specified by the Sherwood Comprehensive Plan and Zone Map is automatically applied to the property on the effective date of the annexation (as authorized by ORS 215.130(2) and after adequate notice to the property owner).

B. POLICY GOALS AND OBJECTIVES

1. POLICY GOAL

To adopt and implement a growth management policy which will accommodate growth consistent with growth limits, desired population densities, land carrying capacity, environmental quality and livability.

2. POLICY OBJECTIVES

- a. Focus growth into areas contiguous to existing development rather than "leap frogging" over developable property.
- b. Encourage development within the present city limits, especially on large passed-over parcels that are available.
- c. Encourage annexation inside the UGB where services area available.
- d. When designating urban growth areas, consider lands with poorer agricultural soils before prime agricultural lands.
- e. Achieve the maximum preservation of natural features.
- f. Provide proper access and traffic circulation to all new development.
- g. Establish policies for the orderly extension of community services and public facilities to areas where new growth is to be encouraged, consistent with the ability of the community to provide necessary services. New public facilities should be available in conjunction with urbanization in order to meet future needs. The City, Washington County, and special service districts should cooperate in the development of a capital improvements program in areas of mutual concern. Lands within the urban growth boundary shall be available for urban development concurrent with the provision of the key urban facilities and services.
- h. Provide for phased and orderly transition from rural to suburban or urban uses.

C. GROWTH ASSUMPTIONS

The growth assumptions developed and selected for Sherwood during the previous Plan preparation were high. At that time, the Plan projected 4,600 people in the urban area by 1985 and 10,600 people by 2000. This arose from a projected 7% to 12% annual increase anticipated by connection of the Sherwood sewer system to the Durham Sewage Treatment Plant. The growth did not occur however. By 1988 Sherwood's population was 2,990 inside the City limits.

1. To provide a regionally consistent population projection methodology and the accurate allocation of people, in 1988 Washington County and the Metropolitan Service District prepared revised population projections for Sherwood and other metro jurisdictions. These projections are the revised growth assumptions utilized in the Plan update process projecting to the year 2005 and are detailed as in the following. The population projections made in the original acknowledged plan remain as the high estimate.
2. The goal for the residential/nonresidential land use ratio should be 60/40 at full development.
3. Major public services, especially water and sewer, will be available to the buildable residential land within the Planning Area.
4. Twenty five percent of the buildable residential land in the Planning Area will be needed for public facilities and services.
5. Average overall residential density at full development will be over 6 units per gross acre.

**TABLE III-1
POPULATION PROJECTIONS**

YEAR	CITY LIMITS	1988	1980
		REGIONAL PROJECTION UGB	PLAN PROJECTION UGB
1980	2,400	2,924	2,385
1985			4,600
1987	2,910		
1990	3,125	3,537	
2000			10,600

2005 4,010 5,355

**TABLE III-2
HOUSING UNITS IN THE UGB**

YEAR	SINGLE FAMILY		MULTI-FAMILY		TOTAL
1980	848	(83.5%)	168	(16.5%)	1,016
1985	944	(82.9%)	195	(17.1%)	1,138
1987	979	(82.8%)	204	(17.2%)	1,183
1990	1,090	(82.9%)	224	(17.1%)	1,315
2005	1,663	(84.1%)	316	(15.9%)	1,979

**TABLE III-3
EMPLOYMENT IN THE UGB (2005)**

Employment Forecast for City of Sherwood, Medium Growth Scenario

Employment Sector	2005	2025	Change	Annual Average Growth Rate
Industrial/Other	2,346	5,355	3,009	8.6%
Commercial-Retail	932	2,282	1,350	9.4%
Commercial-Services	714	1,701	987	9.1%
Total Non-farm Jobs	3,992	9,339	5,347	8.9%

Job Distribution

Employment Sector	2005	2025	Change
Industrial/Other	58.8%	57.3%	56.3%
Commercial-Retail	23.3%	24.4%	25.3%
Commercial-Services	17.9%	18.2%	18.5%
Total Non-farm Jobs	100.0%	100.0%	100.0%

City of Sherwood Capture Rate of County

Employment Sector	2005	2025	Change
Industrial/Other	6.8%	5.6%	4.8%
Commercial-Retail	9.2%	15.0%	26.4%
Commercial-Services	3.2%	4.3%	5.6%
Total Non-farm Jobs	6.0%	6.2%	6.3%

Source: derived from Medium growth forecast, using Metro's 2025 projected job distribution for Sherwood. Compiled by Otak, Inc.

D. FUTURE LAND NEEDS

Based on the selected set of growth assumptions and general space standards developed for each major category of land use, the following future land needs were determined. The land

needs analysis is summarized in Chapter 4.

1. RESIDENTIAL LAND

Based on the above regional growth projections, there will be an additional 1,818 new people added to the Sherwood UGB between 1990 and 2005. At 2.5 people per household, there will be a need for 727 new households. At an average density of 6 dwelling units per acre with an additional 25% for roads and services, Sherwood will need an additional 121 acres of vacant residential to meet the projected population. The original population projection increases the needed residential acreage to 692 acres. There is adequate vacant land for both the regional and original population forecasts.

2. EMPLOYMENT LAND

To provide sufficient developable land in Sherwood to meet employment land demand and City objectives, a total of 237 acres would be needed.

Employment Growth Forecast	Medium Growth Scenario
Industrial/Other	3,009
Commercial-Retail	1,350
Commercial-Services	987
Total Non-farm Jobs	5,347
Refill (Redevelopment and Infill) Assumptions	
Industrial/Other	0%
Commercial-Retail	40%
Commercial-Services	15%
Jobs Allotted to Refill/Redevelopment	
Industrial/Other	0
Commercial-Retail	540
Commercial-Services	148
Total Non-farm Jobs	688
Jobs Allotted to Vacant Lands	
Industrial/Other	3,009
Commercial-Retail	810
Commercial-Services	839
Total Non-farm Jobs	4,659
Vacant Land Needs Factors (SF Per Job)	
Industrial/Other	800
Commercial-Retail	400
Commercial-Services	350
Vacant Land Needs Factors (Floor Area Ratio)	
Industrial/Other	0.25
Commercial-Retail	0.4
Commercial-Services	0.5

Vacant Land Needs (Net acres)	
Industrial/Other	221
Commercial-Retail	19
Commercial-Services	13
Total	253

E. BUIDABLE LAND

A survey of vacant land in the Planning Area which is capable of accommodating new development was conducted by the City in 1978 and again in 1989. Table III-1 depicts the methodology used and results of the survey. The primary constraint to development in the Planning Area is the Rock Creek and Cedar Creek flood plains. A total of 1,652 acres of buildable land existed in the Planning Area in 1989. This figure represents approximately 69% of total Planning Area acreage.

In comparing buildable land with future land needs, it is evident that buildable land in the Planning Area will be adequate to the year 2010. Table III-2 compares overall land needs to buildable land and population capacities.

With the development of the 2006 Economic Development Strategy, an updated Vacant and Redevelopable Employment Lands map was developed for employment purposes. This map is depicted as Figure 1

F. GROWTH MANAGEMENT POLICY

The following policies and strategies are established for the management of urban growth in the Planning Area.

1. GROWTH AREAS

Consistent with regional and state policy which calls for establishment of a growth policy, the City has determined future land requirements for growth to the year 2017 consistent with Metro 2040 growth concept plan. The City further has established a need for policies and standards defining areas to meet these short range and long range requirements. City plan and zoning designations will be determined consistent with the Metro 2040 Growth Concept Design Types illustrated on the 2040 map, unless the 2040 map designation is inappropriate in which case the City will propose that Metro change their map consistent with City policy.

One growth boundary is used in the Plan. The Urban Growth Boundary (UGB), also referred to as the Urban Planning Area, defines urban land needs to the year 2010.

a. URBAN GROWTH AREA BOUNDARY POLICIES

The Sherwood Urban Growth Boundary (UGB) is defined as the area west of Cipole Road included within the regionally adopted Portland Urban Growth

Boundary (UGB).

- Policy 1 - The City will periodically review and propose to Metro appropriate revisions to the Urban Growth Boundary (UGB) in conformance with the Metro 2040 Growth Concept Plan and the need to accommodate urban growth to the year 2017.
- Policy 2 - Changes in the Urban Growth Boundary may be proposed by the City, County, special districts, and individuals in conformance with City, County and Metro procedures for amendment of their respective Comprehensive Plans.
- Policy 3 - The City will review and comment on all proposals before Metro to establish or to revise the Sherwood Urban Growth Boundary for conformance with the Sherwood Comprehensive Plan. Specifically, the City review will consider if the proposal addresses the following criteria:
- 1) Demonstrated need to accommodate urban population growth requirements to the year 2017 consistent with the Metro Urban Growth Management Plan and DLCD goals;
 - 2) Need for housing, employment opportunities, and livability;
 - 3) Orderly and economic provision of public facilities and services;
 - 4) Maximum efficiency of land uses within and on the fringe of the existing urban area;
 - 5) Environmental, energy, economic and social consequences;
 - 6) Retention of agricultural land as defined, with Class I being the highest priority for retention and Class VI the lowest priority; and,
 - 7) Compatibility of the proposed urban uses with nearby agricultural activities.

b. CITY LIMITS POLICIES

- Policy 4 - The City will periodically review and propose appropriate revisions to the City limits in conformance with City policies and procedures and consistent with the need to accommodate urban growth. Urban growth needs shall be determined based on the assumptions contained in Section C of this chapter.
- Policy 5 - Changes in the City limits may be proposed by the City, County, special districts or individuals in conformance with City policies and procedures for the review of annexation requests and County procedures for amendment of its comprehensive plan.

Policy 6 - The City will coordinate with Washington County policies and procedures governing the conversion of urbanizable land to urban land. Such policies shall be included in the Washington County-Sherwood Urban Planning Area Agreement (UPAA). Specifically, the City will consider whether proposals to annex to the City include lands which meet one or more of the following criteria:

- 1) Land contiguous to the City limits needed to extend facilities or services to areas within the City limits.
- 2) Lands where urban services are available or are programmed for the immediate future.
- 3) Conservation of a needed amount of open space.
- 4) Land where existing man-made conditions indicate a pre-existing commitment to urban development.

Policy 7 - All new development must have access to adequate urban public sewer and water service.

Policy 8 - No new lots outside the City and inside the UGB shall be created that contain less than ten acres. Development of existing lots of record and newly created lots of 10 or more acres shall be limited to single family dwellings, agricultural activities; accessory uses which are directly related to the primary residential or agricultural use and necessary public and semipublic uses.

Policy 9 - Urban sanitary sewer and water service shall not be extended beyond the City limits or UGB with the following exceptions:

- 1) Where an immediate demonstrable threat to the public health exists, as a direct result of the lack of the service in question.
- 2) Where urban services are required by a public facility which by the nature of its service, the size and location of its service area or by virtue of special siting requirements cannot be met by sites within the City limits or UGB.

Policy 10 - New private septic tanks and water wells shall be allowed outside the City limits and inside the UGB only for permitted uses on existing lots of records and new lots of ten (10) or more acres in size.

c. MAPPING OF URBAN GROWTH BOUNDARY

The Urban Growth Area Boundary is depicted on the Plan and Zone Map in Chapter 4. The definition of the growth area is based on the detailed analysis in Section III Background Data and Analysis and the assumptions in Section C of this chapter. Changes in the boundaries must meet criteria contained in Policies 3 and 4 above. In

the location of growth boundary lines, the following considerations shall be used:

- 1) Creeks with narrow flood plains, due to their barrier effect and definability.
- 2) The edge of a wide flood plain, due to their limiting effect on urban land use. This criteria may be unsuitable if the flood plain is in agricultural use.
- 3) Railroad tracks, due to their barrier effect, especially where road or highway crossings are involved.
- 4) Power lines, due to definability.
- 5) Roads, due to definability and barrier effect but unsuitable with respect to service provision.
- 6) Rear property lines, due to definability and service provision but having limited barrier effect.
- 7) Specified setbacks from roadways or other established public facility or service locations which would best utilize a service district.

2. URBAN SERVICE EXTENSION OUTSIDE OF GROWTH BOUNDARY AREAS
(except as stated in policy 7 above):

Policy 11 - The City shall not initiate or take any action and shall oppose any action by others which would extend or encourage the extension of urban sewer, water or storm drainage services outside of the regionally adopted Urban Growth Boundary.

Policy 12 - Urban Service plans adopted by the City shall be designed to serve areas within the regionally adopted Urban Growth Boundary only. Service line locations and sizing shall be limited to those which are necessary to serve areas within the Urban Growth Boundary.

TABLE III-4

**1990
BUILDABLE RESIDENTIAL LAND INVENTORY
SHERWOOD URBAN GROWTH BOUNDARY**

DESCRIPTION	TOTAL UGB ACREAGE
A. TOTAL LAND AREA	2,391
B. DEVELOPED LAND	543
C. AVAILABLE LAND (A minus B)	1,848
D. LAND UNSUITABLE FOR DEVELOPMENT	205
E. GROSS BUILDABLE LAND (C minus D)	1,641
Residential	1,138
) Public	0

TABLE III-5

**2006
BUILDABLE EMPLOYMENT LAND INVENTORY**

Employment Land Supply, Sherwood City Limits May 2006

Zone	Total Acres	Total Developed Acres	Total Constrained Acres	Total Vacant Acres	Total Redevelopable Acres
General Commercial	72.5	37.4	1.4	4.4	30.8
Retail Commercial	84.7	43.6	0	4.3	36.9
Office Commercial	17.4	9.7	1.9	4.7	3.0
Neighborhood Commercial	1.0	0	0	0	1.0
Office Retail	0	0	0	0	0
General Industrial	276.8	153.6	10.8	48.7	74.5
Light Industrial	271.8	87.8	50.1	153.6	30.4
Subtotal Commercial Land	175.7	90.6	3.3	13.4	71.6
Subtotal Industrial Land	548.6	241.4	60.9	202.3	104.9
Total	724.2	332.0	64.2	215.7	177.0

Source: City of Sherwood Planning Department, May 2006. Excludes areas outside existing city limits including Areas 48 and 54-55.

LAND USE

A. INTRODUCTION

The Land Use Chapter forms the backbone of the Comprehensive Plan. It expresses and applies City policy governing the allocation of land resources in the Planning Area. It specifies the kind, location and distribution of land use which the community intends to see developed. The development of land use policy has been the result of a carefully defined planning process which has encouraged the involvement of all persons and agencies with an interest in the use of land within the Planning Area. Policy has been determined based on an analysis of current data and identified policy goals and objectives. Strategies for the implementation of selected policies were determined from an analysis of current data and identified policy goals and objectives. Strategies for the implementation of selected policies were determined from an evaluation of practical alternatives. The goals, policies and strategies contained in this Section are based on the material in Section III-IV of Part I, Background Data and Analysis. General findings relating to the current land use pattern are summarized in Section B of this chapter. More specific findings related to residential, commercial, industrial, public and semi-public land uses are summarized in Sections E through H of this chapter.

B. GENERAL FINDINGS

An existing land use inventory and analysis was conducted in 1977 and again in 1989 to determine factors contributing to the existing pattern of development and the possible effects of the existing land use pattern on future development. A buildable land survey was taken to determine the nature and extent of vacant and developable land which is available and suitable for future urban growth. An analysis of current zoning was made to determine the relationship between land use as it has been planned and land use as it has actually developed. Finally, standards were developed and applied to make a determination of future space needs for each major category of land use. These studies will be periodically updated to provide the most reliable basis for plan policy:

1. EXISTING DEVELOPMENT PATTERN

- a. Existing development in the Sherwood Planning Area is located in and around the original town center along the Southern Pacific Railroad line. The development pattern clearly indicates the historic reliance of the first community of Sherwood on the railroad for transportation of person and goods.
- b. The development pattern indicates historic growth outward from the original town center grid to the hillside south of the railroad tracks and along major radial streets.
- c. The existing 1990 distribution of developed land by major category in the

Urban Growth Boundary is residential 54%; commercial 6%; industrial 17%; and public and semi-public 22% (See Table IV-1).

- d. More recent development in the Six Corners area indicates the market "pull" of the Highway 99W corridor. Highway 99W may be expected to exert a similar influence on development in Sherwood that the railroad has exerted, especially after improvements to the Six Corners intersection and widening of Tualatin-Sherwood Road in 1991-92.

2. DEVELOPABLE LAND

- a. About 1641 buildable acres are available within the 1990 Urban Growth Boundary for development. The 2006 Economic Opportunities Analysis, a component of the Economic Development Strategy (EDS) identifies the employment land supply within the Sherwood City limits as of May 2006 as illustrated in Table IV-1 below. Per the table, there are 215.7 vacant acres of employment land and 177 redevelopable acres of employment land within the City limits.

TABLE IV-1 EMPLOYMENT LAND SUPPLY, SHERWOOD CITY LIMITS MAY 2006

Zone	Total Acres	Total Developed Acres	Total Constrained Acres	Total Vacant Acres	Total Redevelopable Acres
General Commercial	72.5	37.4	1.4	4.4	30.8
Retail Commercial	84.7	43.6	0	4.3	36.9
Office Commercial	17.4	9.7	1.9	4.7	3.0
Neighborhood Commercial	1.0	0	0	0	1.0
Office Retail	0	0	0	0	0
General Industrial	276.8	153.6	10.8	48.7	74.5
Light Industrial	271.8	87.8	50.1	153.6	30.4
Subtotal Commercial Land	175.7	90.6	3.3	13.4	71.6
Subtotal Industrial Land	548.6	241.4	60.9	202.3	104.9
Total	724.2	332.0	64.2	215.7	177.0

Source: City of Sherwood Planning Department, May 2006. Excludes areas outside existing city limits including Areas 48 and 54-55.

- b. About 205 acres, or almost 9% of all land within the urban area, is non-buildable due primarily to flood plains, creek bank slopes, and power line easements.
- c. Assuming a 60/40 residential nonresidential land use distribution in the urban area at full development, approximately 1,158 vacant residential acres and 503 nonresidential acres would be available and suitable for development to the year 2010. These assumptions from the 1990 plan must be modified and

augmented per the data from the EDS Economic Opportunities Analysis and Table IV-1, above.

- d. The most significant amounts of buildable land are located in the north-central portion of the urban area south of Highway 99W, and in the southwest portion of the Planning Area between the present City limits and Old Highway 99W. (See Section III Background Data and Analysis for detailed analysis of buildable land and population holding capacities by Planning Sub area.)

3. EXISTING ZONING

- a. Over half of the acreage within the UGB is zoned for low density residential use. In addition, there is a significant amount of low density use.
- b. Nearly 70% of all land within the UGB is zoned for residential use in areas with medium and high density zoning. The 1990 Plan update rezoned existing, established single family areas near downtown from high density to low density residential.
- c. Table IV-2 illustrates the extent of currently developed lands in the Sherwood UGB.

**TABLE IV-2
1990 SHERWOOD UGB RESIDENTIAL¹ LAND USE
& BUILDABLE LAND INVENTORY**

Land Use/Zone	Total Acres	Built Acres	Unbuildable Acres	Buildable Acres	% of Total Buildable
Very Low Density Residential (<i>VLDR</i>)	123	7	3	113	7
Low Density Residential (<i>LDR</i>)	865	163	70	630	40
Medium Density Residential Low (<i>MDRL</i>)	249	67	31	151	10.5
Medium Density Residential High (<i>MDRH</i>)	233	41	20	172	9
High Density Residential (<i>HDR</i>)	91	9	10	72	4
Institutional Public (<i>IP</i>)	130	130	0	0	0
TOTAL	1691	417	134	1138	70.5

**TABLE IV-3
1989 LAND USAGE ACCORDING TO ZONING DENSITY
SHERWOOD UGB**

Land Use Category	Use	Zoned	% Developed
Residential			
Very Low Density	8	123	6
Low Density	163	865	18
Medium Density	67	249	27
High Density	50	324	15
Commercial			
General	4	64	6
Retail	33	94	35
Office	2	19	10
Industrial			
General	65	305	21

¹ The Economic Opportunities Analysis, incorporated herein and adopted by reference provides up dated inventories for Employment lands within the City limits.

Light	24	216	10
Institutional/Public	130	130	100
TOTAL ACRES	531	2387	

C. STATEWIDE HOUSING TRENDS

Oregon's current and projected housing situation will be reflected in communities like Sherwood. The following facts and trends were prepared by Robert E. Clay, AICP, City of Portland Housing Bureau in the article "Oregon's Housing Future", August 1988.

1. FINDINGS

a. RESIDENTIAL CONSTRUCTION TRENDS

Housing is generally regarded as a prime indicator of economic activity so that, when the economy is strong, residential building permits increase. A major state and national trend the past few years is the increase in the number of permits for remodeling and rehabilitation which began during the recessionary period of the early 1980's as households adapted their existing housing rather than to sell and "trade-up."

The number of new single and multi-family units reported in Oregon peaked in 1977 with almost 40,000 units and reached a low in 1982 with about 7,500 units. Since 1985, permits have fluctuated between 9,000 and 13,000 units. 1987 saw almost 13,000 units produced. Year-end 1988 is expected to drop about 10 percent to just under 12,000. The Oregon Housing Agency's economist expects new unit production to stay in the 9,000-13,000 range over the next five years. During the 1970's manufactured housing assumed a greater portion of the total new housing units produced.

An analysis of permits reveals that the three-county Portland Metropolitan area has become more predominant since 1985, particularly for multi-family units. Prior to the beginning of the recession in 1981, about 40-50 percent of all new multi-family units were in the Portland region. This trend reflects the growing concentration of economic activity in the Portland Metropolitan area.

b. AGING TRENDS

It is widely known that the state's and nation's population is aging. The number of persons reaching retirement and at or over 65 years is expected to dramatically escalate beginning about 2003 and reach its peak about 2005 to 2010.

Oregon is regarded as a state that attracts retirees. A major trend toward retirement living is particularly pronounced in certain regions, including Southern Oregon and the Oregon Coast.

California's tremendous in-migration, economic growth, and the affects of Proposition 13 have greatly reduced that state's ability to provide drastically

needed transportation and transit improvement projects. Many experts believe these factors are causing a lowered livability standard, and widespread anti-growth initiatives that may result in Oregon attracting Californians fleeing the livability and housing pinch.

Greater numbers of aged who also live longer and larger numbers of infirm or special needs, creates specific needs for a continuum of housing services for retirees and disabled persons.

In the next 10-20 years, the aging trend should accelerate the consumer popularity in housing types different from the single-family detached residence on individual lot. While less conventional housing types are received with mixed reactions in Oregon, depending on the locality, it is expected that the forces of demographics, lifestyle, affordability, and land availability will significantly alter public perception and acceptance. The aging trend itself should result in larger market shares for condominium construction, planned communities, a variety of elderly congregate care apartments, and manufactured housing parks. Other more specialized housing types such as "commercial flats" or residential lofts created by adaptive reuse of commercial or industrial buildings will likely occur in more densely populated urban areas.

c. HOUSING NEEDS

Below is a brief summary characterizing housing needs in Oregon from available data sources and excerpted from a 1984 report titled, "Oregon Housing Trust Fund Feasibility Study", and later reprinted in two other reports published by the Center for Urban Education. Among the studies' many findings were some of the following highlights.

- 1) Twenty to twenty-five percent of Oregonians can afford to purchase the average home, with only seven to ten percent of renters able to afford home purchase. Mortgage delinquencies and foreclosures have climbed sharply and steadily since 1979, as much as a six-fold increase over pre-recession levels.
- 2) During the 1980-85 recessionary period, construction and forest products employment plummeted alarmingly, down 50 percent and 33 percent respectively. New construction permits fell 83 percent from 1979 levels.
- 3) The feasibility study also found that despite what are generally perceived in Oregon as low rents, many Oregonians are burdened by their rent payments. Nearly 40 percent pay more than 30 percent of their income for rent and utilities. The vast majority of these burdened renters- 81 percent- are poor, with family incomes below

\$10,000. Twenty-eight percent of Oregon renters live in substandard housing, and of these, nearly two-thirds are poor.

- 4) The study found that among the state's poorest citizens, many are doubly disadvantaged by special needs, which increase their housing costs. Nearly 53,000 elderly Oregonians spend more than 30 percent on their annual housing costs.

Ninety percent of these individuals have yearly incomes below \$10,000. The housing and related social service costs for the mentally and physically handicapped are heavy. However, the state has few reliable statistics on the number of Oregonians in such need.

- 5) More than 40 percent of Oregon's single parent households must devote an excessive portion of their income to housing. Nearly 70 percent of these, or 33,600 families, are poor. The vast majority, perhaps 90 percent, are female heads of household.
- 6) Statewide statistics on the homeless and single-room-occupancy (SRO) hotel tenants are unavailable. There are at least 3,400 such citizens in Portland alone. The 1979 median income for single-room-occupancy in Portland was \$3,120.
- 7) Oregon's farm work force fluctuates seasonally, numbering between 1,000 and 19,000 workers. Farm workers are among Oregon's poorest citizens. Annual income for a family of six averages \$3,900.

d. SUMMARY OF EMERGING HOUSING TRENDS

Below are a few highlights of current and future housing issues which trends indicate will challenge planners and decision makers in the future.

- 1) An increase in elderly households will result in a greater number of retirement communities and housing types with a wider range of human services and care required. It will also result in finding more creative ways for the elderly on low fixed incomes to maintain their homes, possibly through shared equity, reverse annuity financing, or shared housing programs.
- 2) A wider range of community based housing and human services models to provide supervised living to the developmentally disabled that earlier might have been institutionalized will necessitate further solutions to land use siting issues.
- 3) A substantial demand for migrant farm worker housing in rural locations and areas of exclusive farm use that necessitates finding

solutions to land use siting problems.

- 4) A gradual restructuring of Oregon's economy toward service sector employment and high technology manufacturing may result in overall lower wage levels than lumber and wood product industries, making it difficult for service worker incomes to keep pace with housing prices.
- 5) An increase in the overall proportion of non-traditional family household units, particularly smaller households living arrangements. These factors, when combined with increasing costs of services, land and construction will necessitate flexibility in planning and zoning regulations to permit greater use of common wall construction, zero lot line, planned unit development, rowhouses, and accessory apartments.
- 6) Rapidly changing construction technology requires local governments to review building code enforcement, zoning ordinances, and permit processing requirements.
- 7) Increasing scarce residential land will necessitate vigilant review of local ordinances, flexible site designs for clustering with common open space and reduced lot sizes to reduce costs of housing and infrastructure while still appealing to consumer interest.
- 8) Consumer interest in manufactured housing will continue to challenge local governments on ways to best accommodate the compatible siting on this housing form.

Lastly, the Oregon State Housing Council Plan priorities for 1988-1990 are summarized below.

Priority One:	Low Income Housing
Priority Two:	Migrant Housing
Priority Three:	Housing for the Disabled
Priority Four:	Housing Availability and Affordability

D. POLICY GOALS

To create a flexible planning framework for the allocation of land for residential, commercial and industrial activities so as to create a balanced, livable urban environment where persons

may live, work, play and shop.

To locate land uses so as to:

- Minimize the adverse effects of one use on another.
- Provide for convenient and energy-efficient movement of persons, vehicles and goods within and among the major categories of land use activity.
- Minimize the adverse effects of human activity on the natural environment.

E. RESIDENTIAL LAND USE

1. FINDINGS

a. Residential Growth

Residential growth in Sherwood has been slow due primarily to a lack of sewer treatment capacity in the 1970's, the lack of easy access and the Oregon recession in the 1980's. Growth between 1970 and 1977 averaged 41 units per year. Between 1980 and 1987 there was an average of 24 units built per year in the Sherwood UGB. An additional 468 to 4800 housing units by 2010 will be needed to accommodate new population expected to locate in Sherwood depending on growth conditions.

b. Housing Density and Mix

Developed residential uses in Sherwood are currently characterized by single family units on larger lots and low density multi-family developments. Residential density refers to the number of dwelling units per acre of residential land. Within the 1977 City limits, the most typical developed lot was between five and eight thousand square feet. By 1989 this had changed very little.

Based on the Plan and Zone Map adopted in December, 1990, Table IV-4 illustrates the planned residential land use by zone, the number of gross buildable acres and the dwelling unit capacity. The overall average density is 6.9 dwelling units per acre.

Residential mix refers to the percentage distribution of units of varying density ranges and housing types. The following table summarizes previous and planned housing density and mix within the City limits and UGB.

TABLE IV-3 HOUSING DATA*

Total Housing Units	City Limits	UGB	School District
1980	919	1016	3357
1985	1030	1138	4117

1987	1069		1183		4329	
1990	1139		1315		4927	
2005	1482		1979		7532	
Single Family						
	City		UGB		School District	
1980	767	83.5%	848	83.5%	2702	80.5%
1985	854	82.9%	944	82.9%	3354	81.2%
1987	885	82.8%	979	82.8%	3517	81.2%
1990	945	82.9%	1090	82.9%	3978	80.7%
2005	1246	84.2%	1663	84.1%	6015	79.9%
Multiple Family						
1980	152	16.5%	168	16.5%	656	19.5%
1985	176	17.1%	195	17.1%	763	18.5%
1987	184	17.2%	204	17.2%	812	18.8%
1990	194	17.1%	224	17.1%	949	19.3%
2005	236	15.9%	316	15.9%	1516	20.1%
Owner/Renter 1980						
Total Occupied Units	893	100.0%	987	100.0%	3192	100.0%
Owner Occupied	683	76.5%	755	76.5%	2338	73.2%
Renter Occupied	210	23.5%	232	23.5%	855	26.8%
1985 Household Income	1042	100.0%	1145	100.0%	3852	100.0%
Less than \$10,000	68	6.6%	75	6.6%	285	7.4%
\$10,000 to \$14,999	121	11.6%	133	11.6%	386	10.0%
\$15,000 to \$24,999	247	23.7%	271	23.7%	1000	26.0%
\$25,000 to \$34,999	201	19.3%	221	19.3%	741	19.2%
\$35,000 to \$49,999	277	26.6%	304	26.6%	807	20.9%
\$50,000 or More	127	12.2%	140	12.2%	633	16.4%
Mean Household Income						
	\$33,518		\$33,518		\$33,930	

***Data provided by MSDB**

The single family/multi-family mix of 82% to 18% during the 1980's when compared to the regionally defined year 2000 target of 50% to 50% reveals a need to develop additional multi-family units. Citizen input received from surveys and Sherwood Citizens Planning and Advisory Committee meetings during the original plan development strongly supported the concept of keeping overall housing densities consistent with the current "small town" atmosphere. A need for a proper balance of single family and multi-family units was also recognized. Emphasis was given to medium density multi-family units in properly balancing the stock of low density single family detached units. Single family/multi-family mix of 65/35 was generally felt to be an acceptable balance. Although vacant, properly zoned land has been available, there has never been a market demand for multi-family housing in Sherwood. This is expected to change. A summary of the number and distribution of new units based on the Plan Map is shown in Table IV-6.

c. Existing Housing Conditions

A City survey of housing conditions in 1978 indicated that ninety-eight percent of Sherwood's current units were standard. A housing conditions survey was not done in 1989 but it is estimated that housing conditions were about the same.

d. Manufactured Housing Need

In the three single family residential zones (VLDR, LDR, and MDRL) there are 894 gross buildable acres. At an average density of 6 dwelling units an acre, there are 5,364 (894 x 6) potential single family dwelling units. Of those, 76% are expected to be conventional housing in the VLDR and LDR zones, and 24% can be expected to be manufactured or conventional housing. This is surmised because 24% of Sherwood's population has an annual income of \$5,000-\$24,999, (1985 data), the income required to qualify for a manufactured home on a lot.

Based on the above data, the following table illustrates the allocation and land needs for single family and manufactured housing on individual lots.

<u>Single Family Housing</u>	<u>% Split</u>	<u>Units Dwelling</u>	<u>Gross per Acre</u>	<u>Acres Needed</u>
Conventional	76%	4,077	6	680
Manufactured or Conventional	24%	1,287	6	215

As illustrated in Table IV-4, there are 743 acres zoned VLDR and LDR for strictly conventional housing, and 151 acres zoned MDRL, for conventional or manufactured housing. This indicates a shortage of 64 acres available in the MDRL zone for manufactured housing. Therefore, the City permits manufactured homes on individual lots in the MDRH zone, of which there are 172 buildable acres (Table IV-4). The City then exceeds the requirements for meeting the needs of manufactured housing.

2. RESIDENTIAL PLANNING DESIGNATIONS

a. GENERAL OBJECTIVES:

1. Encourage the formation of balanced neighborhoods with a mix of residential, commercial, institutional and recreational uses appropriate to local resident needs.

2. See to provide housing which meets local needs with regard to style, price, density, quality and energy efficiency.
3. Specify the purpose and density requirements for residential land use classifications used in the Comprehensive Plan.

b. **POLICIES AND STRATEGIES**

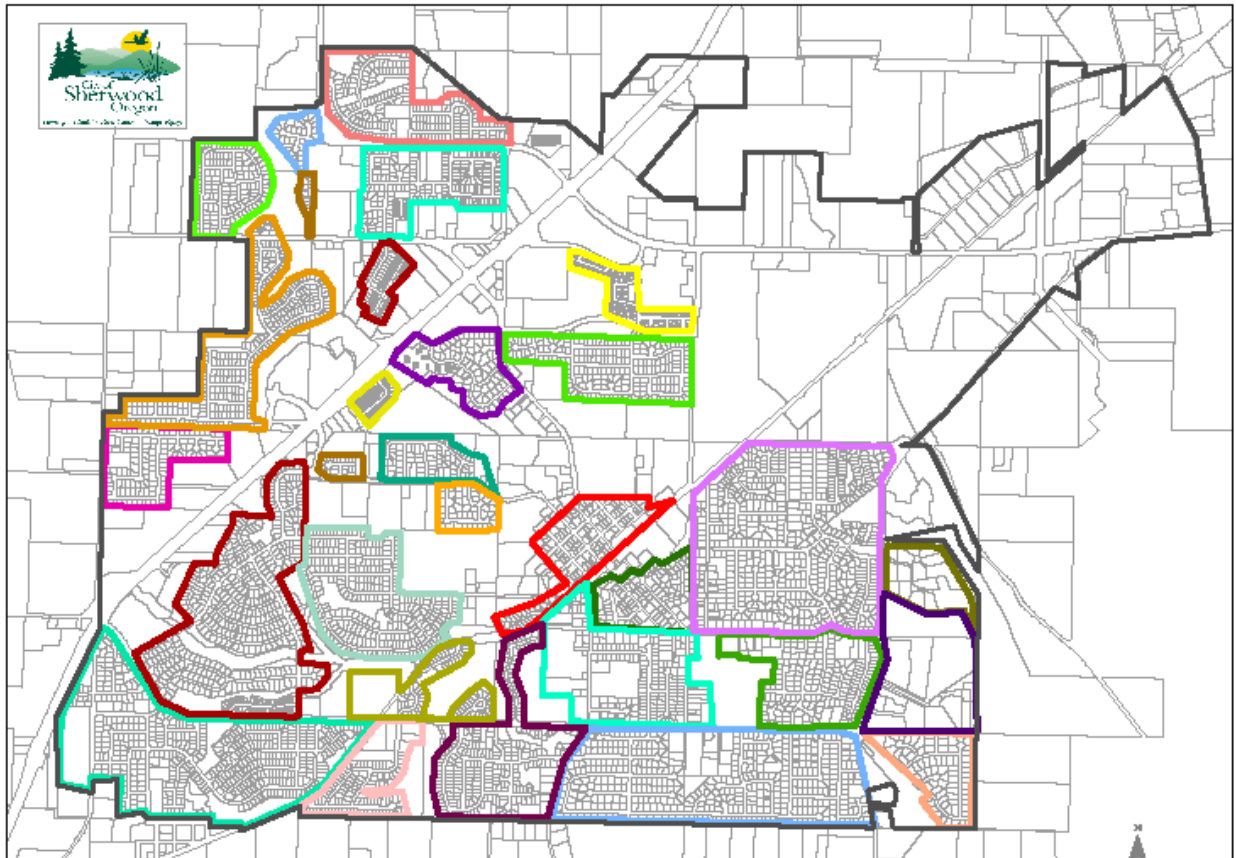
To meet the above objectives the following policies shall be established.

Policy 1 Residential areas will be developed in a manner which will insure that the integrity of the community is preserved and strengthened.

Strategy:

- Higher density residential development will be located so as to take advantage of arterial and major collector streets; nearby shopping, parks, mass transit and other major public facilities and services.
- All residential development will be located so as to minimize the impact of nonresidential uses and traffic.
- New housing will be located so as to be compatible with existing housing. Infill and redevelopment projects will not adversely affect established neighborhoods, and additional public notice will be required for infill projects, as depicted on the “Infill Notification Area” map, Map IV-1.
- Buffering techniques shall be used to prevent the adverse effects of one use upon another. These techniques may include varying densities and types of residential use, design features and special construction standards.
- The City will encourage the use of the Planned Unit Development (PUD) on parcels of five acres or more in all residential land use categories in order to allow flexibility and innovation in site development and land use compatibility.

Map IV-1 Infill Notification Area



Note: Color coding not significant.
Used to visually distinguish notification areas.

Policy 2 **The City will insure that an adequate distribution of housing styles and tenures are available.**

Strategy:

- New developments will be encouraged to provide an adequate distribution of owner occupied and renter occupied units of all types and densities.
- The City will allocate land to residential densities and housing types in accordance with a periodic assessment of housing needs.
- The City will maintain a minimum overall density of six (6) dwelling units an acre.

TABLE IV-4

**PLANNED RESIDENTIAL LAND USE AND POPULATION
FOR THE SHERWOOD UGB (2010)**

Plan Use	Total Acres	Unbuildable Acres	Gross Acres	Buildable Acres	Residential per Acre	Dwelling Unit Capacity
VLDR	123	10	113		3	339
LDR	865	235	630		5	3150
MDRL	249	98	151		8	1208
MDRH	233	61	172		11	1892
HDR	91	19	72		16	1152
Totals	1561	423	1138			7741

Average density of buildable land: 7741 du/1138 gross acres = 6.9 du per acre

(du - dwelling unit)

Policy 3 The City will insure the availability of affordable housing and locational choice for all income groups.

Strategy:

The City will participate in the regional “fair share” housing program to provide housing opportunities for the low and moderate income, elderly, large family and handicapped household.

- The City will reduce housing costs by allocating land for smaller lot single family and manufactured housing uses, providing multi-family housing opportunities, expediting the development review process, and assuring that an adequate supply of buildable land is available for all residential categories of use.
- Housing shall be of a design and quality compatible with the neighborhood in which it is located.

Policy 4 The City shall provide housing and special care opportunities for the elderly, disadvantaged and children.

Strategy:

- Residential homes for physically or mentally handicapped persons shall be a permitted use in single family zones.
- Residential care facilities for mentally handicapped persons shall be permitted as a conditional use in the City’s medium and high density zones.

- Family Day Care Providers which accommodate fewer than 13 children or less in the providers home, shall be permitted in residential and commercial zones.
- For elderly family members, accessory units, elder cottages, homesharing or share-living residences may be a conditional use in some residential zones.

Policy 5 The City shall encourage government assisted housing for low to moderate income families.

Policy 6 The City will create, designate and administer five residential zones specifying the purpose and standards of each consistent with the need for a balance in housing densities, styles, prices and tenures.

c. **RESIDENTIAL ZONES OBJECTIVES**

The following subsection defines the five residential land use classifications to be used in the land use element giving the purpose and standards of each. All density ranges are for minimum lot sizes and shall not restrict larger lots within that residential designation. For each residential designation on the Plan/Zone Map, maximum density has been indicated. The maximum density represents the upper limit which may be allowed - it is not a commitment that all land in that area can or should develop to that density. The implementing ordinances contained in the City Zoning Code define the circumstances under which the maximum density is permissible. Density transfers are applied in instances where appropriate to achieve the purposes of the Plan such as the encouragement of quality planned unit developments, flood plain protection, greenway and park acquisition, and the use of efficient energy systems. Unless these circumstances pertain, the maximum density allowable will be specific in the zoning standards for each designation.

1) Very Low Density Residential (VLDR)

Minimum Site Standards:

1 DU/Acre, 1 acre minimum lot size

This designation is intended to provide for single family homes on larger lots and in PUD's in the following general areas:

- Where natural features such as topography, soil conditions or natural hazards make development to higher densities undesirable. This zone is appropriate for the Tonquin Scabland Natural Area.
- Along the fringe of expanding urban development where the transition from rural to urban densities is occurring.

- Where a full range of urban services may not be available but where a minimum of urban sewer and water service is available or can be provided in conjunction with urban development.

2) Low Density Residential (LDR)

Minimum Site Standards:

5 DU/Acre, 7000 sf lot minimum

This designation is intended to provide for the most common urban single family detached home. The designation is applicable in the following general areas:

- Where single family development on individual lots will be compatible with existing natural features and surrounding uses.
- Where a full range of urban facilities and services are provided or can be provided in conjunction with development.
- Where major streets serving development are adequate or can be provided in conjunction with development.

3) Medium Density Residential Low (MDRL)

Minimum Site Standards:

8 DU/Acre, 5,000 sq. ft. lot minimum

This designation is intended to provide for dwellings on smaller lots, duplexes, manufactured homes on individual lots, and manufactured home parks. The designation is applicable in the following general areas:

- Where there is easy access to shopping.
- Where a full range of urban facilities and services are provided in conjunction with development.
- Where major streets are adequate or can be provided in conjunction with development.

4) Medium Density Residential High (MDRH)

Minimum Site Standards:

11 DU/Acre, 3,200-5,000 sf lot minimum.

This designation is intended to provide for a variety of medium density housing styles, designs, and amenities in keeping with sound site planning. Included in this designation are, low density apartments and condominiums, manufactured homes on individual lots, and row housing. This designation is applicable in the following general areas:

- Where related institutional, public and commercial uses may be appropriately mixed or are in close proximity to compatible medium density residential uses.
- Where a full range of urban facilities and services are provided in conjunction with development.
- Where medium urban densities can be maintained and supported without significant adverse impacts on neighborhood character or environmental quality.

5) High Density Residential (HDR)

Minimum Site Standards:

16 DU/Acre, 2,000-5,000 sf lot minimum

This designation is intended to provide for high density multi-family urban housing with a diversity in style, design and amenities in keeping with sound site planning principles in the following general areas:

- Where related public, institutional and commercial uses may be mixed with or are in close proximity to compatible high density residential uses.
- Where a full range of urban facilities and services are available at adequate levels to support high density residential development.
- Where direct access to major fully improved streets is available.
- Where higher density development will not exceed land, air or water carrying capacities.

F. ECONOMIC DEVELOPMENT

1. INTRODUCTION

In 2006, the Sherwood Urban Renewal Policy Advisory Committee (SURPAC) led an update to the City’s Economic Opportunities Analysis, a part of a greater Economic Development Strategy (EDS). During this process, a vision for economic development in Sherwood was developed:

The City of Sherwood will drive economic development and support businesses that provide jobs for our residents by building on our assets and developing the necessary infrastructure to retain existing businesses and support new businesses. Economic development also will be supported by maintaining our livability and character as a clean, healthy, and vibrant suburban community where one can work, play, live, shop and do business.

SURPAC and the City recognized that a strong and diversified local economy is important both for a community’s identity and its tax base. Sherwood is a thriving “bedroom” community largely due to its close proximity to the City of Portland job market. The comprehensive land use plan represents a tool the City has to provide opportunities for a variety of economic activities. The Economic Development Strategy and the Economic Opportunities Analysis, adopted as part of the Comprehensive Plan, contains the following information:

- The economic trends at the national, state and local level.
- The site requirements of business and industry.
- The availability of industrial and commercial land.

- The community’s economic development potential.

- The ability to provide industrial and commercial areas with public facilities.

- The amount of land needed to fulfill the economic objectives of the City.

- Short, medium and long term growth objectives with an emphasis on short-term developable land.

- A fiscal analysis.

- An action plan to implement the strategy.

2. ECONOMIC OPPORTUNITIES ANALYSIS

The Economic Opportunities Analysis (EOA) includes the following elements: a review of national, state, and local trends; a discussion of the types of sites that will be needed by industrial and commercial uses; an inventory of the industrial and commercial lands; and, an assessment of the City's economic development potential. It was adopted by the City and is contained under separate cover, but incorporated by reference into this section.

G. SUMMARY ECONOMIC ANALYSIS

1. PROBLEMS AND OPPORTUNITIES

The following economic problems and opportunities were identified by citizens, SURPAC, the Planning Commission and the City Council during the development of the 2006 EDS.

Jobs/Housing Imbalance

Sherwood is “housing rich and jobs poor” compared with the rest of Washington County. The jobs-to-population ratio is only 0.30 in Sherwood, 0.10 less than Washington County. Sherwood had an estimated 14,940 residents in 2005, up from only 3,093 residents in 1990. The rapid growth rate in Sherwood has begun to flatten a bit in recent years, but still averages 4.8 percent annually. Existing employment levels for Sherwood are estimated to range from 3,992 to 4,315 jobs.

Adequate land is available to provide for expanded local job opportunities, but not all job growth would require new development. Local infill, redevelopment, and home-based employment are expected to accommodate none of the industrial jobs, 5-15% of all commercial-service jobs, and 30-40% of all commercial-retail jobs. This equates to up to 688 jobs being accommodated through infill, redevelopment, and home-based employment.

Workforce Development

A lack of qualified labor (for manufacturing operations) was identified as a weakness in the 2006 Business Outreach Survey. The vast majority (85%) of Sherwood's labor force commutes outside of the urban area to work. The City should identify the workforce needs of local employers and train Sherwood residents to fill these positions.

Business Retention

The 2006 Business Outreach Survey found that over half of the business respondents indicated that they have plans to expand their operations. One half of the respondents stated that they have no room to expand on their current site, and one out of four said they would need to find a different location in order to grow.

The City should focus on retaining and expanding existing commercial and light industrial employers. Sherwood's manufacturing jobs provide family wages. A major issue will be working with existing businesses to help them expand, as appropriate, on site in Sherwood, including assistance with building rehabilitation or relocation to other sites within the city.

Business Recruitment

Sherwood is dominated by residential use. "Bedroom" communities often find it difficult to hold down taxes and at the same time provide quality services due to a lagging tax base and a lack of commercial and industrial expansion. Local and sub-regional commercial, light industrial and institutional development activities appear to have the greatest development potential within Sherwood in both the near- and long-term.

Commercial

Sherwood should explore commercial infill and redevelopment as a short-term strategy, and plan for integrated commercial development within future master-planned employment and neighborhood districts, including Areas 48, 54-55, and 59.

Industrial

Existing industrial development in Sherwood is dominated by durable good manufacturing. The city's employment base is heavy in manufacturing (27% of all employees), compared to the state (13%) and the remainder of Washington County (20%). An opportunity exists to attract several target industries identified by the state which will help diversify the local economy.

In the short-term, Sherwood should develop a proactive marketing strategy aimed at further defining, enhancing, and attracting existing high-growth industry clusters, including industries such as:

- Small to mid-size light manufacturing establishments
- Specialty contractors and construction firms
- Creative service individuals and establishments
- Amusement, recreation, sporting and lodging services
- Educational facilities
- Nursing and health care support services

Long term strategies should include planning for new industrial sites (with integrated commercial and residential development) within future master-planned employment districts in Area 48.

The city has a number of amenities to entice new businesses, such as accessibility to public facilities, I-5 and I-205, regional labor force and market centers, good schools, an attractive downtown and cultural and recreational amenities. However, investments should be made to

ensure that public infrastructure, such as public utilities and roads, meets the needs of potential employers.

Tourism

Tourism – cultural, sports, wilderness, wine country, hotels/bed and breakfast is a major opportunity for Sherwood. The issue is that the resources are not fully developed. A plan for maximizing Sherwood’s location and assets is not in place.

The focus on tourism should include:

- **Sports Town USA Initiative:** The City has taken several steps to position itself as a regional destination for youth and amateur sporting events, including spending \$90,000 in 2004 to install artificial turf fields at the Sherwood High School for football and other sports. Develop a business strategy that encourages sports clubs to use Sherwood’s recreational facilities for sports tournaments.
- Sherwood has identified itself as the “Gateway to Oregon Wine Country.” Continue to promote Sherwood area wineries.
- Tualatin National Wildlife Refuge opened to the public on June 3, 2006 as an important natural resource center that hosts 30,000 migratory species of birds along the banks of the Tualatin River. The refuge included a \$4.6 million public investment and offers 1,300 acres of open space, environmental learning opportunities, and pathways.
- **Hotel/Motel Initiative.** The city council has expressed interest in identifying a site and recruiting a tenant for a future hotel or motel within the city limits, which would support economic development and provide an additional source of tax revenue.

Downtown Revitalization

The city’s primary commercial areas are Old Town and the Six Corners area, located around the intersection of Pacific Highway (Highway 99W), Tualatin-Sherwood Road and Sherwood Boulevard. While Sherwood should experience a trend toward decentralization of many retail and service uses. An opportunity exists to comprehensively plan for expanded commercial growth near Six Corners while revitalizing the historic Old Town area. The Sherwood Urban Renewal District is completing a major downtown streetscape project. The City should continue to invest in the downtown area by redeveloping the Cannery site, enhancing public parking, and enhancing amenities (such as parks and wireless internet access).

2. POLICY GOAL

The City will allocate land and monetary resources so as to encourage balanced economic growth consistent with Economic Development Strategy.

H. ECONOMIC DEVELOPMENT POLICIES AND STRATEGIES

Policy 1 The City will coordinate on-going economic development planning with involved public and private agencies at the state, regional, county and local level.

Strategy:

- The City will cooperate with the Washington County OEDP Committee through the exchange of data and the development and implementation of a County Economic Development Plan.
- The City will develop and update an economic database through a two-way sharing of information between public and private agencies involved in economic planning.

Policy 2 The City will encourage economic growth that is consistent with the management and use of its environmental resources.

Strategy:

- The City will adopt and implement environmental quality performance and design standards for all industrial, commercial and institutional uses.
- The City will seek to attract non-polluting industries to the urban area.
- The City will acquire and preserve the Cedar Creek and Rock Creek greenways and provide bikeway and pedestrian linkages between residential and non-residential areas.

Policy 3 The City will direct public expenditures toward the realization of community development goals by assuring the adequacy of community services and facilities for existing and future economic development.

Strategy:

- The City will develop and implement a 5-year capital improvements program and budgeting system for land acquisition and capital facilities development consistent with the Comprehensive Plan.
- The City will coordinate planning with special districts providing services to the urban area to assure the adequacy of those services to support economic development.
- The City will continue to develop plans and improvement programs for parks, libraries and other “soft” services, recognizing that adequate facilities in these areas are an important component in business attraction and retention.

Policy 4 The City will seek to improve regional access to the urban area as a means to encourage local economic development.

Strategy:

- The City will work with the cities of Tualatin, Tigard, and Wilsonville, MSD, and Tri-Met to improve local access to the Planning Area via Highway 99W and I-5. See transit policies in Chapter 6.
- The City will encourage the maximum use of the railroad corridor, encourage the development of spur service lines where needed and evaluate the feasibility of passenger service.

Policy 5 The City will seek to diversify and expand commercial and industrial development in order to provide nearby job opportunities, and expand the tax base.

Strategy:

- The City will encourage the revitalization of the Old Town Commercial area by implementation of 1983’s “Old Town Revitalization Plan” and the Old Town Overlay Zone.
- The City will encourage the development of light industrial and office parks.
- The City will seek to attract industries that are labor and capital intensive.
- The City will seek to attract “target” industries which will expand industrial sectors inadequately represented in the urban area in order to diversify and stabilize the local economy.

Policy 6 The City will seek funding through EDA or HUD for the rehabilitation of the Old Town and Washington Hill neighborhoods.

Strategy:

- The City will seek implementation of new and rehabilitated housing goals set in the Regional Housing Opportunity Plan.
- The City will encourage the provision of affordable housing by designating areas within the City for medium density and high density developments, and by participating in State and Federal housing subsidy programs.

In addition to the policies and strategies developed by the Community with the 1990 Comprehensive Plan, the Economic Development Strategy (EDS) developed in 2006 includes the following policies and strategies (referred to as goals and objectives in the EDS).

Policy 1: Support existing businesses and recruit additional businesses that provide local family-wage jobs. Replace any employment land rezoned for other uses with other employment land.

Strategy 1.1: Capture existing workers in Sherwood who now work elsewhere.

- Strategy 1.2: Provide locations and support for local jobs for local residents.
- Strategy 1.3: Support and build upon manufacturing and other industries likely to produce family-wage jobs.

Policy 2: Support tourism as an economic engine.

- Strategy 2.1: Promote the cultural arts and historical attractions as tourism generators.
- Strategy 2.2: Continue to promote sporting events (i.e., Sports Town USA) as a tourism engine for Sherwood.
- Strategy 2.3: Leverage the presence of the Tualatin River National Wildlife Refuge, and its anticipated 50 to 60 visitors per day, to increase tourism in Sherwood.
- Strategy 2.4: Promote Sherwood as the “Gateway to the Oregon wine country.”
- Strategy 2.5: Address the lack of hotels or other bed and breakfast lodging within the city limits to increase Sherwood’s tourism potential.

Policy 3: Develop the infrastructure and services necessary to support economic development in Sherwood.

- Strategy 3.1: Identify and protect strategic industrial and other employment sites.
- Strategy 3.2: Prioritize infrastructure improvement projects according to their anticipated economic benefit.
- Strategy 3.3: Calculate the employment land mix necessary to help the city be self-sustaining in terms of the provision of adequate utilities and services.
- Strategy 3.4: Encourage the growth of a variety of restaurants and retail establishments that would cater to business people.
- Strategy 3.5: Improve transportation access to support tourism and other economic development strategies.

Policy 4: Develop a local workforce of residents whose skills are compatible with the needs of local businesses.

- Strategy 4. 1: Identify the workforce needs of local employers.
- Strategy 4.2: Provide workforce training for Sherwood residents.

I. COMMERCIAL LAND USE

1. FINDINGS

- a. Existing commercial development currently comprises only six percent of

present City limits development and one percent of the Planning Area's total acreage. Commercial development is concentrated in two principal areas; at Six Corners and in a five block portion of the downtown grid. Scattered uses are found north along No. Sherwood Blvd. from the downtown grid and along Highway 99W southwest of Six Corners.

Significant growth in commercial development did not occur until 1977 when the eleven acre Sherwood Plaza Shopping Center at Six Corners was built. Between 1977 and 1989 there was very little additional commercial development. Existing commercial uses are of a primarily retail/service nature.

b. Commercial Space Needs

Sherwood has historically depended on nearby communities such as Tualatin and Tigard for commercial services. The City has not had the market area population to support more than a minimal commercial sector. The planned Tualatin-Sherwood Road widening will change that pattern by greatly improving access to and from Sherwood to regional freeways. If a Western Bypass is built, accessibility will dramatically improve.

Taking into consideration a market area comprising the Sherwood Urban Growth area and the larger Sherwood School District the 1987 population potentially served by existing commercial development is about 11,000 persons. Projected School District population may be expected to reach 18,000 by 1990 and over 19,000 by the year 2005. Using existing market conditions and projected growth, future commercial space needs may be estimated. Using the Washington County overall average of 27.3 retail and non-retail employees per acre and the Metro projection of 3170 employees by 2005, 116 commercial acres are needed. Using this same average for the market area projected population of 9925, there is a need for 363 retail and non-retail commercial areas by 2005.

c. Retail

Prior to the development of the shopping center along Highway 99W at Six Corners, the historic downtown area served as the major commercial center for the community. Due to the lack of available land adjacent to the old downtown area and the competitive market advantage of Hwy. 99W and the Six Corners shopping area, it is anticipated that there will be little expansion of the downtown retail commercial area. The buildable land inventory identifies 94 acres zoned Retail Commercial, 61 of which are vacant.

d. Non-Retail

The Sherwood area is favorably situated for various kinds of non-retail enterprises which distribute goods and services throughout Washington County. Currently non-retail or "heavy" commercial uses are mixed with retail uses in the

City.

e. Neighborhood Convenience Centers

In addition to centralized retail commercial uses, a need for small neighborhood convenience centers is foreseen. These centers would be located in or near residential areas so as to be easily accessible by pedestrian, bicycle or vehicle. Experience in other cities has shown that convenience centers including three or four uses on from 1 to 3 acres will serve a population of 2,000 to 4,000 persons.

2. COMMERCIAL PLANNING DESIGNATIONS

a. General Objectives

- 1) To provide for commercial activities which are suitable to regional, community and neighborhood demand.
- 2) To locate commercial activities with safe and convenient access by consumers.
- 3) To encourage the location of commercial uses in well-planned commercial centers.
- 4) To provide an adequate amount of serviceable commercial land that meets market demand.

b. Policies and Strategies

In order to address the above general objectives the following policies are established.

Policy 1 Commercial activities will be located so as to most conveniently service customers.

Strategy:

- Community wide and neighborhood scale commercial centers will be established.
- Commercial centers will be located so that they are easily accessible on major roadways by pedestrians, auto and mass transit.
- Neighborhood commercial centers will be designated in or near residential areas upon application when need and compatibility to the neighborhood can be shown.

Policy 2 Commercial uses will be developed so as to complement rather than detract from adjoining uses.

Strategy:

- Commercial developments will be subject to special site and architectural design requirements.
- The number and locations of commercial use access will be limited along major streets in accordance with the City’s Transportation Plan.
- Non-Retail and primarily wholesale commercial uses will be separated from retail uses where possible.
- The older downtown commercial area will be preserved as a business district and unique shopping area.
- A buffer between commercial uses and adjoining greenways, wetlands, and natural areas shall be established.

Policy 3 Highway 99W is an appropriate location for commercial development at the highway’s intersections with City arterial and major collector roadways.

Policy 4 The 1983 “Sherwood Old Town Revitalization Plan” and its guidelines and strategies are adopted as a part of the Sherwood Comprehensive Plan.

- The City will continue to encourage implementation of the goals, objectives, strategies and improvement projects outlined in the “Old Town Revitalization Plan.”

c. Commercial Planning Designation Objectives

1) Retail Commercial (RC)

This designation is primarily intended to provide areas for retail and service uses which are of a type and size to serve community wide needs consistent with sound site planning.

This designation is intended for the following general areas:

- Where retail and service uses can be centrally located in the community and/or are easily accessible on major fully improved streets from all areas of the City.
- Where the creation and/or expansion of planned commercial center(s) will not create undue congestion or produce substantial conflicts with the established land use pattern.
- Where concentrations of residential use are, or in the foreseeable

future will be sufficient to support retail activity.

- Where adequate off-street parking and pedestrian ways are provided or can be provided in and near where development is to occur.
- Where a full range of urban facilities and services are available or can be provided in conjunction with development.

2) General Commercial (GC)

This designation is intended to provide for primarily highway, wholesale, and large commercial uses which may not be appropriate in central retail areas or within residential neighborhoods. This designation is applicable in the following general areas.

- Where uses may be separated from primarily retail and personal service land uses.
- Where impacts on residential uses can be minimized.
- Where adequate off street parking, good pedestrian access and access onto major streets is or can be made available.
- Where a full range of urban facilities and services are available or can be provided in conjunction with development.

3) Office Commercial (OC)

This designation is intended to provide for business and professional offices and related uses in locations where they can be closely accommodated with residential areas and adequate major streets. This designation is applicable in the following general areas:

- Where access onto major streets can be safely provided and where there is adequate off-street parking.
- Where a full range of urban facilities and services are available or can be provided in conjunction with development.
- Where impacts on residential areas can be minimized.

4) Neighborhood Commercial (NC)

This designation is intended to provide for neighborhoods serving small scale retail and service uses consistent with sound site planning in the

following general areas:

- Areas which are within reasonable walking distance from living areas and/or convenient access by way of collector or arterial streets.
- Areas where retail or service uses can be adequately screened from adjoining living areas so as to enhance rather than detract from the residential character of the neighborhood. Site review standards relating to setbacks, landscaping, buffering, signs, access and architectural features shall assure compatibility with surrounding uses.
- Where a full range of urban facilities and services are available or can be provided in conjunction with development.

5) Old Town (OT)

The OT zoning district is an overlay district generally applied to commercially zoned property, and residential properties with the potential for commercial conversion, in the Smockville Subdivision, also known as Old Town. The OT zone recognizes the unique and significant characteristics of Old Town, and is intended to provide development flexibility with respect to uses, site size, setbacks, heights, and site design elements, in order to preserve and enhance the area's commercial viability and historical character.

J. INDUSTRIAL LAND USE

1. FINDINGS

a. Growth and Current Distribution

Existing industrial development currently comprises 8% of developed land in the City and 6% of developed land in the urban area. Only 26% of incorporated land and 2% of unincorporated land which is industrially zoned is currently developed. Industrial development is generally located along the railroad track near the downtown grid and extending northeast along the tracks along Edy Rd. and Tualatin-Sherwood Road to Cipole Road.

Industrial growth in the Planning Area has been slowed by lack of major utility service to the northeast industrial area. Land extensive industrial uses have recently been developed in the unincorporated portion of the urban area.

Existing industrial uses in the City including a tannery have produced conflicts with surrounding residential uses.

A fully developed northeast industrial area will require improved major road access to Highway 99W and I-5. Soils with poor support strength and poor drainage will require careful siting considerations in much of the northeast industrial area. Scattered development of unincorporated land and extensive industrial land has resulted in inefficient land usage, premature demand for urban services, a lessened demand for higher cost incorporated sites, and a worsening of conditions on important regional road linkages.

b. Industrial Space Needs

Although for many years a free standing community, Sherwood economically depends on the Portland Metropolitan area for its basic employment. Housing survey results (City of Sherwood 1978) show that about 85% of Sherwood's labor force works outside of the Urban Area. General projections of industrial employment and space requirements for the Sherwood urban area have been provided by Metro. However, Sherwood continues to maintain a longstanding goal of achieving a proper balance between residential and non-residential uses.

K. INDUSTRIAL PLANNING DESIGNATIONS

1. GENERAL OBJECTIVES:

- a. To encourage the development of non-polluting industries in designated, well planned industrial areas.
- b. To locate industrial development so as to assure its compatibility with the natural environment and adjoining uses.
- c. To establish criteria for the location of designated classes of industrial uses.
- d. To promote diversification of the City's economic base by promoting business retention and expansion, business recruitment and marketing.
- e. To assure that public facilities are extended in a timely and economic fashion to areas having the greatest economic development potential.

2. POLICIES AND STRATEGIES

In order to address the above general objectives, the following policies for industrial development are established.

Policy 1 Industrial uses will be located in areas where they will be compatible with adjoining uses, and where necessary services and natural amenities are favorable.

Strategy:

- Only non-polluting industries meeting specific performance standards relating to noise, glare, vibration, water, air and land pollution will be allowed.
- Industrial uses will be subject to special design and site review standards including those assuring proper access, landscaping, buffers, setbacks and architectural design. Buffers shall be established between industrial uses and designated greenways, wetlands and natural areas.
- Industrial uses will be encouraged to locate in industrial planned unit developments.
- Industrial development will be allowed only on suitable land and soils which have adequate support strength.
- Industrial development will be restricted to those areas where adequate major roads, and/or rail, and public services can be made available.

Policy 2 The City will encourage sound industrial development by all suitable means to provide employment and economic stability to the community.

Strategy:

- The City will allocate land to meet current and future industrial space needs which will provide an appropriate balance to residential and commercial activities.
- The City will encourage clean capital and labor intensive industries to locate in Sherwood.
- The City will prohibit the development of large-scale retail uses with significant traffic impacts and large parking requirements on industrially zoned land.

L. INDUSTRIAL PLANNING DISTRICT OBJECTIVES

1. Light Industrial (LI)

Minimum Site Standards: 10,000 square feet

This designation is primarily intended to provide for the manufacturing, processing, assembling, packaging, and treatment of products which have been previously prepared from raw materials. Processes involved should not produce significant amounts of vibration, noise, glare, air, water and land pollution as defined and limited by DEQ. The designation is applicable in the following general areas.

- Where there are sites with suitable soil and terrain and of sufficient size to provide

ample space for expansion, parking, landscaping and buffering.

- Where light industrial development will be compatible with existing or planned long range land use patterns and will not detract from existing environmental assets. Generally, this designation encourages the development of suitable uses into industrial subdivisions or parks.
- Where a full range of urban services are available or can be provided in conjunction with development and where the provision of services to a future expanded industrial area is feasible.
- Where adequate major road and/or rail access is available to serve the proposed uses.

2. General Industrial (GI)

Minimum Site Standards: 20,000 square feet/site

This designation is intended to provide for the manufacturing, processing, or assembling of products from previously prepared or raw materials, excepting those processes which cause significant amounts of vibration, noise, glare, air, water and land pollution as defined and limited by DEQ. This designation is applicable in the following general areas.

- Where there are sites with suitable soil and terrain and of sufficient size to provide ample space for expansion, parking, landscaping and buffering.
- Where more intensive industrial uses may be accommodated in areas adequately separated from and not suitable for retail commercial, residential and related uses.
- Where a full range of urban services are available or can be provided in conjunction with development and where the provision of services to a future expanded industrial area is feasible.
- Where adequate major road and/or rail access is available to serve proposed uses.
- Where industrial uses will not unduly detract from existing environmental assets.

M. INSTITUTIONAL, PUBLIC AND SEMI-PUBLIC LAND USE

Public and semi-public uses serve to complement and support residential, commercial, and industrial activities. Public uses include facilities and services provided by government agencies and special districts such as utilities, libraries, schools, police and fire protection, recreation facilities, open space, and governmental buildings. Semi-public uses include services provided by quasi-public agencies, and organizations. Semi-public is broadly defined to include facilities and services provided by non-profit private groups as well as government supported and/or

regulated agencies providing a public service. These uses include day care centers, fraternal organizations, hospitals, retirement homes, churches, electric natural gas and telephone facilities. All existing institutional, public, and quasi-public areas are planned and zoned Institutional/Public (IP).

N. THE PLAN/ZONE MAP

1. INTRODUCTION

The Plan/Zone Map is the graphic expression of the objectives and policies contained in each Plan section, as well as the designated zoning of all properties. In some cases it is supplemented by more detailed maps contained in other plan sections. The essential purpose of the Plan/Zone Map is to serve as a tool to shape the future land use pattern so as to meet the needs of the Sherwood community for adequate land and development to live, work, play and shop. Together with the written goals, objectives, policies and strategies of the Plan, the Plan/Zone Map is to be used as a framework for all new public and private development decisions. It identifies appropriate uses for an area determined to be needed to accommodate urban growth for at least the next twenty years. It seeks to provide for a range of choices in development opportunities while protecting uses from the adverse effects of one use or another. In order to be effective, the Plan/Zone Map must be periodically evaluated and refined consistent with the Policy Goals of the community and with a view to what is best for the community as a whole.

2. ZONE BOUNDARIES

Boundaries between zones on the Plan/Zone Map have been located where possible to take advantage of the definability of property lines (or their extensions), roads, and natural features. When a boundary location is not clearly defined the boundary may be established by scaling the dimensions on the 400 scale official Plan/Zone Map at the City Hall.

3. PLANNING DESIGNATIONS AS “ZONING DISTRICTS”

To simplify the understanding and administration of the Comprehensive Plan, the zones detailed on the Plan/Zone Map will serve as "zoning districts" within the current incorporated limits of the City of Sherwood. Washington County zoning will continue to apply in unincorporated areas within the Sherwood Urban Growth Boundary until annexation occurs. When annexation occurs, the annexed properties will be subject to change to the zone on the Plan/Zone Map. The procedure detailed in the City Zoning Code Section 1.102 applies to all requests for changes in the Plan/Zone Map.

4. NEIGHBORHOOD AREA DEVELOPMENT CONCEPTS

The Plan/Zone Map may be described in terms of land use concepts applied to neighborhood areas. While neighborhood boundaries have not been specifically defined, it is intended that land usage be supportive of neighborhood development and formation in the following areas.

a. North

The North neighborhood comprises the Sherwood Planning Area north of Highway 99W. This area includes a major portion of the Plan's high density residential development which has been located in the Six Corners area. Commercial expansion of the Six Corners commercial area is planned in conjunction with planned road improvements. Light industrial sites are located on Hwy 99W near the UGB limits. Commercial, medium and low density residential areas are included, with descending densities shown from Six Corners to the limits of the Urban Growth Boundary. A significant portion of the Cedar Creek Greenway is also in the north neighborhood. Commercial expansion along Hwy 99W is expected.

b. Central

The Central neighborhood area is generally defined as the area between Hwy 99 and Sunset Blvd. east of Cedar Creek, west of the industrial areas and Lincoln and Pine Streets. The area includes most of the built up area of the City including the Old Town area and the Six Corners commercial area. The Plan shows no significant expansion of the Old Town Commercial Area. Expansion of the Six Corners commercial area is expected. The area contains an existing elementary school and intermediate school. The area is characterized by primarily medium density residential uses with small single family sections south of Sherwood Boulevard and south of the existing schools on No. Sherwood Boulevard.

c. Southwest

The Southwest neighborhood is generally defined as the areas west of Cedar Creek and south of Highway 99W. The area is characterized by varying densities of residential use with commercial and medium to high densities along Highway 99W and a large low density area southwest of the Sherwood High School. The Cedar Creek Greenway area shall be reserved along the neighborhood's eastern boundary.

d. Southeast

The Southeast neighborhood is generally defined as the area east of Lincoln and Pine Streets and south of Oregon Street. The area is characterized by predominately single family use. Medium density residential use is indicated

along Oregon Street and along Murdock Road. There is also very low density zoning of the Tonquin Scabland Geologic Area.

e. Northeast Industrial Area

This area comprises most of the urban area's industrial use and is located along the Southern Pacific Railroad, north of Oregon Street and west of Tualatin-Sherwood Road. Light industrial uses are planned where the area abuts a residentially designated area. The Rock Creek flood plain traverses the area and will be reserved as greenway.

See Current Zoning Map

O. COMMUNITY DESIGN

1. INTRODUCTION

Community design has to do with how a community looks and functions. The physical design of a community should reinforce what is unique and special about it and facilitate the land use activities which are its component parts. However, Sherwood is more than an assemblage of buildings, street and utilities, and places of work, residence, leisure and meeting. The identity of Sherwood is determined by its natural setting, how its land use activities fit into that setting and what people see, feel, smell or hear as they participate in the life of the community.

The planning process must involve specific steps to identify community design objectives which best enhance community identity and quality of life. The Plan must insure that strategies to achieve those objectives are carried out as development occurs.

2. GENERAL FINDINGS

- a. Community design and aesthetic quality must be consciously considered in the review of new developments in order to insure that Sherwood continues to be an attractive and efficiently functioning urban area.
- b. The visual attractiveness of site and structures will enhance property values.
- c. Careful attention to site design can result in the protection of natural and man-made features which contribute to the community's identity.
- d. Visual variety in the mass, form, height, texture, and color is necessary to avoid the monotonous urban landscape resulting from urban sprawl.
- e. Since 1976, the Sherwood Design Review Board or the Planning Commission has taken effective action to further community design values in the development of sites and structures. Explicit reference to community design and aesthetics goals, objectives and strategies will serve to strengthen the basis for their continuing efforts.

3. GENERAL OBJECTIVES

- a. To establish community design and aesthetics as a planning consideration in evaluating new development.
- b. To develop and implement policy which will encourage appropriateness and compatibility of new development with the existing natural and man-made environment, existing community activity patterns, and community identity.
- c. To develop and implement policy which will minimize or eliminate adverse

visual effects caused or perpetuated by the design and location of new development including but not limited to effects from.

- 1) The scale, mass, height, area, and architectural design of buildings and structures.
- 2) Vehicular and pedestrian ways and parking areas.
- 3) Existing or proposed alteration of natural topographic features, vegetation and waterways.
- 4) Other developments or structures including, utility lines, storage, or service areas and advertising features which may result in the interference with sun and light exposure, views, vistas, privacy and general aesthetic value of the neighborhood or area.

4. POLICIES AND STRATEGIES

In order to meet the above objectives the following policies are established.

Policy 1 The City will seek to enhance community identity, foster civic pride, encourage community spirit, and stimulate social interaction through regulation of the physical design and visual appearance of new development.

Strategy:

- Seek to establish community identity buffers between Sherwood and the cities of King City and Tualatin. Preserve and/or develop natural or man-made features which serve to define the communities.
- Develop a civic/cultural center and plaza park as a community focus.
- Promote community wide events such as the Robin Hood Festival.
- Develop a system of streets, bikeways, sidewalks, malls, and trails linking schools, shopping, work, recreation and living areas.
- Promote the preservation of historically or architecturally significant structures and sites.

Policy 2 The formation of identifiable residential neighborhoods will be encouraged.

Strategy:

- Neighborhood scale facilities such as retail convenience centers, parks and

elementary schools will be provided in or near residential areas.

- Natural and manmade features shall be used to define neighborhoods and protect them from undesirable encroachment by incompatible uses.
- Buffers will be established where development adjoins natural areas, wetlands, and greenways.

Policy 3 The natural beauty and unique visual character of Sherwood will be conserved.

Strategy:

- Eliminate the visual presence of public utilities where possible.
- Adopt a sign ordinance which regulates the number, size and quality of signs and graphics. Standardize and improve the quality of public signs and traffic signalization.
- Encourage the use of visually appealing fencing throughout the City.
- Preserve significant vista points especially on public land.
- Establish a system of interconnected parks, greenways and visual corridors throughout the Urban Area.
- Develop and apply special site and structural design review criteria for multi-family, and manufactured housing parks, commercial and industrial developments.
- Develop and maintain landscaped conservation easements along major roadways and parkway strips along minor streets.
- Develop and implement a tree ordinance which regulates the cutting of trees and the planting of street trees.
- Implement the Old Town design guidelines in the 1983 "Sherwood Old Town Revitalization Plan".

Policy 4 Promote creativity, innovation and flexibility in structural and site design.

Strategy:

- Encourage the use of the Planned Unit Development technique for larger residential commercial and industrial sites.
- Make use of density transfer as a means of preserving open space and developing

recreational areas within a single development.

- Encourage the use of energy saving techniques in the design of sites and structures.
- Encourage visual variety in structural design.

Policy 5 **Stabilize and improve property values and increase tax revenues by the prevention of blighting influences including those resulting from noise, heat, glare, air, water and land pollution, traffic congestion, improper site and structure maintenance and incompatible land uses.**

Strategy:

- Through traffic will be minimized in residential areas.
- Adopt environmental performance standards which set limits on pollution levels.
- Local site access will be discouraged along arterial and collector streets.
- Require site maintenance agreements for multifamily and manufactured housing parks, commercial and industrial development.
- Use a variety of buffering techniques to minimize the effects of incompatible uses.

ENVIRONMENTAL RESOURCES

A. INTRODUCTION

The growth of Sherwood will bring with it increasing demands on its environmental resources creating conflicts between the competing values of conservation and development. Environmental resources planning in Sherwood must include recognition of the limits to the natural resource base, the carrying capacity of the environment and the availability of non-renewable energy resources. The Environmental Resources Element of the Plan includes a 1990 inventory of Sherwood's environmental resources and planning goals, policies and strategies for their management. It also includes the Regionally Significant Fish and Wildlife inventory completed by Metro in 2002 and adopted as Map V-2 of this Plan.

In 2002 Metro completed an inventory of regionally significant fish and wildlife habitats and in 2005, the Tualatin Basin Natural Resources Coordinating Committee, on which the City of Sherwood participated, forwarded a program to protect much of the inventoried resources after conducting a detailed ESEE analysis. The program and supporting documents is adopted by reference and maintained by Washington County Department of Land Use and Transportation staff. The goals and policies of this plan provide the foundation for implementation of the Basin Program. For the purposes of this element, environmental resource management shall be addressed under the categories of natural resources and hazards, environmental quality, recreational resources and energy resources. The following briefly describes the value of open spaces, and natural resources to the community of Sherwood. Goals and policies for the protection of designated historic resources are also included in this chapter.

Wetlands

Wetlands are defined as follows: Areas that are inundated and saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Among the useful functions served by wetlands are the following:

- Wetlands provide important habitat for warm water fishes, numerous waterfowl, non-game birds, beaver, muskrat, nutria, otter, mink and raccoon. Other important non-game species such as mammals, reptiles, and amphibians are also found in wetland areas.
- Wetlands serve as temporary storage areas for flood waters, reducing floodpeaks and the frequency of flooding in downstream areas.
- Wetlands function to improve water quality by reducing sedimentation and removing nutrients.

- Wetlands rank as one of the world's most productive ecosystems. The biomass produced within wetlands provides food and cover to a multitude of animals.
- Wetlands provide scenic, educational and recreational opportunities and values.

Riparian Areas

Riparian areas are defined as lands which are adjacent to rivers, streams, lakes, ponds, and other water bodies. They are transitional between aquatic and upland zones and contain elements of both aquatic and terrestrial ecosystems. They have high water tables because of their close proximity to aquatic systems, soils are usually largely of water-carried sediments, and some vegetation that requires free water or conditions that are more moist than normal. In Sherwood, riparian zones occur along creeks and streams. Riparian areas have a number of attributes and serve several useful functions.

- Riparian zones generally contain water, food, and cover three important habitat components.
- Riparian areas provide important habitat for songbirds, raptors, raccoon, mink, beaver, deer, and muskrat. Various small mammals, reptiles, and amphibians are also found.
- Riparian zones serve as natural migration routes and travel corridors for many wildlife species.
- Riparian forests stabilize stream banks and adjacent slopes, promoting better water quality in the adjacent waterways.

Scenic Resources

Sherwood has a geographic setting which bestows on the city a number of notable visual amenities. The city is surrounded by hillsides with views of the Tualatin Valley and the Cascade Mountain range. This setting and its visual amenities contribute substantially to the attractiveness of the community as a whole.

While prominent visual resources are known to exist and their value in general to the community can be acknowledged, the identification of specific resources can be a highly subjective undertaking which does not lend itself to precise boundary delineation.

Open Space

Open space and recreation lands serve a number of functions. Open space conserves natural and scenic resources, protects water supply and quality, minimizes erosion and runoff, enhances the value of neighboring property, serves aesthetic and recreation needs, buffers incompatible land uses, promotes orderly urban development and enhances city design. Open space and recreation lands may be designed to serve a variety of recreational needs

ranging from hiking to active team sports. Both private and public lands may provide open space benefits. Privately owned land reduces recreational use pressure on public land. Certain uses of open space land such as the minimization of landslide potential on steep hillsides requires joint efforts by the city and private developer. A city's open space and recreation land resource is composed of both private and public lands which simultaneously serve a number of individual and community objectives.

Energy Sources

There are no developed energy sources within the Sherwood UGB. All fossil and wood fuels, and electricity generated by hydro and nuclear power, come from sources outside the city. There are however, unconventional energy sources available within Sherwood. These include solar and wind energy. Solar energy, in particular, holds promise as an alternative form of energy which could meet a significant amount of the energy demand for domestic space heating and water heating. The technology exists to take advantage of solar energy and wind energy for these purposes, and such use should be encouraged.

The following Table V-I is an inventory of the areas natural resources and open space, wetlands, parks and schools, historic and scenic resources. These areas are also identified on the Natural Resources and Recreation Plan Map, updated in 1990, (Map V-I).

B. ENVIRONMENTAL RESOURCES POLICY GOALS

The following policy goals were the result of work by several Sherwood Citizen Planning Advisory Committee (SCPAC) subcommittees. The goals were reviewed and updated in 1989-1990. The goals and policies were further reviewed and updated in 2006 to implement the Tualatin Basin Program, a three year project undertaken by all the jurisdictions on urban Washington County to develop a basin wide approach to natural resource protection. The goals define the direction that resource management should take in the Sherwood Urban Area. The Goals, Policies and Strategies that follow relate to the resources identified on the Natural Resources and Recreation Plan Map and the inventory listed in Table V-1 and the Regionally Significant Fish and Wildlife Habitat Inventory (Map V-2) for properties located inside the Metro Urban Growth Boundary on or before December 28, 2005.

The following are the adopted planning goals for the Environmental Resources of Sherwood.

Planning Goals: Natural Resources and Hazards

1. Actually and potentially productive agricultural and forest land in the planning area should be preserved until the need for its conversion to urban uses can be demonstrated. The following factors should be considered in establishing the need for such conversion.
 - a. A documented need for additional land for the proposed urban use.
 - b. Generally, lands with poorer soils should be converted first.

- c. The proposed use is or can be made compatible with adjacent agricultural and forest lands and uses. Low density buffer zones should be used in transition areas.
2. Incentives for the continuation of agricultural and forest uses on lands that are not needed for urban uses should be continued and/or developed.
3. The urban uses of wooded areas should be recognized and encouraged. They include:
 - a. Watershed protection of wildlife and fisheries habitat and recreation.
 - b. The prevention of soil erosion.
 - c. Urban buffers, windbreaks, scenic corridors, and site landscaping.
4. Limit land development in areas with known natural hazards, special topographic soil, or drainage characteristics according to the kind and degree of hazard or characteristic present.
 - a. Restrict the nature and intensity of development in:
 - 1) 100-year floodplains
 - 2) Areas with slopes which have slide or erosion potential.
 - 3) Areas with weak foundation soils.
 - 4) Wetlands
 - b. Natural hazards such as runoff from paving and soil slippage due to weak foundation soils that could result from new developments should be considered.
5. Protect fish and wildlife habitats and significant Natural Areas where feasible.
6. Protect mineral and aggregate sites where feasible and practical.

**TABLE V-1
SHERWOOD URBAN GROWTH AREA
OPEN SPACES & NATURAL RESOURCE INVENTORY - 1990**

Type/Size	Location	Acres
1. Wildlife/Habitat & Wetlands		
a. Cedar Creek & Tributaries	Traverses NW & SW Sectors	
b. Rock Creek & Tributaries	Traverses NE & SE Sectors	
c. Pond/Wetland	2S 1 31D:501	
2. Open Space		
a. BPA & PGE Power Easements		
b. Stella Olsen Memorial Park	2S 1 32BC:6401	13.0
	2S 1 32BB:900	
c. City Hall Park	2S 1 32BD:5200	0.4
d. Community Campus Park	2S 1 29C:1402	0.21
e. Gleneagle Park	2S 1 30DD:1400,1800	2.7
f. Reservoir Park	2S 1 32DA:200, 201	1.7
g. St. Paul Cemetery	2S 1 30A:1501	2.0
h. Maple Lane Cemetery	2S 1 30A:300	0.9
i. Sherwood High School	2S 1 31A:1801	25.0
	2S 1 31AA:1000,1100	6.8
j. Hopkins & Intermediate Schools	2S 1 32BA:800,900,801	16.0
4. Significant Natural Areas		
a. Tonquin Scabland Geologic Area	2S 1 33C, 2S 1 33B	166.0
b. Ponderosa Pine Forest	2S 1 31C:700	6.8
c. Cedar Fir Woods	2S 1 30A:1100 & 1200	
5. Scenic Resources		
a. Scenic Views	2S 1 29B:300, 2S 1 30A:1601	
	2S 1 30D:2201, 2S 1 32AD	
b. TSGA Scenic Resource	2S 1 33	

Planning Goals: Environmental Quality

1. For the purpose of protecting the functions and values of water resources, protect the water quality of Rock Creek, Chicken Creek, Cedar Creek, and their tributaries through control of runoff water by the following means:
 - a. Construction site sediment control.
 - b. Storm sewer design and location.
 - c. Regulation of floodplain alterations.
 - d. Adoption of the regional Storm Water management plan.
 - e. Establish buffers between development and the designated wetlands.
 - f. Acquire through dedication at the time of development, or through purchase, all wetlands and floodplains.
 - g. Maintain or reduce stream temperatures.
 - h. Maintain natural stream corridors.
 - i. Minimize erosion, nutrient and pollutant loading into water.
2. Protect the air quality of the city through control of pollutants by the following means.
 - a. Compliance with the DEQ air quality standards.
 - b. Encouraging the development of nonpolluting industries in designated well-planned industrial areas.
3. Protect residential areas from the effects of noise by the following means:
 - a. Encouraging buffer zones between Highway 99W and residential areas.
 - b. Cooperation with the DEQ noise control program to control industrial noise.
 - c. Comply with DEQ noise control standards.

Planning Goals: Recreational Resources

An open space and recreation system will be established in the City through the preservation of natural resources and the development of facilities which satisfy residential needs. This Section also includes historic and cultural resources.

1. Preserve the scenic open space, wetland, and riparian values of the Rock Creek and Cedar Creek greenways. The greenways should remain undeveloped as passive open space in order to maintain their natural integrity and habitat.
2. Incorporate easements and rights-of-way for utilities and drainage into a system of greenways and trails.
3. Acquire park and open space land as far in advance as possible to avoid high land costs and the possibility of having to purchase developments later on. The City intends to take full advantage of matching funds from state and federal agencies in the development of its park system.
4. Work with school boards of the area in the Sherwood School District in the selection of new school sites, so that adjoining neighborhood parks can be acquired at the same time.
5. Avoid extending streets, utilities, or other urban services into planned open space areas in order that additional pressures for their development are not generated.
6. Support taxation policies for planned permanent open space areas which will make it feasible to keep them from being developed.
7. Give priority to neighborhood and community parks and to such open spaces as can be secured through administration of the City's implementing ordinances when it is practical for the City to improve and maintain them. Work with appropriate agencies to realize other park and open space elements of this plan.
8. Utilize sites required for public buildings or works for park and open space purposes where feasible. For instance, water tanks or reservoirs on elevated locations may also provide a suitable location for a neighborhood park or a place for viewing surrounding terrain.
9. As practical, and financially feasible, develop parks and open spaces in Sherwood in accordance with neighborhood planning principles set forth previously and the standards and guidelines contained in Section E of this chapter.
10. Development of open space and recreational facilities shall include a consideration of the carrying capacity of the air, land and water resources of the area.
11. Open space and recreational facility planning will be coordinated with adjacent communities for maximum benefit. Examples of coordinated planning may include the preservation and acquisition of the Rock Creek flood plain (also known as the Onion Flats) which separates Sherwood from Tualatin, and the preservation of flood plains and natural areas north to the Tualatin River. Also, the preservation of the

Tonquin Natural Area will be coordinated with the City of Tualatin and Washington County.

12. The 1989 Sherwood Cultural Resource Inventory is included as an appendix to this Plan. The Survey identified 132 potential historic landmarks of varying value. The City has adopted a process by which sites will be reviewed for historic landmark designation and protection. Until completion of that process, if any significant structure listed in the survey is proposed for alteration, construction or demolition, the City shall initiate the review of such building for historic landmark designation, and will not issue a building permit until that process is complete.
13. Provide and maintain a wide variety of recreational facilities based on a determination of the recreational needs of local residents.
14. Encourage the timely and efficient implementation of open space, natural resource and recreation objectives through the use of all available means including but not limited to:
 - a. Land acquisition by purchase, donation, and dedication.
 - b. Tax incentives for limiting development.
 - c. Land development controls in hazardous or ecologically sensitive areas, i.e., flood plain wetlands, etc.
 - d. Standards for new development requiring adequate provision of open space and recreation areas and the preservation or replacement of natural features.
 - e. Financing and program administration techniques including park district formation, systems development charges and joint city-school district projects.

Planning Goals: Energy Resources

1. Encourage recycling.
2. Identify the role of the City in energy conservation and coordinate local efforts with county, regional and state agencies.
3. Encourage the expanded use of renewable energy resources.
4. Encourage energy efficiency in the design and use of sites, structures, transportation systems and utilities.

C. NATURAL RESOURCES AND HAZARDS

1. EXISTING CONDITIONS (See Section V - Background Data and Analysis)

The Sherwood UGB has three major natural resource categories:

- a. Rock and Cedar Creeks and their associated tributaries, flood plains, wetlands and ponds.
- b. The Tonquin Scabland Geologic Area (TSGA) and the Ponderosa Pine Forest natural areas.
- c. Miscellaneous open spaces and scenic views.

The following natural resources are not present within the City:

- a. Energy sources
- b. Wilderness
- c. Oregon Recreation Trails
- d. Wild and Scenic Waterways
- e. Mineral and Aggregate sites

2. OBJECTIVES

The planning objectives for the City of Sherwood's natural resources are to:

- a. Encourage preservation of important natural habitat associated with Rock and Cedar Creeks and, at the same time, prohibit development in flood hazard areas.
- b. Protect the Tonquin Scabland Geologic Area, especially the identified critical natural features in the TSGA.
- c. Phased land-use changes to maintain agricultural production until land is needed for development.
- d. Discourage incompatible development on steep slopes.
- e. Protect the identified Ponderosa Pine forest.
- f. For properties with regionally significant fish and wildlife habitats that are not protected under stricter regulations, encourage use of habitat friendly development practices during development review.

- g. Remove code and procedural barriers that discourage the use of habitat friendly development practices.

3. POLICIES AND STRATEGIES

To achieve the above objectives the following policies and strategies are established:

Policy 1 **Flood plain shall be prohibited from development in order to reduce the risk of flooding, prevent or reduce risk of human life and property, and maintain functions and values of floodplains such as allowing for the storage and conveyance of stream flows through existing and natural flood conveyance systems.**

Strategy:

- A flood plain ordinance has been adopted and will be periodically updated, that regulates development or fill in designated flood plains.
- Greenway areas along Rock and Cedar Creeks will be acquired through dedication at the time of development, or by purchase, to preserve drainageways, open space, wetlands, and wildlife habitat.
- Greenway parcels will be obtained as dedicated portions of PUD's, subdivisions and partitions, or any other residential, commercial or industrial developments.
- Adopt ordinance provisions regulating construction practices in identified shallow groundwater areas (see Figure V-6 Background Data and Analysis.)
- Density transfers may be allowed on land adjacent to or included in designated greenways.

Policy 2 **Habitat friendly development shall be encouraged for developments with Regionally Significant Fish and Wildlife Habitats identified as Map V-2**

Strategy:

- Allow minor modification to some standards for developments with identified Regionally Significant Fish and Wildlife habitats subject to clear objective standards.
- Review the development code to identify standards that may conflict with habitat friendly development practices and modify as deemed appropriate.
- Modify design and construction standards to include pervious management options.

- Continue participation on the Natural Resources Coordinating Committee to monitor and modify the success of the Tualatin Basin Program for natural resource protection.

Policy 3 Prime agricultural soils will be reserved from development until required for other uses.

Strategy:

- A plan for phases land use transition will be developed.

Policy 4 Provide drainage facilities and regulate development in areas of runoff or erosion hazard.

Strategy:

- Identify low density development for steep lands.
- Adopt runoff and erosion control standards and practices during and after construction in identified runoff and erosion hazard areas (see Part 1 Background Data and Analysis).
- Require erosion prevention measures and sediment control practices during and after construction to prevent the discharge of sediments.

D. ENVIRONMENTAL QUALITY

The air, land and water quality of Sherwood is generally good; the City's environmental quality is a community asset which pays both social and economic dividends, and many residents have chosen to locate here based on these environmental amenities. It has been well documented over the past three decades that air, land and water pollution can create heavy economic liabilities and impose exorbitant cleanup costs on communities. Therefore, though the present level of environmental quality in Sherwood is good, it is important to recognize that continued growth and development is accompanied by the potential for environmental degradation.

There are no airports, wastewater treatment facilities, sludge or solid waste disposal sites or motor sports facilities in the Sherwood UGB.

1. AIR QUALITY

Sherwood occupies a portion of the Portland-Vancouver Interstate Air Quality Maintenance Area (AQMA). Planning of air quality control programs within the AQMA is the designated responsibility of the State Department of Environmental

Quality (DEQ) and METRO. Air quality standards designed to protect the public from the adverse effects of air pollution are established by the state and federal governments. Two major air pollution categories are considered in the regulations: point source (such as smokestacks) and area source pollution (such as auto emissions).

Both point and area pollution sources emit a variety of contaminants, and the DEQ monitors and sets standards for these various sources of air pollution. Nevertheless, the Portland-Vancouver AQMA does not always meet all federal and state air quality standards; air quality standards for carbon monoxide, ozone and total suspended particulates have been exceeded on several days, during each year since 1982. Exceedance was exceptionally bad in 1985, when air stagnation occurred on an unusually large number of days.

a. Carbon Monoxide

Most violations of carbon monoxide occur along major traffic arterials, though an appreciable reduction in carbon monoxide levels has occurred throughout Portland-Vancouver AQMA during the past ten years. A continued reduction in carbon monoxide violations is predicted, as a result of better air quality monitoring systems, expanded use of light rail and other transit, and DEQ's vehicle inspection program; however, the potential for future violations still exists, particularly in new areas, where rapid development creates continual changes in the urban pattern.

b. Ozone

Ozone levels in the Portland-Vancouver AQMA have not changed much in recent years. The ozone levels for the area are actually recorded about twenty miles south of Portland (near Canby), and are a product of hydrocarbons emitted throughout the AQMA. The location of problem sources is not easily determined owing to the complex behavior of the ozone gas, itself. However, by reducing volatile organic compound emissions (from motor vehicles, asphalt paving, and other commercial and industrial sources), many future violations of the EPA standard could be avoided. Efforts in the Sherwood area are likely to focus on automobiles, although other control measures include reducing the volatile solvent content in architectural coatings or industrial painting operations.

c. Point Source

There are no major or significant point source polluters in Sherwood.

d. Sherwood and the AQMA

Because the AQMA encompasses an entire metropolitan area, peaks and valleys of air pollution concentrations and sources exist within its boundaries. The area sources of pollution are spread fairly evenly throughout the AQMA, with concentrations occurring along heavily traveled streets and highways. Most point source emissions originate in the traditional industrial areas bordering the Willamette and Columbia Rivers.

Sherwood does not directly contribute to the point source pollution, but does add to the overall air pollution problem through its area sources, such as building exhausts, and vehicle emissions. Future protection of the City's air quality is largely the responsibility of the regional AQMA agencies, Department of Environmental Quality and METRO. For example, the siting of any major air contaminant discharges in Sherwood would have to be done in compliance with state and federal air quality regulations. The City is only involved in the siting of point source dischargers through its process of issuing statements of compatibility for the proposed use. Such statements of compatibility must be issued by Sherwood before DEQ will issue the required permits.

2. WATER QUALITY

The quality of Sherwood's surface water, governed by State Department of Environmental Quality (DEQ) regulations, is generally good, although surface waters are not used for consumption, and rarely for active recreation. The quality of groundwater underlying the Sherwood area is also good. While the quality of this groundwater presently meets both state and federal drinking water standards, there is potential pollution from either point sources (directly, from sewage outfall pipes, for example), or non-point sources (indirectly, from septic tanks or cesspools). Sherwood has no point-source water polluters. Sherwood is in a large sensitive aquifer area, particularly in the southeast sector of the UGB. However, this area is all planned for low or very low density residential use and will be connected to sewer.

a. Non-Point Sources

Indirect pollution of a body of water from either surface or groundwater flows as a result of storm runoff is an increasing problem in urban areas, since urban runoff transfers contaminants from the air and land into surface and groundwater.

Streets are a significant source of non-point pollution when litter, silt, vegetative debris, oil, grease, and other chemical deposits from automobiles accumulate in surface runoff. Construction sites also contribute silt from disturbed areas, and chemicals from heavy equipment and construction

processes. Similarly, gardens, lawns, nurseries, and farm operations also contribute silt from disturbed soil areas, as well as fertilizers and pesticides.

All of Sherwood’s non-point sources of water pollution are controllable to some extent. Regular street sweeping, solid waste collection and enforcement of anti-littering ordinances help to minimize street debris. Street pollution originating from automobiles can be reduced by oil recycling and the use of oil and grease separators. Oil and grease separators are required in new parking lots. Storm runoff, stream sedimentation, pesticides and fertilizers, and other potential pollution problems in the Tualatin River sub-basin are just beginning to be addressed through the Washington County Surface Water Management Plan. Eventually a surface water drainage district will be found. Sherwood is mandated to participate in that process and adopt any rules and regulations to control surface water pollution.

3. NOISE

a. Impacts of Noise Pollution

Noise might be simply defined as unwanted sound. Just as contaminants in water harm the environment, noise can degrade the livability of a community and damage the physical and mental health of persons living there. Like other kinds of pollution, noise also accompanies urban development.

Noise is measured in terms of its loudness and pitch. The loudness, or magnitude, of sound is usually measured in decibels (dB). The pitch, or frequency, of sound is expressed in Hertz (Hz), or cycles per second. For human beings, the audible spectrum ranges from 20 to 20,000 Hz and from zero to more than 140 dB. Sound pitch and magnitude are often measured together on a weighted decibel scale.

Though coping with noise is a fact of urban life, it becomes pollution when its magnitude becomes harmful to our health and well-being. The U.S. Environmental Protection Agency (EPA) has documented many of the detrimental effects of noise. The findings of the EPA regarding the detrimental effects of noise include hearing loss, emotional stress, sleep disruption and even risk to unborn infants. Even when noise is not a direct source of physical or mental problems, it is a recognized cause of physical and psychological stress which has been directly attributed to numerous health problems. Broad reductions in harmful noises have not occurred, however, probably due to a lack of education as to the negative effects of noise. It is possible to limit further increases in noise that result from urban growth, however, and this may be a more practical approach to controlling noise levels.

b. Noise Sources in Sherwood

In Sherwood, noise sources fall roughly into two categories; noises that occur intermittently, such as construction projects, and those which occur on a continuous basis, such as traffic.

The first group includes unusual, occasional noises, which often prompt police complaints when they reach a disruptive level. The second group includes noises which are continuous contributors to the ambient noise levels that are present throughout the city. These noises are nearly always present, and specifically include motor vehicle traffic on Hwy. 99W, industrial and commercial noises. Sherwood has no commercial or industrial businesses in violation of state noise standards.

c. State and Federal Noise Control

The Federal Noise Control Act of 1972 placed a number of noise related programs under the authority of the environmental Protection Agency (EPA). The EPA's authority extends to aircraft noise (with Federal Aviation Administration), interstate railroads and motor carriers and other noise sources of national concern.

The State Noise Control Act of 1971 gives the DEQ authority to adopt standards for motor vehicles, industry and commerce. The standards establish motor vehicle noise emission limits and set ambient noise limits for commercial and industrial operations. The standards vary according to time of day and proximity to "noise sensitive properties". The DEQ is normally involved in local noise problems when it receives a citizen complaint and the noise source falls under DEQ authority. The DEQ investigates these complaints and works with the owner or operator to resolve the problem. DEQ's role in noise prevention, because of the absence of permit authority, is confined to technical assistance.

4. OBJECTIVES

The planning objectives for the City of Sherwood are to maintain the high environmental quality of the City and to minimize degradation from growth.

5. POLICIES AND STRATEGIES

To achieve the above objectives the following policies and strategies are established:

Policy 1 Water quality will be protected from erosion and other forms of degradation.

Strategy:

- To minimize erosion, nutrient and pollutant loading into water, runoff and sedimentation ordinances will be considered for protection of water quality from construction sites.
- Flood plain and wetlands will be protected and preserved by greenway, flood plain and wetlands ordinances.
- Industrial development will not be permitted in the sensitive aquifer area and all urban development will be required to connect to City sewer.
- Maintain or reduce stream temperatures and maintain natural stream corridors by providing vegetated corridors that separate water resources from development.
- Encourage use of habitat friendly development practices including, but not limited to, the use of pervious pavement systems where appropriate, bioswales, green roofs, and rain gardens.

Policy 2 Air quality will be protected from significant degradation.

Strategy:

- Sherwood will cooperate and work with DEQ and MSD to develop a regional control strategy to bring the Urban Area into attainment with federal air quality standards.
- Permitted commercial, industrial, and institutional uses shall comply with applicable State air quality rules and statutes.
- The City will encourage residential weatherization to reduce the need for wood stoves.

Policy 3 Noise sources will be shielded from residential neighborhoods.

Strategy:

- Buffers along Highway 99W will be encouraged to minimize noise penetration.
- Residential noise will be controlled by city ordinance.
- Industrial and commercial noise will be controlled by DEQ standards.

Policy 4 The City will follow DEQ Standards relating to land and air quality except where additional standards or more restrictive standards are required to address locally perceived environmental problems.

E. RECREATIONAL RESOURCES

1. EXISTING CONDITIONS

The City of Sherwood has substantial open space and recreation opportunities within both the City limits and the urban growth boundary. Adjacent recreational opportunities for the region are associated with a potential greenway along the Tualatin River, the Tonquin Geological Area, Hedges Creek Wetlands and the proposed Rock Creek National Urban Wildlife Refuge in the northeast sector of the Sherwood UGB.

The following recreational resources are not present within the City:

- Waterway use facilities,
- Hunting,
- Angling, and
- Winter Sports

Existing City Parks - Developed: Stella Olson Memorial Park is approximately 13.0 acres in size. Most of this park lies in the Cedar Creek flood plain. Park facilities consist of a children's play area, three tennis courts and one mile of hiking, picnic tables and a lighted pathway. A park master plan has been adopted and further improvements are being made. There is a .4 acre park adjoining City Hall with playground equipment. There is .21 acre Community Campus Park adjoining the Sherwood Senior Community Center.

Existing City Parks - Undeveloped: The City was deeded a three-acre flood plain lot as a donation of a subdivision development. There is currently no access to the site. This site is suited for a portion of a greenway system along Cedar Creek. Since a substantial part of the site is in the flood plain, recreation development for intensive use is not advisable. The City water reservoir property along East Division St. contains approximately two acres of land. This site would be appropriate for use as a neighborhood park and/or children's play area. It is on high ground within the City and has a grassed area that could be designed as a play area. There is 3.2 acres of city property at the end of Roy Street reserved for a future park site.

Other Open Spaces - include the St. Paul Lutheran Church open space and cemetery and the Maple Lane Cemetery.

Historic Landmarks - In 1989 the "Sherwood Cultural Resources Inventory" identified 132 potential historic landmarks.

2. OBJECTIVES

The Planning objectives for the City of Sherwood are to maintain open space for the people of the City, protect designated historic landmarks, and to provide a wide variety of recreational facilities designed to fit the needs of the City.

3. POLICIES AND STRATEGIES

To achieve the above objectives the following policies and strategies are established.

Policy 1 Open Space will be linked to provide greenway areas.

Strategy:

- Floodplain and wetlands ordinances and dedication and acquisition programs will focus on protection of rock and Cedar Creek greenways.
- Connections will be made along 99W to be used as a noise buffer and greenway link.
- Density transfer may be allowed on lands adjacent to the proposed greenways taking into consideration site conditions and compatibility to the surrounding neighborhood.

Policy 2 The City will maximize shared use of recreational facilities to avoid cost duplication.

Strategy:

- The City will continue sharing developed facilities with the school district.
- The City will explore the use of shared facilities with the City of Tualatin.

Policy 3 Where there are conflicting uses proposed for identified open space, natural or scenic resources, the City will permit only those uses justified by analysis of economic social, environmental and energy consequences.

Strategy:

- Establish a community design review procedure to evaluate the consequences of conflicting uses for identified resources and to protect such resources where possible, as development occurs.

Policy 4 The City will encourage and support the private sector in the provision of needed recreational opportunities.

Strategy:

- The City will adopt and implement standards for the provision of on-site open space and recreation areas and facilities in private development. The responsibility of new developments in meeting standards may, where appropriate be met by the provision of privately owned and maintained areas and facilities.
- The City will encourage the provision of private commercial recreation areas and facilities which address community recreational needs.

Policy 5 The City will protect designated historic and cultural landmarks in accordance with the Code standards.

Strategy:

- The City will evaluate the 132 identified historic and cultural sites in accordance with adopted Code standards and determine which sites should be designated landmarks.

4. PARK, OPEN SPACE AND RECREATION STANDARDS

In order to prepare and implement a park and open space plan, reasonable minimum standards governing the purpose, nature and level of services and amenities have been developed. The standards are intended as suggested minimum requirements for the type, design, size and location of park and open space plan features consistent with the needs of a growing population. Beyond the minimum standards put forth, the City intends to encourage the provision of facilities and services to meet the particular needs and desires of the residents to be served, as practical in terms of the City's ability to meet the financial obligations associated with park development.

a. Tot Lots/Mini-Parks

Size: 2,400 sq ft, up to 1 acre

Acres per People: Minimum of 1 acre to serve needs of 1000 people.

Location: Based upon need by the area to be served.

Facilities/Activities: Paved play area for hard surface games and toys; play equipment; sand area for digging; benches; drinking fountain; tables; trash receptacles; area lighting; landscaping and irrigation, etc.

Age group to be served: Primarily ages 18 months to 6 years and parents.

b. Neighborhood Parks

Size: 2-5 acres

Acres per People: Minimum of 1 acre to serve needs of 500 people or 1 park to a neighborhood of 2,000 to 4,000 people.

Location: Central to population to be served, service area is considered to be an area ½ mile in radius. Can be located next to or combined with school recreation facilities. Be highly visible, away from major arterials and easily accessible to surrounding residents.

Facilities/Activities: Large grass area for informal as well as organized games; play apparatus; covered shelter; paved surfaces for games and wheeled toys; picnic tables, benches, trash receptacles, drinking fountain, telephone, area lighting; fencing; landscaping and irrigation, etc.

NOTE: Exact facilities will depend largely upon neighborhood need.

c. Community park

Size: 10 to 25 acres

Acres per People: Minimum of 1 acre to serve needs of 1000 people, or 1 park to a community of 20-25,000 people.

Location: Preferably central within the community. Can also be established in relation to a significant natural feature or cultural facility (i.e. similar to Sherwood's present community park). Should have direct access to major arterials, bike paths and public transportation.

Facilities/Activities: Specially designed game fields, tennis courts and hard surfaced game courts; picnic areas; picnic and multi-purpose shelter; play areas for different age groups; horseshoe pits; parking; foot paths; fencing, area lighting, benches, tables, drinking fountains, trash receptacles, bike racks, telephones, nature study areas, etc.

d. General Open Space – Greenway

Size: Variable depending upon location, setting and unique features such as flood conditions, soils, topography, views, vegetation and wildlife ecosystems, generally not less than 5 acres.

Acres per People: Variable, but intended to serve the entire population of the community.

NOTE: Purpose is to preserve the natural and scenic beauty of areas which are central to the community's identity and image. A permit from the

Division of State Lands and the Corps of Engineers is required to place or remove over 50 cubic yards of material from a stream or wetland.

e. Nature trails and Scenic Pathways

Size: An average of 1 to 2 miles long with a use intensity of about 50 people per day. Longer trails have a use intensity of about 40 people per mile per day in rural areas.

Location: Bordering transportation and utility corridors, flood plains and other areas of natural beauty and scenic value.

Facilities/Activities: Paved or graveled walking surfaces; trash receptacles and benches related to natural stopping or rest areas. Landscaping should relate to the environment through which the trail and pathway move.

f. Conservation Management Areas

Location: Those areas generally within the 100 year flood line which are described as wetlands, marsh, bog and ponds, and to include all creek and natural drainage ways.

Facilities/Activities: Only those permitted which will enhance the areas such as protective guardrails, elevated walkways and view points; benches and trash receptacles; descriptive interpretive signing. Compatible activities are nature study, walking and viewing.

g. Cultural Facilities

Location: Depends on facility being provided. Malls and plazas should be placed in the commercial core or well developed areas. Larger facilities should be located away from congestion; a plaza can be incorporated into a larger facility or complex. Should serve the entire community.

Facilities/Activities: Cultural facilities may include plazas, malls, small parks, fountains, open-air/indoor theaters, and a library and meeting hall complex. Trash receptacles and benches shall be provided. For landscaped areas irrigation shall be provided. Larger facilities shall provide off street parking.

h. Historic Sites

Location: See appendix for 1989 "Sherwood Cultural Resources".

Facilities/Activities: Designated historic sites shall be maintained, developed or incorporated into a development in a way that preserves the integrity of the site or structure. Interpretive signs and trash receptacles should be provided. Parking, trails, picnic facilities, and protective fencing should be provided when feasible.

i. Community Centers

Location: Should be easily accessible to all groups intended to be served by the facility. Shall be located with a direct access by auto, transit or pathway.

Facilities/Activities: Could be for a specific age group (i.e. senior citizens or youths) or the entire community. Centers shall provide meeting rooms, kitchen or concessions lounges, work rooms, rest rooms, trash receptacles, off-street parking, and landscaped areas.

5. PARK AND OPEN SPACE PLAN FEATURES (See Map V-1)

Based on a thorough inventory of the Urban Area's existing recreation and open space resources, the development of plan goals and objectives and the application of the standards in Section 4 of this chapter, a general plan was developed. The Natural Resource and Recreation Plan Map includes three major components; a) developed parks; b) natural areas, wetlands, and greenways; and c) trails, scenic corridors.

a. Parks

The future park system will include neighborhood and community parks with facilities and in locations consistent with the needs of City residents and visitors, and the City's ability to maintain those facilities.

Community Park: Stella Olsen Park will continue to be the primary focus of major recreational activities. It will contain a variety of recreational opportunities and be related to the Old Town commercial center and central area schools. Joint use of park and school facilities will continue to be encouraged. Expansion of Stella Olsen park to the north to include the site now known as Glen Park is suggested. Additional public access to Stella Olsen Park and the remainder of the greenway is planned from North Sherwood Boulevard. Stella Olsen Park should provide for most of the City's central recreational needs. Additional picnic and playfield areas, limited due to excessive slopes and wet soils can be provided by joint use of school sites and an expanded neighborhood park system. Encourage implementation of the 1989 Stella Olsen Park Master Plan.

Neighborhood Parks: Outside of the central area, possible park sites may be located in close proximity to residential areas. It is the intent of the plan to encourage acquisition and/or development of these or similarly situated sites

and to take advantage of site donations, access, significant natural areas, views, and vegetation. Joint park school sites will be sought in conjunction with the Sherwood School District's long range facilities improvement plan. It is the intent of this plan to stress the importance of accessible neighborhood parks of between 2 and 5 acres to serve neighborhoods of 2,000 to 4,000 persons. Based on the standard developed in Subsection 4 the City will strive for four or five neighborhood parks. Several potential future sites were identified in the 1980 Plan. They are listed below. Specific sites were removed in the 1989-1991 Plan update.

1. Edy Road Site
 2. Scholls Sherwood Site (possible school/park site)
 3. Town Square Site
 4. Murdock Road Site (possible school/park site)
 5. Four Corners Site
 6. High School Site (possible school/park site)
 7. Reservoir Site
- b. Greenways: An open space system consisting of the flood plains of Cedar Creek and Rock Creek will be acquired and preserved for public use as passive open space and natural drainage ways. Creek greenways may be linked to a regional greenway along the Tualatin River. A principal use of the greenways will be to provide for linkages between parks and major activity centers. Continuity between the Cedar Creek and Rock Creek greenways will be made by using connections through the school property on North Sherwood Boulevard. The Tonquin Scabland Geologic Area shall be preserved and enhanced by very low density residential development and P.U.D.'s.
- c. Trails, bikeways and scenic corridors: The parks and open spaces in the urban area will be connected by a system of inter-connecting trails, bikepaths and scenic corridors. Combination pedestrian and bikeways will be developed to link all parts of the urban area along major transportation routes. Trails will be developed within and between the greenways system and will be designed to enhance public access and the enjoyment of natural areas preserved by the plan. Where possible trails will make use of utility and street easements.
- d. Historic and Cultural Resources: Structures and sites which maintain continuity with the City's past and which provide places for persons to congregate and enjoy cultural activities will be developed and/or preserved. The City will consider the preservation of structures and sites of historic and/or architectural significance as identified by the 1989 Sherwood Cultural Resources Inventory. It is the intention of this plan to preserve and develop distinctive historic or cultural features of the Planning Area so as to maintain

the City's unique identity in the face of urban growth. The 132 sites identified in the 1989 Cultural and Historic Resources Survey shall be reviewed to determine which should be designated landmarks to be protected by historic landmark protection standards in the code.

6. FINANCE, ACQUISITION, AND MAINTENANCE OF RECREATIONAL AREAS AND FACILITIES

The financing of the recreation and open space areas and facilities identified in this plan and those to be detailed in the proposed site-specific recreation and open space plans is the responsibility of existing and future property owners of Sherwood aided by available funding from state and federal agencies. It is the intention of the City to develop a detailed recreation and open space system capital improvements plan which will detail revenue sources and scheduling for needed areas and facilities. In the interim the following approaches will be employed to acquire and develop Sherwood's recreational resources.

- a. Community Parks: Funds for the expansion, development and maintenance of existing and future community parks will be through the general revenue park fund, state and federal grant programs and special bond elections.
- b. Rock Creek and Cedar Creek Greenways and the TSGA: The City will acquire portions of the proposed greenways and the TSGA according to the following procedures.
 - (1) Require the dedication of the greenway and natural area portions of proposed new development, including PUD's, subdivisions, partitions, and site plans.
 - (2) Allow transfer of density from portions of sites within designated greenways or natural areas to buildable portions of sites outside of the greenway as compensation for the dedication of the greenway portion.
 - (3) Acquire portions of greenways or natural areas in developed areas through donation, and/or purchase using state and federal grants, and City system development charges.
- c. Neighborhood Parks: The acquisition and development of neighborhood recreational facilities shall be financed by a neighborhood facilities assessment based on the neighborhood park standards (acres/person) as applied to neighborhood areas defined in the Plan.
- d. Trails, Bikeways, and Scenic Corridors: Trails and bikeways which are a part of identified greenways or parks will be financed and maintained from the sources for those areas and facilities specified above. Bikeways and

pedestrian ways to be located within dedicated street rights of way will be consistent with the street's functional design standards. Scenic corridors or conservation easements on major streets will be developed and maintained as portions of on-site landscaping requirements for new development. Scenic corridors along existing developed property will be acquired through donation or purchase from general street or park funds, or state and federal grants.

F. ENERGY RESOURCES

1. EXISTING CONDITIONS

The City currently has no comprehensive policy which addresses energy conservation. The accelerating costs and declining amounts of non-renewable energy resources needs no additional documentation. In the context of the Sherwood Comprehensive Plan, energy is treated as an essential environmental resource which will require careful management at the local as well as County, State and Federal levels of government. In the preparation of the following policies and strategies, the City has made use of the Oregon Department of Energy's publication entitled Community Energy Planning and the MSD City energy analysis information (See Section V Background Data and Analysis.

2. ENERGY POLICIES AND STRATEGIES

In order to achieve the energy resource goals stated in Subsection B above the following policies and strategies shall be established.

Policy 1 The City will seek to minimize petroleum based energy use.

Strategy:

- The City will provide for the construction of bikeways and pedestrian paths connecting major activity centers.
- The City will review new development to discourage excess or inefficient lighting and minimize the use of energy for public lighting.
- The City will work with Tri-Met to encourage the use of mass transit by increasing densities near transit routes, expanding routes, providing park and ride and shelter facilities and improving bus travel times.
- The City will encourage the development and use of the Southern Pacific rail corridor for transit and shipping.

Policy 2 The City will seek to cooperate with other governmental and private agencies engaged in energy conservation efforts and seek ways to expand its role and influence in achieving more efficient use of energy resources.

Strategy:

- The City will cooperate with the METRO energy conservation strategy.
- The City will cooperate with Washington County, METRO, and the State in developing and employing new incentives to conserve energy such as incentives for the recycling of solid waste and tax incentives for energy efficient devices and improvements.

Policy 3 The City will encourage the use of renewable sources of energy.

Strategy:

- The City will review new development for solar and wind exposure and provide for flexibility in site layout to realize the energy benefits of sun and wind orientation.
- The appropriate retention of natural features and the use of landscaping for conservation and solar and wind use will be incorporated into review criteria for new development.
- The City will work with appropriate governmental agencies to reduce the environmental impact of wood burning.

Policy 4 The City will encourage energy efficiency in the design and use of sites, structures, transportation systems and utilities.

Strategy:

- The City will enforce Chapter 53 of the Uniform Building Code.
- The City will consider density bonuses for energy efficient sites and structure design in the approval of new development.
- The City will encourage the use of energy efficient structure design such as common wall and zero lot line units and two story buildings.
- The City will investigate the use of solar access legislation while reviewing new development to insure the availability of light, wind, and air.

- Housing, shopping and employment will be located to reduce the amount of energy needed for transportation between them. Multi-use planned developments will be encouraged.
- Reduce urban sprawl by increasing residential densities, eliminating strip commercial development and scattered industrial and commercial uses; and encourage the infill of passed over land.
- The City will seek to reduce public utility and street standards to a minimum functional level.
- The City will encourage energy efficient industrial activities.

TRANSPORTATION

A. INTRODUCTION

The purpose of the Transportation element of the Comprehensive Plan is to describe a multi-modal system which will serve the future transportation needs of Sherwood. The plan for the future transportation system should be capable of effective implementation, responsive to changing conditions and be consistent with plans of adjoining jurisdictions. The Plan seeks to foresee specific transportation needs and to respond to those needs as growth occurs. The original Transportation Network Plan was created in 1979. The original transportation policy element was created in 1980 as part of the first Comprehensive Plan acknowledged by the Oregon Department of Land Conservation and Development. The plan policies were updated in 1989 and a new Transportation Plan Update was completed in 1991. The most recent Transportation element has been revised substantially to reflect changes in a new Transportation System Plan (TSP) begun in 2003 and completed in March 2005. The newest TSP is attached as an appendix and technical reference to this Comprehensive Plan, including an analysis of the existing transportation system, changes to the functional classification of streets, an update of various inventory and plan maps, and changes to the street design standards.

NOTE: The following types of capital facilities are not present within the City: 1) air transportation, and 2) water transportation. Therefore, they are not addressed in this plan.

B. GOALS, POLICIES, AND STRATEGIES

Goal 1: Provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes serving all neighborhoods and businesses.

Policy 1 – The City will ensure that public roads and streets are planned to provide safe, convenient, efficient and economic movement of persons, goods and services between and within the major land use activities. Existing rights of way shall be classified and improved and new streets built based on the type, origin, destination and volume of current and future traffic.

Policy 2 – Through traffic shall be provided with routes that do not congest local streets and impact residential areas. Outside traffic destined for Sherwood business and industrial areas shall have convenient and efficient access to commercial and industrial areas without the need to use residential streets.

Policy 3 – Local traffic routes within Sherwood shall be planned to provide convenient circulation between home, school, work, recreation and shopping. Convenient access to major out-of-town routes shall be provided from all areas of the city.

Policy 4 – The City shall encourage the use of more energy-efficient and environmentally-sound alternatives to the automobile by:

- The designation and construction of bike paths and pedestrian ways;

- The scheduling and routing of existing mass transit systems and the development of new systems to meet local resident needs; and
- Encouraging the development of self-contained neighborhoods, providing a wide range of land use activities within a single area.

Policy 6 – The City shall work to ensure the transportation system is developed in a manner consistent with state and federal standards for the protection of air, land and water quality, including the State Implementation Plan for complying with the Clean Air Act and the Clean Water Act.

Policy 7 – The City of Sherwood shall foster transportation services to the transportation-disadvantaged including the young, elderly, handicapped, and poor.

Policy 8 – The City of Sherwood shall consider infrastructure improvements with the least impact to the environment.

Policy 9 – The City of Sherwood shall develop a transportation demand management program to complement investments in infrastructure (supply).

Strategies

1. Make traffic safety a continuing effort through effective law enforcement and educational programs.
2. Adopt an acceptable level of service for the roadway network that is consistent with regional transportation policies.
3. Develop an array of transportation assets and services to meet the needs of the transportation-disadvantaged.
4. Evaluate, identify, and map existing and future neighborhoods for potential small scale commercial businesses to primarily serve local residents.
5. Adopt a strategy for reducing impacts of impervious surfaces to stormwater management.
6. Identify and adopt a transportation demand management strategy to provide incentives to employers who develop transportation options for employees.

Goal 2: Develop a transportation system that is consistent with the City’s adopted comprehensive land use plan and with the adopted plans of state, local, and regional jurisdictions.

Policy 1 – The City shall implement the transportation plan based on the functional classification of streets shown in Table 8-1.

Policy 2 – The City shall maintain a transportation plan map that shows the functional classification of all streets within the Sherwood urban growth area. Changes to the functional classification of streets must be approved through an amendment to the Sherwood Comprehensive Plan, Part 2, Chapter 6 - Transportation Element.

Policy 3 – The Sherwood transportation system plan shall be consistent with the city’s adopted land use plan and with transportation plans and policies of other local jurisdictions, especially Washington County, Clackamas County, City of Wilsonville, and the City of Tualatin.

Policy 4 – The City will coordinate with Metro regarding implementation of the Regional Transportation Plan and related transportation sections of the Metro Functional Plan.

Policy 5 – The City shall adopt a street classification system that is compatible with Washington County Functional Classification System for areas inside the Washington County Urban Area Plan and with Washington County 2020 Transportation Plan (Ordinance 588).

Policy 6 — The City will work with Metro and other regional transportation partners to implement regional transportation demand management programs where appropriate.

Policy 7 — The City shall work cooperatively with the Port of Portland and local governments in the region to ensure sufficient air and marine passenger access for Sherwood residents.

Policy 8 - Establish local non-Single Occupant Vehicle (SOV) modal targets, subject to new data and methodology made available to local governments, for all relevant design types identified in the RTP. Targets must meet or exceed the regional modal targets for the 2040 Growth Concept land use design types as illustrated in the following table:

**2040 Regional Modal Targets
Non-single Occupancy Vehicles**

2040 Design Type	Modal Target
Regional centers	45 to 55 percent
Town centers	
Main streets	
Station communities	
Corridors	
Industrial areas	40 to 45 percent
Employment areas	
Inner neighborhoods	
Outer neighborhoods	

Strategies

1. Develop an intergovernmental agreement between Sherwood, Washington County and the City of Tualatin, consistent with ORS 195.065, to establish urban service boundaries and responsibilities for transportation facilities within and adjacent to the City of Sherwood.

2. Work cooperatively with ODOT, Washington County, and Metro to develop an interchange area management plan for the Pacific Highway 99-W and Tualatin-Sherwood Highway intersection.
3. Work cooperatively with ODOT, Metro, Washington County, and Tualatin to develop a corridor management plan for Pacific Highway 99W and Tualatin-Sherwood Road to preserve existing access to the highway for the city's arterial and collector streets.
4. Participate in regional planning efforts, including the development of the Regional Transportation Plan (RTP), to secure funding for safety and capacity improvements to the City of Sherwood's arterial and collector street system that are necessary to maintain acceptable levels of service for local and through traffic.
5. Define transportation corridors in advance through long range planning efforts
6. Coordinate the transportation network with adjacent governmental agencies, such as Washington County, Metro, and the State. Coordinate with ODOT in implementing their Six-Year Plan and the State Highway Improvement Program.

Goal 3: Establish a clear and objective set of transportation design and development regulations that addresses all elements of the city transportation system and that promote access to and utilization of a multi-modal transportation system.

Policy 1 – The City of Sherwood shall adopt requirements for land development that mitigate the adverse traffic impacts and ensure all new development contributes a fair share toward on-site and off-site transportation system improvement remedies.

Policy 2 – The City of Sherwood shall require dedication of land for future streets when development is approved. The property developer shall be required to make full street improvements for their portion of the street commensurate with the proportional benefit that the improvement provides the development.

Policy 3 – The City of Sherwood shall require applicable developments (as defined in the development code), to prepare a traffic impact analysis.

Policy 4 – The City of Sherwood shall adopt a uniform set of design guidelines that provide one or more typical cross section associated with each functional street classification. For example, the City may allow for a standard roadway cross-section and a boulevard cross-section for arterial and collector streets.

Policy 5 – The City shall adopt roadway design guidelines and standards that ensure sufficient right-of-way is provided for necessary roadway, bikeway, and pedestrian improvements.

Policy 6 – The City shall adopt roadway design guidelines and standards that ensure sidewalks and bikeways be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and bicyclists between residential areas, schools, employment, commercial and recreational areas.

Policy 7 – The City of Sherwood will generally favor granting property access from the street

with the lowest functional classification, including alleys. Additional access to arterials and collectors for single family units shall be prohibited and use access from frontage roads and local streets. Frontage roads shall be designed as local streets.

Policy 8: The City will adopt access control and spacing standards for all arterial and collector streets to improve safety and promote efficient through street movement. Access control measures shall be generally consistent with Washington County access guidelines to ensure consistency on city and county roads.

Policy 9 - The City will establish guidelines and standards for the use of medians and islands for regulating access and providing pedestrian refuge on arterial and collector streets.

Policy 10 – The City of Sherwood will establish a set of guidelines and standards for traffic calming measures to retrofit existing streets and as part of land use review.

Policy 11 - The City will develop uniform traffic control device standards (signs, signals, and pavement markings) and uniformly apply them throughout the city.

Policy 12 - The City of Sherwood will adopt parking control regulations for streets as needed. On-street parking shall not be permitted on any street designated as an arterial, unless allowed by special provision within the Town Center (Old Town) area or through the road modifications process outlined in the Sherwood Development Code.

Policy 13 – The City of Sherwood shall adopt new development codes to fill in gaps in existing sidewalks to achieve a consistent pedestrian system.

Strategies

1. Incorporate typical street cross section guidelines in the City's public works design standards that address vehicular, bicycle, pedestrian, and transit needs.
2. Include a Road Modification Process in the Sherwood Development Code to provide a procedure for granting variances from street design standards for parking, pedestrian facilities, signals, and other roadway features.
3. Consider the Metro 2040 Plan Regional Street Design Elements when planning for improvements to City transportation facilities, including those built by ODOT or Tri Met.
4. Incorporate guidelines in the City's development code that establish when a local street refinement plan must be prepared and the process for preparing such a plan.
5. Amend the city development code as necessary to regulate vehicular access, spacing, circulation, and parking consistent with plan policies.
6. Amend the city development code as necessary to include specific guidelines for determining the proportional benefit contribution associated with requirements for street dedication and the construction of off-site transportation improvements.
7. Amend the development code to include standards and procedures for a transportation impact analysis (TIA). Refer to Appendix for example.

8. Develop a list to prioritize refinement plan needs, such as corridor plans and interchange area management plans.
9. Amend development code to include provisions for implementing traffic calming mechanisms.
10. Create a map that identifies locations targeted for on-street parking, such as in neighborhood commercial areas and the town center that support multi-modal options.
11. Regularly update the development code to ensure consistency with regional parking requirements.
12. Develop a “conceptual new streets plan” map for all contiguous areas of vacant and redevelopable parcels of 5 (five) or more acres planned or zoned for residential or mixed-use development, and adopt the map as part of the TSP.
13. Consider a “mixed-use” overlay zone in the development code that will apply to the Six Corners area. Include design standards that will encourage a vibrant, pedestrian friendly environment through the implementation of boulevards, medians, mixed-use development and site design.

Goal 4: Develop complementary infrastructure for bicycles and pedestrian facilities to provide a diverse range of transportation choices for city residents.

Policy 1 – The City of Sherwood shall provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes.

Policy 2 – Sidewalks and bikeways shall be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and bicyclists between residential areas, schools, employment, commercial and recreational areas.

Policy 3 – The City of Sherwood will pursue development of local and regional pedestrian trail facilities, especially a trail system connection between the city and the Tualatin National Wildlife Refuge.

Policy 4—The City of Sherwood shall provide design standards for roadway traffic calming features such as traffic circles, curb extensions, bulb-outs, and speed humps.

Policy 5 – The City of Sherwood shall include requirements for the provision of bicycle parking on large commercial, industrial, and multi-family residential projects.

Policy 6 – The City of Sherwood will coordinate the bikeway system with adjacent jurisdictions, especially Tualatin, Wilsonville, Clackamas and Washington County.

Policy 7 – The City will work to eliminate architectural barriers from buildings and public improvements, which limit elderly and handicapped use of the transportation system.

Strategies

1. Include pedestrian and bike projects in the capital improvement plan to ensure investment in alternative modes;
2. Use intergovernmental agreements with Tualatin and Washington County for the coordination of urban services per ORS 196.065 to coordinate the bikeway system and trail system;
3. Include design standards for sidewalk and bikeway facilities in the city's roadway design guidelines;
4. Include provisions for planning the location of pedestrian and bike routes for connecting residential, school, commercial, employment and recreational areas in the development code guidelines for preparing local street refinement plans;
5. Include a system of bikeways along collector and arterial roadways as illustrated on the Transportation Plan Map;
6. Include requirements in the development code for private development to provide bike and pedestrian facilities as indicated on the Transportation Plan Map;
7. Include design standards for sidewalks and bicycle facilities in the city's roadway design guidelines;
8. Pursue traffic calming techniques for neighborhood and local streets so as to provide safe passage for pedestrians and bicyclists, and a more pleasant neighborhood environment for residents.
9. Construct and install infrastructure, including storm drain inlets, which are pedestrian and bicycle-friendly.

Goal 5: Provide reliable convenient transit service to Sherwood residents and businesses as well as special transit options for the city's elderly and disabled residents.

Policy 1 – Public transportation shall be provided as an alternative means of transportation in Sherwood.

Policy 2 – The City of Sherwood will work with Tri-Met to expand transit services to all parts of the City through additional routes, more frequent service, and transit oriented street improvements.

Policy 3 – Park-and-ride facilities should be located with convenient access to the arterial system to facilitate rider transfer to transit and car pools.

Policy 4 – Encourage the construction of bus shelters and park-n-ride lots in the vicinity of planned transit corridors.

Policy 5 – The City of Sherwood will support the establishment of a "feeder" transit route from downtown Sherwood to Tualatin employment centers.

Policy 6 – The City of Sherwood will support park and ride facilities that are sited for the maximum convenience of commuters and transit riders.

Policy 7—The City of Sherwood will support regional efforts for the preservation and development of appropriate rail rights-of-way for passenger rail service, in particular for serving local and regional commuter rail needs in Washington County, Clackamas County, and Yamhill County.

Policy 8 – The City of Sherwood will encourage the provision of special transportation services (i.e., van pools, or car pools, dial-a-ride, etc.) to transportation disadvantaged by Tri-Met and community-based service providers.

Policy 9 – Fully integrate the City into the regional transit system by expanding hours and destinations served by transit providers.

Policy 10 – The City will meet RTP goals of providing a safe and convenient pedestrian circulation system.

Strategies

1. Develop design standards to separate buses from the arterial roadway while transferring passengers. Establish a bus turnout design for stops on arterial streets.
2. Update development code to include design guidelines that require transit stops to be accessible to transit riders, especially the elderly and handicapped.
3. Amend development code to require development on sites at major transit stops (defined by the City of Sherwood) to do the following:
 - Locate within 20 feet of (or provide a pedestrian plaza) at the major transit stop;
 - Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site;
 - Provide a transit service passenger landing pad accessible to disabled persons;
 - Provide an easement or right-of-way dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider; and
 - Improve public safety by providing lighting at transit stops.
4. Work with Tri-Met and Metro to extend transit options to Sherwood, which may include:
 - High capacity transit service along 99W terminating near Six Corners;
 - Potential extension of commuter rail line from Lake Oswego to Sherwood on the existing rail line with service to Newberg or McMinnville; and
 - Other regional transit service connections, such as frequent bus, interurban bus, as appropriate.

Goal 6: Provide a convenient and safe transportation network within and between the Sherwood Old Town (Town Center) and Six Corners area that enables mixed use development and provides multi-modal access to area businesses and residents.

Policy 1 – The City of Sherwood shall continue to refine and develop existing and new design guidelines and special standards for the Old Town and Six Corners areas to facilitate more pedestrian and transit friendly development.

Policy 2 – The City of Sherwood shall work to provide connectivity, via the off-street trail system and public right-of-way acquisitions and dedications, to better achieve street spacing and connectivity standards.

Strategies

1. Provide handicap ramps at all intersections with landings connected to sidewalk improvements, especially within Six Corners and Old Town areas.
2. Design transit stops in Six Corners and Old Town areas to meet ADA requirements for transit accessibility.
3. Adopt design and development guidelines for the Old Town areas that facilitate pedestrian use and a mix of commercial and residential development.
4. Adopt parking guidelines for the Old Town areas that are compatible with the parking guidelines established in Title 2 of the Metro Urban Growth Management Functional Plan.

Goal 7: Ensure that efficient and effective freight transportation infrastructure is developed and maintained to support local and regional economic expansion and diversification consistent with City economic plans and policies.

Policy 1 — The City of Sherwood will collaborate with federal, state and neighboring local governments and private business to ensure the investment in transportation infrastructure and services deemed necessary by the City to meet current and future demand for industrial and commercial freight movement.

Policy 2 — The City of Sherwood will adopt implementing regulations that provide for safe and convenient access to industrial and commercial areas for commercial vehicles, including freight loading and transfer facilities.

Policy 3 — The City of Sherwood will work cooperatively with local, regional and state agencies to protect the viability of truck and freight service routes within, through, and around the City of Sherwood, especially for Pacific Highway 99-W, the Tualatin-Sherwood Highway, and the planned I-5/Hwy 99-W Connector corridor.

Policy 4 — The City of Sherwood will work cooperatively with local, regional and state governments to ensure there is adequate air transportation infrastructure to serve local needs at regional airport facilities, including the Hillsboro Airport and Portland International

airport.

Policy 5 — The City of Sherwood will strongly encourage the preservation of rail rights-of-way for future rail uses, and will work with appropriate agencies to ensure the availability of rail services to its industrial lands.

Policy 6 — The City of Sherwood will cooperate with local, regional and state governments to provide for regional marine freight infrastructure sufficient to serve local needs.

Policy 7 — The City of Sherwood will cooperate with the Portland Development Commission, Port of Portland, Washington County, and other economic development agencies to ensure the availability of inter-modal connectivity facilities deemed necessary to facilitate seamless freight transfer between all transport modes.

Strategies

1. Revise the Sherwood Development Code as necessary to include clear and objective standards for the provision of freight loading and handling facilities, such as restricted on-street parking, loading docks, truck access ways, and rail spurs, in all industrial and commercial development districts.
2. Participate in regional economic development planning efforts related to inter-modal transportation facilities.
3. Adopt appropriate standards to ensure the preservation of rail access corridors to Sherwood's industrial land base.

Goal 8: The Sherwood transportation network will be managed in a manner that ensures the plan is implemented in a timely fashion and is kept up to date with respect to local and regional priorities.

Policy 1 – The City of Sherwood shall develop a systematic approach to implementing the transportation network.

Policy 2 – The City of Sherwood shall pursue a diversified funding strategy to implement the transportation system plan including private, public and regional sources.

Policy 3 – The City of Sherwood shall use its adopted capital improvement plan to prioritize and schedule transportation projects based upon need as shown in the Transportation System Plan. Incorporate the transportation system priorities from the TSP into the city's capital improvement planning process.

Policy 4 – Project scheduling shall be performed in a systematic manner based on the priority rating process outlined in the Transportation System Plan and available financial resources.

Policy 5 – The Transportation System Plan shall be periodically updated, preferably on a five-year cycle, to assure consistency with changing ideas, philosophies, and related policies.

Strategies

1. Participate in MPAC, JPACT and other Metro advisory bodies to promote Sherwood transportation system improvements.
2. Local private financing resources will include right of way dedication and developer contributions to street improvements, and local improvement districts. Public resources will include local system development charges and bonding authority. Regional sources will include Washington County Traffic Impact Fees (TIF) and projects bonded through the County MSTIP program. Regional sources will also include Metro Transportation Improvement Plan (MTIP) resources and other state and federal grant assistance programs.
3. Adopt a comprehensive local system development charge (SDC) ordinance to either augment or replace CAP and collector street SDC.
4. Develop a method for scheduling improvement projects based on priority and funding sources.
5. Assign city staff and elected officials to participate in regional transportation planning processes.
6. Secure intergovernmental agreements between Sherwood and adjoining communities and regional service providers that outline cooperative measures for coordinating transportation investment and regulation per ORS 195.065.

C. THE TRANSPORTATION SYSTEM PLAN

The Transportation System Plan stresses the improvement of the existing system of transportation facilities before new facilities are built. Existing conditions have been analyzed in the Study Area (lands within UGB) and are contained in Chapter 3 of the TSP. Transportation analysis zones were created for each part of the city based on types of land use in the Comprehensive Plan Map. Future traffic volumes were projected based on expected build out of those zones. Future traffic volumes with trip origins or destinations in the Study Area were then calculated for selected subareas or zones in this case. Future locally generated traffic volumes were then distributed onto the street system based on assumption as to major directional movements. From this process future locally generated traffic volumes were calculated for major roads. Future traffic volumes within the Study Area represent only locally generated traffic. Reduction in traffic volumes over time on certain major streets assumes the progressive improvement of alternative major street routes, which have the effect of shifting traffic from existing to improved routes in satisfying major directional movements. To determine total volumes on major streets with significant through traffic (i.e. Highway 99W) locally generated volumes should be added to through traffic volumes determined by Washington County, Metro or ODOT.

The above analysis taken together with the application of the goals, objectives and policies

described in Section B were used in the development of Transportation System Plan. A map for each existing and planned transportation system is included in the TSP. Each map, several street classifications, and the above policies were updated as well. The TSP (2005) is a technical reference to the Transportation element of the Comprehensive Plan.

The following information is included in the TSP and is included below for reference. Table 1 is a list of functional classifications and definitions for each street followed by Figure 1 Transportation Plan Map that illustrates the location and functional classification of each street. Table 2 is a list of major transportation improvements planned for the next twenty years based on the transportation system analysis of expected traffic levels, a performance standard Level of Service "D", and projected costs. Generally, most of the improvements are upgrades and connections to existing streets while some improvements are proposed new streets.

Table 1. Functional Classification Definitions

Principal Arterials	Typically, freeways and state highways that are access controlled and provide the highest level of connectivity. These routes connect over the longest distance and are less frequent than other arterials or collectors. These highways generally span several jurisdictions and usually have statewide importance (as defined in the State Highway Classification System). ¹ In Sherwood, OR 99W is the only route designated as a Statewide Highway.
Arterial Streets	Interconnect and support the principal arterial highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets for through traffic in lieu of a well placed arterial street. Access control is the key feature of an arterial route. Arterials are typically multiple miles in length. Many of these routes connect to cities surrounding Sherwood. Tualatin-Sherwood Road is a designated arterial street.
Collector Streets	Provide both access and circulation within and between residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function and do not require as extensive control of access (compared to arterials). Serve residential neighborhoods, distributing trips from the neighborhood and local street system. Collectors are typically greater than 0.5 to 1.0 miles in length.
Neighborhood Routes	Usually long relative to local streets and provide connectivity to collectors or arterials. Because neighborhood routes have greater connectivity, they generally have more traffic than local streets and are used by residents in the area to get into and out of the neighborhood, but do not serve citywide/large area circulation. They are typically about a quarter to a half-mile in total length. Traffic from cul-de-sacs and other local streets may drain onto neighborhood routes to gain access to collectors or arterials.
Local Streets	Sole function of providing access to immediate adjacent land. Service to “through traffic movement” on local streets is deliberately discouraged by design.

¹ 1999 Oregon Highway Plan, An Element of the Oregon Transportation Plan, Adopted by the Oregon Transportation Commission, March 18, 1999.

The proposed functional classification of streets in Sherwood shown in Figure 1 (TSP: 8-1). Any street not designated as an arterial, collector or neighborhood route is considered a local street.

DKS Associates
TRANSPORTATION SOLUTIONS

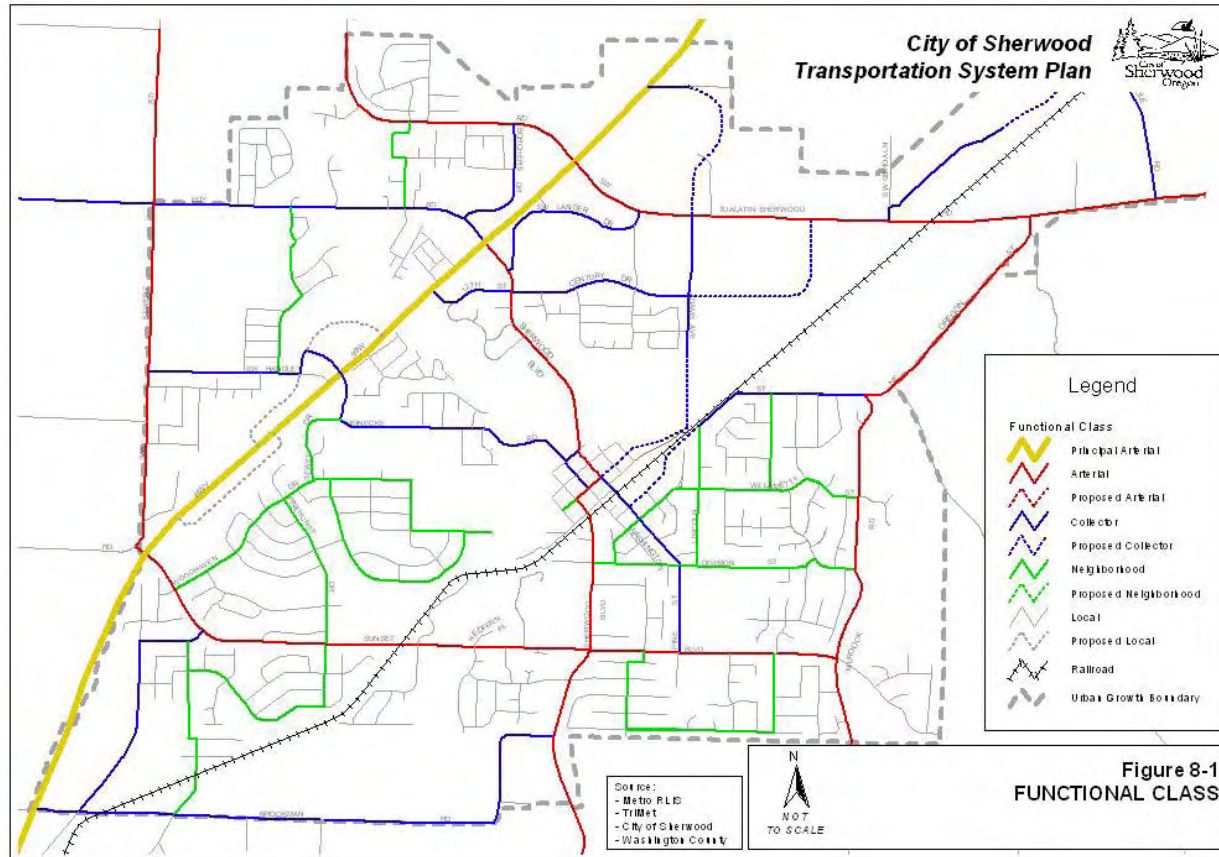


Table 2. Transportation Improvement Plan

ID	Location	From	To	Project	Source*	Cost (\$1,000's)
<i>City Funded Motor Vehicle Projects</i>						
1	Adams Avenue	Pine Street	Tualatin-Sherwood Road	Construction of 3 lane road	CIP/TSP	\$5,900
2	Adams Avenue	Tualatin-Sherwood Road	Home Depot	Construction of 3 lane road	CIP/TSP	\$2,100
3	Century Drive	Adams Avenue	Tualatin-Sherwood Road	Construction of 3 lane road	TSP	\$2,700
4/5	Tualatin-Sherwood Road	Cipole Road	Borchers Drive	Signal timing/interconnect project	TSP	\$50
6	Oregon Street	Lincoln Street	Pine Street	Extension/realignment (3 lanes)	CIP	\$2,700
7	Pine Street	Willamette	Sunset	Extension across rail road tracks	CIP	\$2,500
8	Old Town Streets			Phase 1 of the Downtown Sherwood Streetscape Master Plan	City	\$10,400
9	Cannery Arterials*			Phase 2 of the Downtown Sherwood Streetscape Master Plan	City	\$2,500
10	Future Phases*			Phase 3-6 of the Downtown Sherwood Streetscape Master Plan	City	\$4,500
11	I-5/Hwy 99W Connector	Highway 99W	Interstate 5	Specific alignment to be determined	RTP	N/A
<i>Subtotal (City)</i>						\$33,350
<i>County Funded Motor Vehicle Projects</i>						
12	Tualatin-Sherwood Road	Hwy 99W	Cipole Road	Widen existing road to 5 lanes	RTP/Washington County TSP	\$15,300
13	Roy Rodgers Road	Borchers Drive	Hwy 99W	Widen existing road to 5 lanes	RTP/Washington County TSP	\$1,400
14	Elwert Road	ORE 99W	Kruger	Intersection safety improvement	TSP	\$1,500
15	Brookman Road	ORE 99W	Ladd Hill Road	Improve to collector standards	TSP	\$8,700
<i>Subtotal (County)</i>						\$26,900

Development Related Projects						
ID	Location	From	To	Project Description	Source*	Cost (\$1,000's)
23	Galbreath Drive	Gerda Lane	Cipole Road	Construction of 2 lane road	TSP	\$1,500
24	Cedar Brook Way	ORE 99W	ORE 99W	Construction of 2 lane road	TSP	\$3,600
25	Connection	Meinecke Road	Woodhaven Drive	Construction of 2 lane road	TSP	\$550
26	South Loop Road	ORE 99W	ORE 99W	Construction of 2 lane road	TSP	\$1,800
27	Baler Way	Century Drive	Langer Drive	Construction of 2 lane road	TSP	\$1,000
28	Handley Street	Aldridge Terrace	Elwert Road	Construction of 2 lane road	TSP	\$1,200
9	Cannery Arterials**			Phase 2 of the downtown Sherwood Streetscape Master Plan	City	\$1,100
10	Future Phases**			Phase 3-6 of the Downtown Sherwood Streetscape Master Plan	City	\$1,000
<i>Subtotal (Development Related Projects)</i>						<i>\$11,750</i>

Traffic Control Enhancements (City Funded)						
ID	Location	Project Description			Source*	Cost (\$1,000's)
16	Edy Road/Borchers Drive	Additional traffic control measure			TSP, CIP	\$300
17	Langer Drive/Tualatin-Sherwood Road	Remove Traffic Signal. Install raised median			TSP	\$100
18	Sherwood Boulevard/Langer Drive	Remove Traffic Signal. Allow lefts in only (no lefts from Langer to Sherwood)			TSP	\$150
19	Sherwood Boulevard/Century Drive	Install Traffic Signal or Roundabout			TSP	\$275
20	Oregon Street/Tonquin Road	Traffic Control Enhancement (consider roundabout)			TSP	\$1,000
21	Adams Street/Tualatin-Sherwood Road	Install Traffic Signal			TSP	\$250
22	Sherwood Blvd/Sunset Blvd	Traffic Control Enhancement			TSP	\$250
<i>Subtotal (Traffic Control Enhancements)</i>						<i>\$2,325</i>

Total (City Funded)	\$29,225
<i>Total (Other Funding: State, Region, Development)</i>	<i>\$26,900</i>

* Source: RTP=Metro's Regional Transportation System Plan, TSP=Mitigation Required Based on Sherwood TSP Analysis, CIP=City of Sherwood Capital Improvement Plan.

** Project costs paid through public/private partnership.

COMMUNITY FACILITIES AND SERVICES

A. GENERAL INTRODUCTION

Community facilities and services in the Sherwood Planning Area are provided by Washington County, the City of Sherwood, special service districts, semi-public agencies and the State and Federal government, (see Table VII-1). Public facilities and services include sewer, water, fire and police protection, libraries, drainage, schools, parks and recreation, solid waste and general governmental administrative services. Semi-public facilities and services are those which are privately owned and operated but which have general public benefit. They include health facilities, energy and communication utilities, and day care.

Although a small community, Sherwood has learned well the importance of adequate community facilities and services to orderly urban growth. Lack of sewer treatment capacity curtailed growth in the City in the 1970's. Planning for public facilities and services in response to growth rather than in advance of growth results in gaps in facilities and services. As population growth and density increase in the Sherwood Planning Area, greater facility and service support will be required. In recognition of this basic fact, the Plan stresses the need for provision of necessary facilities and services in advance of, or in conjunction with, urban development.

The Community Facilities and Services element identifies general policy goals and objectives; service areas and providers, problems, and service plans, and potential funding for key public and semi-public facilities and services. Park and recreation facilities are treated in Chapter 5, Environmental Resources. Transportation facilities are treated in Chapter 6, Transportation. This element was updated in 1989 to comply with OAR 197.712(2)(e).

B. POLICY GOAL AND OBJECTIVES

To insure the provision of quality community services and facilities of a type, level and location which is adequate to support existing development and which encourages efficient and orderly growth at the least public cost.

OBJECTIVES

1. Develop and implement policies and plans to provide the following public facilities and services; public safety fire protection, sanitary facilities, water supply, governmental services, health services, energy and communication services, and

recreation facilities.

2. Establish service areas and service area policies so as to provide the appropriate kinds and levels of services and facilities to existing and future urban areas.
3. Coordinate public facility and service plans with established growth management policy as a means to achieve orderly growth.
4. Coordinate public facility and service provision with future land use policy as a means to provide an appropriate mix of residential, industrial and commercial uses.
5. Develop and implement a five-year capital improvements and service plan for City services which prioritizes and schedules major new improvements and services and identifies funding sources.
6. The City will comply with the MSD Regional Solid Waste Plan, and has entered into an intergovernmental agreement with Washington County to comply with the County's Solid Waste and Yard Debris Reduction Plan, 1990.
7. Based on the Sewer, Water and Transportation Plan updates in 1989 and 1990, the City shall prepare a prioritized list of capital improvement projects to those systems and determine funding sources to make the improvements by the end of 1991.
8. It shall be the policy of the City to seek the provision of a wide range of public facilities and services concurrent with urban growth. The City will make an effort to seek funding mechanisms to achieve concurrency.

C. PUBLIC AND SEMI-PUBLIC UTILITIES

Public utilities including water, sanitary sewer, drainage, and solid waste, as well as semi-public utilities including power, gas and telephone services are of most immediate importance in the support of new urban development. Water, sewer collection, and drainage facilities are the major services for which the City of Sherwood has responsibility. Service plans for these key services are contained in this section. The other utilities referred to above are the principal responsibilities of those agencies listed in Table VII-1. These agencies have been contacted for the purpose of coordinating their service planning and provision with the level and timing of service provision required to properly accommodate growth anticipated by the Plan.

**TABLE VII-1
FACILITY AND SERVICE PROVIDERS
IN THE SHERWOOD PLANNING AREA**

1. Public Utilities

- a. Public Water Supply
City of Sherwood
- b. Sanitary Sewer System
 - (1) Unified Sewerage Agency
 - (2) City of Sherwood
- c. Storm Drainage System
 - (1) City of Sherwood
 - (2) Washington County
 - (3) State of Oregon

2. Private/Semi-Public Utilities

- a. Natural Gas
Northwest Natural Gas Co.
- b. Electric Power
Portland General Electric
- c. Telephone
General Telephone and Electric Co.
- d. Cable Television: Columbia Cable
- e. Solid Waste: Pride Disposal Co.

3. Transportation

- a. Paved Streets, Traffic Control, Sidewalks, Curbs,
Gutters, Street Lights
 - (1) City of Sherwood
 - (2) Washington County
 - (3) State of Oregon

b. Bikeways

- (1) City of Sherwood
- (2) Washington County
- (3) State of Oregon

c. Public Transit

Tri-Met

- 4. Public Health and Safety
 - a. Police Protection
 - (1) City of Sherwood
 - (2) Washington County
 - (3) State of Oregon
 - b. Fire Protection
 - Tualatin Valley Fire and Rescue
 - c. Animal Control
 - Washington County
- 5. Recreation
 - a. Parks and Recreation
 - City of Sherwood
 - b. Library
 - City of Sherwood
- 6. Schools
 - Sherwood School District 88J

D. SEWER SERVICE PLAN

INTRODUCTION

The Sewer Service Plan of the Comprehensive Plan was updated in 1990 and is included as an appendix to the Plan, and is incorporated into this chapter. The following describes the existing sewer system, recommended improvements to the existing system, recommended expansion of the sewer system and estimated costs.

EXISTING SEWER SYSTEM

The City of Sherwood's existing sewer system is as shown on Figure VII-1. The system is located in USA's Durham South Basin which consists of two sub-basins are centered around Cedar Creek and Rock Creek, respectively, and will be referred to as the Cedar Creek basin and the Rock Creek basin throughout the remainder of this section.

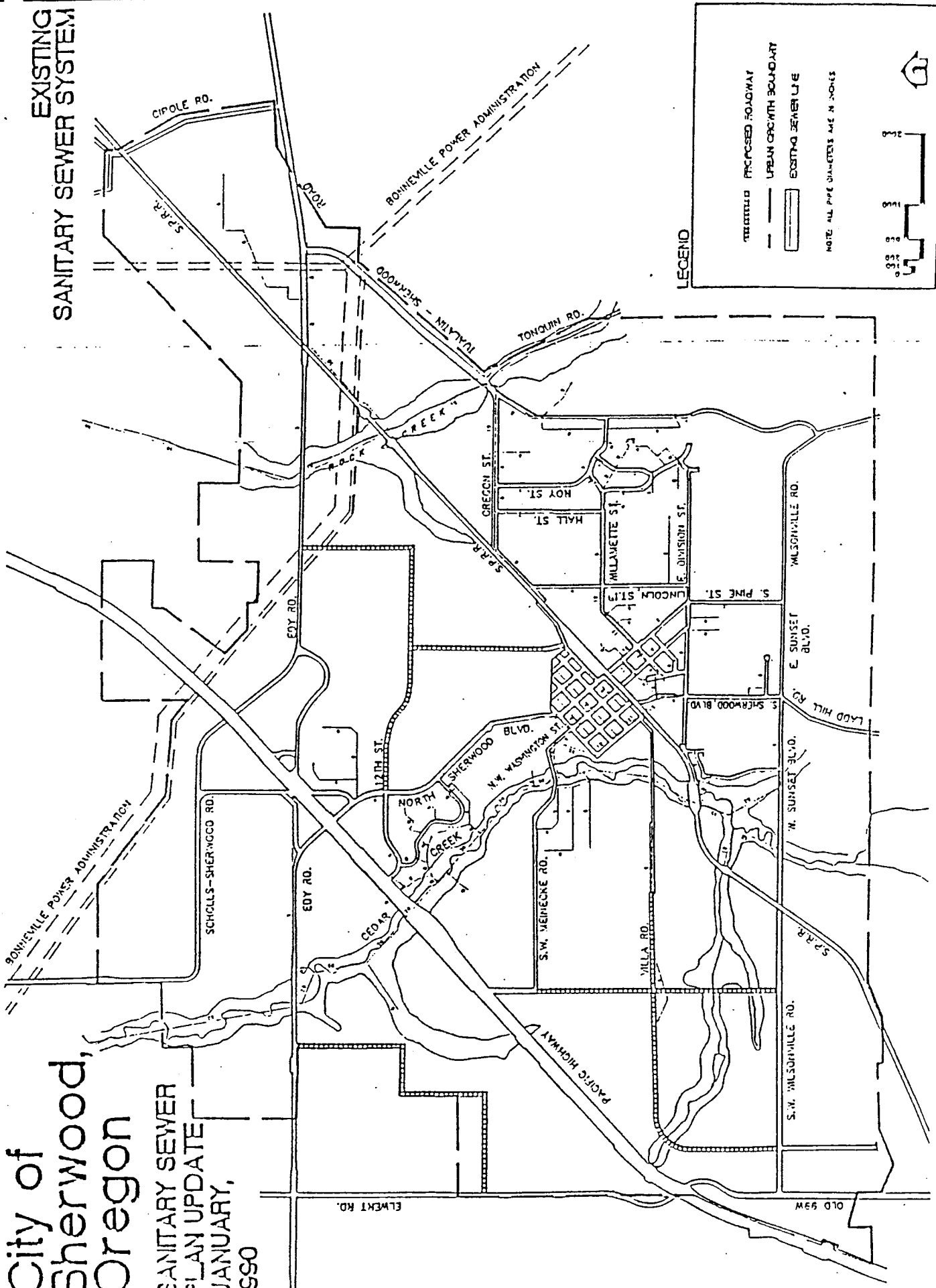
The Rock Creek Basin system currently serves a residential area bounded by Lincoln Street to the west, West Sunset Boulevard to the south, Oregon Street to the north and the UGB to the east. Rock Creek Basin also contains approximately 71.2 acres of land, north of Oregon Street, which is currently zoned and developed for industrial use. The remaining northern portion of the Basin is essentially undeveloped and zoned primarily for industrial use. Flow is by gravity from south to north, eventually connecting to USA's Rock Creek trunk. This trunk then follows Rock Creek until it connects with the Upper Tualatin Interceptor which transports sewage to the Durham treatment plant.

The Cedar Creek Basin system serves the majority of Sherwood. Drainage is again from south to north and the main trunk of the system follows Cedar Creek from Sunset Boulevard under Pacific Highway continuing north until it connects with the Upper Tualatin Interceptor. From this point sewage is transported to the Durham Treatment plant.

City of Sherwood, Oregon

SANITARY SEWER PLAN UPDATE - JANUARY, 1990

EXISTING SANITARY SEWER SYSTEM



LEGEND

- ▣ PROPOSED ROADWAY
- UTILITY GROWTH BOUNDARY
- ▭ EXISTING SEWER LINE

NOTE: ALL PIPE DIAMETERS ARE IN INCHES



Figure VII-1
Page 7

ANALYSIS OF EXISTING SEWER SYSTEM

The population for the City of Sherwood in the year 2008 is estimated to be 7,000 people. The 1979 Sewer Service Plan estimated a population of 10,600 people in the year 2008, and a full-development population within the Sherwood Urban Growth Boundary (UGB) of 18,900 people.

In order to accentuate any deficiencies in the existing sanitary sewer system, peak flowrates were generated based on full development or saturation of the Sherwood UGB. This analysis was used for the following reasons. Maximum design flows for sanitary sewers are far less than peak storm sewer flows. Very often sanitary sewer pipes are sized at a minimum 8-inch diameter for maintenance purposes; consequently the majority of these pipes are flowing at a minimum of their capacity. A full-development demand analysis was the most conservative and efficient way of analyzing the system for all deficiencies.

Wastewater flow criteria for the analysis was taken from USA's 1985 Master Sewer Plan Update and is based on land use designation as listed below:

**TABLE VII-2
WASTEWATER FLOW DESIGN CRITERIA
DESIGN UNIT FLOW RATE**

<u>LAND USE DESIGNATION</u>	<u>EXISTING</u>	<u>FUTURE</u>
RESIDENTIAL	75 gpcd	75 gpcd
COMMERCIAL	1000 gpad	1000 gpad
INDUSTRIAL	3000 gpad	3000 gpad
INSTITUTIONAL	500 gpad	500 gpad
PEAK ANNUAL	4000 gpad	4000 gpad

The City of Sherwood Zoning Map was used to determine the amount of acreage of each land use designation. This acreage was then applied to tributary basins contributing to their respective sewers and multiplied by the appropriate land use design unit flowrate in order to generate the total design flowrate. An average of residential densities per tributary basin was used to account for the five different residential zoning densities shown on the current City Zoning Map.

The domestic sewage flow allowance for the 1979 Sewer Plan followed the 1969 USA Master Plan value of 90 gallons per capita per day (gpcd). The updated, June 1985 USA Master Plan, has reduced this value to 75 gpcd.

In order to account for periods of maximum use, flowrates are multiplied by factors which result in peak flowrates. The 1979 Sewer Service Plan used peak factors of 3.0 for lateral sewers and 2.7 for trunk sewer lines. The 1985 USA Master Plan Update requires peak factors ranging from 1.5 to 2.0. These lower values are based on actual dry-weather flow monitoring, performed in June and

July of 1984, at points throughout the Durham Basin.

The July 1979 Sewer Service Plan used values ranging from 500 gallons per acre per day (gpad) to 700 gpad for inflow and infiltration (I&I), depending on land use designation. These values were concurrent with past EPA design standards and were based on the assumption that rehabilitation measures would remove 60 to 90 percent of excessive I&I. According to USA's 1985 Master Plan these abatement techniques proved to be ineffective. USA's review of the Durham treatment facility led to the design rate of 4000 gpad for the existing peak annual occurrence for infiltration and inflow. This value is not anticipated to decrease for the Durham basin and is therefore also used for the future design flowrates.

Two areas of special concern exist inside the current City of Sherwood UGB. Both areas are recent additions to the UGB and have not yet been assigned a land use. Rather than assume zoning designations for the areas they were both excluded from the model. Both areas can be served by gravity and neither will cause deficiencies in the system. Their service routes are discussed below.

The first area is located in the southwest corner of the UGB in the Cedar Creek Basin, between Pacific Highway and Old Highway 99W. This area can be served by line number 1 in area A (Figure VII-2). The northern half of this area may also be served by connecting to the southern most extension of line number 2 in area B. The second area is located east of Pacific Highway and north of Edy Road, in the Rock Creek Basin. The southern portion should be incorporated in line number 3 extending from Rock Creek west along Edy Road (Figure VII-2). The northern half must be served using a direct lateral to the area from the Rock Creek trunk.

RECOMMENDED IMPROVEMENTS TO EXISTING SEWER SYSTEM

The analysis of the existing system shows no size deficiencies in any of the City maintained pipes. City officials have confirmed that there are areas of surcharge in the system due to pipe under sizing. Surcharge due to blockage of the system has occurred but has since been remedied.

Improvements are recommended to the existing sewer systems main trunk lines. These improvements are required due to very slight slips which occur in the northern sections of the Rock Creek and Cedar Creek main trunk lines.

The Rock Creek trunk requires improvements from manhole number 11663, which is located at the confluence of the Rock Creek and Cedar Creek trunk lines, south to a manhole located near the Southern Pacific crossing of Rock Creek. The existing 18-inch diameter pipe has a length of 6,035 feet and an existing slope of 0.0031 feet/foot. The USA master plan recommends that a 15-inch diameter pipe be placed parallel to the existing 18-inch in order to convey future flows based on 20-year ultimate development peak flowrates. Our analysis is based on total ultimate development of the Sherwood UGB and therefore suggests that an 18-inch diameter pipe parallel the existing 18-inch at the existing slope of 0.0031 feet/foot.

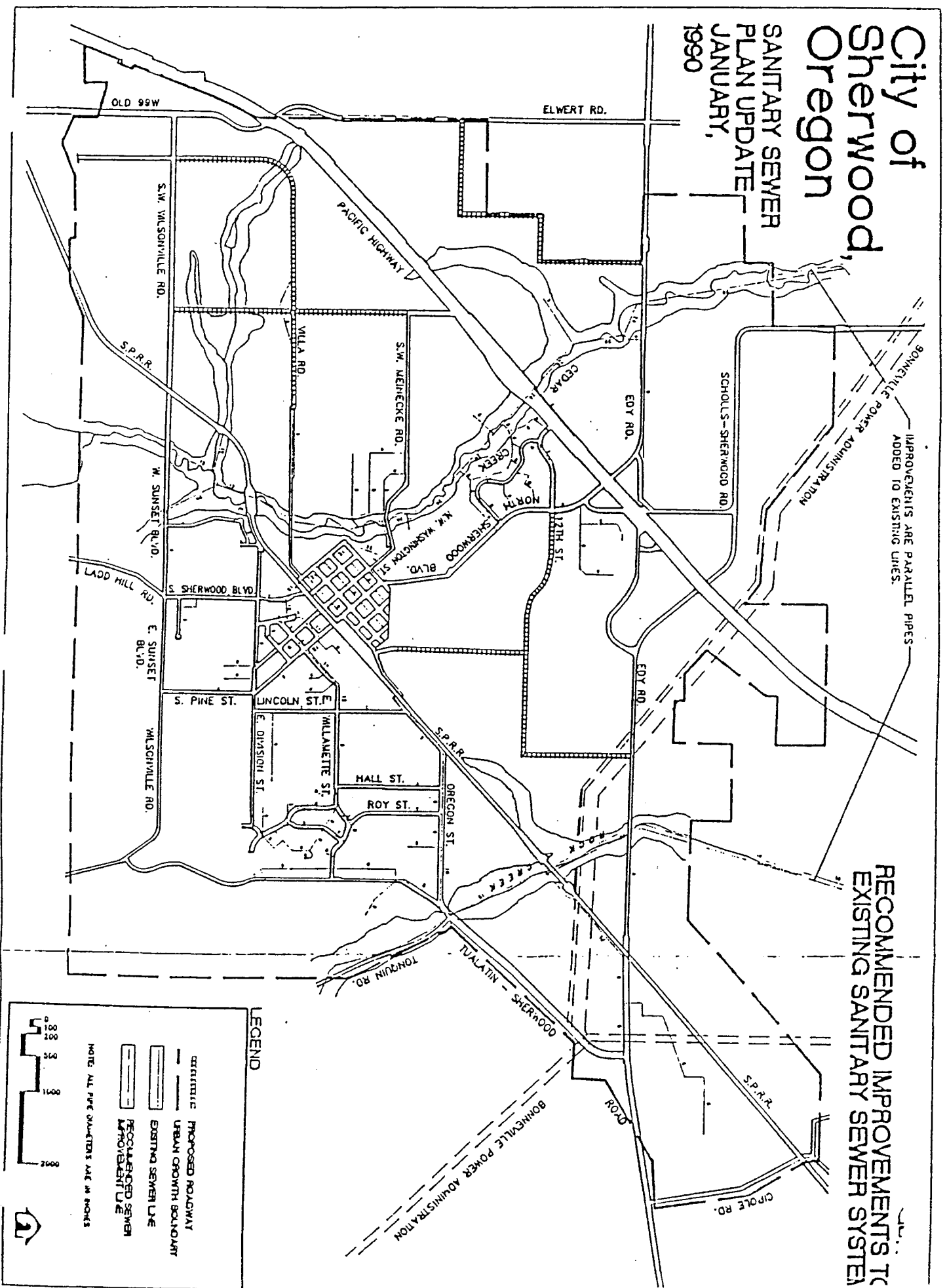
The Cedar Creek Trunk presents similar slope problems along the northern trunk. USA's Master Plan breaks these into three sections but this report will combine them for simplicity. The section of sewer begins at manhole 11663, which is located at the confluence of the Rock Creek and Cedar Creek trunks, and continues south to manhole number 11752 which is 200 feet south of Edy Road and slightly west of the UGB. (see Fig.1) The entire 12,640 feet of this line is outside of the UGB, and has a slope averaging between 0.0016 feet/foot and 0.0025 feet/foot. Depending on existing slopes a parallel system will be required ranging from 18 to 30-inches in diameter.

City of Sherwood, Oregon

SANITARY SEWER
PLAN UPDATE
JANUARY,
1990

RECOMMENDED IMPROVEMENTS TO
EXISTING SANITARY SEWER SYSTEM

IMPROVEMENTS ARE PARALLEL PIPES
ADDED TO EXISTING LINES.



RECOMMENDED SEWER SYSTEM EXPANSION

The City of Sherwood's Urban Growth Boundary includes significant areas that are currently not served by the existing sanitary sewer system. All of these areas are part of either the Rock Creek Basin system or the Cedar Creek Basin system and can be easily served by extending laterals off the respective trunk lines of each basin. These new laterals have no special priority except to serve those who require sewer service. The locations of the recommended sewers are shown on Figure VII-3.

All new sewer lines should have a minimum diameter of 8-inches for ease of serviceability. These new laterals were designed by setting the slope of the sewer pipe invert, equal to the slope of the existing ground along the sewer line path. Individual pipe slopes may be required to be less than natural ground slopes in order to serve isolated areas of low ground elevation.

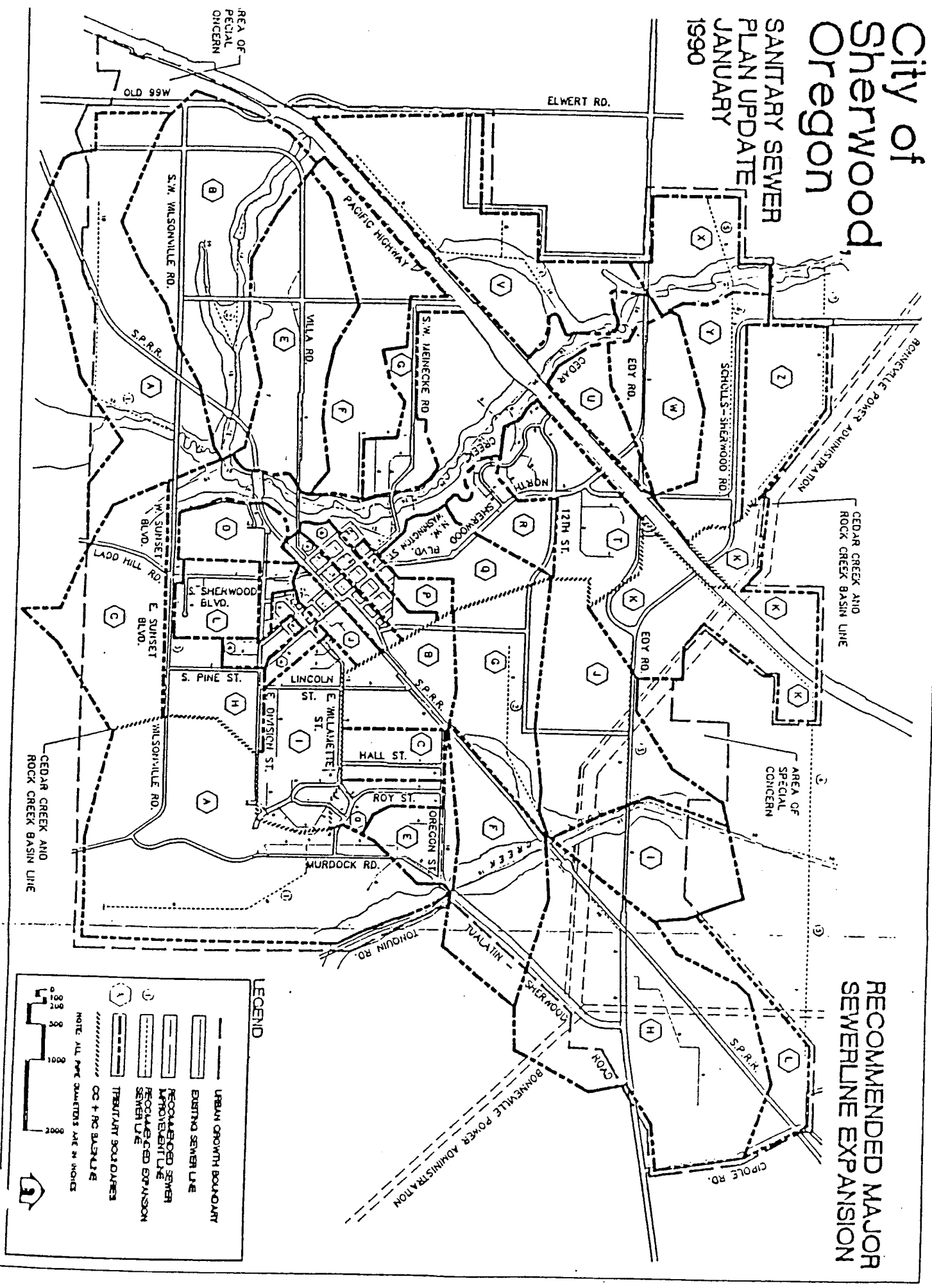
The sewer expansions are listed below under the basin in which they occur. The costs are listed by pipe diameter and are in 1990 dollars. These costs are typically paid for by the land developments that create the need for the extensions. The costs include design and construction. Land acquisition may be required but those costs are not included in the estimates below.

1.	Sewer Trunk Lines		
	Cedar Creek Parallel (15"-30")	12,640LF	\$991,000
	Rock Creek Parallel (18")	6,750 LF	\$378,000
2.	Rock Creek Basin Lines (All 8")		
	Tonquin	1400 LF	\$ 47,000
	Highland/12th	3000 LF	\$100,800
	Tualatin-Sherwood	2300 LF	\$ 77,300
	Onion Flats W.	5000 LF	\$168,000
	Onion Flats E.	2900 LF	\$ 97,500
3.	Cedar Creek Basin Lines (8" except as noted)		
	Steeplechase S. (10")	4100 LF	\$160,700
	Steeplechase N. (12")	650 LF	\$ 29,100
	Steeplechase N. (10")	4100 LF	\$161,000
	E. Sunset	1300 LF	\$ 43,700
	W. Sunset	3500 LF	\$117,600
	Scholls-Sherwood W.	1200 LF	\$ 40,300
	Scholls-Sherwood E.	3100 LF	\$104,200
	BPA#	3500 LF	\$117,600

City of Sherwood, Oregon

SANTARY SEWER
PLAN UPDATE
JANUARY
1990

RECOMMENDED MAJOR SEWERLINE EXPANSION



WATER SERVICE PLAN

INTRODUCTION

This is a 1988 update to the Water Service Plan element of the Sherwood Comprehensive Plan dated July, 1979. The population projections used in this analysis are for the year 2008. The following is fully described in the City of Sherwood "Water Service Plan Update," May 1988.

The year 2008 population projections are significantly lower today than were anticipated in the original Water Service Plan. This population projection difference, upgrades to the City's water system, and the growth that has actually occurred since 1979, warrant an update to the 1979 Water Service Plan.

In this update, the City's existing major water distribution lines were analyzed for their ability to deliver peak domestic and fire flows with adequate pressure to all developed areas of the City. The amount of water needed supply to meet future growth is also reviewed.

Specific improvements are recommended to the existing water system to meet the year 2008 needs in currently-served areas of the City. Major water lines required as extensions to areas without service are also identified. The cost of all recommended and identified improvements are listed in 1990 dollars.

The amount of growth that can occur within distinct areas and neighborhoods within the City's Urban Growth Boundary without creating pressure or overall supply problems is also estimated.

1. The City's existing reservoir capacity of 2.5 million gallons (MG) is adequate to cover the needs of the City until a population of 8,200 is reached.

EXISTING WATER SYSTEM CONDITIONS

The City of Sherwood's existing water system is as shown on Figure VII-4. The source of all of the City's water is from three wells. A single 2.0 million gallon reservoir is the sole source of storage and controls operating pressures throughout the City. The major pipelines that distribute the flows to the users range in size from 16 inch diameter to 6 inch diameter. Many smaller diameter lines are not analyzed because they are not relied upon for the distribution of large amounts of flow to general areas of the City. It is, however, recommended that the City continue its recent active policy of upgrading these smaller lines through the processes of annexation, development, and direct City cost sharing.

The three wells are located at the intersection of S.E. Pine and E. Willamette streets in Old Town, near Pacific Highway by S.W. Meinecke Road, and on W. Sunset Boulevard near St. Charles Way. The storage reservoir is located on high elevation ground in the southeastern portion of the City on

E. Division Street. The distribution system is characterized by looped water lines in Old Town and nearby established residential areas. The water lines in the vicinity of Edy Road extend as unlooped single lines for long distances.

One small residential area bounded by E. Division Street on the north and S. Pine Street on the west in the vicinity of the water storage reservoir is in a separate pressure zone from the remainder of the City. This area is too high in elevation to rely on gravity to provide required pressures. A booster pump station adjacent to the reservoir provides the needed pressure.

Data on all the physical aspects of the water system was provided by the City of Sherwood staff. The physical system was modeled using the Pressure Pipe Network Analysis water distribution computer model.

Data on population projections were also provided by City staff. Design flow considerations were based on the information provided in the City of Sherwood's 1979 Water Service Plan.

ANALYSIS OF EXISTING WATER SYSTEM

Peak Domestic Flows Analysis

The total peak domestic flow rate for the year 2008 used in this analysis is 3,000 gallons per minute. The domestic flow is the combination of all residential, commercial, and industrial uses other than those for fire protection. Domestic use also accounts for summertime irrigation of lawns and landscaping.

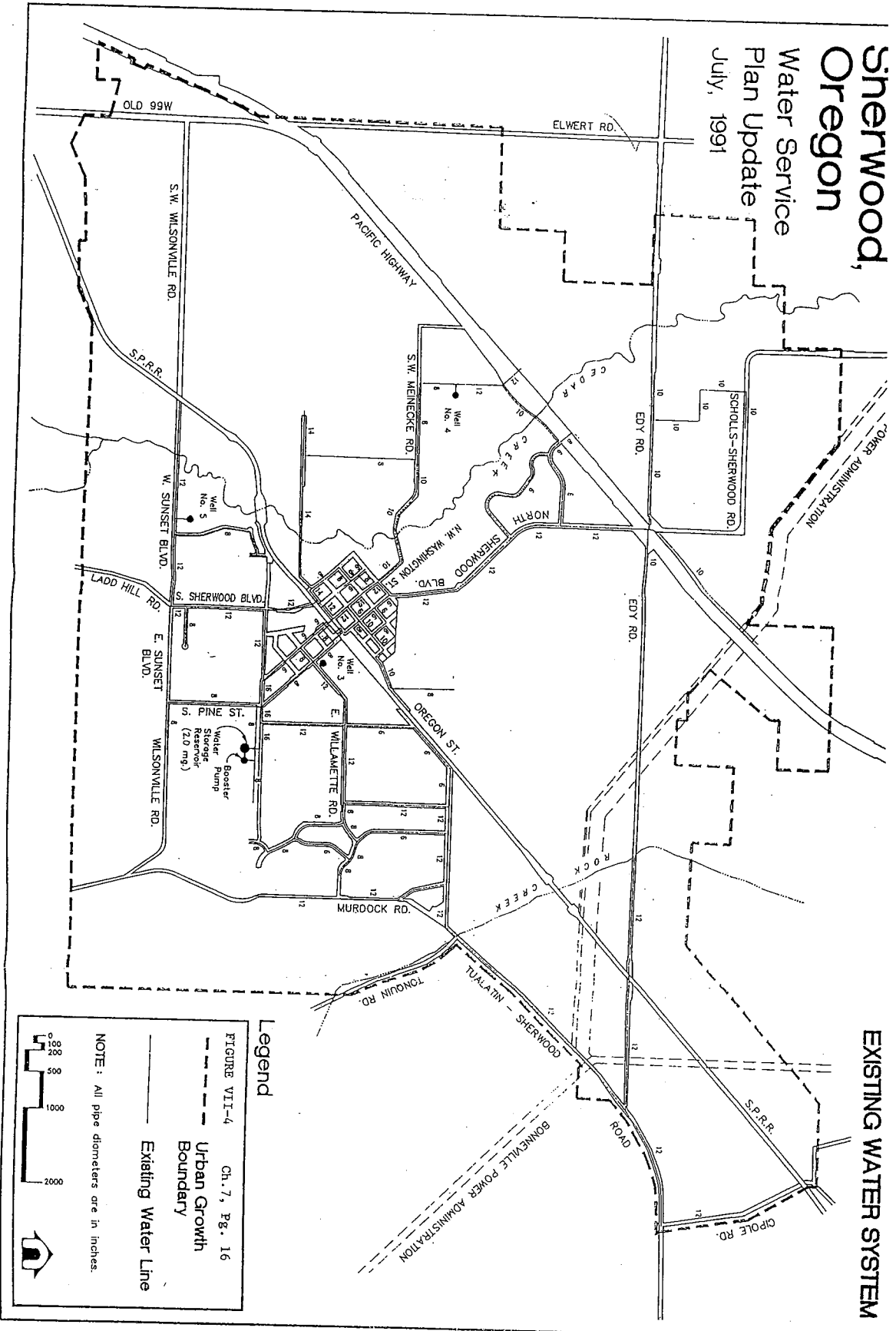
The total peak domestic flow rate of 3,000 gallons per minute is derived from the detailed data published in the 1979 Water Service Plan and has been increased by approximately 15 percent as a conservative measure for unexpected conditions such as excessive water line leakage, high volume users, etc.

The 1979 Water Service Plan estimated the water usage by the City's commercial and industrial customers to be 30 percent of the residential use when the City's population reached 7,800 people. This percentage was used in the determination of the peak domestic flow rates in this analysis. The total peak domestic flow rate is based on a maximum peak consumption of 410 gallons per capita per day, and is consistent with the 1979 Water Service Plan.

Sherwood, Oregon

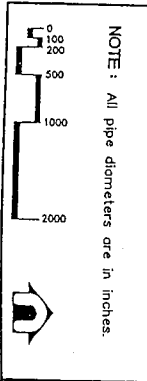
Water Service
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EXISTING WATER SYSTEM



Legend

- FIGURE VII-4 Ch. 7, Pg. 16
- Urban Growth Boundary
- Existing Water Line



The total 3,000 gallons per minute peak domestic flow was proportioned throughout the existing developed areas of the City, based on knowledge of the amounts and types of potential development that can occur in each area. Within each area of the City the proportioned flow was concentrated at "worst case" locations so that deficiencies in the City's water system would be highlighted.

Computer models require calibration to known data to assure that they represent the physical system. Known information on the pumping capacity and characteristics of the City's three wells, including their effect on the groundwater table and the historical operation of the wells and the water storage reservoir, was used to calibrate the factors in the computer model. The computer model accurately matches the operation of the City's wells and water storage reservoir during peak use.

Peak Domestic Flows Results

The existing water system for the City of Sherwood meets the needs of the peak domestic flows in the year 2008. There are no areas requiring improvements to meet these domestic needs. The resulting operating pressures during the peak flows range from 40 to 85 psi (pounds per square inch) throughout the City. The acceptable range for water line pressures is 20 to 100 psi.

Fire Protection Flows Analysis

The flow rate required to provide adequate fire protection varies with the type of building. Single-family residential requires fire flows of only 1,500 gallons per minute, whereas large industrial and commercial structures without fire sprinklers can require fire flows in excess of 4,000 gallons per minutes. Most new construction of larger structures is required to have fire sprinklers for increased fire/life safety. Fire sprinklers reduce the flow requirements for fire protection.

For a City the size of Sherwood, it can only be expected that adequate flows for one major fire at a time can be provided. The low probability of multiple major fires at one time does not warrant the major expense of providing the additional supply sources and the larger diameter pipe lines. Also, because of the expense, it is cost-effective to require fire sprinklers in structures that would require excessive amounts of flow for fire protection.

For this analysis, a fire flow of 2,000 gallons per minute is used to determine the adequacy of the water supply and distribution system to provide fire flows at an adequate operating pressure. The fire flow is assumed to be concurrent in time with the peak domestic flows.

Fire Protection Flows Results

The computer model was used to simulate the need for fire flows to every area of the city. In general, the ability to adequately supply fire flows in most areas of the City is good. There are three

areas where the flows could not be delivered at desired pressures. They are as follows:

1. Edy Road Area near Tualatin/Sherwood Road.
2. Scholls-Sherwood Road area north of Highway 99W.
3. Area at the southern end of E. Roy Street.

The water lines in these three deficient areas are unlooped single lines. Additional lines were added to the computer model to assess the impact of connecting these lines to other existing water lines to form loops. Modeling results show that this improvement to the existing system is sufficient to adequately provide fire flows at adequate operating pressures. Fire flows in excess of 2,000 gallons per minute can be provided to all other areas of the City. Some areas can deliver fire flows in excess of 4,000 gallons per minute.

Water Supply Capacity Analysis

Three wells are the sole source of water for the City. Combined, they provide nearly 2,000 gallons per minute of flow. The pressures they provide are nearly identical to the gravity pressure provided by the water storage reservoir. The pressure supply system is therefore well balanced. The three well pumps and booster pump, at the reservoir, all rely on electrical power only. There is no emergency stand-by power.

The normal operation of the reservoir and the wells is for the reservoir to supply all the needed water until the reservoir is 225,000 gallons short of being full. At this point, the wells are used to supplement supply to the users and refill the tank. Normally only one well is operating at a time unless the demand is greater than can be provided by the one well. This is a very efficient system and provides a high margin of safety during emergencies as normal operation never allows the reservoir to be less than 89 percent full. This high margin of safety is very unusual foal for communities the size of Sherwood. Many cities must pump constantly for all their water use while having little or no storage for emergencies. This excellent supply system would be considered a luxury to most small cities.

In the event of a fire, the reservoir can supply adequate fire protection flows even if all the pumps in the wells are inoperative. The reservoir alone can provide 5,000 gallons per minute of flow for 6.6 hours and 7,000 gallons per minute of flow for 4.7 hours. Five-thousand gallons per minute is equal to the year 2008 peak domestic flows and a simultaneous 2,000 gallon per minute fire flow.

Water Supply Capacity Results

The water supply sources and the pressures they provide are well balanced and more than adequate to meet the demand needs through the year 2008. New sources of water are not necessary to provide additional quantities.

Emergency stand-by power would provide an additional margin of safety during periods of total power loss. The booster pump at the water storage reservoir is the only source of pressure for the residents in the E. Division Street and upper S. Pine Street area. During power outages, this area is without adequate water service. Stand-by power is recommended for this booster pump to eliminate this potential problem.

Although the water storage reservoir provides ample volumes of water for emergencies, it is recommended that stand-by power be provided at one of the wells as an added precautionary measure for extended periods of power outage. Since Well No. 3 is the City's largest well, stand-by power is recommended for that well. Completion of a manually-operated interconnect at Cipole Road with the City of Tualatin water system is also recommended as an additional safeguard against a catastrophic interruption in the City of Sherwood's system.

RECOMMENDED IMPROVEMENTS TO EXISTING WATER SYSTEM

Improvements are recommended to the existing water system to provide adequate fire protection capability to three areas of the City. Improvements are not necessary for year 2008 population projections. These recommendations are based upon the assumption that water lines are not required to be extended into areas currently not needing services.

The recommended improvements are shown on Figure VII-5 and are listed below. Improvements numbered 1,2, and 3 are deemed to be of greater priority. The projects can be constructed in almost any order however. The only exception is that the Edy Road Loop Completion should precede the Edy Road to Oregon Street Loop Completion in order to provide the greatest benefit to the users along Edy Road. The costs are in 1990 dollars and include design and construction. Land acquisition may be required but those costs are not included in the estimates below.

Recommended Improvements to Existing Water System

1. Loop Projects

Tualatin-Sherwood	3800 LF	\$238,000
Scholls-Sherwood	2800 LF	\$178,500
Murdock/Roy	600 LF	\$ 59,500
Highland Extension	2700 LF	\$178,500
Tualatin-sherwood Relocate	2130 LF	\$ 74,100

2. Supply Projects

Well No. 6 (Murdock)	800' deep	\$236,500
Reservoir Booster Pump	35 hp gen.	\$ 59,500
Well No. 3 Standby Power	75 hp gen.	\$119,000
Cipole Road Intertie with City of Tualatin		\$ 23,400 (50%)

3. 4-Inch Waterline Replacements

Old Town (8")	1600 LF	\$ 76,800
Ladd Hill (12")	1300 LF	\$ 92,300
Meinecke/99W (8")	2000 LF	\$ 96,000
W. Sunset (10")	1500 LF	\$ 88,500

4. 6-Inch Waterline Replacements (all 8")

Old Town	1600 LF	\$ 76,800
Lower Lincoln	1000 LF	\$ 48,000
Lower Roy	1300 LF	\$ 62,400
Oregon	1300 LF	\$ 62,400
Upper Washington	1300 LF	\$ 62,400
Gleneagle	3000 LF	\$144,000
Upper Roy	900 LF	\$ 43,400

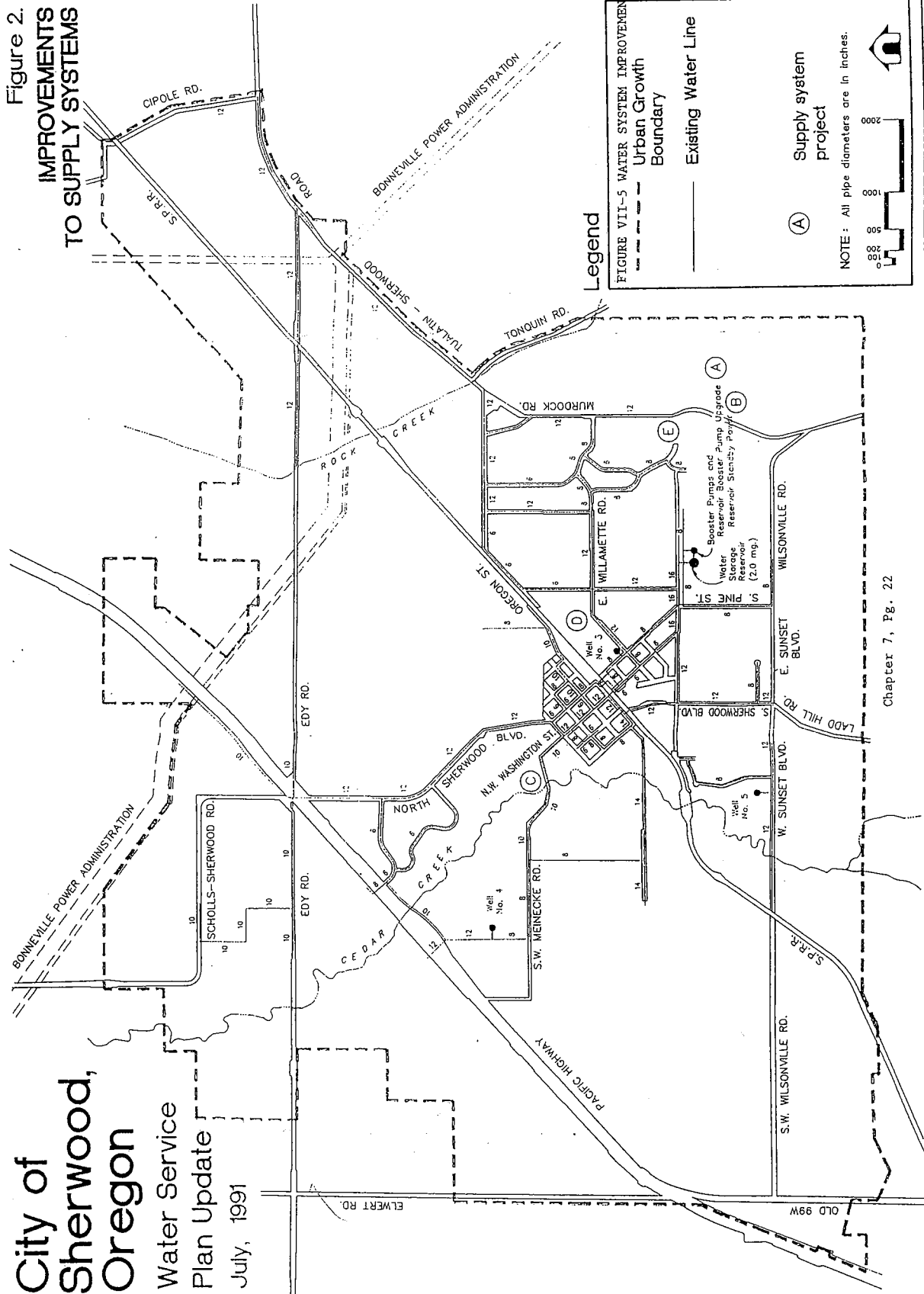
5. Other Waterline Extensions

12 Inch	18,500 LF	\$1,313,500
10 Inch	32,800 LF	\$1,935,200
8 Inch	25,400 LF	\$1,219,200

Beyond these recommended improvements, the City should continue its existing undersized water lines replacement program.

City of Sherwood, Oregon

Water Service Plan Update
July, 1991



RECOMMENDED WATER SYSTEM EXPANSION

The City of Sherwood's Urban Growth Boundary includes significant areas that are currently not served by the existing water system. Major water lines are required for expansion of the existing water system into these areas as they develop, and are as shown on Figure VII-5. These line extensions have no special priority except to serve those who require the water service. The locations of the recommended waterlines on Figure VII-6 are schematic only and generally should be conformed to an updated City Transportation Plan for maximum economy and efficiency.

The critical element for expanding the water system in segments is to not construct unlooped single lines for long distances. The maximum length will vary depending on the diameter of the water line and the elevation of the site being served. It would be ideal if unlooped line extensions did not extend so far as to not be able to provide 2,000 gallons per minute of flow with an available end operating pressure of 20 psi. It is recommended that the minimum City of Sherwood standard for water line size be eight inches in diameter for all public lines.

As noted on Figure VII 5, the existing booster pump near the water storage reservoir may need modification as the service area of that pressure zone is expanded. Also noted is another area (#1) at the western edge of the Urban Growth Boundary just north of Pacific Highway and along Elwert Road that will require a booster pump and its own pressure zone water lines. This is a high elevation area where the 1979 Water Service Plan identified the location for a future water storage reservoir.

The 1979 Water Service Plan recommended water line loop expansions outside the Sherwood Urban Growth Boundary. These have been re-routed in this update to be completed within the Urban Growth Boundary. The number of major loops have been reduced from the 1979 Water Service Plan and the area each loop serves increased to provide a more cost-efficient future water system.

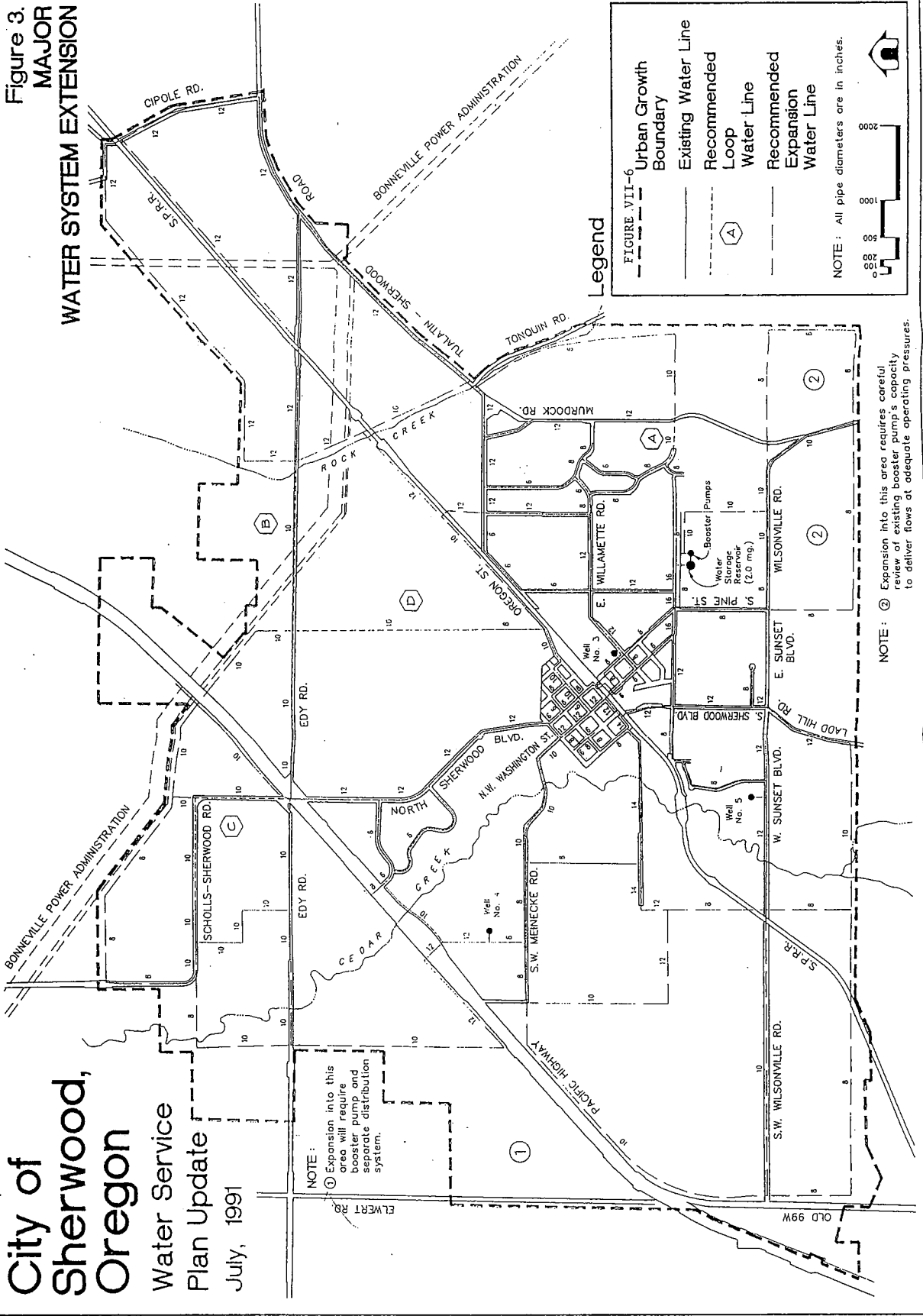
The costs of these smaller pressure zone expansion improvements are difficult to estimate. These costs are relatively small compared to the \$4.5 million cost to expand the water system in all the other areas. For the purposes of this report, a cost of \$500,000 is used, making the entire total system expansion cost \$5,000,000.

City of Sherwood, Oregon

Water Service Plan Update

July, 1991

Figure 3.
MAJOR WATER SYSTEM EXTENSION



F. DRAINAGE PLAN

INTRODUCTION

The Sherwood Planning Area is located within the Willamette River-Tualatin River Basin as identified in the Portland-Vancouver Metropolitan Area Water Resources Study (PMAWRS). The Cedar Creek and Rock Creek sub-basins channel surface runoff to the Tualatin River just north of the Planning Area. Within these sub-basins there exists considerable variation in slope. A highland area known as Washington Hill has some erosion and sedimentation potential. High groundwater and poorly drained soils in portions of the northern half of the Planning Area will require measures to regulate excavation and site drainage.

In March 1989, DEQ issued draft rules for storm water quality control to all jurisdictions in the Tualatin River sub-basin. The City of Sherwood is required to comply with the rules and participate in the development of a Surface Water Drainage Management Plan for the region. When the Plan is completed and adopted this section will be amended accordingly.

Objectives

1. Comply with DEQ Storm water quality control rules until completion of a Drainage Management Plan.
2. Cooperate with United Sewerage Agency, Washington County, and DEQ in the preparation of a Drainage Management Plan.

Findings

1. A storm drainage plan for the City's urban growth area has been developed and is illustrated on Figure VII-7. Major storm sewers are recommended for construction in accordance with the Plan; minor storm sewers are not shown on the proposed storm drainage plan. This Plan will be updated upon completion of the regional Drainage Plan.
2. Cedar Creek, Rock Creek, and Chicken Creek shall continue to be the City's primary conveyance systems for storm runoff.
3. Existing flood areas have been identified and are analyzed and described in Section VII Background Data and Analysis. It is anticipated, all but one of the problem areas will be eliminated by implementation of the Plan. An area of flooding at N.W. 12th Street and Highway 99W remains to be resolved by construction of a minor storm sewer, which is not shown on the Plan.

4. The rational method formula was used to estimate runoff to proposed storm sewers. This method has a tendency to overestimate design flows when applied to large basins. Runoff coefficients used in the rational method are predicted on the City's Comprehensive Plan. During final design of storm sewers, actual development within the basin should be reviewed to verify previous assumptions in selection of a runoff coefficient.

5. Cost estimates for proposed storm sewer improvements have been prepared, based on 1980 construction costs and increased in 1990 by 1.25%, and on Engineering News Record (ENR) index of 3264. These estimates are presented in Table 2 of the Appendix.

6. Design of relief culverts in Cedar Creek and Rock Creek may significantly alter hydraulic control sections used by the U.S. Army Corps of Engineers to establish water surface elevations and limits of the flood plain as set forth in Flood Insurance Study, City of Sherwood, Oregon, and provided to the City in preliminary draft, dated December 17, 1980. Design of relief culverts should be coordinated with the U.S. Army Corps of Engineers to insure integrity of their flood insurance study.

Implementation

1. The City will endeavor to establish a source of revenue to finance the cost of storm sewer construction, acquisition of lands along creeks, maintenance of storm sewers and waterways, and administration of the storm plan in accordance with the regional Surface Water Drainage Management Plan.

2. Until user fees are in effect, the City should obtain waivers of remonstrance to future storm drainage improvements projects from all property owners wishing to develop their land, and the City should also require all developers to provide adequate storm sewers to serve their property as well as those properties that would naturally drain to the proposed storm sewer.

SOLID WASTE

Solid waste disposal is a regional concern requiring regional solutions. The City of Sherwood recognizes MSD's responsibility and authority to prepare and implement a solid waste management plan and supports the MSD Solid Waste Facilities Model Siting Ordinance and will participate in these procedures as appropriate. There are no landfills in Sherwood.

The Model Siting Ordinance will be incorporated into this Plan when approved by METRO. In addition, the City conducted extensive hearings on solid waste incineration in 1990 and determined incineration is generally not a form of solid waste disposal environmentally compatible in the community except in limited circumstances. Therefore, solid waste incineration is generally prohibited by this Plan.

Electrical Power

The Sherwood Planning Area is well served by major power facilities. Portland General Electric Co. (PGE) runs and operates a major regional sub-station in the northern portion of the Planning Area and has a network of major transmission lines which cross the Planning Area. Minor sub-station siting and construction, if needed in response to development, will be coordinated with PGE.

Natural Gas

The Sherwood Planning Area is served by Northwest Natural Gas Co. (NNG) lines. The existing system consists of a 6" high pressure line extended to the Planning Area via Tualatin-Sherwood Road, So. Sherwood Blvd. and Wilsonville Road. The distribution system is adequate to serve immediate development. NNG reports that the 6" main will be adequate to serve growth projected by the Plan with new lateral line extensions and attention to proper "looping" of existing lines.

Telephone

General Telephone services the Sherwood Planning Area. Planned improvements should have the capability of handling projected growth demands in the Area.

H. SCHOOLS

INTRODUCTION

The Sherwood Planning Area is wholly contained within Sherwood School District 88J. Although the City of Sherwood is the only currently urbanized area within the district, district boundaries include approximately 44 square miles and parts of Washington, Clackamas, and Yamhill Counties. The District is currently predominately rural but, by the year 2000, the Sherwood Planning Area will contribute most of the total student enrollment.

FUTURE ENROLLMENT/FACILITY NEEDS

The School District completed a School Enrollment Study (Metro Service District Analysis) in the Fall of 1990. Revisions were made in the Spring of 1991. The study data suggests that school enrollments will be increasing sharply in the coming years. The growth assumption is supported by record-setting residential building permit issuance during 1990. Major arterial road improvements between I-5 and 99W will also cause further growth and development.

ELEMENTARY AGE STUDENTS (K-5)

J. Clyde Hopkins Elementary School has a capacity to house 600 students. Currently, 670 students are enrolled in grades K-5. Three double portable classrooms and one single portable classroom are utilized to address the growing elementary age population.

INTERMEDIATE AGE STUDENTS (6-8)

Approximately 300 students are enrolled in grades 6-8. The Intermediate School building capacity is 400 students. This capacity can be accessed by relocating District office services, which occupy a four classroom wing of the building.

HIGH SCHOOL AGE STUDENTS (9-12)

Sherwood High School has a capacity of 500 students. Approximately 420 students are currently enrolled. No major housing issues exist in this 1971 constructed facility.

SCHOOL FACILITY PLANNING

The School District is preparing to undertake a detailed facility development plan. The most immediate need for the District is to expand housing of elementary age school children (K-5). During the Fall of the 1990-91 school year, the District completed the purchase of a new elementary school site located within the City limits of Sherwood. The District also owns a school site (purchased in 1971) in the proximity of the Tualatin portion of the school district.

The intent of the District is to seek voter approval of a bond measure to address short and long-term housing needs. The measure is planned to be submitted in the Fall of 1991 or the Spring of 1992 in order to construct an additional elementary school.

I. PUBLIC SAFETY

POLICE PROTECTION

The City of Sherwood, Washington County and the State Police co-ordinate police protection within the Planning Area. In 1989 the Sherwood Police Force consisted of five officers. In order to meet future demand it is anticipated that the department will need additional patrolmen proportional to the projected increase in population. The State formula for City police protection is one officer per 500 people. The police force should expand accordingly.

FIRE PROTECTION

The Planning Area is wholly contained within the Tualatin Valley Consolidated Fire and Rescue District. One engine house is located within the City. The District feels that present physical facilities will be adequate to serve the projected year 2000 growth in the area with some increase in manpower and equipment. The District currently employs a 5-year capital improvement planning process which is updated annually. The City will co-ordinate its planning with the district to assure the adequacy of fire protection capability in the Planning Area.

J. GENERAL GOVERNMENTAL SERVICES

As a general purpose governmental unit, the City of Sherwood intends to fulfill its responsibilities in the principal areas of general administration, planning, public works, and library services. With expected growth in Sherwood, additional manpower and facilities will be required.

1. Manpower Needs

In 1989 there are currently seventeen (17) City staff in general governmental services. A review of cities which have reached Sherwood's projected five and twenty year growth levels indicate that new staffing will be needed proportional to population increases in most departments. Using this assumption a full-time staff of 15-20 persons will be required by 1985 and a staff of 20-40 will be needed by the year 2000. Most critical immediate needs are in the area of clerical staff to support existing departmental work loads.

2. Space Needs

The City offices, water department, police department, planning department and public works, are currently housed in a remodeled turn-of-the-century house. Although the structure is significant historically and should be saved, it may not meet the long term functional or space needs of a City Hall.

In 1982 the Senior and Community Center was built and provides meeting space for the City Council and Planning Commissions.

K. HEALTH FACILITIES

The local health system is linked to a number of organizations and institutions that can and do affect how it will develop. The latest planning legislation P.L. 93-641 and its recent amendments has placed Health care delivery systems planning under the auspices of the State Certificate of Need laws and the Federal Health System Agency (HSA) planning regulations. Sherwood is located in the six county Northwest Oregon Health Systems Agency (NOHS) which is charged with reviewing new service proposals, expenditures involving public funds and the development of a health system plan for the area. The first HSA plan was adopted in 1978. State agencies administer HSA regulations. NOHS established subdistricts within the six county service area. Sherwood is located in the south-rural sub-district (see Figure VII-8). The only hospital located in the sub-district is Meridian Park Hospital in Tualatin.

Sherwood is served by various Metropolitan area hospitals depending on local physician affiliations. The City currently has only one doctor with offices in the Planning Area. St. Vincent's Hospital in Beaverton has expressed interest in establishing a satellite clinic in Sherwood.

The City will encourage the decentralization of Metropolitan health care delivery to assure that a broad range of inpatient, outpatient and emergency medical services are available to Sherwood residents. To that end the City will support the location of a St. Vincent's Satellite Center in Sherwood and encourage the appropriate expansion of Meridian Park facilities to meet the growing needs of the Planning Area.

L. SOCIAL FACILITIES AND SERVICES

A broad range of social services will be needed in the Planning Area to serve a growing urban population. Sherwood will continue to depend on metropolitan area services for which the demand does not justify a decentralized center. Multi-purpose social and health services and referral are offered by the Washington County Satellite Center in Tigard. The City will encourage the continued availability of such services.

Sherwood is located in Region 8 of the State Department of Human Resources Service Area and benefits from that agency's services. State services are administered through the County's Washington County office located in Hillsboro. In addition to public social service programs, many private organizations serve the Sherwood area.

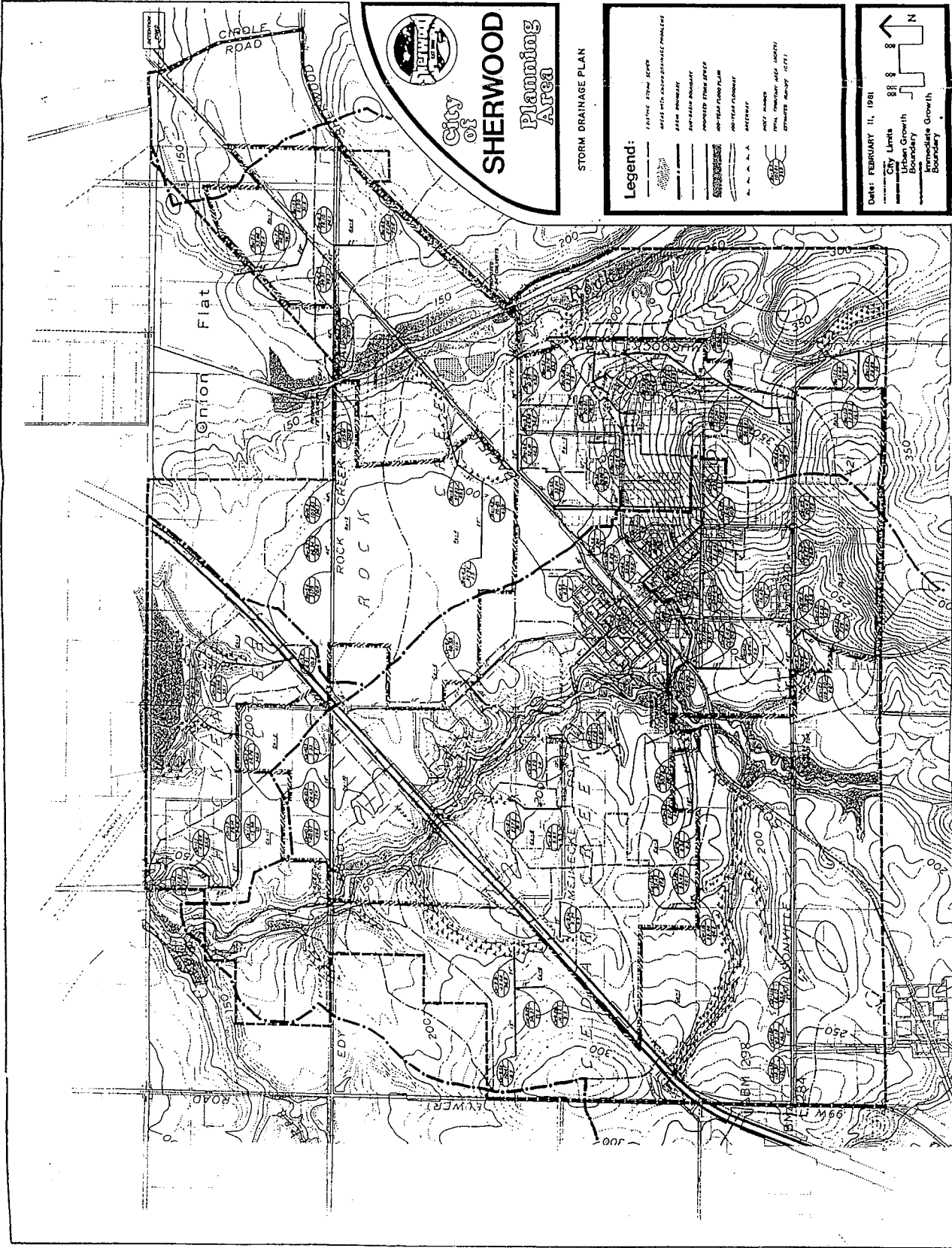
The City is particularly interested in locating a multi-purpose social and health service referral agency in Sherwood so that residents of Sherwood would be able to get timely information on the available services. The City also supports the development of a Comprehensive Social and health services delivery plan for the Planning Area to identify gaps in needed services and develop an ongoing strategy for their provision. Of particular concern are day care and senior citizens services.

Day Care

A growing need exists for day care. State standards for the establishment of day care centers are supplemented by City standards. Currently day care has been carried on by churches and small home operations. The City recognizes and supports the proper siting and housing of day care services.

Senior Citizens Services

With an increasing proportion of the Planning Areas population reaching the age of 60, Sherwood will require additional specialized services and facilities for senior citizens. The City was awarded a grant from HUD for a Senior Citizen Community Center was completed in 1982. Community Center functions will be carried out under the authority of the City. It is the intent of the City that the Center be the focus for the Community activities requiring meeting and multi-purpose areas with particular emphasis on Senior Citizens programs and activities.

































































City of SHERWOOD
 Planning Area

STORM DRAINAGE PLAN

Legend:

-  City Limits
-  Urban Growth Boundary
-  Immediate Growth Boundary
-  Major Road
-  Minor Road
-  Storm Drainage Line
-  Catch Basin
-  Manhole
-  Storm Drainage Structure
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Date: FEBRUARY 11, 1981
 City Limits 88' ±
 Urban Growth Boundary
 Immediate Growth Boundary



URBAN GROWTH BOUNDARY ADDITIONS

A. INTRODUCTION

The urban growth boundary (UGB) has largely remained unchanged since it was drawn in the 1980s. The planning period of the last “periodic review” of the Comprehensive Plan in 1991 was extended from 2000 from the original adoption of the Comprehensive Plan – Part 1 (1980) to 2010. Conversely, the City of Sherwood experienced rapid growth in the 1990s and continues to add more residents in the twenty-first century. Policy makers did not anticipate rapid changes to the UGB when policies were established over fifteen years ago and the 1990 population was 3,093.

The Metro Council added over approximately 700 acres to the Sherwood portion of the regional UGB in two separate decisions in 2002 and 2004. Metro will consider additional lands in 2007 to meet a twenty year supply of residential land in a five year periodic review interval. Metro requires a “concept plan” prior to annexation by a local jurisdiction. A concept plan is similar to a master plan, but with less detail; it outlines the future land uses, public facilities, and other urban services, but does not mandate the specifics associated with an actual development proposal.

In order to plan for the projected period of strong growth pressure in the Sherwood Urban Area the City has developed a new element to the Comprehensive Plan – Part 2 referred to as Chapter 8 – Urban Growth Boundary Additions. This Chapter will support and reinforce the adopted policies in Chapter 4 – Growth Management and will overlap in other areas. Additions are considered lands that are officially added to the regional UGB and the growth management policies are intended to guide the decision-making process prior to addition of more land and while land is ready to urbanize. The ultimate level, rate, and direction of growth can, to a large extent, depend on the urban growth management policies and objectives of the City, Metro, and the State. This Chapter of the Plan contains the data, assumptions, policy goals, objectives, and implementation strategies to accomplish the community’s needs and vision as expressed in the respective concept plans as well as general goals and objectives for consistent UGB additions. A brief narrative of each concept plan is also included to capture the unique and historical aspects of the concept planning process.

This Chapter will also summarize the results and recommendations of each concept plan over time as new additions are made to the UGB the Plan can respond accordingly. Sections are organized by each concept plan that reinforces the overall policy goals and objectives. For example, in 2004 the City established the Area 59 Citizens Advisory Committee (CAC) to make recommendations to be reviewed and revised by the Planning Commission and City Council. This Plan element designates specific land, such as Area 59, within the UGB to meet the needs of a projected population increase; provides for the orderly and economic extension of urban services; and specifies policies for the conversion of rural, agricultural and urbanizable land to certain urban uses. The overall purpose of this Chapter is to establish policies for the management of the City's UGB additions consistent with LCDC Goal 14 and Title 11 of the Metro Urban Growth Management Functional Plan (i.e. Functional Plan).

Until 1985, this Plan was a complementary plan, that is, it applied within the City limits. The

Washington County Comprehensive Plan continued to apply to land within the Sherwood Planning Area, but outside of the City limits, via the Sherwood Community Plan. The Washington County/Sherwood Urban Planning Area Agreement (UPAA) was developed to meet intergovernmental coordination requirements of LCDC Goal 1, and details the on-going relationship between the City and County in developing, implementing, and revising their respective Comprehensive Plans for the Sherwood Planning Area. This agreement was updated biennially, the most recent in 1988. Recent amendments to the agreement have been approved by the City Council in 2006 (Resolution 2006-037) and are incorporated into this section. Additional amendments will be adopted and reviewed separately from any plan amendment process for a concept plan.

B. URBAN GROWTH BOUNDARY DATA & ASSUMPTIONS

The Sherwood Urban Growth Boundary (UGB) is currently defined as the area west of Cipole Road, east of Elwert Road, north of Brookman Road, and south of the Tualatin River National Wildlife Refuge and is included within the regionally adopted Metro Urban Growth Boundary.

The growth assumptions developed and selected for Sherwood during the previous Plan preparation in 1991 were low. At that time, the Plan projected 5,355 people in the urban area by 1988 as opposed to an actual 10,600 people by 2000 projected in the 1980 Plan. This difference arose from a projected 7% to 12% annual increase anticipated by connection of the Sherwood sewer system to the Durham Sewage Treatment Plant owned and operated by Clean Water Services. Since then growth has overwhelmed Sherwood: the population according to the 2000 US Census was 11,791 and 14,410 in 2005 inside the City limits, according to an estimate by Portland State University’s Population Research Center.

Sherwood has become a bedroom community for families that work elsewhere in the Portland Metro area. According to the Washington County Tax Assessor’s Office, the residential to non-residential tax base ratio is 80 percent residential and 20 percent non-residential. This jobs housing imbalance does not provide a sustainable economy for providing urban services and has repercussions on providing cost-effective urban services.

The Metro Region 2040 Growth Concept Map designates land use for future urban growth areas. The following table summarizes the acreage, planned land use designation, applicable planned densities, and the year the land was brought into the UGB.

Table VIII -1 - Summary of UGB Additions 2002-2004

UGB Addition	Year	Acres	2040 Land Use Type	Planned Density*
Area 59	2002	85	Outer Neighborhood	7.3 to 10 units per acre
Area 54-55	2002	235	Inner Neighborhood	9.6 to 10 units per acre
99W Areas	2002	23	Employment/Industrial	N/A
Area 48	2004	354	Industrial	N/A

*Metro Code 3.07.170 describes the design type as persons per acre versus units per acre. This metric is converted to planned density for comparison purposes.

As the above table illustrates, the design types provide a range of net densities within

developable areas. The Metro Housing Rule (OAR 600-007-035) requires Sherwood to plan for six (6) units per acre. The maximum density of ten (10) units per acre is a requirement under Title 11 of the Metro Functional Plan where the minimum density threshold is set by the design type in the 2040 Growth Concept Map. Concept plans for UGB additions will need to account for these minimum and maximum ranges. For the purposes of concept planning UGB additions, 25 percent of each subject area is netted from the gross density calculation to plan for public facilities, including streets, utilities, stormwater retention, and dedicated open space. Dedicated parks and civic uses are not counted towards a density calculation.

Table VIII – 2: Concept Plan Summary by Area

Land Use	Acres	Planned Density	Lot Size / Square Feet
AREA 59			
Single-family detached	19	5 – 8 units per acre	5,000 – 7,000 SF
Single-family attached	5	8 – 10 units per acre	2,500 – 5,000 SF
Live-Work / Neighborhood Commercial	3	8-10 units per acre	2,500 – 5,000 SF > 40,000 SF (.3 FAR)
Civic/Institutional Public	29		150,000 – 300,000
Open Space (Goal 5)	12.5		
Neighborhood Park	3.5		
Streets (right-of-way)	12		
Area 54-55 – Brookman	TBD		
Area 48 – Tonquin Industrial	TBD		
99W Areas	TBD		

Annexation in Sherwood requires voter approval. Sherwood has the choice of devising an annexation plan that would determine the pace, criteria, and size of future annexations. An annexation plan is a Title 11 requirement, but this is intended to address the delivery of services among multiple jurisdictions. It is assumed that Sherwood will provide most urban service short of emergency response, and continue to have a voter annexation process. This policy choice will substantially limit the amount of developable property because annexations require a petition by the owner to be referred to the ballot and voter approval.

During the 1989-90 Plan update the City adopted an additional provision to be incorporated into the Urban Planning Area Agreement, which governs the administration of planning duties between the City and Washington County. Since the Sherwood Comprehensive Plan employs a one-map system wherein an illustrative requirement fulfills a dual role by serving as both Plan Map and Zone Map, the map establishes land use designations or zones for unincorporated portions of the Urban Planning Area. Therefore, to simplify the process, the agreement provides that with adequate notice to the affected property owners, upon annexation of any property within the urban planning area to the City, the land use designation specified by the Sherwood Comprehensive Plan and Zone Map is automatically applied to the property on the effective date of the annexation (as authorized by ORS 215.130(2)a and after adequate notice to the property owner). As it relates to the concept planning process, a general land use designation, such as residential, civic, or commercial is proposed and approved consistent with the Region 2040 Growth Concept Map. Subsequently, through the implementation or legislative process, actual zoning designations are applied through a plan amendment to the Plan and Zone Map for adoption.

C. GENERAL POLICY GOALS AND OBJECTIVES

Goal 1: To adopt and implement an orderly urban growth boundary addition and management policy which will accommodate future growth consistent with established growth limits, planned residential densities, neighborhood oriented services, employments opportunities, and land carrying capacity based on environmental quality and livability.

OBJECTIVES

Policy 1 Focus growth into areas contiguous to existing development rather than "leap frogging" over developable property.

Policy 2 Encourage development within areas that have access to public facility and street extensions in the existing city limits.

Policy 3 Encourage annexation inside the UGB where City services area available and can be extended in a cost-effective and efficient manner.

Policy 4 When Metro and Sherwood designates future urban growth areas, consider lands with poorer agricultural soils before prime agricultural lands, lands that are contiguous to areas planned for urban services, and land that resides in Washington County to reduce confusion over jurisdictional administration and authority.

Policy 5 Achieve the maximum preservation of natural and historic resources and features consistent with Goal 5 of the Statewide Land Use Planning program and Chapter 5 of this Plan.

Policy 6 Provide multi-modal access and traffic circulation to all new development that reduces reliance on single occupant vehicles (SOV) and encourages alternatives to cars as a primary source of transportation.

Policy 7 Establish policies for the orderly extension of community services and public facilities to areas added for new growth consistent with the ability of the community to provide necessary services. New public facilities should be available in conjunction or concurrently with urbanization in order to meet future needs. The City, Washington County, and special service districts should cooperate in the development of a capital improvements program in areas of mutual concern. Lands within the urban growth boundary shall be available for urban development concurrent with the provision of the key urban facilities and services.

Policy 8 Provide for phased and orderly transition from rural to suburban or urban uses. Larger UGB expansion areas shall include a phased development plan to achieve a sustainable transition over time.

- Policy 9 To provide a regionally consistent population projection methodology and the accurate allocation of people, a revised population projection for Sherwood should be developed and coordinated with other County jurisdictions, Washington County, and Metro during periodic review of the Metro UGB and Sherwood's Comprehensive Plan.
- Policy 10 - The City of Sherwood shall lead the concept planning for areas contiguous to the existing UGB. The City of Sherwood and special districts, such as Tualatin Valley Fire & Rescue, are the primary service providers. Washington County does not want to provide urban services outside of city limits. Sherwood will work cooperatively with the County, special districts, and neighboring cities, including Tualatin, to determine urban service boundaries, service delivery, and when feasible share resources, such as public facilities to encourage cooperation, cost-effective delivery, and economic development in future growth areas.
- Policy 11- As part of the concept planning process, the City will submit findings from any study or technical analysis to inform Metro on appropriate future revisions to the Urban Growth Boundary (UGB) in conformance with the Metro 2040 Growth Concept Plan and the need to accommodate urban growth to the year 2017 and beyond. The City will work with neighboring cities, Washington County, and Metro on an "urban reserve" program that identifies future lands beyond a 20 year planning horizon to facilitate efficient and well planned public facilities and services.
- Policy 12 - Changes to concept plans can be made prior to implementation based on supported evidence and may be proposed by the City, County, special districts, and individuals in conformance with City, County, and Metro procedures for amendment of their respective Comprehensive Plans. Concept plan maps shall be adopted in this Chapter and new development shall conform to the land uses, transportation network, parks and open space, and other applicable concept level designs.
- Policy 13 - Generally, new concept plans shall conform to Title 11 requirements and any conditions of approval related to the addition of the land. Concept plans shall strive to balance the needs of existing and new residents and businesses to ensure a sustainable tax base to deliver services. Mixed residential and mixed use shall be considered for each concept plan as an opportunity to provide neighborhood and civic oriented services within walking distance, efficient, transportation alternatives, and a variety of housing and employment choices.
- Policy 14 - Generally, new neighborhoods shall be designed and built based on architectural form as opposed to land based regulatory tools, such as setbacks, lot sizes, and lot coverage. In lieu of these requirements more shared and usable open space and parks can be dedicated to the public in addition to any non-buildable areas. Furthermore, a form-based code is preferable to reduce regulatory hurdles and costs for customers and the City, respectively.
- Policy 15 - The City shall work with the Tualatin River National Wildlife Refuge on a long

term urbanization plan that could include provision of urban services and preservation of additional lands for fish and wildlife habitat.

Policy 16 - Consistent with Goal 1, the City shall establish an advisory committee to develop evaluation criteria and a concept plan for any area over 20 acres while collecting input from affected agencies, property owners, and other stakeholders.

Policy 17 As new UGB areas are added and approved through the concept planning process, the geographic boundaries of Sherwood will change. Specifically, a new UGB boundary with Tualatin needs to be determined through the concept planning process for Area 48 (Quarry Area).

Policy 18 - Regarding the concept planning process, the following steps shall be required to initiate the concept plan through annexation:

- (1) Governance: Determine jurisdictional boundaries and urban service providers.
- (2) Concept Plan: Develop a concept plan consistent with Metro 2040 Growth Concept.
- (3) Implementation: Adopt comprehensive plan policies, zoning codes, etc. by ordinance.
- (4) Annexation: Allow property owners to petition the City for annexation after concept plan implementation is substantially complete.

Policy 19 City plan and zoning designations will be determined consistent with the Metro 2040 Growth Concept Design Types illustrated on the 2040 map, unless the 2040 map designation is inappropriate, in which case the City will propose that Metro change their map consistent with City policy.

Policy 20 The City shall find outside sources of funds, including participation in Metro's Construction Excise Tax program, to finance the concept planning in lieu of general funds.

MAPPING OF URBAN GROWTH BOUNDARY ADDITIONS

Goal 2: The addition of land to the Urban Growth Boundary is depicted on the Plan and Zone Map in Chapter 4. Each new area added will have a concept plan map in this Chapter that illustrates the general layout of land uses, streets, and open spaces. The mapping of concept plan areas shall generally conform to Metro's Title 11:J requirements for an "urban growth diagram." The following considerations shall be used based on the "Livable New Communities" handbook published in 2002:

Policy 1 Identify local and regional Goal 5 resource areas such as creeks, floodplains, wetlands, and historic sites.

- Policy 2 Identify transportation corridors, including: railroad tracks, streets, paths, as well as public transportation, school bus, and truck routes.
- Policy 3 Use property lines to facilitate eventual development in existing dispersed land use patterns that make implementation of master plans more difficult due to definability, service provision, cost sharing of facilities, and coordination among jurisdictions.
- Policy 4 Identify public facility service locations and providers, which would best utilize and deliver the service.
- Policy 5 Identify land use types consistent with the Metro Growth Concept Plan Map including residential, commercial, mixed-use centers, industrial, parks, and civic uses.

Area 59 – A New Neighborhood in Sherwood

Background

As mentioned previously Area 59 is an 85 acre area brought into the UGB in 2002. “Area 59” is a nameless designation placed by Metro and does not reflect the local history of the area. “Blue Town”, as it was called by the pioneer families at the turn of the 20th century, is predominantly a rural residential and farming community. Blue Town received its name because German immigrants painted farm buildings the same color blue. The area is characterized by historic farmhouses, newer large lot country estates, rolling hillsides, a neatly groomed landscape, stunning views of Mount Hood, and forested riparian areas that feed Chicken Creek and the Tualatin River Basin. The CAC developed a list of new names for the neighborhood, but none were recommended to the policymakers. Without a clear designation, future development will be assigned subdivision names for final platting purposes. The City has a policy choice, and a clear opportunity, to designate a coherent new neighborhood either as part of implementation or through some other yet to be determined process.

Area 59 is the first UGB expansion area that required a concept plan under Metro’s Functional Plan Title 11 requirements. The relatively small size of the subject area offered an opportunity to the stakeholders to create a neighborhood scale plan with roads, land uses, and public spaces all integrated into the existing urban fabric of Sherwood. The City took the lead in concept planning the area because the County did not express an interest and the Sherwood School District lacked expertise in land use planning and real estate development. The City provided the planning through general funds and in kind services.

Public Involvement

The City officially initiated the concept planning process in late 2004. The City Council established a Citizens Advisory Committee (CAC) via Resolution 2004-090 on October 12, 2004 to guide the development process and provide recommendations to the Planning Commission. The City held numerous types of meetings to develop a concept plan for Area 59. These included: work sessions open to the public, a public workshop (the first charrette in Sherwood), a field trip, regular public meetings with two advisory groups, and finally public hearings. Throughout the concept planning process individual electronic notice was sent to those that expressed interest. A project website was developed on the City’s homepage to provide a clearinghouse for all meeting materials and project binders were created for public use at City Hall and the Library. Although not required for the

concept planning phase, the City sent mailed notice twice: after the second Citizens Advisory Committee (CAC) meeting in March 2005 and prior to the charrette in July 2005. Monthly project updates were provided in the *Archer* portion of the *Sherwood Gazette* in addition to numerous newspaper articles that appeared in the *Oregonian*.

In addition to general public outreach efforts, the CAC met from December 2004 to December 2005 to rigorously review City staff and consultant findings. The CAC consisted of three representatives from the City Council, Planning Commission, and Parks Board, two property owners from Area 59, two property owners who reside in the County but outside the study area, and the Sherwood School District. A technical advisory committee, referred to as the “Project Team,” was established by the Planning Department to advise City staff on regulatory and technical issues that pertain to concept planning. Affected agencies include:

- Clean Water Services
- ODOT
- DLCD
- Metro
- Washington County
- Raindrops to Refuge
- Tualatin Valley Water District
- Tualatin Valley Fire & Rescue

The Project Team met periodically (five times) from January 2005 to October 2005 to review consultant and staff findings, draft alternatives, and various staff reports on the framework of a concept plan. The CAC met six times in addition to the charrette that was held in July 2005 at the Sherwood Police Facility. The combined efforts of the advisory committees resulted in one set of goals for the project referred to as the “Goals Matrix.”

Issue	Citizen’s Advisory Committee	Project Team
<i>Land Use</i>	Single family units only, no apartment complexes.	Goal conflicts resolved: Metro density requirements (Metro Housing Rule).
	Mixed use: Small retail/commercial with housing above.	
	Schools (30 acres): Middle & Elementary Meet timeline for increased enrollment.	
<i>Quality of Life</i>	Recreational fields: Co-share fields & facilities with schools?	Natural area protection & Goal 5 resources.
	Green Space: Parks (tennis courts), trails, greenways, open space.	Open spaces: Integrate active & passive parks; Co-locate these to other lands.
	Livability: “Proud to live there”.	Create unique neighborhood structure: “Sense of place”.
	Farmland: Allow existing agriculture; co-exist with new neighborhood.	
<i>Transportation</i>	Traffic management plan	Connectivity: Road system, bicycle & pedestrian pathways; off-site mitigation.
<i>Public Facilities</i>		Adequate water supply & pressure for fire suppression.
		Address stormwater impacts; provide sanitary sewer.
		Infrastructure Costs? Avoid expensive and determine how to pay.

The above goals, a balancing act or competing priorities, were the basis for the development of evaluation criteria. The design alternatives produced through the charrette were analyzed and “graded” based on the criteria approved by the CAC and Project Team. Staff made findings throughout the process that demonstrated how the evaluation criteria were met or not met for each alternative.

Land Use

Notwithstanding the competing stakeholder objectives, the primary focus of the concept plan was to determine a location and an adequate size site for new school facilities. The original impetus for the UGB expansion, via Metro Ordinance 2002-969B, was to provide a new elementary and middle school for the rising enrollment in the Sherwood School District 88J. In short, once a new school site was identified the remaining land use pieces of the puzzle fell into place around the school. After a thorough examination of the charrette alternatives through a traffic analysis and CAC review, the process eventually determined that a 29 acre site was adequate to co-locate the facilities along with recreation fields and attendant uses related to school business. Some stakeholders wanted more land while others wanted a new school on less land. The remaining “pieces” or in this case buildable land was planned for a mix of residential and neighborhood commercial served by a street grid network of local street and a north-south and east-west neighborhood route to reduce vehicle miles traveled, encourage alternative modes of transportation, provide emergency access, and a site for a neighborhood park to serve the new neighborhood and the existing west side neighborhoods.

Policy Outcomes

In December 2005, the Citizens Advisory Committee recommended a third party alternative that was based on a hybrid of two designs - Alternative A/G. The Planning Commission recommended a revised Alternative A/G to the City Council in February 2006, which was approved, albeit in lesser detail, via Resolution 2006-017 in April 2006. This policy direction authorized the City to initiate the plan amendment process to implement the concept plan map through the comprehensive plan and zoning code.

The following map illustrates the adopted concept plan for Area 59 through the plan amendment process.

